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The Journal

OF THE

American Medical Association

A MEDICAL JOURNAL CONTAINING

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MEDICAL LITERATURE OF THE PERIOD

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GEORGE H. SIMMONS, M.D.

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Addresses

MEDICINE AND THE UNIVERSITY.*

WILLIAM H. WELCH, M.D., LL.D.
BALTIMORE.

I believe that I make no mistake in assuming that the honor of the invitation to deliver this address came to me mainly through the official position which I chance to hold in the Association for the Advancement of Science and the desire to give prominence on this occasion to the sciences of nature in view of the approaching meeting of the association in this place. I must, however, disclaim any especial competence to speak for these sciences, and I know not where there is less need in our country of emphasizing the importance and significance of the natural and physical sciences, or where the representatives of these sciences have brought higher distinction to themselves and to their university, than here in the University of Chicago.

The past century is memorable above all others for the gigantic progress of the natural and physical sciences—a progress which has influenced more profoundly the lives and thought, the position and prospects of mankind, than all the political changes, all the conquests, all the codes and legislation. In this marvelous scientific advancement in all directions the sciences of living beings and their manifestations have progressed as rapidly and have influenced the material, intellectual and social conditions of mankind as much as the sciences of inanimate matter and its energies. So far as the happiness of human beings is concerned, there is no other gift of science comparable to the increased power acquired by medicine to annul or lessen physical suffering and to restrain the spread of pestilential diseases, although what has been accomplished in this direction is small indeed in comparison with what remains to be achieved. Man's power over disease advances with increased knowledge of the nature and causes of disease, and this increase of knowledge has its sources in the educational system.

In asking your attention on this occasion to some of the conditions and problems of medical education and research, particularly in their relation to the university and to circumstances existing in this country, I am aware that the theme is trite and that I can add little that is new to its discussion, but the subject, however wearisome, requires ever renewed consideration so long as the conditions remain as unsatisfactory as at present and so many problems await final solution. Especially is it important that the nature of the problems should be realized by the teachers and authorities of our universities. I know that in this university much earnest thought has been given to questions of medical education, and wisely so, for I have every confidence that the medical department of this university, already doing such good work, is destined to be a leader in the promotion of higher medical education and the advancement of medical knowledge on this continent.

The historical and the proper home of the medical school is the university, of which it should be an integral part co-ordinate with the other faculties. Before there was a faculty of law at Bologna or of theology at Paris there was a school of medicine at Salernum, which, as is well known, occupies an interesting and unique position in the history of the origin and development of universities. From this early period to the present day no other type of medical school has existed on the continent of Europe than that of the university, and this union has been of mutual advantage, the renown of many universities being due in large part to their medical faculties, and these receiving the fostering care and the ideals of the university.

It was under the influence of these sound traditions of the proper relation of medical teaching to the universities that the first medical schools in this country were founded, that of the College of Philadelphia, now the University of Pennsylvania, in 1765; that of Kings College, now Columbia University, in 1767, and after somewhat longer intervals those of Harvard, Dartmouth and Yale. The model for these early schools was the medical department of the University of Edinburgh, which derived its traditions from the University of Leyden, as these in turn can be traced back to the great Italian universities of the sixteenth century. We can contemplate with much pride and satisfaction the early history of these first American medical schools, which, notwithstanding their feeble resources, were imbued with a spirit of high purpose and just recognition of the qualifications needed for the pursuit of medicine as a learned profession.

It is deeply to be regretted that their successors did not continue to build on such foundations as those laid by John Morgan, William Shippen and Samuel Bard, but rather adopted and carried much further the plan of the proprietary medical schools which originated in England in the latter part of the eighteenth century and attained their highest development there during the first three decades of the following century, after which the hospital medical schools of a type peculiar to that country gained the ascendancy. We can transfer from our shoulders, however, only a minor part of the responsibility for the conception and establishment of the proprietary medical school, for the English form of this school was a harmless thing which never dreamed of conferring the doctor's degree and was regarded with disfavor by examining and licensing bodies.

The proprietary medical school, conducted for gain, divorced from any connection with a university and free from any responsible outside control whatever, empowered by the state to usurp the university's right of conferring the doctor's degree and at liberty to set whatever standards it chose for obtaining this degree, which carried with it the license to practice, is a phenomenon unique in the history of education and a contribution to systems of education for which America is entitled to the sole credit. This is the type of medical school which prevailed in this country during the greater part of the nineteenth century, and familiarity has made it difficult for us fully to realize how anomalous and monstrous it really is. Even in the case of those schools which were united with a college or university the connection became in most instances so loosened as to be merely nominal and to secure practical autonomy to the medical school. In the common type of these schools there was no requirement of preliminary study worthy of the name, the only practical training was in the dissecting room and an occasional amphitheater clinic, and the degree and license to practice followed the passing of an easy examination after attendance on two annual courses of lectures lasting five or six months each, sometimes an even shorter period, the student hearing the same lectures each year.

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* An address delivered at the convocation exercises of the University of Chicago, Dec. 17, 1907.

It is needless to say that such conditions brought great reproach to American medicine and introduced evils from which we are not yet wholly free. Nevertheless the system, bad as it was, can be painted in too dark colors. The rapid multiplication of medical schools which followed the second decade of the last century was, although excessive, in response to the needs of a rapidly developing country pushing the boundaries of civilization ever westward. Still it would be difficult to find a sound argument for increasing the hardships of frontier settlements and struggling communities by a supply of poor doctors.

The main relief to the picture is that the results were not so bad as the system. Many of the teachers were devoted, able men who imparted sound professional traditions and whose personality in a measure remedied the defects of the system. The native force, ability and zeal of many students enabled them to overcome serious obstacles and to acquire in the course of time, in spite of adverse circumstances, a mastery of their calling, perhaps a resourcefulness engendered by these circumstances, for even under the best conditions education does not end with the modicum of knowledge imparted in school and college. Some were so fortunate as to be able to supplement their inadequate training by European study. But among those without foreign training who were entirely the products of American conditions not a few were the peers of their European contemporaries, such as Daniel Drake, Jacob Bigelow, John D. Godman, William Beaumont, Nathan Smith Davis, Samuel D. Gross, Austin Flint, Marion Sims and others who have left names illustrious in the annals of our profession. Native vigor and resourcefulness enabled such men to surmount defects of an educational environment to which the average man must succumb.

Most gratifying is the rapidity with which medical education has risen during the last two decades from the low estate to which it had sunk during the greater part of the past century in this country. Among the more important causes contributing to this result may be mentioned the operation of laws transferring and, in fact, restoring the licensure to practice from the medical schools to state boards of examiners, whereby worthless medical schools are crowded to the wall and out of existence and others have been compelled to raise their standards, the moral pressure exerted through an awakened sentiment for reform on the part of the organized profession and the better schools, closer union between medical school and university and the consequent interest of university teachers and authorities in the problems of medical education, the example set by a few schools of a high order, endowment—although very inadequate—of medical education, which formerly was almost wholly neglected as an object in need or worthy of private or public beneficence, the advancement of medical science and art, necessitating improved methods and higher standards of professional training, and a juster and wider appreciation of the significance of curative and preventive medicine to the welfare of the community.

The history of medical education in America is still in the making, but we now have a number of schools with high standards and adequate equipment capable of giving to students of medicine a professional education as good as that to be obtained in European universities. The best and most progressive schools are those in organic union with a university, and it seems clear that to schools of this type belongs the future of higher medical education in this country. Nearly twenty years ago in an address at Yale University I endeavored to set forth the advantages of the union of medical school and university, and, as addresses, fortunately for those in the habit of giving them, are soon forgotten, I shall here summarize what I conceive to be the more prominent of these advantages.

Of all professional and technical schools the medical, with its requirements for laboratories, hospitals and teaching force, is the most costly. A medical department of a university is much more likely to be the recipient of endowment funds than an independent school, and the university is a safer and more suitable custodian of such funds.

In manifold ways the environment of a university is that best adapted to the teaching and the advancement of medicine. The medical school needs the ideals of the university in maintaining the dignity of its high calling, in laying a broad foundation for professional study, in applying correct educational principles in the arrangement of the curriculum and in methods of instruction, in assigning the proper place and share to the scientific and the practical studies, in giving due emphasis to both the teaching and the investigating sides of its work, in stimulating productive research, and in determining what shall be the qualifications of its teachers and of the recipients of its degree. Most invigorating is the contact of medical teachers and investigators with workers in those sciences on which medicine is dependent—chemistry, physics and biology.

In the selection of teachers—a matter of the first importance—a university is in a superior position to secure the best available men wherever they can be found, regardless of any other consideration than fitness. Too often this choice has been determined in our medical schools by irrelevant influences and considerations and an outlook upon the world scarcely more than parochial in extent.

In the difficult matter of adjustment of professional training to conditions of collegiate education peculiar to our country there are manifest advantages in the union of medical school with university, especially where the periods of liberal and of professional study are made to overlap. Where the sciences adjuvant to medicine, as general chemistry, physics, zoology and botany, are included in the medical curriculum, as is done in the German and French universities, it is economical and highly desirable that they should be taught in the collegiate or philosophical faculty rather than that separate provision should be made for them in the medical faculty, where they do not properly belong.

The benefits of union of medical school and university are reciprocal, and not to the medical school alone. A good medical faculty, properly supported and equipped, is a source of strength and of renown to the university possessing it, and its work in training students and in extending the boundaries of knowledge greatly increases the usefulness of the university to the community. Nor is there anything in this work which does not appertain to the proper functions of a university, however high its ideals. Indeed I venture to assert that the present and prospective state of medicine and its relations to the well-being of individual man and of human society are such that there is no higher or nobler function of a university than the teaching of the nature of disease and how it may be cured and prevented, and the advancement of the knowledge on which this conquest of disease depends. If it be said that the medical art is largely empiric, I reply that this, while true, does not make medicine unworthy of shelter in the university. The empiric method of discovery by trial and error has its glorious triumphs as well as the scientific and is not to be disdained. To it we owe such beneficial discoveries as the curative properties of quinin in malaria, vaccination against smallpox and the anesthetic uses of ether and chloroform.

But there is a scientific as well as an empiric side to medicine and the distinctive feature of modern medicine is the rapid extension of the former and the curtailment of the latter. The fundamental medical sciences — anatomy, physiology, physiologic chemistry, pathology, pharmacology, bacteriology and hygiene — are rapidly advancing and important departments of biologic science, which have contributed and will continue to contribute enormously to the progress of practical medicine. In an address which I had the honor to deliver somewhat over ten years ago at the dedication of the Hull Biological Laboratories of this university I took occasion to dwell with some detail upon the biologic aspects of medicine.

We should add to the specialized medical sciences already mentioned the study of the problems presented by the living patient in hospitals and laboratories attached to hospital clinics where chemical, physical and biologic methods can be applied to the investigation of clinical problems which do not fall within the scope of other laboratories or can be less advantageously attacked in them. These clinical investigating laboratories are an important addition to the older analytical and statistical methods of study of disease and mark an advance from which valuable results have been obtained and more valuable ones are to be expected. It is highly desirable that our medical clinics should be organized with regard to this newer direction of work, for which they will require considerable funds.

The science of medicine has advanced in recent years more rapidly than the art and in its various branches it constitutes to-day a field of work most alluring and most rewarding to the properly trained scientific investigator, who, if he have the rare genius for discovery, may reap a harvest rich in blessing to mankind.

But the are of medicine has profited greatly by the application of scientific discoveries. The physician and the surgeon to-day can do far more in the relief of physical suffering and in the successful treatment of disease and injury than was formerly possible, but the great triumphs have been in the field of preventive medicine. The horizon of the average man's interest in medicine scarcely extends beyond the circumference of his own body or that of his family, and he measures the value of the medical art by its capacity to cure his cold, his rheumatism, his dyspepsia, his neurasthenia, all unconscious, because he does not encounter them, of the many perils which medicine has removed from his path through life. What does he know of the decline in the death-rate by one-half and of the increase in the expectation of life by ten or twelve years during the last century? How many are there whose attention has been called to the significant fact that this increase in the expectation of life ceases with the forty-fifth year because we have as yet no such insight into the causes and prevention of the organic diseases of advancing life as we have into the manner of propagation of infectious diseases, which are responsible for the larger part of the mortality of the earlier years? The suffering and the waste of energy, money, production and human lives from preventable sickness and death are still incalculable, but how little heed do legislators and authorities in our national, state and municipal governments pay to the appeals of physicians and enlightened economists to make adequate provision to check this waste! For this condition of things the medical profession is largely responsible in failing to enlighten the public and in shrouding its art with the mystery of an occult science, but it is beginning to rise to its high mission of public education in ways of preserving health and of preventing disease.

I have touched on these matters relating to the present and future state of the science and art of medicine, not with the view of recounting the achievements of modern medicine, but to indicate something of their importance to individual and to civic life and to show that in fostering the teaching and study of medicine the university finds a field worthy of its highest endeavors in the propagation of useful knowledge and in service to the community.

From what has been said we may, I think, assume with confidence that the best and in time the prevailing type of American medical school is destined to be that represented in medical departments in vital union with universities. In so far our system of medical education will conform to that of Germany and France, but in an important respect there is and will remain a difference due to the fact that in those countries the courses of study and the qualifications for the degree and the license to practice are moulded into practical uniformity by the regulations of the state. Nothing is more characteristic of the conditions of medical education in our country than the great diversity of the requirements and curricula of the various medical schools, even of those of the better sort. Entire uniformity is not to be expected and not to be desired, but at least such a measure of agreement should be secured as will permit students to pass freely from one university to another and to acquire, it is to be hoped, something of the habit of wandering which is such an enviable feature of student life in the German universities.

No problem of medical education in this country is so perplexing or has given rise in recent years to so much discussion and difference of opinion as that of the preliminary education to be required for the study of medicine. If I could announce a universally satisfactory solution of this problem, I should claim the honors of an important discovery, but as I can not do so I shall forego on this occasion its detailed discussion, with a self-sacrificing forbearance which I trust may be commended by my hearers. It must suffice to enumerate the attempts at a solution, premising, what is generally recognized, that the difficulties arise from the anomalous development of the American college for many years, making it, however admirable it may be for certain educational uses, almost unadjustable to the needs of professional education.

The preliminary requirement of the bachelor's degree in arts or science should, in my judgment, carry with it the specification of collegiate laboratory training in physics, chemistry and biology, with a reading knowledge of French and German. These requirements have been in successful operation in the Medical Department of the Johns Hopkins University since its foundation in 1893, their adoption being necessitated by the acceptance of the terms of Miss Garrett's gift of endowment. We are satisfied with the working of these requirements and would not lower them if we could, but it must be conceded that, while there is room for medical schools with these standards, the country is not ripe for their general adoption. The Medical Department of Cornell University has recently announced the intention to introduce similar requirements, and the Harvard University Medical School demands the bachelor's degree without the other requirements mentioned.

In order to meet the objection that the average age of graduation from our colleges is at least two years beyond that at which professional study usually begins in Europe, various attempts have been made to truncate the college course or to telescope a quarter to a half of it into the period of professional study, making one course of study count for two degrees. Manifest objections and embarrassments attend all of these attempts to find a suitable stopping place between the high school and the end of the college course. The plan adopted in this university to demarcate with some sharpness the first two years of the college course from the remainder and to exact the completion of these two years of study as the requirement preliminary to the study of medicine has much to recommend it under existing conditions. I learn from the last report of the Council on Medical Education of the American Medical Association that one medical school, the Medical Department of Western Reserve University, demands as a prerequisite to the study of medicine three years of study in a college of arts or science, sixteen require two years of collegiate study, eleven of these schools being in the middle west or west, and thirty-one require one year, of these, nineteen being in the middle west or west.

The Council on Medical Education just mentioned, of which Dr. Bevan is the energetic and efficient chairman, has entered as a strong force for the elevation of standards of medical education in this country, and, while it has not the power of the British General Medical Council to make effective its recommendations, it can exert a most beneficial influence. It is significant that at its first conference, held in 1905, it recommended as the minimum preliminary requirement to be generally adopted by our medical schools an education sufficient to enable the student to enter the freshman class of a recognized college of arts or a university, and now it recommends that in 1910 to this shall be added a year's study of physics, chemistry and biology, with one modern language, preferably German. The time has gone by when it is necessary to emphasize before an audience such as this the importance of laboratory training in physics, chemistry and general biology as fundamental to the successful study of medicine.

While it is not feasible to exact the preliminary study of the ancient classics, save some acquaintance with Latin, I feel that they are of value to the physician and that a liberal education and broad culture raise the influence and standing of the physician in the community, enhance and widen the intellectual pleasures of his life, instil an interest in the history of medicine and give him greater joy in the pursuit of a noble profession. It is important, especially for medicine, that this culture be imparted by methods of liberal education which do not blunt man's innate curiosity for the facts of Nature.

There can be no more striking evidence of the progress of medical education in this country during the last quarter of a century than that it is no longer the laboratory, but the clinical side of medical teaching which offers the urgent problems. Only a few years ago the cry was the need of laboratories; now, while a sufficient supply of good laboratories is still beyond the resources of many medical schools, their value is fully recognized and all of our better schools possess them and are devoting probably as much of the time and energies of teachers and students to work in the laboratories as is desirable. There is even some risk, I believe, that a subject which can be studied with facility and advantage in a laboratory may acquire, on this account, a position in the scheme of medical studies disproportionate to its relative importance. The structure of organized beings, normal or diseased, for example, is eminently adapted to laboratory study, and for centuries normal anatomy had an educational value all its own, because it was the only subject which students were taught in the laboratory, whereas the study of function, certainly not less important, is much more difficult to approach by the laboratory method, and even at the present time normal physiology and especially pathologic physiology do not receive the attention in medical education to which their importance entitles them.

It is interesting to note the impressions which Professor Orth of Berlin, an acute observer and most competent judge in all matters pertaining to medical education, received from his visit to this country three years ago regarding our laboratories and clinics. In an address conveying these impressions to the Berlin Medical Society he expresses his astonishment and satisfaction that, in contrast to the prevalent opinion in Germany as to our medical schools, he found that fully as much emphasis is placed on laboratory teaching here as there, that the laboratories which he visited are as good, their arrangements in some instances arousing his envy, and the methods of teaching practically the same as in Germany, whereas he gathered the impression that the opportunities and methods of clinical teaching are less satisfactory than in Germany and not commensurate with those of our laboratories.

I do not desire to instil sentiments of undue complacency regarding the condition of laboratory teaching in our medical schools, for there is still room for much improvement in this regard. Many schools are sadly deficient and even the best have not all that is needed in the supply and maintenance of laboratories, but the time has come to give especial emphasis to directions of improvement in the teaching of practical medicine and surgery. The making of good practitioners should always be kept to the front as the prime purpose of a medical school.

I believe that in most medical schools at present the clinic falls behind the laboratory in affording students opportunities for that prolonged, intimate, personal contact with the object of study, in this instance the living patient, which is essential for a really vital knowledge of a subject. To secure this, amphitheater clinics and ward classes alone do not suffice, valuable as these are, but students under suitable restrictions and supervision and at the proper period in their course of study should work in the dispensary and should have free access to patients in the public wards of hospitals, acting in the capacity of clinical clerks and surgical dressers as a part of the regular, orderly machinery of the hospital.

In order to place the clinical side of medical instruction on the same satisfactory foundation as that of laboratory teaching, two reforms are especially needed in most of our medical schools.

The first is that the heads of the principal clinical departments, particularly the medical and the surgical, should devote their main energies and time to their hospital work and to teaching and investigating without the necessity of seeking their livelihood in a busy outside practice and without allowing such practice to become their chief professional occupation. This direction of reform has been forcibly urged in this city and elsewhere by my colleague, Dr. Barker, whom we have reclaimed from you, in notable papers and addresses.

The other reform is the introduction of the system of practical training of students in the hospital, which I have indicated, and with it the foundation and support of teaching and investigating laboratories connected with the clinics, to which I have already referred, necessitating the possession of a hospital by the medical school or the establishment of such relations with outside hospitals as will make possible these conditions. This subject, as thus outlined, I made the theme of an address at the opening, six months ago, of the new Jefferson Medical College Hospital in Philadelphia, and I shall now recur only to the point which I endeavored there to establish, that the teaching hospital subserves the interest of the patient not less than that of the student and teacher and is the best and most useful kind of public hospital.

Hospitals make generally a stronger appeal to public and private philanthropy than the support of medical education, but I do not hesitate to affirm that a general hospital in a university city, whether maintained by public funds or by private benevolence, serves the community and the interests of its patients far better when it is readily accessible and freely available for the purposes of medical education than when it is divorced from connection with medical teaching. Witness the great public hospitals in Vienna, Berlin, Munich, Leipsic, Paris, London, Edinburgh, Dublin and a few in this country. It is most deplorable both for the hospitals and for the medical schools that these two institutions, which should be linked arms of medical education, should have developed in this country so far apart, that state and municipal authorities and private founders should have so little realization of the inestimable advantages which close association with a good medical school can confer on a hospital, and that the immense possibilities of public hospitals in our large cities for the education of students and physicians and for the advancement of medical knowledge should be utilized to so small an extent, often not at all.

It would be one of the greatest benefits to the cause of higher medical education if the University of Chicago, for its medical department, should come into possession of a good general hospital and fortunate the hospital which enters into this relationship. This university, the source of so many important contributions to the advancement of knowledge and of higher education, will then be, in larger measure than it now finds possible, a center of similar service to medicine.

Medical education partakes fully of the freedom, so amazing often to many of our European colleagues, with which we unhesitatingly try all sorts of educational experiments in this country—it is to be hoped and expected for the ultimate benefit of systems of education, whatever the immediate results may be in individual cases. The theme of this address naturally suggests many topics relating to methods of teaching and to the medical curriculum which are questions of the day, but which I must lay aside through lack of time. On one only I beg to say a few words.

In contrast to the German system the tendency in our American medical schools has been toward a rigid curriculum, which, though widely divergent in different schools, is to be followed in precisely the same way by all students without any consideration of differing ability, capacity for work, special aptitudes and interests. One of many unfortunate results is that subjects and courses of study which can not properly be imposed as obligatory on already overburdened students find no place in our medical schools, which should aim to cultivate the whole field of medicine. I agree with Dr. Bowditch and my colleague, Dr. Mall, to whose admirable presentation of this subject I would refer those interested, that our students should have a greater latitude of choice than is now customary in subjects to be pursued, in the amount of time to be devoted to their study and in the order in which they may be taken. Complete freedom can not be granted. A minimum requirement for the principal subjects must be made obligatory, but if this minimum is properly fixed there remains room for a considerable range of choice of subjects and courses, greatly to the advantage of student and teacher. At the Harvard Medical School the system of electives for the fourth year of the course has been in operation for several years, and other medical schools have also introduced a similar plan. At the beginning of the current academic year we adopted at the Johns Hopkins Medical School a scheme by which a large number of elective courses are offered throughout the four years, and the plan is now working most successfully.

Some of our state boards of examiners are greatly exercised over the differences which they find in the curricula of the various medical schools in this country, and which in themselves are merely an indication that there is, and, in my judgment, there can be no agreement of opinion as to every detail of a medical curriculum. There are doubtless defects to be remedied, but in attempting to apply remedies these state boards should concern themselves with no other question than that of educational standards. They could make no greater mistake nor inflict more serious injury on the efforts of the better schools to improve their methods of teaching than to attempt to impose a uniform and rigid obligatory curriculum on all schools. They do not in their examinations apply any practical tests whatever to determine the candidate's fitness for the practice of medicine, whereas our better schools are exerting every effort to increase their efficiency by substituting practical work in laboratories, hospital wards and out-patient departments for didactic lectures. The work of students who gain their knowledge by serving as clinical clerks and surgical dressers in the hospital can not be measured by time standards in the same precise way as that of attendance on expository lectures. Above all, the better schools should not be hampered by restrictions imposed by state boards of examiners in freedom to extend the system of electives of which I have spoken.

The medical department of a university should be a school of thought, as well as a school of teaching, *academia* as well as *schola*. Although there has been gratifying progress in recent years, our medical schools have not advanced along the path of productive research to the same extent that they have in the way of improvement of their educational work. There are several reasons for this condition. For one thing we have been too busy setting our houses in order for their primary uses in the training of students to have given the requisite attention to other questions which, however important, may have seemed for the moment less urgent. With the degree of emphasis thus placed on the educational side teaching gifts rather than investigating capacity have been sought as the most desirable qualification of professors in our medical schools. The power of imparting knowledge, gained second-hand, fluently and even skilfully, is not an uncommon gift and is possessed by many who have never engaged in research and have no especial inclination or aptitude for it, but the teaching of him who has questioned Nature and received her answers has often, and I think commonly, in spite it may be of defects of delivery, a rarer and more inspiring quality.

A medical school or university can not expect to fill all of its chairs with men with the genius for discovery —if it has one or two it has a treasure beyond all price —but every effort should be made to secure as occupants of these chairs from among those who are available, wherever they can be found, the ones who have demonstrated the greatest capacity to advance knowledge by original investigation and the ability to stimulate research. Until this principle is more fully and generally recognized and acted on in the selection of heads of departments, our medical schools as a class will not become important contributors to knowledge. It is not enough that a few schools should encourage and provide for original investigation; the field must be a wide one in order to attract many to a scientific career, for of the many only a few will be found endowed with the power of discovery. There is no possible way of recognizing the possessor of this power before he has demonstrated it. Even when a university has succeeded in attaching to it those who can conduct scientific inquiry successfully, how often are their energies sapped by lack of adequate resources and enough trained assistants and by too great burden of teaching and administrative work imposed on them!

It is evident from what has been said, and indeed it has been a tacit assumption throughout this address, that, while with present resources considerable improvement in medical education in this country is possible, further progress is largely a question of ways and means. What makes modern medical education so costly is precisely its practical character, necessitating laboratories and hospitals, and it can be made self-supporting no more than any other department of higher education. For reasons already stated, the medical departments of strong universities are the ones most likely to receive the funds needed for the support of medical education and are in general the most deserving. There is a great future before the medical schools of many of our state universities, which are already developing with such promise and are sure to receive in increasing measure aid from the state as their needs and the benefits accruing to the community from their generous support are more and more appreciated. Other universities must look to private endowment, and I have endeavored to show that they should foster their departments of medicine as zealously as their other faculties. The university chest should be opened, so far as possible, to supply needs of the medical school, and authorities of the university should present the claims of medical education to financial aid as among the most important in their domain, and they can do so to-day with a force of appeal not possible a quarter of a century ago. President Eliot, whose services to the cause of medical education are great, in his address at the opening of the new buildings of the Harvard Medical School, set forth with admirable force and clearness the changes which advancing medicine has brought in the vocation of the physician, his greatly increased capacity of service to the community and his still higher mission in the future.

The discoveries which have transformed the face of modern medicine have been in the field of infectious diseases, and in no other department of medicine could new knowledge have meant so much to mankind, for the infectious diseases have a significance to the race possessed by no other class of disease and problems relating to their restraint are scarcely less social and economic than medical. The public is awakening to this aspect in the case of tuberculosis, and I need only cite as a further example the necessity of keeping in check the malarial diseases and yellow fever for success in digging the Isthmian Canal, an undertaking in which the triumphs of the sanitarian, Colonel Gorgas, are not outrivalled by those of the engineer. Such victories over disease as those of the prevention of hydrophobia by the inoculation of Pasteur's vaccine and the antitoxic treatment of diphtheria have made an especially strong impression on the public mind.

More than all that had gone before in the history of medicine the results achieved during the last quarter of a century in exploration of the fields of infection and immunity opened by the discoveries of Pasteur and of Koch have stirred men's minds to the importance of advancement of medical knowledge, and medical science at last has entered into its long awaited heritage as a worthy and rewarding object of public and private endowment. But it is to be noted that it is not so much the education of doctors as this advancement of knowledge which makes the strong appeal, as may be illustrated by the splendid foundation of the Rockefeller Institute for Medical Research through the enlightened generosity of the founder of this university, the Phipps Institute for the Study and Prevention of Tuberculosis, and the Memorial Institute for the Study of Infectious Diseases, established in this city by Mr. and Mrs. Harold McCormick, which under the efficient direction of Dr. Hektoen has become a most active and important contributor to our knowledge of infection and immunity.

These magnificent additions to the resources of this country for the promotion of medical investigations are of inestimable value, but not one of them could have justified its existence by results if it had been established in America thirty years ago, when medical education was so defective. The dependence of research on education is of fundamental importance. The prime factor influencing the development of scientific research in any country is the condition of its higher education. Scientific investigation is the fruit of a tree which has its roots in the educational system, and if the roots are neglected and unhealthy there will be no fruit. Trained investigators are bred in educational institutions. Independent laboratories are dependent on a supply from this source, and without it they can not justify their existence, but where proper standards of education exist such laboratories have a distinctive and important field of usefulness. I contend, therefore, that those interested in the advancement of medical knowledge should not be indifferent to the condition of education in our better medical schools and should not rest on the assumption that the educational side can be safely left to take care of itself.

Moreover, those who are to apply the new knowledge are physicians and sanitarians. The public is vitally interested in the supply of good physicians, never so much as to-day when their power to serve the welfare of the community has been so vastly increased and is rapidly growing, and if it wants good doctors it must help to make them.

I have been able, within the limits of this address, to indicate only a relatively small part of the increased strength gained by both medical school and university by the combination of their forces, but I hope that I may have conveyed some impression of the rich fields of discovery, of the beneficent service to the community, of the important educational work opened to the university by close union with a strong department of medicine, and of the inestimable value to medicine of intimate contact with the fructifying influences and vitalizing ideals of the university. Where is there a university which, if provided with the requisite resources, gives stronger assurance of securing these mutual benefits than the University of Chicago, so fruitful in achievement during its brief but eventful history, so vigorous in its present life, so full of high promise for the future, and where in all this land is there a location more favorable to the development of a great university medical school than here in the city of Chicago? Such a development is bound to come and the sooner it arrives the earlier the day when America shall assume that leading position in the world of medical science and art assured to her by her resources, the intelligence of her people, her rank among the nations and her high destiny.

DENTISTRY AS A TRUE SPECIALTY OF MEDICINE.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON STOMATOLOGY AT THE FIFTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, 1907.

MORRIS I. SCHAMBERG, D.D.S., M.D.
NEW YORK CITY.

There is no subject more worthy of consideration, no time more fitting, no place better suited to the act, than the discussion now before the Section on Stomatology of the American Medical Association of the means whereby dentistry is to become a true specialty of medicine.

This departure from the customary form of address by the chairman is prompted by the importance of our deliberation on a theme which is so closely interwoven with the interest and the work of this Section.

It is, indeed, unfortunate that the dental profession, of which we are justly proud, is not represented in this Section by a greater membership, since the degree in medicine is not an essential to eligibility. Many of the active members of this Section are men who hold both medical and dental degrees. There are many more men, however, in and out of this Association who, with but the degree of dentistry, are sufficiently broad in their views, scientific in their work, and practical in their ideas, to see the need for the change that will place stomatology on an equal basis with the other specialties in medicine.

In 1881 the American Medical Association recognized stomatology as a distinct branch of medicine, and this Section, to which you are at present lending your interest, was organized. Since that time much good has been accomplished by the publication in THE JOURNAL of the American Medical Association of papers which, bearing on the correlation of oral and systemic disease, have opened the purely medical eye to the work that is being done by the exponents of dentistry. It now becomes the duty of this Section to open the purely dental eye to the method by which dentistry, or rather stomatology, can be made a still greater credit to the men who practice it, a more honored branch of medicine and a specialty which will render a greater service to human kind.

So long as dentistry remains a separate profession from medicine, so long will differences exist between the medical man and the dentist, so long will dentistry be viewed as the less scientific, so long will its mechanical attainments stand out as paramount and its therapeutic value prove insignificant.

The wonderful strides made in dentistry have been along mechanical lines, and this, to some extent, at the expense of medical and surgical training. The evolution of dentistry from the mechanical age to the therapeutic and surgical age, is inevitable. There was a time when the alleviation of dental ailments, like many of the minor surgical ills, was in the hands of the self-styled surgical barber, who practiced cupping, leeching and the extraction of teeth. Later it became necessary for an individual who wished to conduct such a practice to spend an apprenticeship in the office of a predecessor, who handed down to the succeeding generation methods, not alone for the relief of symptoms, but for the retention, restoration and substitution of the affected part.

To-day in dentistry we pay humble recognition and respectful homage to those who have preceded us and who have done much to advance this noble science, and yet, without reflection on the pioneers, we demand of those who would practice at the present time a degree, earned in a school after years of preparation and study; formerly one, then two, now three, and shortly it may be four years, to say naught of the increase of the preliminary requirements to entrance into dental schools.

With that which now comprises a complete course in dentistry we are but one step removed from the adoption of the full medical course with a supplementary two years devoted to dental studies. The two years thus spent would take the place of the medical practitioner's interneship in a hospital and the specialist's year or two abroad. Medical men thus equipped themselves before embarking on their professional careers. How then can the stomatologist do less and hope to gain full recognition as specialist of medicine?

It is the fear of your chairman that unless radical steps are taken to make dentistry a true specialty of medicine, ultimately there will be a marked distinction between stomatology and dentistry. Already there are many men who see the advantage of supplementing their dental training with the medical course, and stomatologic societies are being organized, composed mainly of practitioners holding the medical degree. This is attested by the following communication from abroad:

FIRST FRENCH CONGRESS OF STOMATOLOGY.

Dear Doctor:—The Stomatologic Society, wishing to celebrate the twentieth year of its foundation, has decided to organize a Congress of Stomatology in Paris, which will be held Aug. 1 to 5, 1907.

This congress will be the long awaited consecration of those professional ideas and scientific principles which our society has always defended ever since its formation. Its aim will be to demonstrate clearly that stomatology is a branch of medicine, a medical and surgical specialty, just as much as is ophthalmology, laryngology, etc., and requiring from its adepts a complete knowledge of medicine and including all the scientific studies which in all countries are recognized as essential for obtaining the degree of M.D.

The diseases of the mouth, teeth and jaws are closely related to other diseases and with the general pathology of the organism. A correct knowledge of this relation is necessary for all who practice dental science, or rather stomatology with all that it includes. Special technical training is most necessary for the perfection of the surgeon and for any other specialist, and is easily acquired by the learned physician, but must be secured by a rational method of instruction.

Stomatology includes all that is known in this specialty whether technical or scientific, and the stomatologist applies all to the care of the mouth, teeth and adjacent parts. This scientific and practical conception of our art, which is so obviously applicable to the public welfare, does not alone apply to the French stomatologists, but equally to a large number of stomatologists of other countries as well, whose works, publications and scientific societies have long since shown us their high medical culture and professional standing.

We hope that our First Congress of Stomatology will be honored by your presence; for it is only by the united efforts of all our confrères from all other countries that its real value and significance will be established. Your presence will indicate the general character of our aims. The medical tie unites us all in one common sympathy and brotherhood, which will insure unity and success of our cause, which will be at the same time scientific, moral and social.

COMMITTEE OF ORGANIZATION.

Honorary Presidents: MM. Galippe and Redier.
President: M. Cruet.
Vice-presidents: MM. Claude Martin and J. Ferrier.
General Secretary: M. Choupret.
Secretaries: MM. Beliard and Bozo.
Treasurer: M. Gires.

Members: MM. Amoedo, Bachelier, Bacque, Beal, Beltrami, Besson, Bouvet, Bonyer, Bugnot, Capdepont, Caumartin, Chemin, Courchet, I. Davenport, Dunogier, Fare, Fleury, Frey, Gaillard, Granjon, Hugenschmidt, Mainguy, Marais, Maurel, Montes, Nogue, Nux, Nuyts, Pietkiewicz, Pitsch, Queudot, P. Robin, Rodier, Rosenthal, Siffre, J. Tellier, Thesee, Thomas, Tourtelot.

Article 2 of the regulations of the First French Congress of Stomatology reads: Its membership may consist of: 1. All members of the Stomatologic Society of Paris (both charter and regular members) and also of French and foreign associate members. 2. All French and foreign doctors of medicine who are interested in stomatology. 3. Individuals who, by reason of their work, knowledge or attainments, shall be admitted by the committee on organization.

It would be, indeed, unfortunate if dentistry and stomatology should become divorced; your chairman believes that it would be one of the worst calamities that could befall both dentistry and stomatology. If this is the accepted opinion of this body it would be well for us, through delegates from our Section that will attend the French Congress of Stomatology, to pledge our support to any movement which will further the interests of dentistry and stomatology as a unit, and to oppose seriously any action that would tend to separate them.

It is to be hoped that the symposium on "The Medical Education for the Dentist," which will follow, will contain valuable suggestions pertaining to this important topic, and will elaborate a system by which dentistry can become an integral part of medicine without friction or disruption in the dental ranks.

Great accomplishments are acquired only through needful sacrifice, but in our deliberation let us see that all phases of the subject are carefully considered so that injustice is done no one. Let us appoint a committee to compile a report of the most practical suggestions presented at this meeting, to be sent to the French Congress of Stomatology, to the National Dental Association, and to the prominent dental journals, so that this important movement may not die an untimely death on the western shore of the Atlantic.

The brief and incomplete outline that I have drawn for the conversion of dentistry as a separate profession to stomatology as a specialty of medicine implies:

1. The elimination of all dental schools unassociated with medical colleges or universities.
2. The attendance of all dental students on the full course in medicine instead of the present method of attending with the medical students the lectures on the elementary subjects.
3. The addition to medical schools of a chair of stomatology and a course on that subject to correspond with the amount of instruction given in ophthalmology, otology, rhinology, etc.
4. The purely dental and mechanical training to be acquired by a special course in the dental department, which will have its separate chairs in mechanical and operative dentistry, oral surgery, etc.

With the universal adoption by the better institutions of such a plan as this, little change in legislation controlling the practice of this specialty would be necessary. Those who are registered practitioners now would continue to practice, and with an increasing consideration and respect from the public as well as from their medical confrères, owing to the high station that the specialty had reached.

I will not dwell further on this subject, but will ask the most earnest consideration of this matter by this important body of dentists and stomatologists.

I can not bring my remarks to an ending without making brief reference to the arduous and efficient services of our genial secretary, who has for many years conducted the duties of his office with the greatest degree of satisfaction to the members of our Section. May his health permit him to remain active in the work of the Section until the successful culmination of the movement which is so warm to his heart, and to which I beg your unrelenting efforts.

Treatment of Mercurial Poisoning.—L. Sabbatani (*Riforma Medica*, July 13, 1907) states that experiments on rabbits demonstrated the efficacy of sulphydric acid in mercurial poisoning. It is given in small and frequent doses.

Original Articles

THE INTERRELATIONSHIPS OF MEDICINE AND DENTISTRY.*

HENRY C. REGISTER, M.D., D.D.S.
PHILADELPHIA.

It may be said that the results of the first systematic investigation of human anatomy were given to us by John Hunter, but in classifying the relationships of the different organs he described the teeth as parts of the skeleton.

Later anatomists have classified the teeth as dermal appendages, but have failed to correlate them with the nutritional mechanism of the body as they have the other organs, consequently the teeth have received little consideration, medically speaking, in their association with general disease conditions.

Later years, however, have demonstrated that the teeth are not extraneous organs, unassociated with the physical influences of nutrition, isolated as it were, after taking their functional position. They are intimately correlated in their anatomic makeup and depend on the general forces of life for their physiologic maintenance in a manner analogous to that of all other bodily tissues.

Physical laws present no isolated exceptions in nature and physical phenomena are all linked by indissoluble bands with that which has gone before and that which comes after.

Related facts, in obedience to universal law, no matter where or how found or how or where applied, form a scientific harmony. To investigate the laws of Nature in order that the children of men may acquaint themselves with the seeming mysteries that surround them and to apply the knowledge thus gained, is in itself the triumph of mind over matter. To know things is the correlation of mind with matter. The knowledge of the fundamental principles or natural laws that underlie all knowledge is the essential part of culture.

Fundamentals are the stepping stones that lie in the river of universal truth, allowing us to cross and recross to reach the tributaries and sources in the special fields of knowledge—medicine being one of them.

Is dentistry or stomatology a branch of that profession? Do medical men realize the importance of stomologic influences in their relation to the whole bodily organism? Has not the layman been biased in his judgment of dental practice by a false conception of its relationship to general medicine? Has there not been a generally accepted belief that the teeth, directly and indirectly, neither hold pathologic relations to the human system in general nor require the same kind of knowledge in their treatment nor offer the same opportunity for pathologic research as exists in other specialties of medicine?

Histologically, dentistry has been practiced in imperfect ways from an early date. Herodotus, the Greek historian, mentions dentistry as having been practiced as a special branch of medicine in Egypt. The first scientific knowledge we have relating to the teeth dates from the period of John Hunter, in 1771. Hunter was a great student and the most renowned anatomist of his time, but he had much to do with causing the teeth to be neglected by reason of his teaching that they were outside the cycle of vital influences.

Later investigation has shown that the physical difference between the teeth and other organs is slight. The teeth are most intimately influenced at different years of life by metabolism and by disease conditions, and they are influenced directly by reflexes from other organs and tissues subject to morbid changes.

These facts are forcing themselves on the dental profession through the insufficiency of the efforts of present day dentistry, based as it is generally on technical manipulative effort alone. Without grasping and using the correlated facts of general medicine that are now known to be influential in causing the pathologic conditions of the teeth, the practice of the dentist must remain handicapped.

Most laymen, medical men and many members of the dental profession look on dentistry as being exclusive and conclusive within its mechanical scope. This is to be seen in the repair of carious wastes without any regard to bacterial or systemic causation, and in the construction of artificial dentures without consideration of dynamic articulation or occlusion and in the extraction of teeth without consideration of possible septic infection. The reason that brings me to this conclusion is that our profession in a large measure shows a lack of appreciation and gives little or no thought as to the fundamental scientific essentials of their work. Disease of the dental apparatus may result directly from toxic or traumatic conditions or by reflexes and is often aggravated or intensified by a wrong diagnosis leading to improper treatment or neglect.

Among the numerous pathologic influences I will mention neuralgia; this disease in its idiopathic form being a functional disturbance and of frequent occurrence. It is usually confined to adult life, more frequent in women than in men. Any traumatism causing pressure to the ramifications of the fifth cranial branch, such as various morbid growths, pulp-stones or constrictions of the pulp, may result in reflexes of acute suffering of the nerve tracks terminating in the eye, the ear or the brain. Reflexes causing the most acute suffering and that have baffled the physician have come under my notice. I will relate a case:

History.—A woman, aged 55, suffered acute pain, more or less, in her eye, ear and facial region, but most constantly and acutely at the base of the cerebellum. She had been kept in a dark room under narcotics off and on for several months. Later I saw the case in consultation and finding the two superior right bicuspids keenly responsive to normal temperatures, I concluded to open into the pulp chambers. I found the pulp to be constricted about one-fourth the way up its radicular length, to the extent of not allowing a very small nerve broach to pass in, producing on the pulp a condition the same as if a string had been tied around it. Above and below this constriction the pulp and canal were of normal size. The removal of the pulp gave absolute and permanent relief.

Another case, which was one of local toxic poison:

History.—A physician, retired from practice, began to lose his health. He became seriously ill and was unable to get a proper diagnosis of his case. He was advised to take a trip to Europe. From this, however, he obtained no relief, and on his return called on me with reference to a soreness about the first superior left molar. I found the pulp devitalized and putrescent, with considerable soreness in and about the apical region and slight necrotic destruction of the alveolus. Considering the history of the case, the patient's health and the possibility of toxic influence that might arise from the affected molar, I advised extraction. This, in connection with cutting away the necrosed bone in the socket, followed by germicidal flushings, brought about a perfect return to health.

I could give a number of cases which I am sure all of you have had in your experiences, but these will suffice for illustration. In diseases of the antrum of varied septic forms, including empyema, Dr. Kyle, who is an authority on rhinological subjects, states that 70 per cent. of cases are due to dental lesions.

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* Read in the Section on Stomatology of the American Medical Association at the Fifty-eighth Annual Session, June, 1907.

The treatment of the immediate diseases of the teeth, claiming all the attention given them by the profession to-day, is in the main finger manipulation. Can not these diseases be better controlled through medical and technical treatment combined? Is the etiology of dental caries in its local and systemic causation so obscure as to be beyond solution? What are the physical influences that go to create susceptible and immune periods in tooth decay? Does not senile decay result mostly from systemic causation? Wherein is the carious susceptibility in pregnant women? Is pyorrhea alveolaris a disease, or, as Dr. Talbot says, "a sequence of a disease"? Is it local or constitutional, or both? Will finger manipulation cure it? Do we recognize to the extent that Dr. Talbot does what interstitial gingivitis means to general health? Would not a better knowledge of the conditions help both practitioner and layman? Can we reach a solution to these problems outside of medicine?

Tooth erosions, whether they are or are not associated with constitutional influences affecting the chemical composition of the saliva and mucous excretions, are yet a mystery, although Dr. Miller seems to think that tooth brushes and gritty tooth powder is in a large measure the causation. On the other hand, the efforts and the studies of Drs. Kirk and Michaels on the saliva point to physiologic influences rather than mechanical ones.

The care of the teeth of children should be directed toward anticipating not only destruction of the teeth themselves by decay, but also the influences of mouth toxins derived from pathogenic bacteria that find a home in the perfectly balanced culture media of the mouth. Dr. Brown wisely says:

> If the mouths of the children of our public schools could be systematically examined by competent persons and instructions given and enforced in regard to the use of brushes and antiseptic solutions, the death rate of this country would be materially lessened, and the percentage of illness reduced, and a stronger and more vigorous race would result in consequence of these prophylactic measures.

Greater knowledge of the tooth-developing stages with broader principles in controlling the feeding of children should claim the attention of the profession.

The question of medical education for dentists is undoubtedly in a condition of evolution and claiming the attention of a large number of the members of the dental profession. No one to-day, under the broadening influences that have gradually developed in the last decade, can look on dentistry as the same profession it was before that period. Not only has an enlarged field come under the immediate care of the dentist, but much in preventive medicine and dentistry is being accomplished.

The correction of deformities of the facial region is not alone confined to hare-lip and cleft-palate. Through the influences of orthodontia the restoration of features and of the functions of the dental apparatus are accomplished perfectly. Prophylaxis in connection with the study of the saliva, investigation of the local and general causes of disease and the way their effects are expressed on the teeth, and the study of the elimination of morbid salivary excretions, all are factors which are changing for the better the conditions of dental practice and are forcing the need for a broader education of its practitioners.

The medical side of the field of stomatology permits the student to look farther into the origin of diseases and thus more intelligently to fit the remedy to these disturbances.

Finger dexterity is requisite to the dentist. This should be combined with an analytical and constructive mind to correlate data in a usable form, and besides this the mechanical ability to construct. Thus, in my mind, a student who possesses dexterity with sensitive tactile ability which will enable him to differentiate shapes and tissue composition would under ordinary instruction be able to accomplish some fair technical results. The same individual having this faculty and in addition instruction in the general principles of medicine would far outstrip the student who is without a knowledge of the fundamentals that give him a working command of the otherwise hidden secrets of cause and effect.

The layman knows practically nothing of the interlacing influences between dental practice and medical subjects. When brought under the misfortune of some associated lesion, only then does he begin to realize that the teeth can directly or indirectly produce disturbances of the most painful and dangerous character. A knowledge of these possible conditions must be realized by the medical mind. He must realize that dental diseases may receive that intelligent care so necessary in other manifestations of disease and based on scientific conclusions so far as known.

The subject of medical education for dentists, so that it could be accomplished within the prescribed course of study, would require a reorganization of the plan of instruction. This probably could well be extended in its application to other specialties in medicine, i. e., one general school for fundamentals and a special school for each specialty, or otherwise the technical branch of dentistry would have to be obtained by an increased term in the college attendance.

The medical school, so arranged that the prescribed fundamentals could be given to the general members in attendance for the first two years, and special schools so arranged as to give prescribed studies directly relating to the life work of the student for two years more appeals to me as a solution that might be sufficiently broad to include the whole teaching in medical science.

The higher education of the dentist, it appears to me, must come through the study of general medicine.

DENTAL EDUCATION AND THE PUBLIC.*

JAMES McMANUS, D.D.S.
HARTFORD, CONN.

At all dental and medical meetings in the past the subject of education has had an airing; the methods of earlier days recalled and criticised and the work of specially gifted men extolled. These educational talks were no doubt sometimes tiresome and often interesting, for each speaker thought he knew what the word "education" meant. While professional, cultured and business men will differ widely in their views on the subject, the public has a belief that the man or woman that has the ability to do work easily, skilfully and satisfactorily is in his calling educated, and it is of little moment to the public whether the man or woman is highly educated or the reverse. What the public wants and seeks of the professional man and day-workman alike is the ability to do well and at a reasonable price the service required.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-eighth Annual Session, June, 1907.

While it is my belief that dentistry from the days of Fauchard in Paris, to the advent of Lemaire, Gardette and Hudson in this country, was truly a profession, the dictionaries of to-day define a dentist to be one whose profession it is to clean teeth and extract teeth, repair them when diseased and to replace them when necessary by artificial ones. Surely there is nothing in that definition that calls for an academic or scientific education or warrants the public in believing that the men or women following that calling are necessarily more than artistic mechanics. In all departments of labor a degree of knowledge with manual and technical training is absolutely necessary to gain the best results and, while a liberal education is of great advantage, it is well known that valuable time, energy and money are often frittered away where a misdirected course of study is pursued, and in over-training theoretically along lines not essential for the practical work of one's calling.

In all the large towns sixty years ago could be found one or more men that had given up bench and mechanic work to become dentists. The early use of tools had educated hands and eyes and the change to office life and surroundings gave opportunities to read and study. With little instruction these men were soon ready to extract, clean and repair teeth and insert artificial ones, and many of them were known as artistic mechanics and skilful operators. These men were known as dentists, for they attempted only what was considered dental work, referring the unusual or serious cases to the medical practitioner or surgeon.

A few of these men supported the college movement, assumed the duties of teachers and professors, and, while they did not always speak elegant English and quoted little Latin, they did teach students the principles and practice of dentistry, and later graduated men whose skilful work bore the "hall mark" and gained for American dentists honors in every civilized country. "Lest we forget," it is well to recall the early days and the men of those days and very seriously consider whether it is best to bar the sons of the poor from matriculating in a dental school for want of an academic or classical education. The name "dentist" has long been held in good repute, but for some years past the specialties advertised read strangely to the public, seeking for competent dental service.

The public may read daily in reputable as well as sensational newspapers questionably illustrated advertisements telling of the wonderful transformations that are daily effected by the skill of alveolar dentists, the orthodontists, the prosthetic dentists, crown and bridge workers, the porcelain and gold inlay workers. These are all specialties in the departments of artistic mechanical dentistry, and most of them such as makes it possible for a bright young man to become an expert at in less than three years in a private office under a competent instructor.

The claim—a true one—that dentistry is a specialty of the healing art has long been upheld by the old-time dental surgeon, the M.D. dentists, that date long before the degree of D.D.S. was thought of, the M.D.S., the L.D.S., the orist and stomatologist, all having more or less of a medical education and all assuming or claiming professional status. The dental surgeon, the orist and the stomatologist are titles self-conferred. The others, according to Prof. Horatio Wood, M.D., are "badges of partial culture." As the maker of that one phrase he will be remembered, for he, with the thinking public, knew that each and all of the titles given to and accepted by members of the medical profession, or, more broadly stated, members of the healing art, are neither badges of partial culture nor of broad culture. They all are simply parchment certificates given on the recommendation of the teaching faculties to students who have attended the courses of lectures prescribed by incorporated institutions of instruction.

Culture is a plant of slow growth—in bloom only after years of close study and earnest work; the world gladly honors ex-President Cleveland and Secretary Taft as men of broad culture. Institutions may confer titles, as they too often do, on men after they have accumulated vast wealth and who are apparently then forced into a lavish and not always a wise distribution of it. It is the man always and not the certificate, or, if you prefer, the diploma, that attains to the honor and right to be called cultured, and dental schools, comparatively yet young in years, have graduated a fair proportion of that class of men.

Previous to the enactment of state dental laws the public had reasonable assurance that dentists, who were members of their state societies, were not only capable but reputable men. In each state now a license may be granted by a political examining board, and that license will hold good only in the state where it was procured. In many states the university graduate owning an A.M., Ph.D., M.D. and D.D.S. and the output from a dental kitchen may go before a composite political dental board and, if a license is granted him, he is given equal status on the official list and certified to by that board as qualified to practice in that state alone. It is unfortunate for the public that the competent and the incompetent, the educated and the ignorant, the clean and the unclean, are given a like standing by state examiners.

The public is more clear and reasonable in its views regarding education, and how it may be and is acquired, than many supposed professional men, who criticise in season and out of season college teaching, training and text-books. The public looks on a college course as preparatory—the education is to come with the experience that is gained after years of study and practice. There are medical graduates in large number each year; only a few get hospital appointments and the rest go out and gain a practice as fast as they can. The number that take to surgery are few, and the public does not expect that every young doctor is fully competent to treat successfully all the ills, real and imaginary, to which flesh is heir. The spirit of the medical profession and the public toward the young doctor is kindly, and they are willing to give him a chance, and time sooner or later will determine the value of his education and develop his skill.

From the dental student and graduate much more is expected and less consideration shown. He early learns from dental journals that the colleges, teachers, textbooks and training are not what they should be and that they are far below the ideal standard. He is expected, nevertheless, to learn medicine, surgery and allied sciences and to become skilful as an operator and an expert in all the departments of mechanical dentistry before he is graduated, and he must then pass another examination and perform a difficult operation before an examining board to get a license to practice in any of the states of the Union. In no other educational institutions are students expected to know and do so much before they are graduates as in the dental colleges, and when a few each year fail to pass state examining boards the reading public is surprised and old practitioners wonder whether the fault is wholly with the student, the college faculty or the state examiners.

In all the colleges in the country the public believes that earnest, studious young men can surely get a good education and it is only that class of young men that should be advised to continue in a dental college. The years that have been wasted, the humiliation and sorrow that parents and friends have suffered, and the discredit to colleges all might have been averted had timely unselfish advice been given by teachers to students before the end of their first year's dental course. Educated Americans feel and express a just pride in the number and character of the dental colleges. They glory in the success of American dentists and American dentistry, and the public, educated and ignorant alike, know that what is considered at the present time a luxury in other countries, skilful dental service, with us is within the reach of the poor and at a slight cost.

The educational force for years, greater even than that of the colleges, was the dental societies. The public early realized what society work meant and kept in touch with the meetings where the old-time practitioner and the college graduate were united in their efforts for mutual improvement. The newspaper notices and reports, the papers read and discussed, the clinics given, and the distinguished teachers and operators from other states gathered on these occasions, forced the conviction on all interested that society meetings were surely post-graduate schools of instruction. As only reputable men—and all such were welcomed—were eligible to society membership the public felt assured that all on the roll of the societies were not only reputable but competent workmen.

Over forty years ago I was asked by a gentleman, a lecturer, author and publisher, when gold was first used for filling cavities in teeth. I had to tell him, shamefacedly, I did not know. Probably since then many thousands have been asked the same question and many others relating to dentistry that they could not satisfactorily answer. It is humiliating to thoughtful men, in any calling, to have to admit to cultured people that they know little of its history. In the office of my preceptor there were a few medical and dental books, but there was little in those books relating to the early development of dentistry.

During my college course, 1864-65, there was little said in the lectures about the early history of dentistry. The professors were so earnest and anxious to give thorough practical instruction that they overlooked the great need of and the benefit that would be gained by buying and cultivating the habit of reading professional books. For many years I have hoped for the establishment, in every dental college, of a lectureship on dental history and dental ethics, and so far as I can learn there are but few out of the fifty-two or more dental colleges that have such lectureships firmly established. You have all read the circulars and editorial notices in the dental journals of Dr. Guerini's "History of Dentistry," which the National Dental Association gladly accepted from him in manuscript form, ready for the printer, and which they believed the dentists of the country would be glad to see in print. The committee was assured that seven hundred subscribers would secure its publication, and for the past two years the committee of the associations has been working hard and the dental journals, most of them, have been giving up space for the circulars of the committees and editorials urging the dentists of this country and the world to subscribe to the book, and up to date they have not secured the required number. It is interesting to note that the list of subscribers, numbering now about five hundred, contains the names of the "old guard" that have sustained the journals and societies for thirty years past, and that the thirty thousand dentists, more or less, of this country seem to care little for either historical information or dental literature. The few that seem to enjoy criticising our literature and text-books might, if they studied the situation carefully, see why neither authors nor publishers care to give up much time to revising books or care to sink more money in new publications.

During the past year public interest has been aroused by the articles published in *Collier's Weekly* and the *Ladies' Home Journal* exposing the composition and dangerous character of many of the medical remedies and nostrums on public sale. The reading public should be made to realize how false were many of the claims made by the manufacturers and, if they buy, take these nostrums with a knowledge of the danger they run. One dental society a few years ago brought to the notice of its members the advertisements of nostrums published in the dental journals. All our societies have done good work in past years trying to educate the public, but I believe that the dental examiners, as custodians of the dental welfare, owe it to their official position to give the public valuable information and advice regarding the misleading and untrue advertisements in the newspapers, telling of exclusive and original methods of doing dental work, operative and mechanical, and in exposing the character and composition of the nostrums that these advertisers offer for sale. If the dental examiners of the country, at their next annual meeting, would appoint a committee to take the subject under consideration, and the committee would prepare a paper, stating facts to be given to *Collier's Weekly*, the *Ladies' Home Journal* and other newspapers, they would do a service to the public of incalculable benefit.

DISCUSSION

ON PAPERS OF DRS. SCHAMBERG, REGISTER AND MC MANUS.

Dr. James Truman, Philadelphia, expressed surprise that Dr. Schamberg separated stomatology from dentistry, because the derivation of the word shows that it means a discourse on the mouth, or the conditions in the mouth, and certainly the different branches of dentistry have to do with the mouth. He felt that it would be a serious injury to dentistry to adopt the plan outlined in that letter from Paris and bring together all the stomatologists of the world and separate them directly from all the practical men in dentistry in the world. He thought any one who has ever practiced dentistry abroad would agree with him that the men who claim to be stomatologists are, above all others, the worst dentists. They are recognized as stomatologists, as pathologists, as men who have been educated in medicine and who are prepared to carry on the work as they understand it; but they are not dentists. Dr. Truman asked whether the time has come when the dentist of the future must be educated in medicine before he can practice dentistry, when he must be in the same position as the ophthalmologist and the otologist? If that is to be the state of things, then, he said, dentistry will practically be a dead profession. He is not opposed to the teaching of medicine and holds that the present training in dentistry given in the higher dental schools is practically the very best training that the dentist can get. He is brought along gradually in his studies, in connection with medical teaching, not primarily, as Dr. Schamberg intimated, but he is taught the fundamental principles of medicine along with the medical students until he reaches a certain point, and then he branches off into practical dentistry. He does not become a medical man, but a dentist possessing a foundation of medical principles. Dr. Truman feared that a young man starting in medicine first, is bound eventually, when he gets through and takes his degree in medicine, to take up dentistry unwillingly as a rule. He takes it up as though it was something forced on him as a means of livelihood, and he does not take it up because he feels a great interest in it. That has been Dr. Truman's experience with all young men who have studied medicine first and then graduated in dentistry afterward. If a man graduates in dentistry first and then takes up medicine, it is altogether a different proposition. Dr. Truman holds that the man who is willing and ready to acquire the knowledge of medicine that is all-essential, is just as capable of doing it with the D.D.S. degree as with the M.D. degree. Dr. Truman asked what are degrees, anyway. Do they mean anything? Is the man who has an M.D. degree qualified for his profession, or the man with a D.D.S. degree qualified for his profession? It is known, he said, that they are not. It is a matter of study, of education, of continuous work throughout the life of any individual, if he wants to accomplish anything in the direction of his profession. Dr. Truman felt that although he did not have a medical degree, he is just as capable of talking on certain branches that he professes to know something about, as is the man who goes through a medical college.

Dr. Alice M. Steeves, Boston, was reminded by this symposium of a similar symposium presented in this Section seven years ago. Things have changed somewhat since that time, she said, but the subject is still interesting to certain members of the profession. While Dr. Steeves agreed with Dr. Truman in many things he said, she asked how are we going to reach that stage? Dentists must, to a certain extent, have a medical education. She has found, in associating with dentists who profess to be strictly practical dentists, that many of them have a sad deficiency in medical knowledge. They are not sufficiently interested to work and study it up for themselves, and how are they to get it otherwise? If it is not a compulsory matter, a great many of them will never have it, and if they themselves have it not, then they are slow in seeing the need of it in others.

Dr. E. S. Talbot, Chicago, feared that Dr. Truman had been setting up a bundle of straw only to knock it down again. Every state has its dental society, and there are many local societies, as well as the national dental societies. Each of those societies is made up principally of men who practice the other side of dentistry, the mechanical side. The mechanics of dentistry has been hashed over and over again at every meeting for more than forty years. To such an extent is this the case, that the National Dental Association is going to pieces for want of new material, scientific research work, etc., and it is already hinted that the next meeting of the National Dental Association will be given over to clinics. No association, Dr. Talbot continued, can exist by making a one-sided affair, as dentistry has done at large; and that was the reason why this Section was started: to take up the scientific side of dentistry. There is no necessity for taking up the mechanical side in this Section. Some organization must encourage research work and bring out the scientific side of dentistry. How well that has been done, he said, is a matter of history. Dr. Talbot felt that the time has come when dentists must take some definite position in their profession. Research work in the last twenty-five years has shown that every pathologic condition of the human mouth dentists are called on to treat has a systematic origin, and the time has come when dental schools must either connect themselves with medical schools in such a way that general medicine can be taught, or the dental colleges must drift into schools of medicine. Dr. Talbot claimed that more than three-fourths of the dental schools in the country are simply schools of mechanics. The time is coming, he said, when dentists shall either remain tooth carpenters or have a medical education, so that we may be able to treat diseases of the mouth, such as erosion, abrasion, discoloration of the teeth, interstitial gingivitis, etc.

Dr. E. A. Bogue, New York City, agreed fully with what Dr. Truman said—that the stomatologists on the other side of the water are generally indifferent dentists. The efforts, however, that are being made by them this summer are worthy of notice. The schools of this country, which, Dr. Bogue thinks, are probably the best schools in the world, are yet so poor, he said, that a recent graduate of one of them told him that he had learned more in a few months' private tuition in the office in which he then was, than he had learned in his whole three years in college; in other words, so far as the practical side of dentistry is concerned, he had got nothing in the schools. Yet he had received a medal and had been made demonstrator the next year after his graduation. Dr. Bogue adopted Dr. Truman's idea when he put his own son through the colleges. He insisted on his graduating as a dentist first, and after that if he chose to graduate in medicine, so much the better. He did so, and Dr. Bogue considers him very much better qualified for the practice of dentistry than if he had turned it around the other way. There is another feature about this matter of medical education and dental education, Dr. Bogue continued, and that is that throughout Europe there is a prejudice against manual labor. It is, perhaps, stronger in England than elsewhere. A man who does not have to work is a gentleman, and the man who is a graduate from a school of learning feels as though he would a great deal rather sit at a table and write a prescription, than take his coat off and labor hard to preserve a set of teeth. If what Dr. Register spoke can be brought to pass, namely, insist on a general education in a medical school of men wishing to practice dentistry, and then let him receive a special education afterward, Dr. Bogue will be glad to see it done, but he is not ready to advocate that just yet. There must be some changes. He believes some of our present dental schools to be the best qualified institutions to prepare a young man to save teeth, but he asked, is that all that he should be called on to do? Dr. Bogue thought not. Dentists, as a rule, he said, have not been sufficiently broadly educated to draw them out of themselves. Dentists, as a class, are not drawn from the more highly educated circles of society in this country.

Dr. Truman W. Brophy, Chicago, said that a short time ago a member of a large medical faculty made the statement that the graduates of dental schools are better prepared to assume the duties that they undertake than are the graduates in medicine, because the dental student's training along scientific lines is equally as good as is that of the medical student, and he has the practical experience in the work devolving on him as a professional man, that the students of medicine can not possibly get. Only the young physicians who have served as internes in hospitals can be compared in their usefulness to their patients with the students who have the advantage of long practical training in the infirmary of the modern dental school. Dr. Brophy expressed his interest in the subject under discussion, but feared that he could not add anything that would help the officers of the Section in carrying out their plans to make of dentistry an absolute specialty of medicine. He questioned whether such a step would be in the highest and best interests of humanity. If dentistry becomes a specialty of medicine, then the schools of medicine will have to be improved. At a meeting held at this session, it was decided that a large percentage of the medical schools of the United States are scarcely worthy of existence; that their grade is so low that it is really felt they should be discouraged from going on. To teach a student how to become a skilled specialist in medicine from a dental point of view, the dental and medical curriculum would have to be revised. One can not learn how to treat the diseases of the human teeth in a medical school, because the medical schools, with a few exceptions, do not teach dental pathology. The dental specialist who would acquire his knowledge in a medical school would be disappointing as a student, since the curriculum of the medical school gives little attention to diseases of the teeth and to those diseases which have their origin in the teeth and which are dependent on the teeth for the initial lesion. To establish a condition of things, such as prevails throughout Europe, of making dentistry a specialty of medicine, on the ground that every medial man is a dentist, such is the law in Europe, would, in Dr. Brophy's opinion, be a calamity to the dental profession and to mankind. He did not consider it necessary to call attention to the deplorable condition which prevails throughout nearly all Europe, regarding dentistry. Too well, the earnest advocates of dentistry in Europe know the troubles that surround them at the present time. In Paris, in 1900, there was a great International Dental Congress, which was attended by over 1,200 dentists. In the International Medical Congress held at the same time there was a Section on Stomatology, and the general attendance at any one time was from 80 to 120. Which of those meetings, he asked, contributed the most to the fundamentals of the science and art of dentistry? He held that there is a misconception in the minds of many as to what is medicine. Chemistry, he said, is not medicine; anatomy is not medicine, and physiology is not medicine. Anatomy deals with the whole subject of the structure of plants, of animals and of man. How much, he asked, does the student of medicine know about the anatomy of animals and the anatomy of plants? He has a little anatomy—the human anatomy. In physiology, it is the same way. He has the human physiology and not the physiology of vegetation, which is a part of physiology. Chemistry is a science. It has no more to do with medicine than with geology or any other of the sciences, or pharmacy, which is, in a way, a part of medicine; yet the pharmacist is not regarded as a medical specialist, nor could he receive admission in such associations as the American Medical Association, though he comes nearer being a medical man than the dentist, as he prescribes more frequently for people than do some of the physicians who send their prescriptions to him to be filled, and so he is really practicing medicine. Medicine is said to be the healing art in all its branches. This is not true, he said. It does not deal with the healing art which applies to dentistry. An examination of the curriculum of the medical schools would fail to reveal any reference to the teaching of the healing art as it applies to dentistry, with some general exceptions. Dr. Brophy said that it has been stated that the degree of D.D.S. represents a partial culture. That was said by a medical man. If there is any degree that represents partial culture it is surely the degree of M.D. It is only a partial culture, because the man who graduates in medicine in many instances has only a smattering of the things he has studied and has not become thoroughly acquainted with them. There is not any degree that represents a high state of culture. All degrees represent a partial culture. If, he continued, what the chairman in his enthusiasm so carefully outlined were to come to pass, we must not only revise the curriculum of the schools of medicine, but also dispose of all the state dental boards, and if the boards of health take care of all candidates for admission to practice, who will say they are fit to examine the candidates as being capable of engaging in the practice of dentistry. A state board of health is no better qualified to determine whether an applicant is qualified to practice dentistry than a dental board is to decide whether an applicant is qualified to practice medicine. Dr. Brophy predicted that the time will never come when about one-fifth of all that enters into the duties of dental practice, the medical part, can be regarded as most essential. He would classify the curriculum in this way: Chemistry, anatomy and physiology are sciences in themselves. Orthodontia is a department of surgery that medical schools never teach, but which would require any man, no matter how skillful he might be, or how well qualified, or how well educated he might be, to give two years' time at least to become proficient in its pratice. Operative dentistry is the greatest, including inlay work, porcelain work and bridge work. These are not medical subjects and it is not consistent with the course of training in medicine to undertake to teach anything of the operative side of dentistry. Porcelain work in all its wonderful forms and shapes and methods of development must stand out prominently as part of the work of the dentist, and it is not consistent, it is not logical, to assume that the dentist's art ever can be taught in a school of medicine. If medical schools will teach the students how to recognize diseases, so that the man who goes out to practice medicine is able to take care of his patients who have the diseases that have originated in the teeth and those which are intimately associated with them, and treat their patients properly, a great work will have been done. But, Dr. Brophy continued, to teach the art of dentistry in a medical school would be impossible. The dental student must learn the handling of the materials that are employed in dentistry; the medical schools can not teach what their curriculum does not provide. Dental pathology, so far as it refers to general medicine, should be taught in all medical colleges. Dr. Brophy said he hoped the Section will carry out the suggestions of the chairman, and that the schools of medicine throughout this country, when they come up to a standard that will be approved by the state boards, will teach dental pathology.

Dr. M. I. Schamberg, New York City, was pleased to have heard this subject discussed from both standpoints, for the reason that the Section has been accustomed to viewing these subjects entirely from the standpoint of a man who has a medical degree combined with a dental degree. What does that mean? he asked. That there is something more in dentistry, or rather stomatology, than is ordinarily supposed? It is surprising, he continued, to find the opposition on the part of men associated with medical institutions and hospitals. They are willing to concede the filling of teeth to the dentist, but they do not believe he is fitted for the treatment of the various diseases of the mouth and the soft tissues of that cavity. It is very humiliating, he said, even to one who has both degrees, to find that they feel that because a man has a dental degree coupled with a medical degree, he is less fit to handle these diseases than a man who has an M.D. degree alone. Nearly all serious cases of alveolar abscess, and suppurative conditions of the face and neck drift into the physician's office, when they could be treated more properly by a dentist. Why? Because patients fear the dentist is not able to cope with the condition from what might be termed a medical or surgical standpoint. Dental students, Dr. Schamberg continued, get an excellent training in oral surgery. At the present time there are very few of the better colleges that do not endeavor to teach oral surgery, the elemental subjects of bacteriology and pathology, up to the major operations for resection of the jaws, and still when a dentist asks for material in the hospitals, he not only fails to get it, but he would not be permitted to perform the operation, even if he knew how. His degree does not cover that. He is a dentist; he is not a physician. Dr. Schamberg pointed out that the dental profession must either be satisfied to cope with the filling, the extraction and the restoration of teeth, and end there, or dentists must become stomatologists in the true sense of the word and be able to cope with all the conditions of the mouth. He is convinced that a more thorough study of this subject would show that many of the conditions of the mouth are an index of the general condition of the patient. At the present time dentists are able to make a diagnosis of Bright's disease or tuberculosis, in their incipiency, long before there are evidences of these diseases in the other organs. Why, then, should they not be able to prescribe for and treat such patients, if need be? The only way that that will come about is by the dentist taking the full medical course first. Some dentists consider themselves specialists in medicine. They will not be specialists in medicine, he said, until the entire profession shall consider the taking of the medical course as essential, prior to taking up the special course in dentistry. At the present time, any medical man who practices dentistry, does it, not because he is proud of the new profession he has stepped into. He does not select it because of its importance, but merely because he feels that it is a profitable field, and such men are of little value in any specialty. Dr. Schamberg asked another question in connection with the advance of dentistry to the present time: Has dentistry suffered so much because men are given a partial medical education in the elementary subjects? Has dentistry been injured because men formerly accepted dentistry as orthodontia because they were mechanically inclined? No, he said. Advance in mechanical directions has made it possible for dentistry to systematize certain work, make it easier, and, at the same time, do the work just as efficiently. The inlay of to-day makes it possible to insert a filling of far greater value and one which requires far less skill than the gold filling, and there will be other systems, as well as the system of orthodontia, in which men have been able to go and take this course for six weeks or several months and come back very well able to cope with irregularities, and so it will be. It will be through systems of that kind, which will make possible the mechanical side of dentistry. That will take care of itself. Even though dentists should lose a little, in a mechanical direction, they can afford to do it. They can afford to do it for the sake of what will be gained through research in the true medical direction. Dr. Schamberg feels confident of that, for the reason that dentistry requires a course of study, instead of the old method of spending years in the office of a preceptor.

HEADACHE AS A SYMPTOM OF LOCAL DISORDERS.*

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"Nothing could be less scientific than the establishment of a hierarchy among medical problems based on the relative severity of symptoms. Prognosis apart, there can be no division of diseases into major and minor. It is the outcome of ignorance to relegate any symptom to a secondary place, for we forget that difficult questions are often elucidated by apparently trivial data." The sentences we have just quoted are from the introductory paragraphs of Professor Brissaud's preface to Meige's and Feindel's interesting work of "Tics and Their Treatment." (English translation.) They express what we have often thought in regard to the commonplace subject of headaches.

We propose in this paper to consider only headaches in which the pain in the head is the sole, or at least principal, complaint of the patient. It is based on analysis of over 1,700 cases collected during the past fifteen years which have been personally seen and studied by at least one of us.

In studying cases of chronic or recurrent headaches it is always our first endeavor to obtain the most precise description possible of the location of the pain, its character, time of occurrence, duration, spots of tenderness in head, and the immediate cause of the individual attacks, where any have been observed. We have then proceeded to make the most complete examination of the patient's physical condition and past and present history that time and opportunity permitted. The most important points in such an examination are:

1. The family and personal history as to evidence of neurotic tendencies, worries arising from business and family troubles, or a nerve-tiring occupation.

2. The habits as to care of the bowels, diet, the state of the digestion, the menstrual function, the use of tea, coffee, tobacco and alcohol, bad air, the practice of sexual excess or masturbation.

3. A physical examination as to the reflexes, as far as they indicate an irritable weakness of the nervous system, the heart, the state of the blood vessels and pelvic organs, the character of the urine and the blood, the eyes, nose, teeth and ears.

The principal conclusions at which we have arrived from this study are: 1. That a neuropathic diathesis is an essential condition of the occurrence of almost all chronic headaches of the kind we are discussing; the only exceptions to this rule occurring in patients where the other causes we are about to consider exist in unusual severity. 2. That the great majority of cases have, in addition to a neuropathic diathesis, some source of local irritation to the nervous system which often manifests itself in no other subjective symptom. 3. That a minority of cases, though still a considerable number, are suffering from anemia, or a toxemic condition, which, as before, occurs in a person of neuropathic diathesis, and may manifest itself in no other subjective symptom of importance. 4. That the more marked the neuropathic tendencies, the less need be the degree of local irritation, or toxemia, and vice versa. 5. That in some cases, often the most severe ones, a local irritation of the nervous system is reinforced by a toxemia. And 6. That there are a considerable number of what we may call composite headaches in which two or more local irritations combine to intensify the sufferer's neuropathic tendencies and to cause headache.

LOCATION.

We have found the location of the headache the most useful single symptom in pointing out its cause. The classification of locations which we have adopted is: 1, frontal; 2, temporal; 3, occipital; 4, vertical; 5, parietal; 6, circular, in which the pain is described as resembling a band surrounding the head; and lastly, 7, general headaches. It is also very common to find combinations of one or more of the first five locations which we have enumerated. For example, the vertical-occipital headache, due to retroversion of the uterus, with endometritis. These when complicated are often mistaken for true general headaches. Moreover, any headache when very severe tends to become widely diffused. Its true type in such a case is often indicated by the region of most marked tenderness to pressure, or still more clearly by the location in which the pain began.

None of the indications to be drawn from the location of the pain are absolutely invariable, as will be seen by a study of the tabulated cases. All that we would insist on in regard to the location is that it is the most important guide in the patient's description of the probable cause. There are few cases, however, of any severity in which the whole of the examination which we have mentioned should not be made. Much of the doubt and uncertainty as to the causation will be found to be due to the incompleteness of the general examination of the patient. The more one persists in looking for causes in the eye, nose and pelvic organs the more frequently will he observe cases in which the typical headache of derangements of these organs will be found the only subjective symptoms of disease. On the other hand, if our interest in the local irritations blinds us to the important fact that they rarely cause headaches, except in the neuropathic individuals, or renders us forgetful of the possibilities of toxemia or anemia, our results will not be perfectly satisfactory.

Some indications, apparently pointing to one system of organs as the source of headache, may be very misleading, e. g., the headache occurring only at the time of menstruation is by no means necessarily due to any derangement of the pelvic organs. We should never forget, in studying any symptom that comes on at the menstrual period, that the most normal woman is more inclined to be nervous at that time, and that the resisting powers of the nervous system to all kinds of strains is lowered. We have seen purely eye-strain headaches which occurred only at that time.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

The local irritations which cause headaches are approximately in the order of their frequency:

1. Irritation of the eyes, which may be due to astigmatism, muscular imbalance, hypermetropia, or its opposite, reinforced in cases of long standing by the irritability of the retina which they have produced. Of course, more than one of these conditions may be present in the same eye.

In these cases the pain is either (*a*) frontal, usually due to astigmatism; (*b*) occipital, often from muscular imbalance; (*c*) temporal, from muscular imbalance or hypermetropia; (*d*) or deep-seated in the eyes themselves from irritability of the retina. They are usually bilateral in simple astigmatism, but may be, especially the temporal headaches of muscular imbalance, unilateral. The pain may alternate from one side of the head to the other in successive attacks or during the same attack. They are often accompanied by nausea or vomiting, and, of course, depend much on the occupation and age of the patient. They are more apt to occur at times when the patient's nervous strength has been subjected to some special tax, such as menstruation, pregnancy, a long illness, loss of sleep, or merely an especially tiring day's work.

2. The nose and accessory sinuses: adenoids, polypi, hypertrophied turbinates, spurs, infection of the frontal sinuses, or the antrum and, sometimes, deflected septa.

In these cases the pain is usually frontal, more often than in eye-strain confined to one side of the forehead, and frequently, unlike the pains of eye-strain, the pain is limited to a small, well-defined spot, sometimes in the median line directly over the root of the nose, or on either side of this line in the lower part of the forehead, or higher up just inside the line of the hair. These are particularly apt to be morning headaches, especially in mouth-breathers, and to wear off with the more normal respiration of the waking hours, or with the better draining of the infected cavities when the patient is in an erect position.. The pain is often of a duller and more deep-seated character than that of eye-strain. It may be complicated by a headache due to esophoria where the esophoria is a reflex due to the nasal disease.

3. The pelvic organs in women: retrodisplacement of the uterus, posterior parametritis, endometritis, polypi, subinvolution, sclerocystic ovaries, prolapsed ovaries, and perhaps ovarian irritation from adhesions. The pain is almost invariably vertical in cases due to diseases of the body or lining of the uterus, as in endometritis, subinvolution or polypi, and with equal certainty occipital when due to retrodisplacement of the uterus, posterior parametritis or ovarian disease. The pain in the latter situation is much less likely than the occipital headache of eye-strain to extend down into the neck and upper part of the back. These headaches are practically always bilateral. They are often worse about or during the menstrual period, but are not very infrequently characterized by cessation during the menstrual flow. The occipital headaches of uterine or ovarian displacement are often aggravated by walking or standing. They may be complicated by temporal or occipital headache due to exophoria, which is in its turn a reflex from the pelvic displacement.

4. The stomach: hyperacidity, deficiencies of the normal acid, the presence of food entirely undigested from any cause. These headaches are practically always frontal and bilateral, and are more commonly situated in the upper part of the forehead than those due to the eyes or nasopharynx. When such a headache is due to the presence of undigested food remaining in the stomach it is readily relieved by vomiting. The occurrence of the pain soon after eating, or about the time that the latter stages of gastric digestion have been reached, is characteristic. It often occurs too soon after the ingestion of irritating food to be fairly attributable to the absorption of poisons into the blood.

5. The teeth: the irritation of decayed teeth, almost always in the upper jaw, and especially of the third molar or eye-tooth. They are usually temporal when the molars are the principal cause, or frontal especially in the case of the eye-teeth. As might be expected from their origin, they are frequently unilateral. We have seen a few cases where all the teeth of the upper jaw were in bad condition, where the pain was very diffuse and persistent, covering the whole of the forehead, temples and vertex. Occasionally, especially in disease of the third molars, the pain is confined to a small spot on one or both sides of the occiput.

6. A few cases due to the ears. These are almost the only parietal headaches due to local irritations and are unilateral or bilateral as one or both ears are involved. They may be due to the mere presence of wax adherent to the drum or to stoppage of the Eustachian tubes. They are rarely due to disease of the middle ear when unaccompanied by obvious local symptoms.

The characteristic headache in anemia is vertical, and is frequently accompanied by other morbid sensations, which the patient often describes as fulness and pressure in the top of the head, or as a feeling as if the top of the head would come off. The toxemic headaches are most commonly described as involving the whole of the upper part of the head, or as a band of pain encircling it accompanied by the sensation of pressure or constriction. The pressure of a too tightly fitting shirt band or collar around the neck may also give rise to very severe and persistent general headache closely resembling that of toxemia due to constipation, bad air, tobacco or coffee. The time of occurrence of toxemic headaches has frequently some relation to the absorption of the poison, e. g., the evening headache in a man who has been smoking too much all day, or the morning headache of the one who has spent the night in a badly ventilated room. In our experience the headaches due to the presence of some of the purin bodies in excess of the blood are more apt to be paroxysmal in the attacks than in the case of other toxemias, and rarely occur except in close connection with the presence of an extreme reflex irritation in the eyes. Another type of toxic headache is that where the area of pain exactly corresponds to the distribution of some nerve in the head, occasionally the occipital, but much oftener the supraorbital branch of the fifth. When very severe the pain in the latter case may involve the ball of one eye and the root of the nose on the same side, and the pain may be so definitely ocular in location as to make the patient himself sure that it is due to the eye. When noticeably periodical, occurring every day or every other day at about the same hour, we have occasionally been able to prove by examination of the blood that these attacks were malarial, and one can almost always obtain a history of malaria in the past. They yield readily to quinin if used in the same way that it would be for chills and fever. The headache of arteriosclerosis is very commonly occipital and may be general. The age at which it makes its appearance is often suggestive of its origin, which may be confirmed in most cases that are not very advanced by the therapeutic test of relief by the use of nitroglycerin.

MIGRAINE.

We have reserved the subject of migraine for special discussion, because our views, though by no means novel, are generally regarded as heterodox by students of nervous diseases. As a result of conscientious study of the whole subject of headaches during the past fifteen years we have been forced to abandon the common conception of the disease with which we started out.

We have come to regard the classical type of migraine as a headache due to the presence of a local irritation, practically invariably eye-strain, in an individual of markedly neuropathic diathesis in which the immediate occurrence of the attacks may be due to the special irritability of the nervous system, caused by transient but frequently recurring conditions of toxemia, which in a less neurotic individual or one who was not constantly subjected to the nervous wear and tear of the eye-strain, would be incapable of producing any such effects. The numerous peculiar cases with more psychical symptoms than the merely hysterical tendencies of a neurotic patient could account for, or those complicated by more or less transient paralysis of various ocular muscles, differ in so many respects from the typical cases and also among themselves that we fail to see how they can all be classed under one disease.

To regard all the severe recurrent headaches as a single affection, without regard to their causation, seems to us as unscientific as it would be to treat all cases of chorea or choreiform movements, from Huntington's chorea to habit tic, as one disease. That which follows is intended to apply only to what may be described as a common typical migraine.

Migraine may be described as a severe form of headache occurring at more or less regular intervals, often, though not invariably, unilateral, especially severe in the front of the head, forehead and temporal region, but extending when at its height over the whole head or one-half of it, alternating at times from one side of the head to the other in successive attacks, or even during one attack, lasting from twelve to twenty-four hours, though it may last longer, for several days, or a shorter time, only three or four hours, usually accompanied by more or less disturbance of digestion, and often ending with vomiting. The attacks sometimes terminate by the patient falling asleep to awake the next day entirely relieved. Where it does not reach a crisis by vomiting or sleep it is frequently noticed that the pain seems to wear off about sunset. Victims of these headaches are invariably of a neuropathic constitution and the disease is markedly hereditary. It comes on most commonly in childhood or at puberty and invariably, as far as our knowledge goes, fades out when the patient reaches the age of about fifty. The attacks are often preceded by prodromata, usually ocular, often accompanied by paresthesias of the neck, arm and even trunk, especially on the same side as the headache in the true hemicranial cases. They are often connected with epilepsy in a way that has suggested the possibility of a similarity of nature in the two diseases.

The etiologies suggested for this disease are sufficient evidence by their variety, and in many cases their unpracticable character, of the difficulty that the neurologists have generally experienced in explaining it. Many of the best authorities on nervous diseases lay stress on reflex irritation as the cause. The two factors which have been most emphasized have been heredity and some form of autointoxication. It is perfectly true that there is a marked hereditary element in migraine, but these cases are simply among the most violent and regularly recurrent of the headaches which we have already analyzed, and we have stated in the beginning that a more or less neuropathic tendency is characteristic of almost every individual who suffers from recurrent headache. A neuropathic diathesis is, of course, strikingly hereditary. It should also be remembered, as pointed out by Risley in a paper read before this Association in 1899, that there are few points about the structure of the body that are more certainly inherited than the shape of the head, and that the shape of the socket of the eye ought to partake together with the rest of the head of this transmissible character, and finally that the shape of the socket may have a great deal to do with peculiarities in the shape of the eye. All that has been said, therefore, of the manner in which the disease can be traced in one generation after another in the same family, or in all of the children of one of its victims, is perfectly true. But it is far from proving that such headaches really constitute a disease *sui generis*. The usual ages of onset and disappearance of the disease is very suggestive of a different explanation. The disease rarely makes its appearance until the child is of school age, very frequently only with the increased strain on the nervous balance of puberty. And, what is very curious, if the disease is principally due to faulty metabolism, is that it invariably disappears at about the age when the victim's vital functions are beginning and his liability to autointoxication from a weaker digestion, from less vigorous action of the organs of excretion, from an impaired circulation, markedly increasing. It seems to us that a candid consideration of this one point of admittedly invariable disappearance of the disease at or about the coming on of old age is sufficient to render untenable any explanation which bases itself principally on the theory of autointoxication, whereas the age of disappearance can only be explained by assuming that it is dependent for one of its essential factors on some condition which is known to cease to exist at about that time of life. It is very hard to name anything which fulfills this requirement except the power of accommodation in the eye. Migraine disappears just when the patient ceases to be able, by any effort on the part of the muscles of his eye, to correct or accommodate for the errors in its structure. We have still to see a case of migraine that exists in an individual with no muscular imbalance and no more than the physiologic amount of astigmatism, and we have seen case after case of typical migraine completely cured, though often with much difficulty, by a sufficiently careful correction of ocular errors. We should not be understood, however, in saying this to go quite the length of some ophthalmologists who regard migraine as due simply and entirely to eye-strain. In practically every form of headache we have, to use a mathematical metaphor, to regard the disease as a product of several factors, a lack of resisting power in the nervous system, which is about what a neuropathic temperament amounts to, and secondly, some toxemia or some reflex strain due to local disease. Migraine may be regarded as a headache in which the neuropathic factor is larger than in some others, in which the factor due to local irritation is, however, an essential one, and in which, to continue the same metaphor, the product of suffering is increased, at least in most cases, by multiplying these by a third factor, that of autointoxication. We can not cure all cases of migraine immediately by fitting them with glasses, but the best possible correction of the irritation from the eyes will, in our experience, lead to the ultimate disappearance of the symptoms. It is true here, as in mathematics, that if you can reduce one factor to zero your product will be zero. It seems to us that this is a less radical view than has been taken by many ophthalmologists. It does not ignore the neuropathic and possibly toxemic factors, but it also refuses to ignore the immense importance of the eye and proposes to treat the disease by eliminating the most easily treated essential element in its causation. It is, of course, true that everything in the way of improving the patient's general health by wise diet, plenty of out-door exercise, and the greatest possible care to maintain the functions of excretion through skin, bowels, kidneys and lungs, at their best, and tonics to improve the general health, will all lessen the neuropathic and toxemic factors and may in this way be of great benefit. They should never be neglected, but the very cautious way in which the eminent authorities who have advocated them as the only means of treating migraine speak of the possibility of a complete cure by such methods, is in itself a pretty good proof of their inadequacy where employed alone.

EXAMINATION OF THE EYES.

We have spoken of a "careful examination" of the eyes and it may perhaps be worth while to explain what we understand by a careful examination. The proper examination of the eyes for the correction of reflex symptoms either in the form of headaches, indigestion or "general nervousness" must be made very differently from the examinations of some otherwise excellent ophthalmologists. In the first place a mydriatic must be used. In children atropin is much better than homatropin, and at least homatropin should be used up to the age of 55. Moreover, the mydriatic must be used thoroughly. Its effects are obtained with incompleteness in too many cases. It is much safer for the ophthalmologist to put the drops in the eyes himself at his office. This requires much more time for the patient to wait around the doctor's office and somewhat more time from the doctor, but it is a point of essential importance in the more difficult cases. The most exact determination of the axis, as well as the degree of astigmatism in each eye, is essential. We always distrust a prescription, of which one sees too many, in which the axis comes out in a nice round number of degrees and the same for both eyes. It can not be too much insisted on that small degrees of astigmatism are just as likely to lead to reflex symptoms, though much less likely to lead to defective sight, as the extreme ones. The findings on the reading tests with different lenses must in every case be carefully verified by the shadow test. The patients should be told plainly that there is no use in wasting any money on glasses if they are not prepared to wear spectacles, moreover, if they are not prepared to wear them from morning till night. The patients should invariably be instructed to bring back the glasses to the ophthalmologist before the marks which the opticians use for centering the lenses are washed off, that the doctor may himself see that they are centered correctly. The patients should be told to return frequently to the optician and have the glasses readjusted, in case their frames or bows become bent. They should be particularly instructed how to take off and put on the glasses, holding them by the bows on both sides to prevent distorting the frames. Women especially should be cautioned to see that they do not catch a loop of their hair under one bow of the glass, thereby entirely altering the relation of the axes of the cylindrical lenses to their eyes. For persons engaged in an occupation requiring much close use of the eyes ophthalmologists should be more careful than they usually are to see that the lenses are set at a proper angle to the eye, that is, so that when the patient is looking down at her sewing or writing she will not be looking through the very lower edge of the lenses and that at a decided angle to its surface. The toric lens overcomes this difficulty to a great extent. If there is any evidence of retinal irritation at the time of examination, the first pair of glasses at least should be amber tinted. The same minute attention should be paid to details in the examination and treatment of the nasopharynx and pelvic organs.

We venture to say that most neurologists who are skeptical about the importance of the eye as a factor in migraine and many other less severe forms of headache have failed to give this much consideration to the details of the oculist's treatment, but if we do not pay unremitting and exact attention to all these minutiæ we shall continue to see cases of migraine that are not due to the eyes.

We would not be understood as confining all treatment of headaches to the removal of local irritations or the elimination of poisons, although we believe this to be the most fundamental part of the treatment. Any tonic treatment directed to the general health, especially to the removal of the anemia, the improvement of digestion and the functions of excretion, and above all, everything tending to the improvement of the nervous tone and mental condition, should prove of the greatest value, but such treatment ought by no means to be confined simply to drugs. General massage is of special value in the toxemic cases, and local massage to the head and neck is often of great use in relieving the individual attacks. Medical gymnastics and all kinds of rational out-door exercises should be strongly recommended. To the ordinary kind of exercise in a gymnasium we would attach much less value. The gymnastics should not be attempted unless they are carried out under the care of an experienced masseur and medical gymnast, who at the same time realizes the limitations of his functions and takes his orders directly from a physician. Cold bathing in the form simply of friction by the means of rough bath mittens wet in cold water (ice water if the patient will stand it), followed by a vigorous rub-down, the drip sheet, the tonic bath, are all of use in properly selected cases. We have found the employment of vibration, vigorously and thoroughly over the thoracic region of the spine and the hepatic and splenic areas, of decided benefit in some cases of toxemic headaches. General faradization with mild currents, and prolonged wave current treatments with the static machine, are of great value, especially in the toxemic cases, and the latter wherever the patient is very neurotic. The positive breeze from the static machine applied to the head gives great relief to the attacks in many cases. The most universally good effect of this treatment, and also of local massage designed to reduce congestion, are confirmatory of our impression that in practically all headaches, except those which are a distinct neuritis, whatever the primary cause, the immediate cause of pain is congestion. This we believe to be true even in anemic headaches. Of tonics, strychnin in some form is enough in many cases to stop the recurrence, at least for a time, of some forms of eye-strain headache. Iron is, of course, indicated in the anemic cases and, we believe, in many others. The proneness of those subject to headaches to develop them from taking iron is well known. In cases where Bland's mass, the chlorid, citrate or dry sulphate of iron cause any increase in the symptoms we usually administer the lactate, which we have found much freer from unpleasant effects in headache patients. We have met with little satisfaction in the use of the many and much vaunted forms of so-called organic iron. Arsenic in the form of arsenate of soda is less irritating to the stomach than Fowler's solution, or if combined with mercury in the form of Donovan's solution is of the greatest value in many obstinate cases, especially of the more severe types. In headaches involving the distribution of the supraorbital, or of any other definite nerve in the scalp, we have found great benefit and often permanent cure from the systematic use, up to the point of toleration of each drug, of two grains of quinin sulphate and 1/400 of a grain of nitrate of aconitin given every two hours in separate tablets, so that either can be discontinued on the appearance of the appropriate indications.

In some cases of migraine, especially where exophoria was present and the pain principally in the temple or occiput, we have found marked benefit from the use of cannabis indica in from ⅛ to ¼ grain doses of Hering's extract three times a day continued for a long period. In the matter of drug treatment the same attention to details is of importance as in the fitting of glasses. The physician who prescribes such drugs as aconitin, cannabis indica or ergot without the most careful supervision of their quality will constantly be disappointed in the results.

The importance of the toxic element in the immediate bringing on of an attack of migraine is well illustrated by the best methods for aborting the beginning of the attack. Thorough lavage of the stomach, followed by the administration of salicylate of soda or aspirin combined with a good dose of caffein, or, still better, given in strong black coffee, has proved of more service in our hands than any other treatment when the attack first begins. Another resource when the pain is principally frontal is spraying the nose with a very strong, say 20 per cent. solution, of cocain. The character of the drug should be unknown to the patient. When called to a case in the midst of a violent attack of any kind of headache, which is well under way, we do not hesitate, if we are fairly well satisfied that it is due to an ultimately removable cause, to administer a hypodermic injection of morphin with atropin and to repeat it if necessary until the patient is comfortable. In a severe headache, which has already lasted for a couple of hours, we are convinced that even where there are no particular gastric symptoms the stomach is in such a condition with the majority of patients that any drug put into it is simply wasted as far as relief is concerned, and many of the unpleasant results of using the coal tar products have been due to the administration of repeated doses under these circumstances, where no relief was obtained until the headache began to go off of itself, and then all the successive doses were apparently absorbed about the same time. Where one does decide to make use of the coal tar analgesics, antipyrin has seemed to us much the safest and as efficient as any other. We always guard it with caffein, and the same effect will be obtained from a much smaller dose if the drug is administered in an effervescing form. The hard compressed tablets, so commonly in use, dissolve with greater difficulty than many realize, and a powder is much preferable where an effervescing salt can not be used.

DISCUSSION.

Dr. Wm. Healy, Chicago, has seen cases in which, although no correction of vision was needed, reduction of the amount of eyework brought about cessation of the pain. On the other hand, in cases in which refraction was done by a good man and even corroborated by another, there were frequent recurrences of the headache until there was a decided reduction of the work done by the corrected eye. Eye-strain which causes headache may, he said, be either use of eyes which refract imperfectly or it may mean merely overuse.

Dr. Hugh T. Patrick, Chicago, speaking of the relation of migraine to eye-strain and the relation of eye-strain to migraine said that the author's results in the treatment of migraine by the adjustment of glasses have been very much more fortunate than have his. Every case of migraine that comes to Dr. Patrick is at once sent to a competent oculist, provided an eye examination has not already been made. Ordinarily the eyes have been attended to before he sees the patient. But the cases in which the migraine has been cured by the adjustment of glasses are of the extremest rarity in his experience. This is, of course, assuming that the headache is really migraine. The single element of heredity, Dr. Patrick thought, would throw some light on his poor results, because in the cases he sees the element of heredity, not only indirect but direct heredity, is of surprising frequency. The fact that the patient has what she calls sick headache, that her mother had what she called nervous headache, and her grandmother had what she called neuralgia, does not alter the fact that all three had migraine, and, if that fact is taken into consideration, there will generally be found somewhere in the family a history of migraine. Dr. Patrick inclined to the belief that some of the men who get such very brilliant results from the adjustment of glasses in migraine are not dealing with typical cases. Heredity also plays an important part in the production of the refraction errors, and that parents with errors of refraction are very apt to have children with errors of refraction, but, nevertheless, Dr. Patrick does not believe that cases of migraine are cured by the adjustment of glasses, at least not in the proportion mentioned by the author.

TRICHOPATHOPHOBIA.

FEAR OF DISEASE OF THE HAIR.[*]

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The subject of the pathophobias is such an extensive one and so particularly within the scope of neuropathology that my object is simply to classify those pertaining to the hair and to speak of some of the diseases of the hair and scalp giving rise to them. Under the term trichopathophobia, from *θρὶξ* hair, *πάθος* disease, and *φόβος* fear of, I wish to include all those cases of mental worry in regard to the hair, such as: Worry over the loss of hair or over the hair falling out; worry over the color or change in color of the hair; worry over a change in characteristics—brittleness, kinkiness, lack of gloss, etc.; worry over excessive growth in unusual places—hirsutes, hypertrichosis; worry over the failure of hair to grow where it should.

THE FEAR OF THE HAIR FALLING OUT.

The rôle played by the hair as a fetich of sexual attraction is so well known as to be consciously or unconsciously employed by both sexes. In the lower animals it is the male who parades his hirsute adornment as a means of sexual selection, and in savage races it is even to-day the male who most adorns his head dress. Civilized man has relegated this form of vanity to the female sex, although he is not entirely free from hair vanity, especially facial hair vanity.

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[*] I wish to thank Dr. Achilles Rose, well known for his writing on medical onomatology, for his interest and assistance in selecting the word "trichopathophobia" to describe these conditions.

The greatest number of cases of hair-worry is in women, and this is quite natural under modern conditions which makes them, as Bernard Shaw says, "superman" as regards sexual attraction. Hence the enormous amount of time and thought which women bestow on the arrangement and care of the hair. This is excusable on psychical grounds much more profound that simple vanity. The anxiety of a nervous woman at the loss of her hair is not at all reassured by the indifferent or stereotyped explanation of the physician that each hair has a definite growth, falls and is replaced by a new hair. Such women continue to worry until their anxiety in keeping daily count of the number of hairs lost at each combing may increase until it becomes a veritable obsession.

This worry, of course, is most marked in neuropathic women, but, since urban conditions are so trying to nervous stability, it is very common in society women. Women leading lives of social calls, teas, theaters, card parties, balls, late suppers and that constant *surmenage* which so often results in an enforced sojourn in a sanitarium. The following case may serve as an illustration:

Patient.—Miss X., aged about 39, fond of society, cultured, imaginative and pardonably vain of a heavy head of yellow hair.

History.—She came to me complaining of the serious damage which had been done to her scalp and hair while in a sanitarium for an attack of influenza. She stated that while in the sanitarium she had used some water in a bowl which had been brought from the kitchen and which must have contained some powerful chemical, since immediately after using this water her scalp began to burn. After a few days her hair began to change color, losing its gloss and becoming gray. The scalp became dry and scaly and the hair began to thin out. After some weeks another accident happened to her scalp from using some well-water containing lime and sulphur, as she had ascertained from a chemical analysis which had been made for her by a druggist. As a result of the use of this water her scalp burned as if something were eating into it. This burning lasted for about two months, the hair becoming thinner and grayer. Following this she gave a history of various mishaps resulting from the treatment given her scalp by hair dressers, physicians and dermatologists. In one case the damage was caused by the use of a strong carbolized vaselin, in another case it was due to an ointment of resorcin and sulphur which had been used for a number of weeks only to find her hair becoming thinner and grayer. Finally she gave up the use of all treatment except olive oil and despaired of ever getting well—even feared she would lose all her hair. She was, at the time of consulting me, so suspicious of further damage as to be almost hysterical about allowing anyone to touch her head. Insisted on my hands being disinfected with bichlorid solution before touching her hair. She objected to any form of medication and said that she would allow only distilled water to be used for a shampoo.

Now what was the condition of her scalp at the time of her first visit? As far as objective appearances went it was absolutely normal. Her skin was thin, dry and subject at times to erythema and chapping. It was impossible to make an examination as to paresthesic areas or to find any definite ground for diagnosticating hysteria. But it was clearly evident that her loss of hair and the change in its color was more subjective than real and in any case more attributable to the result of the attack of influenza and the resulting neurotic condition than to what she had used. Nothing a physician might order for external use would be free from suspicion. The case was one for general hygienic treatment and suggestion. Unless such a patient's confidence can be gained it is useless to order any stimulating lotion, as all sorts of imaginary changes in the scalp and hair will surely be attributed to the local application.

I am indebted to Dr. J. M. Winfield, of Brooklyn, for the history of the following case, which bears many points of resemblance:

Patient.—Mrs. M., aged 35, a native of the U. S., and the mother of two children, 12 and 8 years of age, respectively.

History.—As a young girl and as a married woman she has been very proud of her hair, which was fine, silky and of a golden color and very abundant. Five years ago her hair began to fall out. She had not been ill nor was there any ascertainable cause. At first she paid but little attention to the hair falling, thinking it was natural, but later, however, on its continuing to fall, she became nervous and mentally depressed. I saw her a number of times. She gave the history of a spoiled child and wife; being rather pretty (of the doll type) the loss of hair made her melancholic. While she had lost quantities of hair she still had more than most women. From a condition of neurasthenia she has become almost a fit subject for an institution for the insane. She had lost flesh, did not eat, was suspicious of her husband's fidelity; would not go out during the day because "people made remarks" about her hair. She was more depressed when constipated and about the menstrual periods, and at times she had thoughts of suicide. Treatment by tonics, rest and proper outdoor exercise would stop the hair from falling, but the moment she became depressed the condition of the scalp was aggravated. No other hairy parts of the body were affected. There is nothing in the history (family or personal) that could account for the mental state, except that she was coddled and spoiled as a child and was allowed to be proud and vain.

In men the most frequently observed forms of hair-worry is in those who have acquired syphilis and who dread any slight increase in the loss of hair as an onset of that condition described in Timon of Athens, to "make the curl'd pate ruffian bald," as particularly to be dreaded from its revealing character.

This is especially the case in young men whose scalps are already affected with a mild steatoid pityriasis and who have paid little or no attention to the small daily loss of hair until, under the dread of specific manifestations, together with the toxic effect of the specific virus on the hair bulb, their worry becomes almost a monomania. Dr. Herman G. Klotz, in a paper[1] entitled "Remarks on Syphilitic Alopecia," emphasizes the points that loss of hair is not a common or regular symptom of the early stage of syphilis and that the slight loss of hair, which is constantly taking place in healthy individuals, as the result of the physiologic change of hair, continues its existence through and beyond the course of syphilis and must be taken into consideration before attributing to syphilis a loss of hair so slight as to pass unnoticed. In the discussion which followed, Dr. Robert W. Taylor said that he would classify the various types of syphilitic alopecia as follows: 1. Alopeciaphobia, by which he meant an ordinary *defluvium capillorum*, the danger of which was much magnified in the mind of the patient, who was afraid of losing his entire hair. 2. A shedding of the hair such as occurred in many adynamic diseases. 3. The moth-eaten, characteristic form of syphilitic alopecia occurring in spots. 4. An alopecia due to syphilitic lesions.

In these cases of hair-worry the patient should be told when there is an underlying steatoid pityriasis that this condition has nothing to do with the syphilitic process and will probably continue to cause a daily loss of hair even when the syphilis is thoroughly treated. In such cases an active local treatment will do much good. Many of these cases are not so entirely neurotic and it may be well at this point to briefly run over the causes of the hair falling out.

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[1] Read before the American Dermatological Association at Cleveland, June, 1906, Jour. Cut. Dis., 1907, p. 99.

LOSS OF HAIR FROM GENERAL TOXIC CONDITIONS.

First, the loss of hair following febrile and severe constitutional diseases. The eruptive fevers, such as measles, smallpox, scarlet fever, have a more depilatory effect on the scalp in adults than in children, but all the severe infections, such as typhoid fever, pneumonia, pleurisy erysipelas, peritonitis, grippe, mumps and even appendicitis, may cause a considerable falling out of the hair. Labor, even when normal and unaccompanied by fever, may be followed by a diffuse alopecia. According to Sabouraud, in all these cases there is a period of about eighty-five days intervening between the exciting cause and the loss of hair.

Alopecia due to syphilis may follow in two or three months after the secondary rash, or thinning out of the hair may not occur before the fifth to the eighth month. As a rule, this thinning out does not appear after the first year of the disease, but there is a form of syphilitic alopecia in patches which may develop in the second year of the disease. The typical specific alopecia in "clearings," as Brocq calls it, on account of its resemblance to the clearings in woods, occurs in the temporo-parietal and occipital regions and by its moth-eaten appearance is so pathognomonic that a diagnosis of syphilis may be often made from this alone.

General cachectic conditions due to tuberculosis, cancer, etc., also may act on the nutrition of the hair unfavorably and cause an alopecia. We have good grounds for considering all these cases to be due to the existence of a toxin in the circulation, a toxin which has a specific action on the hair bulb, and the extent of the depilation as well as the length of time before renewal of the growth varies with the severity of the disease causing the alopecia.

What are the grounds for this hypothesis? Experimentally, it has been shown that four doses of 0.08 gm. each of thallium acetate, a drug at one time employed to prevent the night sweats of phthisis, has caused a complete alopecia. This alopecia comes on fifteen to twenty days after absorption of the drug and appears first on the temples and back of the head and may progress in a few days to complete alopecia. Buschke[2] made a number of experiments on animals to see if the antagonistic effect of the thallium on the secretion of the sweat glands was the real cause of its producing alopecia. This theory had some plausibility, since pilocarpin, a stimulant of the sweat glands, has some reputation as an agent stimulating an increased growth of hair. He found from his experiments on animals that the antagonistic effect of thallium to pilocarpin on the sweat glands seemed to bear no relation to its depilating effect, but seemed to be due to some specific action on the hair bulb, and that the alopecia due to thallium acetate in animals, as in man, always began on either side of the median line of the head, face and back. He found also that external irritants elsewhere on the body could not induce alopecia away from this typical localization.

LOSS OF HAIR FROM LOCAL TOXIC CONDITIONS.

When we consider the loss of hair from local diseased conditions we at once encounter that great confusion of authors regarding desquamative and seborrheic conditions of the scalp. Sabouraud has marked off the boundaries of this confused group through his histologic and bacteriologic studies. According to Sabouraud, the chronic dry exfoliation of the scalp in fine branny scales, the ordinary dandruff, is caused by the growth of the spore of Malassez—the "*Flaschenbacillus*" of Unna. This microphyte, although uncultivable, is found deep down in the loosened-up horny layers and is not found in other conditions. This dry pityriasis resembles very much in its chronicity pityriasis versicolor, the causal agent of which, the microsporon furfur, although uncultivable, is never questioned. This dry pityriasis may last a lifetime without causing any marked loss of hair, but when it becomes greasy or steatoid the hair begins to thin out. This greasy condition may be due to one or both of two causes: a concomitant infection by the staphylococcus of porcelain-like growth, causing a serous exudation through the epidermic layers, or by the bacillus of oily seborrhea causing a hyperkeratosis in the mouths of the sebaceous follicles and a greatly increased flow of oil from the sebaceous glands, which chokes off and causes a shedding of the hair.

In man the process of becoming bald may be divided into three stages: First, the simple dry pityriasis or dandruff stage which in some individuals may last a lifetime without a marked baldness developing; second, that of steatoid pityriasis, in which the scales become greasy, more piled up and the hair begins to fall out more diffusely in periods of greater or lesser activity. New hair may continue to replace those lost, but the condition may pass on into the third stage of oily seborrhea in which there is very little scale formation, but the scalp becomes very oily and the hair falls more and more abundantly, being replaced by more and more downy growth until the typical hippocratic bald head is constituted.

In women the process rarely advances beyond the stage of steatoid pityriasis. The real oily seborrhea in women is only found in women of a masculine type.

The loss of hair due to ringworm and favus may be omitted on account of its extreme rarity in adults. I have seen a number of cicatricial alopecia cases in adults among immigrants from Russia and Italy, but never in native-born Americans. Any dread of hair loss among immigrants is not due to trichopathophobia, but purely from the dread of not being able to pass the medical inspection for admission to this country. Postfuruncular and postimpetiginous alopecia, as well as Brocq's pseudopelade, or *alopecia cicatricielle*, may also be passed on account of extreme rarity in adults.

Alopecia areata, however, is a type of *defluvium capillorum* which may cause really marked cases of trichopathophobia. In fact, I have seen in private practice both men and women seriously upset mentally by this form of hair loss. In nearly all such cases the dread seems to be due to the fear that they will be suspected of having syphilis. While, as has already been mentioned, this alopecia in areas may result from syphilis, either acquired or hereditary, syphilis is by no means the usual cause. Chronic tuberculosis and some change dependent on the menopause is given by Sabouraud as occasional causes, but the most of such cases are due to unknown causes.

Sabouraud's claim of an underlying infection with the bacillus of seborrhea and Jacquet's theory of nervous origin from peripheral irritation, oftentimes dental irritation, both seem to be insufficiently supported by facts. It is true that in all the cases coming under my observation there has been found a history of dental caries or toothache and that the cases always improved after the teeth were attended to, nevertheless, as local antiseptic and stimulating treatment was employed, I can not attribute all the good effect to the dental treatment alone. The frequency of alopecia areata is not at all in proportion to the great frequency of diseased teeth and other underlying causes must be sought for.

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[2] Berlin klin. Wochschr., 1903, xxxvi.

WORRY OVER THE COLOR OF THE HAIR.

This is not frequently met with, but certain shades of red seem to be particularly a cause of mental distress in young girls on account of the taunts of playmates. An amusing account of a peculiarly sensitive young man and his attempts to change the color of his red hair is given by Warren in his "Ten Thousand Pounds a Year." Through the use of various dyes and bleaches the color of his hair became as diversified as Joseph's coat, to the great chagrin, almost despair, of the hero.

WORRY OVER GRAY HAIR.

Worry is one of the usually given causes of prematurely gray hair. Cases of sudden blanching of the hair in one night are numerous and well authenticated. Metchnikoff[3] refutes the opinion often expressed that this whitening of the hair is due to the penetration of air bubbles into the hair shaft. The change of color, he says, is due entirely to the loss of pigment caused by the sudden activity of cells in the medullary layer, which he calls pigmentophages or, better, chromophages. These chromophages leave the medullary or central portion of the hair and attack and absorb all the pigment granules within reach in both cortical and medullary layers. These cells then either wander back through the hair bulb or may pass out through the hair itself.

Metchnikoff says, also, that these pigmentophages are most active at night and that it is quite possible for them to blanch a hair in one night. This theory is not easily reconciled with facts shown by ringed hairs or the colorless hairs which first come in on a patch of alopecia areata and which later become pigmented.

Worry over the hair becoming gray, while common enough, rarely becomes a monomania. In some neuropathic women, however, this dread of appearing old drives them to use hair dyes in spite of harmful effects. Brocq[4] describes such a case in a young American woman, neuropathic, prematurely gray, who, in spite of a severe dermatitis extending from head to foot which resulted from using a hair dye containing paraphenylendiamin, persisted in dying her hair until the last attack, attended by fever, required several months' rest in the mountains before recovery took place.

DERMATOPATHOPHOBIA IN HAIRY PARTS OF THE BODY.

Various forms of dermatopathophobia may have their localization entirely in the hairy parts of the body. These pruritic dermato-neuroses are common in users of morphin and cocain, and the dread is usually of parasites, such as pediculi, etc. Sometimes these unnatural sensations in hairy parts may develop into a *tic d'epilation*, or a mania for pulling out hairs. This trichotillomania is a morbid state constituted by pruriginous sensations in certain hairy parts of the body and an irresistible desire to relieve the distress by pulling out the hairs in the regions affected. The mustache is the commonest location of this tic in adults.

HYPERTRICHOPHOBIA, OR WORRY OVER HYPERTRICHOSIS.

Hypertrichosis in young women is the most frequent and most serious form of trichopathophobia with which we have to deal. All dermatologists have seen such cases. In certain neuropathic young women this excess of facial hair becomes such a fixed idea that the health may be seriously damaged by the loss of appetite, anemia, anxious, sad or melancholic state. The aversion to society and almost constant preoccupation of the mind about their deformity may develop into insanity.

Winfield[5] found hypertrichosis in 78 out of 1,084 insane. "All but eight of these cases occurred in females. The eight men had thin and coarse beards, but their bodies were thickly covered with hair, especially marked over the spine. Twenty of the women had a copious growth of thick stiff hairs on their lips and chins. Most of the others had an unusually thick fuz all over their faces; all of them, however, had an abnormal amount of coarse hair over their bodies, thickest on the chest and back.

"One case illustrates how the mental condition seems to influence the growth of the hair; inasmuch as this appears to be unique, a full history will be given. The subject was a German girl, aged 24. Late in 1900 she had been admitted to the asylum suffering from an attack of acute melancholia; after six months she was discharged. Dr. Warren, who had charge of her, stated that while she was profoundly melancholic there seemed to be an increased growth of hair all over the body, especially marked on the face. She was readmitted in January, 1902, suffering from a relapse. Examination at that time did not reveal anything especially abnormal regarding the hair, except, perhaps, that she was a little more hairy than most females of her age.

"Her mental condition gradually grew worse until she went into profound melancholia. It was then noticed that the lanugo hairs all over the body were becoming thicker and stiffer. This change was most marked on the face, which rapidly became covered with a growth of fine blonde hairs, some being one-fourth to one-fifth of an inch in length. Her appearance at that time suggested a mild type of the 'Russian dog-faced boy.' After three months her mental condition slowly improved; simultaneously the superfluous hairs began to drop out, and on August 1 her face and body were as free from hair as when I first saw her."

I am indebted to Dr. Winfield for the history of a patient in his private practice who became insane on account of worry over hypertrichosis.

Patient.—Miss H. P., American, aged 20, large, well-developed girl.

History.—The girl had a high school education, but was unable to keep up with her classes on account of nervousness. At puberty (established at 14 years) a growth of fine hair appeared on the lip and side of the cheek. This troubled her so that she refused to go out, would not go to school, and spent most of her time crying. I was consulted regarding the removal of the hairs. She was unreasonable, had fixed delusions, obsessions, and in fact all the symptoms of insanity. The growth of hair on the face was just enough to unbalance the mind, which was already overworked. The parents had made an idol and fool of the girl, and the mental condition was the direct outcome of it.

If the hypertrichosis is very marked on the chin or upper lip or on the cheeks it becomes, of course, almost a vital question for the patient to have the hairs removed, but many of these patients are worried over a mere downy growth to an extent that is far greater than the actual deformity justifies. Such cases must be reasoned with or prevailed on by suggestion, with perhaps the use of hydrogen peroxid to bleach the hairs so as to be less conspicuous.

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[3] Etudes Biologiques sur la Vieillesse, Ann. de l'Inst. Pasteur, 1901, 865.

[4] Bull. Med., March 13, 1898, 239.

[5] Dermatoses of the Insane, American Jour. of Insanity, 1903, lix.

The treatment of hypertrichosis by means of radiotherapy has not fulfilled its promise. Kienbock, Brocq, and Belot all agree that in the present state of our knowledge we are not in a position to produce a permanent alopecia with any degree of certainty, and in certain persons of great sensibility there is danger of producing permanent cutaneous lesions, such as scarring pigmentation, telangiectases, etc., which are more disfiguring than the hypertrichosis itself. Electrolysis therefore still remains the method of choice in these cases.

While the influence of precocious, perverted or arrested activity of the sexual functions may be given as causes of hypertrichosis, it does not follow that such women are sterile, in fact pregnancy, by its profound modification of the organism, may cause such hypertrichosis to disappear as in the very interesting case reported by Hyde and Montgomery in their Treatise on Diseases of the Skin. This case is all the more instructive in showing the effect of internal ovarian secretion, since the patient, a married woman, 33 years of age, weighing 150 pounds, mother of three healthy children, stopped menstruating for more than a year and had been pronounced by an expert to be past the climacteric. She applied for relief with a well-developed beard and mustache. During two years, repeated electrolytic séances were given to remove the superfluous hairs. Menstruation became re-established and continued irregularly, even menorrhagic at times; the hirsuties entirely disappeared. A year later she again conceived and gave birth to a healthy boy, the hirsuties at that time being entirely absent.

I have seen a slight hypertrichosis of the mammary areolæ also disappear under the effect of a pregnancy and remain permanently away.

Dr. Sherwell, before the New York Dermatological Society, stated that a profound modification of the organism, such as pregnancy, had been observed to cure a generalized and intractable alopecia. The internal ovarian secretion has an undoubted effect in stimulating the growth of sexual hair and cases have been cited which show that in woman the disturbed condition of ovulation has both caused an atrophy of hirsuties and has apparently stimulated the regrowth of hair in a case of total alopecia.

WORRY OVER THE LACK OF BEARD.

That the internal secretion of the testicles should be lacking in cases of removal of the testicles or in cases of undescended or atrophic testicles, seems to be attested by the absence of or scanty beards of such individuals. Quite naturally certain young men in whom there is a tardy appearance of beard worry a great deal over this lack of what they consider the badge of virility. Some of these cases, due to the above mentioned causes, are beyond relief, but suggestion and counter irritation may do much towards reassuring the worry over the absence of a beard in young men who, though having nothing the matter with the testicles, are comparatively devoid of beard.

50 West Thirty-seventh Street.

THE FREQUENCY, MORTALITY AND TREATMENT OF PLACENTA PRÆVIA.*

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The frequency of placenta prævia is variously stated at from 1 to 1,000 to 1 to 250 cases. It occurs six times as frequently in multiparæ as in primiparæ. We can readily understand, in view of this difference, how in the statistics of an indoor service in which most of the patients may be unmarried primiparæ the first proportion might exist, while in statistics from a consulting obstetrician's practice the lower ratio would prevail. In my outdoor charity service, in which 87 per cent. of the women confined were multiparæ and the average number of pregnancies was more than four for each woman, in 1,800 cases placenta prævia occurred eight times, or 1 to 225. As there is practically no means of prophylaxis, the advance of the art of obstetrics has not reduced the frequency of this complication.

THE PROGNOSIS.

In prognosis we find that there has been a constant improvement, and we may view with relief the recent statistics in comparison with the older records in which the maternal deaths were as many as 30 or 40 in the 100. Sepsis, of course, was the chief cause of the earlier high death rate. But, in addition to the introduction of asepsis, improvement in the methods of management has accomplished a great deal toward lowering the mortality.

Current literature gives evidence that there is not a uniform opinion as to the present mortality. From different viewpoints we find that placenta prævia is looked on differently. The confidence engendered in the highly skilled obstetrician who, armed with vast experience and surrounded in his hospital with perfect equipment and trained assistance, may approach these cases with *sang froid,* leads him to minimize the dangers of this accident. But we still find practitioners at large reporting their isolated cases in a manner which indicates that they were formidable events in their obstetric experience. The general practitioner who comes without warning and without assistance on a case of placenta prævia and finds the woman already far gone from hemorrhage has a terrific ordeal before him. Yet we find in a standard text-book of obstetrics the statement: "With the treatment just described, carried out by men who understand aseptic methods, the mortality almost disappears."

Hirst selected several series reported by men whose results had been especially favorable, and generalizing on these figures many writers, in discussing modes of treatment, have recently referred to the accepted mortality of placenta prævia as about 1 per cent. De Lee[1] reported one death in a series of thirty cases, but said "a woman with placenta prævia ought not to die except in rare cases, such as air embolism or the hemorrhagic diathesis." While approved methods have brought about a greatly improved prognosis, I do not think that the tendency to make light of placenta prævia as a serious complication is justified by the facts nor that the few most favorable series should be made the basis of an accepted death rate. After studying many recent statistics from hospitals and private sources, I believe I should state the mortality as follows: In the hands of skilful obstetricians, with all advantages for treatment, the mortality is from 3 per cent. to 4 per cent. of all cases coming to them in all conditions. The general average for all practitioners meeting cases is about 8 per cent.

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*Read before the Section on Obstetrics and Gynecology, New York Academy of Medicine, Oct. 24, 1907.

[1] Placenta Prævia and Its Treatment, Int. Clin., 1906, iv, 220.

The death rate of the child has not decreased with the maternal mortality. From 40 to 50 per cent. is still the prevailing average. Prematurity, of course, is a great factor in this death rate. But the fetus is usually viable at the time at which placenta prævia is recognized, and we still have before us the problem of making the first substantial reduction in the deaths.

It thus becomes apparent that our present methods are still far from being ideal in results. We can not be satisfied with a mode of treatment of a not infrequent complication that yields us only 50 per cent. of living children.

SYMPTOMS.

Hemorrhage is the first and only prominent symptom of placenta prævia. It begins when the vessels forming the vascular connection between the uterus and placenta are torn during the separation of the margins of the internal os.

THE DIAGNOSIS.

The responsibility for the outcome of a case of placenta prævia lies with a physician as soon as he makes the diagnosis, and in the presence of hemorrhage of any degree in a pregnant woman in the last third of gestation placenta prævia must be assumed unless it can positively be eliminated. As the diagnosis usually lies between a low implantation and premature separation of a normally situated placenta, and as active treatment is demanded in both, there is no excuse for a practitioner to postpone intervention until a serious hemorrhage compels it in a case that has already presented some bleeding.

In order to make a certain diagnosis of placenta prævia the os must be sufficiently dilated to admit a finger, which will readily distinguish the condition. This should always be done, even though it constitutes the first step in induction of labor which is then inevitable. For if the palpating finger finds no low implantation the diagnosis of premature separation is established and emptying of the uterus is the absolute demand of the latter also.

Before the period of viability, with extremely mild symptoms of hemorrhage, expectant treatment may be instituted with careful watching, inasmuch as statistics show us that fatal hemorrhage is very rare in cases occurring before that time. But in the seventh month and thereafter we must not allow ourselves to be misled by the slight degree in which hemorrhage may present itself. There is no rule as to what will follow. Insignificant vessels may first be torn with slight bleeding resulting; a little more separation may cause a tear through a huge venous sinus or through a marginal vein and the resulting loss of blood may prove fatal.

THE TREATMENT.

Tamponade with gauze tightly packed into the cervix and absolutely plugging the vagina is generally accepted as the first step in treatment. This tends to control the hemorrhage, though it does not safeguard us against a concealed hemorrhage. On removing the tampon we usually find that some dilatation has taken place. Unless the cervix is sufficiently dilated and softened to assure us that a rapid delivery can soon be done by version

STATISTICS OF EIGHT CASES OF PLACENTA PRÆVIA.

No.	Age.	Para.	Period of Gestation.	Hemorrhage Began.	Condition of Cervix.	Type of Prævia.	Presentation.	Character of Hemorrhage.	Fetal Heart.	Condition of Patient.	Labor Pains.	Treatment.	Outcome for Mother.	Outcome for Child.
1	28	iii.	30 weeks. .	At intervals, for several days.	Rigid. Dilated 1 finger.	Partial.	Vertex.	Moderate. .	Weak.	Good	Weak, irregular.	Gauze tampon; rupture of membranes. Braxton-Hicks version, spontaneous delivery.	Good recovery.	Stillborn.
2	32	iv.	Term.	With labor. . . .	Soft, 3 fingers.	Lateral.	Vertex.	Moderate. .	Rather weak; 160.	Good.	Good.	Cervix readily dilated manually. Extraction after internal podalic version.	Good recovery.	Living.
3	42	vii.	34 weeks. . .	Bleeding for a week when about.	Long, rigid, 1 finger.	Marginal.	Vertex.	Intermittent, severe.	Not heard. . .	Rath'r weak; exsanguinated.	None.	Gauze tampon of cervix and vagina. Rupture of membranes. Braxton-Hicks version. Spontaneous delivery.	Good recovery.	Stillborn.
4	28	v.	Ninth month.	With labor. . . .	Soft, 2 fingers.	Partial.	Vertex.	Severe. . . .	Feeble, not counted.	Weak; rapid pulse.	Strong at first.	Rupture of membrane. Braxton-Hicks version. Extraction. (Uterine inertia.)	Recovered. Prolonged convalescence.	Stillborn.
5	34	vii.	34 weeks. .	Oozing six days .	Closed, rigid.	Marginal.	Vertex.	Moderate, constant.	Fairly strong; 140.	Good	Induced by tampon.	Vaginal tamponade. Second tamponade of cervix and vagina; thereon cervix softened and dilated. Rather rapid manual completion of dilatation. Podalic version. Extraction.	Good recovery.	Living.
6	24	v.	Term. . . .	Few drops 2 wks. before hemor. with labor.	Soft, 4 fingers.	Marginal.	Vertex.	Profuse . .	Strong at first, weakened rapidly.	Fair	Strong, regular.	Rupture of membranes. Bleeding very much diminished. Full dilatation. Forceps.	Recovery . .	Living.
7	25	iii.	36 weeks. .	Bleeding freely with beginning of labor.	Long, 2 fingers.	Central.	Vertex.	Profuse . .	Weak and rapid.	Pale; rapid pulse.	Infrequent, short, weak.	Separation of placenta around the os. Boring through placenta and rupturing membranes. Braxton-Hicks version. Slow extraction.	Recovery. Phlebitis.	Lived 3 days.
8	35	vii.	Eighth month.	Dripping of blood at intervals. Two wks. in bed.	Long, fairly soft, 1 finger.	Marginal.	Vertex.	Slight. . .	Good.	Good	Began after packing.	Packed cervix and vagina with gauze. Dilatation proceeded nicely. Moderate continual bleeding. Ruptured membranes, applied forceps; delivered slowly.	Good recovery.	Living.

the next step is to rupture the membranes. In some cases, especially in lateral implantations, the letting out of the water may be the only interference necessary. In such cases the head coming down controls the hemorrhage by pressure on the placenta while the lessening of the uterine cavity takes place with a general contraction of the uterine muscle and its vessels. The forceps may be used later to advantage in such cases.

The Braxton-Hicks method has long been the favorite measure for treatment of placenta prævia. As soon as the cervix admits two fingers they are passed into the uterus, over the edge or through the substance of the placenta and, after rupturing the membranes, a foot is sought. Jolly has pointed out that in performing the combined version catching the foot is not, ordinarily, the simplest of procedures. But he has found that if the entire hand is passed into the vagina and the uterine cavity is fully drained of its water, the foot is readily found as the breech is pressed down. If, however, the water is allowed to dam back in part the foot is apt to be elusive. Once the foot is brought down the half breech makes compression on the placenta and the bleeding is controlled.

In place of the Braxton-Hicks method the use of the Champetier de Ribes bag is very effective. After rupture of the membranes the bag is inserted within the lower uterine segment and dilated with fluid. Traction is then made on it. What with traction from below and the pressure of the presenting part from above, it firmly compresses the placenta. The hemorrhage is perfectly controlled and dilatation of the cervix proceeds. We then have an opportunity of doing a forceps extraction with a somewhat improved outlook for the child.

In the interest of the mother, with an undilated cervix, rapid delivery is never indicated. If the hemorrhage is alarming the cervix may be forcibly dilated so far as to enable us to do a Braxton-Hicks version or to exert other pressure to control hemorrhage, but for the mother's welfare rapid complete dilatation and extraction is contraindicated. Tears of the cervix are particularly disastrous in placenta prævia and the patient has usually lost so much blood before that every drop must be saved.

THE SAFETY OF THE CHILD.

But it is just on this point, no doubt, that future controversy must be waged and that our technic will be changed. By means of conservative measures we find that our maternal mortality has been decreased wonderfully. But the original fetal mortality is still with us. Against this fetal death rate must our progress be made. We are told by Schroeder and others that the more we disregard the life of the fetus the better our results with the mother. Yet if we have a living child that is failing rapidly we are reluctant to stand idly by while its life is ebbing away. If the cervix lacks little of full dilatation we may feel that a rapid delivery is possible at a minimum of risk to the mother. When such a proposition presents, our position is a difficult one. Have we, indeed, the right to pronounce the death verdict of the fetus in such cases? Moreover, when such questions arise, may we be influenced by personal factors? An heir may be greatly desired by the parents. On the other hand we may have abundant evidence in the presence of a half dozen children in an adjoining room of a tenement that one more child will be *embarrass de riches*. But is it within our province to pass judgment on these questions at all? I believe that we have no moral right to discriminate. The mother's safety in every case should be the most important consideration. But if there is a strong probability of delivery of a living child at the expense only of the slightest tear of the cervix, I think we may take the risk of extraction, depending on prompt packing to remove the danger of subsequent bleeding.

CESAREAN SECTION.

To the same end Cesarean section has its indications. It is apparent that a few years will give us more statistics of this operation for placenta prævia from which we may judge better of its value and its limitations. If we place the mortality of placenta prævia at the lowest figures as obtained by the most skilful men operating under the best conditions, then for comparison we must take the best results obtained from a similar standard of work in Cesarean section. We will find the statistics are as good for Cesarean section in general as for placenta prævia treated by other methods. The chances for the mother being equal under the two methods, the one which offers the best chance for the child must undoubtedly appeal to us. The fetal mortality in Cesarean section in general is less than in placenta prævia. In those cases of placenta prævia which we would probably select for Cesarean section, viz., patients presenting long, rigid cervices, especially with complete prævia, the chance for a living child would be extremely poor under other methods. Therefore, though the status of Cesarean section for placenta prævia can hardly be said to be satisfactorily established, I believe it should be given a trial under proper conditions in the interest of the child.

On page 24 are the statistics of eight cases of placenta prævia occurring in 1,800 cases of labor attended in the service of the free maternity dispensary conducted by me at 216 Seventy-sixth street, New York.

SUMMARY OF TREATMENT.

In all cases the uterus was completely emptied, though only once was manual extraction necessary. In several of the cases in which there was considerable loss of blood or slight tears of the cervix the uterus and vagina were firmly packed with gauze after the third stage. The four infants that were lost (one after three days) were all premature. Of the four that lived two were at full term. In the cases in which stillbirth occurred the condition of the cervix or the general condition of the woman was such that no liberties could be taken in extraction. In fact, in spite of our desire in theory to give the child every chance, there are many cases in which we are absolutely limited by conditions to a course that is unfavorable to it.

Cases 1, 3, 5 and 7 might have been chosen for Cesarean section because of the condition of the cervix. In one of these, Case 5, the tamponade of the cervix and vagina brought about good dilatation of the cervix. Delivery was hastened by manual completion of dilatation and internal podalic version and extraction. The child was saved and the mother suffered no ill effects. In Cases 1 and 3 the cervix did not dilate rapidly after the tamponade. It was not possible to hasten delivery. After rupture of the membranes and Braxton-Hicks version the delivery was left to nature. In both cases the child was still-born. In Case 7 the cervix admitted two fingers. No tampon was used. A foot was brought down at once and a slow extraction done. The child survived a few days only. Of these four cases in which the condition of the cervix was such that Cesarean section might have been chosen, only one child was saved by the other means employed. Yet the cases were treated as aggressively as the safety of the mother allowed.

In Cases 2, 4 and 6 the cervix was dilating and soft and Cesarean section would hardly have been thought of. Case 8 presented a cervix that was soft though undilated, and the marginal insertion and slight bleeding were also favorable elements. In these four cases the methods used were fairly satisfactory, as only one of the infants perished. In summarizing I should say:

1. Among multiparæ placenta prævia can hardly be called a rare complication. In 1,800 cases, of which 87 per cent. were multiparæ and the average number of pregnancies 4 plus, I have found the ratio to be 1 to 225.

2. The mortality has been understated recently because of too broad generalization on a few highly favorable case reports.

3. There has been very little reduction in the fetal death rate, which is still from 40 to 50 per cent.

4. In the presence of hemorrhage in the last third of gestation the cervix should immediately be dilated sufficiently to allow of a diagnosis by the finger, and if placenta prævia is present the uterus should be emptied without delay.

5. Tamponade of the cervix and vagina is useful as a preliminary step.

6. The Braxton-Hicks version is effective in controlling hemorrhage and is the safest procedure for the mother, but it does not give satisfactory results for the child. When the dilatability of the cervix makes us positive that delivery can be effected with little or no tearing of the cervix we may elect rapid delivery by version or forceps, packing the uterus and vagina if there is bleeding after the third stage.

7. In cases presenting long, rigid cervices, complete prævia and a viable child, if the surroundings are favorable, Cesarean section should be chosen in the interests of the child.

8. The advance in treatment for placenta prævia has been remarkable in reducing the maternal death rate even though the saving of the patients has not been brought so near to being an exact science as some authors would suggest. It would seem that progress must be directed to decreasing the fetal mortality.

616 Madison Avenue.

THE EFFECTS OF HYDRASTIS AND ITS ALKALOIDS ON BLOOD PRESSURE.*

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Hydrastis is usually considered as having marked styptic properties due to a local vasoconstriction, and it has been recommended as a remedy of great value in uterine hemorrhages[1] and hemoptysis.[2] This is based mainly on clinical observations.

Looking for experimental evidence to support this view, it was interesting to note that practically all the investigators found no constriction of the arterioles. They obtained, on intravenous injection of the drug, a marked fall of blood pressure, followed by a slight rise, the latter being attributed to stimulation of the vasomotor center (Marfori,[3] Falck,[4] Pellacani,[5] Fellner,[6] Cushny[7]). With this contradiction of the clinical observations by the experimental evidence of numerous workers in mind, the present investigation of the effects of hydrastis on the mammalian circulation was undertaken. Investigation was also made of the effects of its two principal alkaloids, hydrastin and berberin, and of the derived alkaloid, hydrastinin.

METHODS.

The animals were given morphin and then anesthetized with ether or Gréhant's solution.[8] The blood-pressure tracings were taken from a mercury manometer, connected with a carotid artery. The change in volume of the kidney or spleen was determined by enclosing the organ in a metal case containing a thin rubber bag filled with water and connected with a water manometer. This will be referred to always as the oncometer. The myocardiograms were obtained by inserting a long needle through the chest wall into the heart muscle and connecting the distal end with a writing lever. The respiratory tracings were made by connecting the tracheal cannula with a Brodie's tambour. The injections were made from a burette into a femoral vein towards the heart, the solutions being diluted with physiologic saline solution, so that from 0.5 to 2 c.c. of fluid per kilogram of body weight was injected.

EXPERIMENTS WITH HYDRASTIS.

(INTRAVENOUS ADMINISTRATION.)

Fifty-seven injections were made on twenty-seven dogs. The amount of the fluidextract hydrastis injected varied from 0.005 to 1 c.c. per kilogram of body weight. This produced in every case a slight temporary rise of blood pressure, from 5 to 15 mm. mercury. This is probably a mere mechanical effect from the influx of fluid. It is promptly succeeded by a fall of from 8 to 118 mm. In 30 of the 57 injections (52 per cent.) the blood pressure returned equally as promptly to normal after the fall; in 13 (23 per cent.) the fall was followed by a slight rise above normal, from 8 to 20 mm., which was not long sustained; in 11 (19 per cent.) the pressure only partly recovered, remaining about 25 mm. below normal, and in 3 (5 per cent.) the pressure remained low.

It was found that the extent of the fall and the recovery or secondary rise above normal depend on the dosage. The amount injected causing a rise of pressure above normal after the preceding fall was up to 0.02 c.c. per kilogram. The amount causing a fall with prompt recovery to normal was 0.025 c.c. per kilogram. With only partial recovery the amount was 0.073 c.c. and 0.367 c.c. per kilogram caused a marked fall with no recovery of the pressure.

From the above it will be noted that the fall of blood pressure is a constant and very conspicuous effect of the intravenous injection of hydrastis; that with small doses up to 0.03 c.c. per kilogram the pressure promptly recovers and may rise somewhat above normal, while with larger amounts up to 1 c.c. per kilo the fall only partly recovers or the pressure remains low. Figure 1 illustrates very well the effects of increasing doses on the blood pressure.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

* From the Pharmacological Laboratory, Western Reserve University Medical Department.

[1] Schatz: Ueber d. Anwendung v. Hydrastis canadensis in der Gyn., Centrbl. f. Gyn., 1883, xliii.

[2] Hamamelis u. Hydrastis bei Lungenblutungen, Therap. Monat., 1888.

[3] Pharmakol. Untersuchungen über Hydrastin Arch. f. exper. Pharm., xxvii.

[4] Hydrastin u. Hydrastinin. Virchow's Archiv., cxix.

[5] Quoted by Heinz, Handbuch der exper. Path. u. Pharm., 1906, ii.

[6] Die physiol. Wirkung der Hydrastis canadensis. Centrbl. f. d. med. Wiss., 1884; Experiment. Beitr. z. Wirkung d. Hydrastis. Wien. med. Presse, 1897, 15 and 16.

[7] Text-Book of Pharmacology and Therapeutics, 1903.

[8] Composed of from 7 to 10 c.c. per kilogram of body weight of 2.5 per cent. chloroform in 50 per cent. alcohol.

EFFECTS ON THE VAGUS.

It was found that with doses up to 0.075 c.c. per kilo the vagus retained its excitability; so that section of both vagi caused a marked increase in the heart rate and some rise of blood pressure, while stimulation by electricity caused stoppage. On the other hand, larger doses, from 0.8 to 1.0 c.c. per kilo caused depression or paralysis of the vagus peripherally. In two instances after injection of 1 c.c. and 0.5 c.c. per kilo no quickening of the heart rate occurred after section of the vagi. In two others, after injection of 0.1 c.c. and 0.125 c.c. per kilo, stimulation of the vagus with the full strength of a Harvard coil caused no slowing. In another, after injection of 0.08 c.c. per kilo, stimulation with the full strength of the coil caused the heart rate to decrease from 160 to 68 per minute, but no stoppage of the heart occurred. In view of these findings, the vagi were divided in all the dogs before the experiment if the injections were not to exceed 0.05 c.c. per kilo.

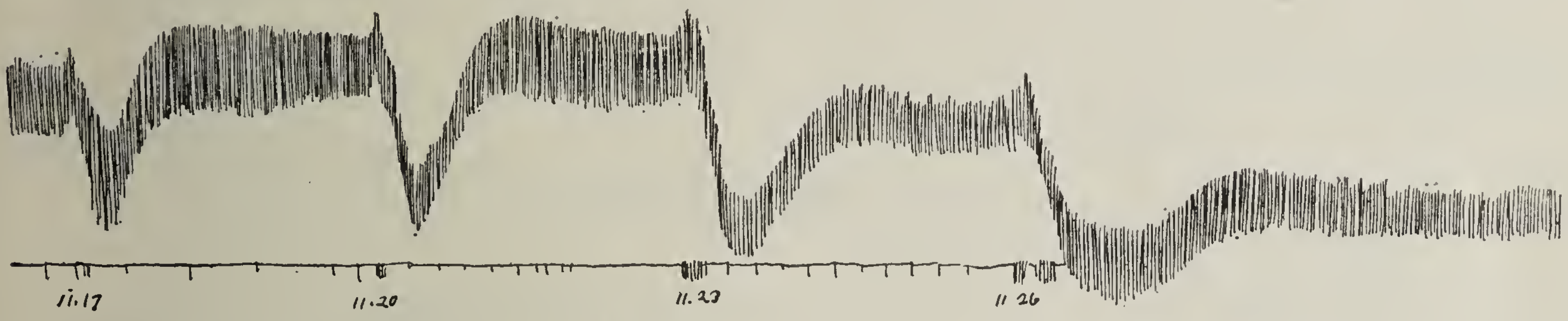

Fig. 1.—Effect of intravenous injection of hydrastis on blood pressure. At 11:17, 0.01 per kilo injected; at 11:20, 0.02 per kilo; at 11:23, 0.04 per kilo; at 11:26, 0.08 per kilo. The spaces marked off on the lower line represent periods of 15 seconds.

In several experiments there was a slight tendency towards slowing of the heart during the fall of blood pressure, with some increase in rate during the succeeding rise, but on the whole the changes were so slight and inconstant that nothing was learned.

The respiration was not affected, unless the blood pressure was markedly lowered by the injections, when it became dyspneic.

MYOCARDIOGRAMS.

In about one-third of the cases myocardiographic tracings were taken simultaneously with the blood-pressure tracings. In all of them the heart excursions were increased with the preliminary rise, becoming smaller as the blood pressure fell and again becoming larger as the pressure recovered. Figure 2 is a typical tracing. At × 0.02 c.c. per kilogram was injected into the femoral vein.

The blood-pressure and cardiac tracings agreed exactly. This shows that the pressure changes are, at least mainly, of cardiac rather than of vascular origin.

THE ONCOMETER.

Over one-third of the blood-pressure tracings were accompanied by oncometric tracings or curves plotted from readings. With one exception, to be referred to later, all of them showed an increase in the size of the organ coincident with the preliminary rise of the blood pressure, succeeded by a diminution in volume as the pressure fell and then expanding again while the pressure was recovering. The two tracings are parallel throughout their course, as is well shown in Figure 3. At × 0.01 c.c. per kilo was injected, causing a rise of 15 mm., then a sharp fall of 66 mm., gradually returning to normal during the succeeding 15 minutes. The oncometer tracing follows the blood-pressure tracing in every detail, even varying with the respiratory pressure changes.

The one exception, where the curves were not the same, was in the case of a dog which had received 0.54 c.c. per kilo in 10 injections. This large dosage caused a complete vasomotor paralysis, the pressure falling from 121 to 15 mm., and this overshadowed the cardiac effects. With this one exception, the oncometric observations again indicate that the circulatory changes are, at least predominately, cardiac rather than vasomotor.

With the idea of determining if the vasomotor center played any rôle in the blood-pressure changes, the center was excluded by section of the spinal cord between the third and fourth cervical vertebræ in two dogs, but in each case the pressure fell so low that the results of the injections were indecisive. However, it was not deemed necessary to carry this line of investigation further after noting the perfect agreement of the heart-muscle changes and the changes in the volume of the organs with the blood-pressure phenomena.

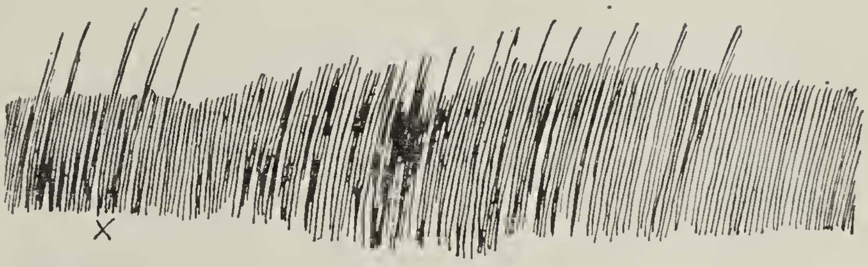

Fig. 2.—Myocardiogram. At X injection of 0.02 c.c. per kilo.

The results of perfusing excised organs—kidney, spleen and leg—while not conclusive, point to some dilatation of the vessels in excised organs, causing a rise of the oncometer and increased outflow.

HYPODERMIC ADMINISTRATION.

One dose of 0.2 c.c. per kilo and three of 0.5 c.c. per kilo of hydrastis were injected subcutaneously in dogs, and during 30 minutes no changes occurred in the blood pressure, heart rate or heart excursions as demonstrated by the Fick manometer, or in the respiration. The vagus excitability was not altered.

The equivalent dose for a man weighing 150 pounds would be 14 c.c. of the fluidextract for the 0.2 c.c. per kilo and 35 c.c. for the 0.5 c.c.

ADMINISTRATION BY STOMACH.

Two dogs were given 0.5 c.c. per kilo of hydrastis by stomach tube, and in neither of them was any alteration manifested in the blood pressure, heart rate, myocardiogram, oncometer or respiration. About 35 c.c. of the fluidextract would be the equivalent dose for a man weighing 150 pounds.

PERFUSION OF TURTLE'S HEART.

A 1 to 1,000 fluidextract of hydrastis in 0.75 per cent. solution of sodium chlorid was used in perfusion of a turtle's heart. The rate became slower, the contractions weaker and the outflow was considerably diminished.

The same effects were produced in a dog's heart perfused by the Langendorff method.

FROG.

One c.c. of a 5 per cent. fluidextract of hydrastis was injected into the ventral lymph sac of a frog. Fifteen minutes later spontaneous clonic spasms of the hind legs occurred with marked increased reflex excitability. On stimulation, typical strychnin-like convulsions were produced. Pithing the brain had no effect on the convulsions, but they were abolished when the cord was pithed.

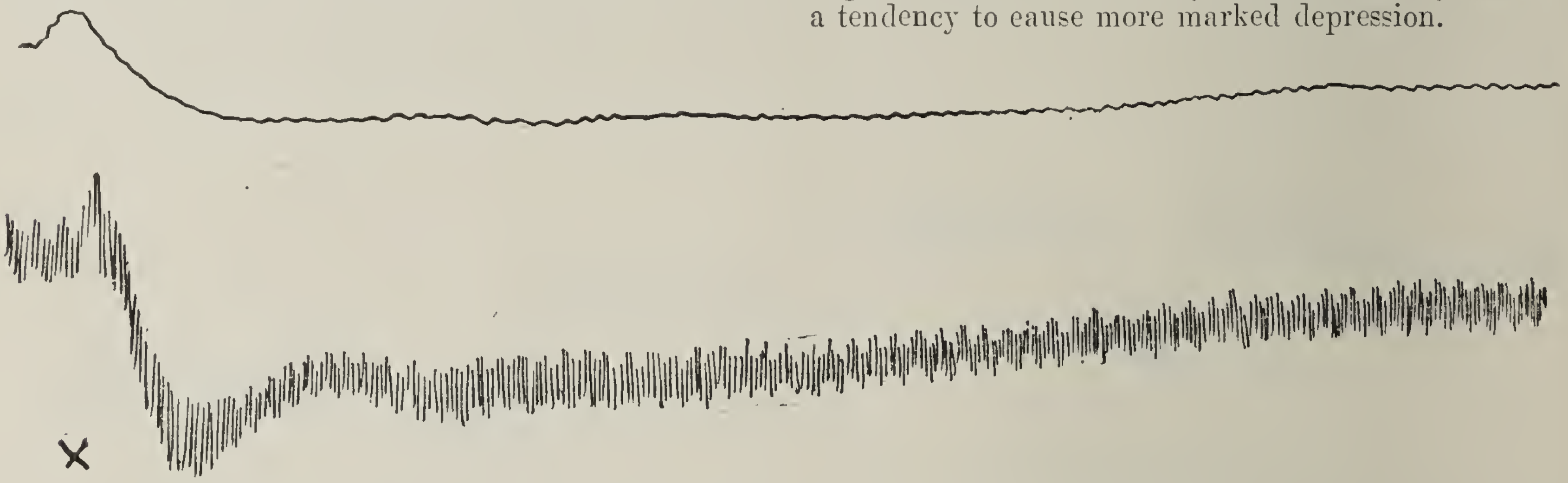

Fig. 3.—Comparing oncometer tracing (upper) with blood pressure tracing (lower). Injection at X 0.04 c.c. per kilo hydrastis.

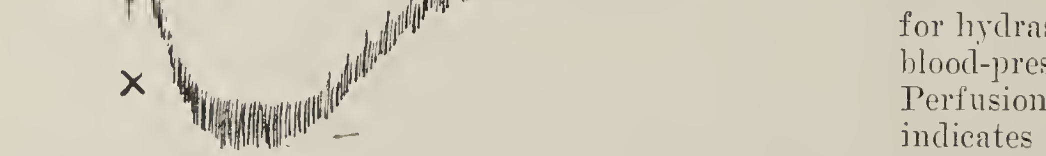

Fig. 4.—Comparing oncometer tracing (upper) with blood-pressure tracing (lower); at X injection of 0.005 mg. per kilo. berberin.

The heart was exposed and found beating regularly at the rate of 30 per minute. Several drops of 5 per cent. hydrastis solution were applied, and in one minute the rate had dropped to 24 and it gradually slowed to 12, at which rate it remained, beating for three hours.

EXPERIMENTS WITH HYDRASTIN.

Twelve injections were made on 5 dogs, the dosage varying from 0.001 to 0.01 gm. per kilo. In all except two there was a small preliminary rise, followed by a fall of blood pressure with more or less recovery. The two injections after which there was no rise of pressure caused a marked fall with no recovery, one resulting in stoppage of the heart.

The heart was strengthened during the rise, becoming weaker with the fall of pressure and again stronger as the pressure recovered. The oncometer showed the same variations as described for hydrastis, although the decrease in the volume of the organs appears to be greater during the fall of pressure. Perfusion of the turtle's heart with a 1 to 10,000 solution in 0.75 per cent. solution of sodium chlorid did not show much slowing of the rate, but the output was markedly diminished.

Injection into the ventral lymph sac of a frog of 1 c.c. of a 1 to 1,000 solution caused typical strychnin-like convulsions, which ceased when the cord was pithed. On exposing the heart it was found to have stopped in diastole.

From the above it is apparent that the effects of hydrastin agree qualitatively with those of hydrastis, being principally caused by depression of the cardiac muscle followed by more or less recovery, but comparing the results more closely it seems that hydrastin has a tendency to cause more marked depression.

EXPERIMENTS WITH BERBERIN.

Five injections of berberin were made on three dogs, with quantities of 0.001 and 0.005 gm. per kilo. In all of them there was a short preliminary rise of blood pressure, followed by a sudden marked fall, the pressure returning to normal in about 4 minutes. Myocardiograms showed the same heart changes accompanying the pressure phenomena as have been previously described for hydrastis. The oncometer tracing follows exactly the blood-pressure curve, which is illustrated in Figure 4. Perfusion of excised organs—kidney, spleen, and leg—indicates that berberin causes dilatation of the vessels in excised organs. Frogs' hearts perfused with 1 to 10,000 berberin beat more slowly and irregularly and the output is very markedly diminished.

The blood-pressure changes agree with those obtained by Phillips,[9] with the exception that no rise above normal was obtained after the fall of pressure. Although Phillips noted practically the same oncometer findings, he attributed the recovery of the pressure to stimulation of the vasomotor center.

Hydrastis contains not less than 2.5 per cent. of hydrastin (U. S. P.) and about 4 per cent. of berberin. In comparing the fall of blood pressure produced by injecting equal amounts of hydrastin and berberin, it is found that berberin causes almost four and one-half times the effect of hydrastin. Since the percentage of berberin in hydrastis is about one and a half times that of hydrastin, it follows that the effect of the berberin in the hydrastis is about seven times that of the hydrastin. In the total effect, therefore, of the hydrastis, about 85 per cent. is caused by berberin and 15 per cent. by hydrastin.

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[9] The Physiological Action of Berberin. Med. Brief, 1906, xxxiv, 8.

EXPERIMENTS WITH HYDRASTININ.

Fourteen injections of hydrastinin were made on six dogs. The doses varied from 0.01 to 0.001 gm. per kilo. There was usually a short rise of blood pressure, followed by a moderate fall, and then the pressure rose above normal and was well sustained. The average rise above normal, injecting about 0.004 gm. per kilo, was 15 mm., and in several cases this rise was maintained for 15 minutes, or until another injection was made. The myocardiograms showed increased excursions on the first rise, decreased on the fall and again strengthened on the final rise. The oncometer tracing followed exactly the blood-pressure curve as shown in Figure 5.

In four of the injections there was no fall preceding the final rise of blood pressure. This effect is illustrated in Figure 6. In this tracing the upper line is the oncometer and the middle tracing is the blood pressure. Below this is the myocardiographic tracing, which had been recorded on another drum, which unfortunately did not revolve at the same rate as the blood-pressure drum, but the marked increase of the heart excursions as the blood pressure rises is evident.

Perfusion of the turtle's heart by a 1 to 1,000 solution caused immediate diastolic standstill. A 1 to 10,000 solution in 0.75 per cent. sodium chlorid caused increase in rate and force of the contractions, with a practically constant outflow.

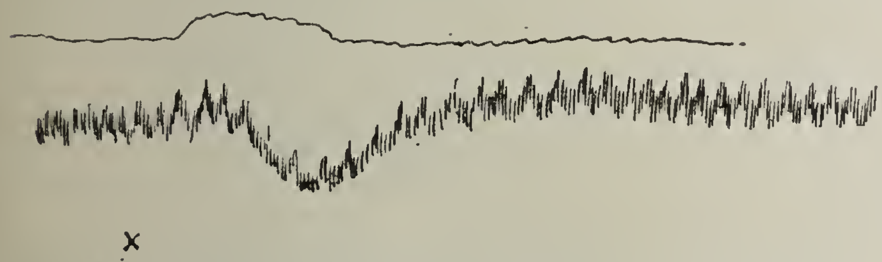

Fig. 5.—Comparing oncometer tracing (upper) with blood-pressure tracing (lower); at X injection of 0.005 gm. per kilo. of hydrastinin.

Perfusion of excised organs—kidney, spleen and leg—while not conclusive, point to constriction of the vessels of excised organs.

Falck[4] and Ronsse[10] attribute the rise of blood pressure to peripheral vasoconstriction, while Marfori,[3] Voigt[11] and v. Bunge[12] consider the rise due to stimulation of the vasomotor center.

Although stimulation of the center has not been excluded in the present series of injections, it seems that the cardiac effects exhibited by the myocardiograms are sufficient to account for the rise of blood pressure caused by hydrastinin. The oncometer evidence is against vasoconstriction playing any important part in the rise of pressure.

CONCLUSIONS.

The most constant and conspicuous effect of the intravenous injection of hydrastis is a prompt fall of blood pressure. With small doses the pressure promptly returns to normal and there may be a slight rise above normal. With larger doses (from 0.07 c.c. to 1 c.c. per kilogram of body weight) there is only partial recovery from the fall of blood pressure or it may remain low. The pressure phenomena are attributable to depression of the cardiac muscle causing the fall and to stimulation of the muscle causing the rise. Very large doses depress and paralyze the vagus and vasomotor system; otherwise there is no evidence deduced from the myocardiograms and oncometer that the vasomotor system plays any important rôle in the blood-pressure changes.

The two principal alkaloids of hydrastis, hydrastin and berberin, cause qualitatively the same blood-pressure changes, although berberin is the more active and is responsible for about 85 per cent. of the effect of hydrastis, hydrastin causing the remaining 15 per cent.

Hydrastis given by mouth or hypodermically causes no change in the blood pressure, heart rate or respiration.

Hydrastinin—an artificial alkaloid derived from hydrastin—causes a rise of blood pressure above normal, which is usually preceded by a slight fall when injected intravenously. The rise is well sustained and is principally caused by stimulation of the cardiac muscle.

The results of this investigation do not support the clinical theories concerning hydrastis. It is possible that conditions in man and in disease may modify the actions observed by me, but this is rather improbable. At least the uniform contradiction of the experimental results and clinical opinions demands that the latter be examined critically before they are accepted.

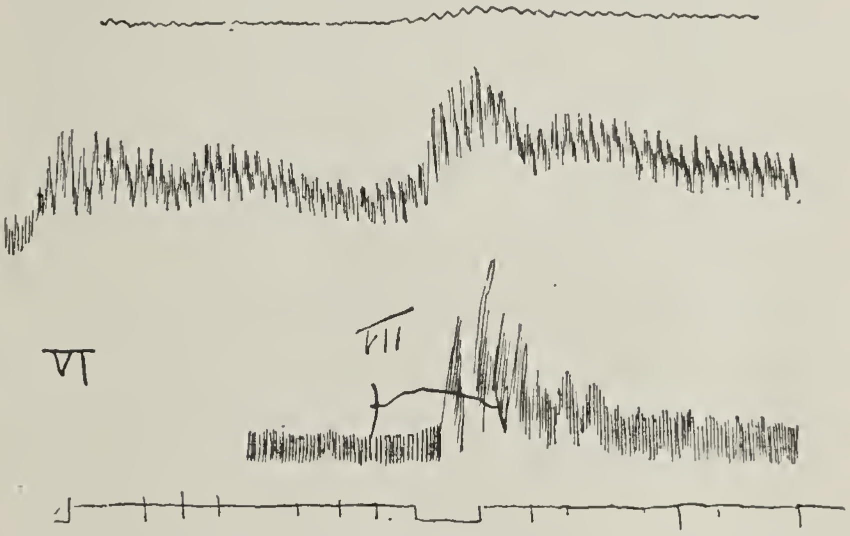

Fig. 6.—Comparing oncometer tracing (upper), blood-pressure tracing (middle) and myocardiogram (lower); at VI injection of 0.002 gm. hydrastinin per kilo; at VII injection of 0.005 gm. hydrastinin per kilo.

DISCUSSION.

Dr. Henry Beates, Philadelphia, was particularly interested in the paper of Dr. Williams, because it contributes knowledge and is an individual statement of demonstrated facts. In speaking of therapeutics, as the term is generally employed and accepted, Dr. Beates can not understand how it is possible to teach the so-called therapeutics. Therapeutics, he said, is the art or skill with which an individual can apply or adjust well-established fundamental facts to presenting conditions. That art can not be taught; it is only the fundamental principles underlying this that are subject to teaching and study. Dr. Beates referred to the remark made, that we believe in free thought in medicine, just as in religion. Truth, he said, admits of no free thought; it demands compliance of the human mind with the laws associated therewith. Theology, a totally different thing from religion, appeals to the emotional and sentimental side of human character. Thus, it is comparable with therapeutics in medicine. The fundamental laws, with which means for treating disease have been established by an allwise Creator, parallel religion and demand compliance therewith on the part of the physician, and he who would be a therapeutist, as it is superficially accepted, must be a master of fundamental medical laws. Therapeutics, therefore, as misused, is the urderlying cause of sectarianism in medicine, just as theology results in sectarianism in religion. It results in making faces one at another, condemning those who differ in opinion and praising those of like notion. It is, therefore, particularly refreshing to hear a paper read that contributes knowledge and fact. It leaves with the individual the exercise of free thought and is written in the best manner possible to apply this to presenting conditions. Dr. Beates said that when he hears of a person advocating some concoction, when he does not know what it may represent, and is prompted by the statements of a representative to employ it, from the point of view of therapeusis, he feels that such men are subversive to scientific progress. Exceptional results by no means establish a principle. A gentleman remarked, he continued, that because an experiment on dogs conducted with a view of proving the antidotal power of permanganate of potash proved negative, his belief was upset in the efficacy of physiologic investigation; and when this same gentleman belittled physiologic research and vivisection, Dr. Beates could not help but remember that, if he is not mistaken, the canine species can without any toxic effects indulge in quantities of morphia that would kill many individuals of the human race, and that, therefore, a statement affirmed on such premises is scientifically without any value whatsoever, indeed, positively pernicious, because it appeals to the sentimental side of those who, in ignorance, do not know to what degree they are obligated to the wonderful disclosures and discoveries of scientific truth, which vivisection alone supplies.

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[10] Arch. internat. de pharm., T. 4 et 5.
[11] Kotarnin u. Hydrastinin Inaug. Diss. Leipzig, 1896.
[12] Ein Beitr. z. Kenntnis d. Hydrastis canadensis u. ihrer Alkaloide, Inaug. Diss. Dorpat., 1893.

If a body of scientific men will adhere exclusively to presenting papers that deal with facts and fundamental principles, intelligently and scientifically demonstrated, and not endeavor to claim that with a dose of castor oil, or what not, the wonderful ego can do something that Drs. A, B and C can not do, and then avoid mistaking the Xs and Ys in the proposition, we will progress more rapidly than we otherwise can do. Such a spirit of convention, Dr. Beates said, will avoid the indulgence in invective, invidious distinction and the class of mental perturbation, which should be foreign to broad-minded, scientific bodies. Physicians will learn to conform with the stern facts of existence and definitely established laws. They will then acquire knowledge that can be utilized in many pursuits in life in which the physician is an active factor. In Pennsylvania, this year, opposition to progressive medical legislation, having in view the well-recognized corrective necessities on which laws depend, was successfully interposed by effort of the sectarians and that class who lack in knowledge of fundamental principles and scientific fact, as the weather vane is swayed and points to every breeze that wafts across its surface.

Dr. George F. Butler, Chicago, has obtained results from hydrastis and considers it a good drug. It may, he said, prove of but little value in some men's hands and of great value in the hands of others.

Dr. Robert A. Hatcher, New York City, felt that Dr. Williams' paper affords an admirable illustration of the fact that there are certain drugs which should be expunged from the Pharmacopeia until we have more knowledge of their value.

Diagnostic Importance of Cutaneous Reaction to Tuberculin.—Since C. von Pirquet announced last May his *Allergie* test, as he calls it, numerous communications have been published abroad on this subject of the skin reaction to tuberculin. He relates in the *Wien. klin. Wochschr.*, September 19, his experience in 100 cases in which the clinical findings were supplemented by autopsy. During the final stage the cutaneous reaction was generally negative, but in the 31 cases of clinical and in 1 of suspected tuberculosis, the cutaneous reaction was positive, while it was constantly negative in the 52 cases in which no tuberculous lesions could be discovered at autopsy. In some cases in which the lesion was very small, the cutaneous reaction was not positive until the test was repeated. His cases were all in children from 6 months to 13 years old. The test can be made more sensitive by reducing the concentration of the tuberculin, from 25 to 10 per cent. The former strength is liable to rouse up even old and inactive foci, while a weaker dilution will reveal only recent and active lesions.

THE UNITED STATES PHARMACOPEIA.*

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It is not my present purpose to add to the many reviews or criticisms of the Pharmacopeia, but to call attention to two conditions, hoping that steps may be taken by this Section looking to their improvement.

The first is the general loss of interest on the part of physicians in the revision of the Pharmacopeia. The Pharmacopeia was called into being by physicians in 1820, and in 1850 pharmacists were admitted to the convention; since then physicians have gradually relinquished control to pharmacists, and to-day we are confronted with an anomalous condition, in that the committee of revision of 1900, consisting of twenty-five men, numbered nineteen pharmacists or men identified with pharmaceutic institutions, and but six whose interests were entirely with medicine. For example, Dr. Squibb was almost universally known as a manufacturing pharmacist. Only ten members of the committee of revision had the title of M.D.

This condition is not creditable to the medical profession, for it is obviously not the province of pharmacists to decide for physicians what remedies they are to use.

I do not think it is generally realized to how great an extent the medical profession has neglected its manifest obligations in connection with the Pharmacopeia, leaving the work almost wholly to pharmacists. Less than half the states had medical delegates accredited to the Pharmacopeial convention in 1900. Six states named pharmaceutical, but no medical, delegates. Ohio had three medical delegates and New Jersey had one, accredited, but not one from either state attended the convention. Besides these two great states and many of less importance, Iowa, Virginia and North Carolina were wholly without medical representation in that convention, and the following states each had but a single medical delegate: Missouri and Indiana, the fifth and sixth states in the Union in population and importance (Dr. Whelpley's interests are mainly pharmaceutical), Georgia, Minnesota, Connecticut, Nebraska, Kentucky, Tennessee and Wisconsin.

In contrast with this showing it may be mentioned that the pharmaceutical organizations of New York named twenty delegates and those of Ohio named fifteen. From these figures one may gain some idea of the preponderance of pharmaceutical over medical influence in that convention.

So far from finding fault with the pharmacists for this condition of affairs, I think their spirit is worthy of emulation, and I think they may point with pride to their share of the work. It is with the members of our own profession that the blame rests for this condition.

The second point to which I wish to draw attention is the want of a genuinely progressive spirit in the matter of admissions and dismissals. A very important object of the Pharmacopeia is to provide an authoritative list of remedial agents. It should represent all that is best in therapeutics. In order that the Pharmacopeia should command the respect of physicians in the highest degree and secure the earnest support of the leading men of the profession it should, so far as possible, embrace every non-secret medicinal agent of unquestioned merit, regardless of its nature, while every article of doubtful value should be dismissed.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

It is hardly necessary for me to add in this connection that I do not advocate the admission of every astringent, nauseant, diuretic, cathartic and bitter, but only of those of each type which possess distinct advantage over others in some particular condition.

If we can rid the book of all useless material and fill it with all that is best, and only the best, and maintain it at that high standard of excellence, it must inevitably command the admiration and enthusiastic support of the ablest men in the profession. For, while I recognize its imperfections and shortcomings, it seems to me that the greatest need at the present time is a strictly progressive attitude toward the question of admissions.

I shall not soon forget the fine contempt and scorn with which one of the most respected practitioners of New York—a firm supporter of the Pharmacopeia and one but little given to prescribing unofficial remedies—spoke of the admission of an "imitation of antikamnia." Is there any one in this audience who will maintain that antikamnia represented a distinct advance in therapeutics? If it did not, the best excuse for its imitation by the Pharmacopeia is still only a very poor excuse.

Is there a physician worthy of his degree who is unable to write a prescription for acetanilid and caffein? Doubtless the inclusion of this imitation antikamnia aroused the enthusiasm of many whose therapeutics are taken from the wrappers of nostrums or some manufacturer's pocket therapeutics, but for each friend so gained it lost the respect, to that extent, of such a man as the one to whom I have referred, and the good opinion of one such man is better for the cause of permanent progress than is the enthusiasm of a host of the other kind.

While this compound acetanilid powder represents the most objectionable of the admissions to the Pharmacopeia, there is another type, the elimination of which will cause much greater opposition—I refer to the many hoary representatives of obsolete or useless substances which have been retained wholly out of deference to the sentiments of a goodly number of very respectable, but not progressive, practitioners who use the remedies which their honored preceptors used before them without any definite idea of just what they expect to accomplish thereby.

The representatives of this class of substances are so numerous that I fear to mention one member lest every one present should name a better (or worse), but sarsaparilla, syrup of lactucarium, cannabis Indica and its preparations, lappa and calendula, may be cited as examples. There are numerous official substances which are not even mentioned by the standard text-books on therapeutics and pharmacology. I should be glad to have a clear and concise exposition of the pharmacology of the compound syrup of hypophosphites.

It has been argued with much reason that it was necessary to have an authoritative standard for many articles in domestic use; this argument has lost much of its force, so far as it applies to the Pharmacopeia, since the National Formulary has been clothed with legal authority, and that work should relieve the Pharmacopeia of this hindrance to its upward progress.

Another strong argument used in support of the retention of many substances which the committee of revision would hardly commend individually is based on the wishes and sentiments of many men of a great diversity of interests, education and ideas.

If we are to strive only for the best we shall be forced to do some violence to the ideas of those who, through sloth, incompetence or misfortune, are unable to keep step with the march of therapeutic progress.

It is true that the Pharmacopeia must serve a diversity of interests, all of which are represented in the direction of its affairs, but with the spread of scientific training we are coming to a better appreciation of the fact that independence is not incompatible with deference to the opinions of those better informed than ourselves, and with each revision we should approach nearer to the ideal.

With the progress of this idea it will be increasingly improbable that a substance shall be admitted to the Pharmacopeia before it has been carefully considered by competent pharmacologists and clinicians.

If we accept rational progressive therapeutics as the touchstone by which we are to decide all questions concerning admissions to the Pharmacopeia, it will be comparatively easy to eliminate most of the dead matter, and it will aid in the selection of all that represents actual progress in therapeutics.

It is imperative that effective provisions, not mere authorization, be made for additions as fast as new remedies are proved beyond reasonable doubt to possess actual merit, for more progress is now possible in one year than was made in the ten years from 1820 to 1830.

It is of almost equal importance that an official article which has been superseded by a manifestly better one should be dismissed. This would serve notice to the practitioner that the article in question had failed to measure up to the standard of the best then in vogue. There are not many who would prefer to employ a remedy so discredited if the merits of the Pharmacopeia were more generally esteemed.

Physicians will employ whatever appears useful to them, but at present we have no legally authorized guide in the matter of very many agents, and amid all the misrepresentations there is little cause for wonder that the physician should be duped occasionally, but it is remarkable how systematically, persistently and amazingly he allows himself to be cheated, humbugged and even disgraced by the wily swindlers.

If such a thoroughly progressive policy should be adopted it would place a greater burden of responsibility on the committee of revision, for on the wisdom which that committee displayed would depend the use of Pharmacopeial substances instead of the most skilfully vaunted nostrums.

Should that committee not be progressive it would leave the door wide open in the future, as it has been in the past, for the introduction of a host of compounds for each new substance which might come into deserved notice. Thus the early admission of urotropin would have done much to prevent the flooding of the market with the same product under a variety of names which added much to the confusion of the nostrum-guided practitioner.

If, on the other hand, there is not painstaking care and wisdom displayed in the selection of substances to be admitted, the good opinion of the ablest men in medicine will be forfeited.

This is exemplified by what has been said with regard to compound acetanilid powder. This also illustrates the type which has served its doubtful purpose and should now be promptly dismissed.

So great would be the responsibilities of the therapeutic committee charged with this duty that it would be necessary to have a number of men of great ability, breadth of view and undoubted integrity who could give much time to the subject, for it must be conceded that in the effort to keep the Pharmacopeia in the van of therapeutic progress the way would be left open for great scandal if the men charged with this duty were not above the least suspicion either as to personal integrity or the faithful and painstaking performance of exacting obligations.

Medical education is making such rapid strides that we have every reason to demand a higher standard of usefulness for the articles to be admitted to the next Pharmacopeia.

There are at present several well known pharmacologic laboratories in operation in charge of such men as Abel and Sollmann, and there is no excuse for the clinical use of new agents before they have been thoroughly tested on animals, and the evidence is not lacking that this branch of medical research will make considerable progress in the near future.

The great medical colleges, with their ample hospital facilities, are making strenuous efforts to secure capable clinicians—men trained to accurate observation—and their work, supplementing that of pharmacologists, can not fail, in the vast majority of cases, to possess advantages over that of the man in private practice not nearly so well situated for controlling his patients and not usually so well trained in accurate observation.

We should look to men with such advantages—clinicians and pharmacologists—for guidance in the choice of the official materia medica, rather than to the preponderating numbers entitled to representation in the Pharmacopeial convention, if we are to place the Pharmacopeia in the forefront of therapeutics.

The committee of revision was empowered to secure expert advice in matters pertaining to chemistry, and there is every reason why this policy should be so extended as to embrace the results of pharmacologic and clinical research, for many clinicians and laboratory workers are deterred from investigating proprietary remedies by the fact that notorious methods are so commonly pursued by nostrum makers in securing pharmacologic and clinical reports. I may recall to your minds the exposure[1] in The Journal of the American Medical Association of recent date of the pretended clinical study of Gude's pepto-mangan in anemia by Mateo M. Guillen at the City Hospital on Randall's Island.

Fortunately for all interests concerned (except those of the nostrum maker) the reaction against the truly disgraceful condition which has prevailed in therapeutics, and which had grown steadily and rapidly worse, has resulted in the awakening of physicians to the importance of the Pharmacopeia, and it is becoming much better known to the medical profession. Owing to this increasing interest in, and popularity of, the Pharmacopeia there should be a large sum available for research in the preparation of the next revision, and it may be considered as certain that any expenditure in that direction will yield a return many times greater than the expense incurred.

If the reaction is to gain impetus we must arouse in physicians a livelier sense of responsibility in the matter of revision. This was argued by Mr. Wilbert in a paper[2] presented to this Section a year ago, and I can do no better than to reiterate what he said then.

It must come to be considered a distinction, a privilege and a duty on the part of delegates to be present and to participate actively in the deliberations of the Pharmacopeial convention.

That this has not been true in the past is shown by what has already been said and by the fact that of the physicians actually named as delegates to the convention in 1900 more than fifty failed to attend. Indeed, it may be safely stated that less than one-tenth as many medical delegates participated in the deliberations as would have been eligible had a proper interest been aroused.

This Section and its officers can not escape just censure if no steps are taken to prevent such a wholesale neglect of duty on the part of pharmacologists, at least at the time of the next convention.

Despite all of this indifference on the part of physicians, many of whom know practically nothing of the Pharmacopeia, its origin and its many excellent features, we constantly hear them sneer at its imperfections.

The American Medical Association can use its vast influence to no better purpose than in getting the best men in medical circles to give heed to the claims of the Pharmacopeia on their interest and their efforts. Then, and only then, will it cease to be the fashion to sneer at the defects of the work—but rather will it be held in the highest esteem as representing the best in medical, even as it does now in pharmaceutical, circles.

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DISCUSSION.*

Dr. J. P. Remington, Philadelphia, thinks that every one will admit that the medical profession has been grossly negligent of its duties in the past, although the physicians who were members of the Committee of Revision of the Pharmacopeia did their duty. He said that it is a common thing nowadays to "take it out of the Pharmacopeia." If any man wants a subject for discussion, and one which he can hit with safety, there is always the Pharmacopeia. The authors of the papers, he said, failed to make any definite charges; they were condemnatory in only a general way: "The names are too long; the average doses are good for nothing; the work is ancient and antiquated, and it pleases but a very few physicians; the compound syrup of hypophosphites is an abomination; physicians do not buy or use it," and so on. Dr. Remington quoted one of the speakers as having said that there were nineteen pharmacists and six physicians on the committee. As a matter of fact, some of the men on the committee were pharmacists who were also graduates in medicine so that the number of physicians and pharmacists was almost the same. Dr. Remington also emphasized the fact that the United States Pharmacopeia is made for the United States of North America. It is more important that the Pharmacopeia be recognized as an authority and used by the country doctor who is not a professor in a medical college, than by a professor in a college, because the professor knows more of the study of pharmacology than the country doctor. Physicians, he said, want a preparation on which they can depend, and of which they know the ingredients. They want something which is non-secret. By placing tables of incompatibles after each article the Pharmacopeia, he asserted, would be larger than the dispensatory.

Dr. Warren B. Hill, Milwaukee, Wis., a member of the 1900 Committee of Revision of the Pharmacopeia, said that some doctors on the committee were eloquent, but the pharmacists would not heed them because they were doctors. The medical men are so outnumbered that anything they had to say was absolutely useless. Dr. Hill said that he himself had the temerity to say that he wanted to show the committee what the doctors needed, and he was told: "We don't care what the doctors need. This is a book made by the druggists for the druggists and we don't care what the doctors need." This altercation was expunged from the records. Dr. Hill urged that physicians be stimulated to greater interest in the Pharmacopeia. Medical societies do not know the importance of representation. By sending good delegates from each state and society to the next convention, it may be possible to influence the druggists. A matter to be considered, however, is whether the Pharmacopeia should be a little book—a text-book, as it were—for the use of the doctor and the medical student, or a larger book, one to be used only as a reference book. Dr. Hill believes that it should be a large book, a reference book, one that could be used anywhere. That would be the kind of Pharmacopeia best adapted to the needs of the country, and, then, by making a syllabus or brief of it, the other purpose might be carried out also.

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[1] The Journal, April 6, 1907, p. 1197.

[2] The Journal, Dec. 15, 1906, p. 1989.

* This discussion, which took place after the article by Dr. Hatcher, has more or less reference also to the four papers read previously (by Drs. Wood, Remington, Hallberg and Osborne).

Dr. William J. Robinson, New York City, said that he long ago concluded that 99 per cent. of all quarrels and disagreements originate in misunderstandings. And this, he thinks, is well illustrated by what Professor Remington said, because if he had listened carefully to the report of the committee, he would not have made the statements he did. Dr. Robinson said that there is no desire to make a smaller Pharmacopeia for the pharmacist. So far as the pharmacist is concerned, the Pharmacopeia may be as big as the dispensatory; but it should be made more attractive to the physician, more available for his uses. The physician is not interested in the process for making spirit of nitrous ether; he does not care to know the assayed process for determining the amount of strychnine and extract of nux vomica in the crude drug, nor does he care to know how to detect impurities in various chemical salts. All this is entirely out of his sphere. What he does care to know is the general appearance of the drug or chemical, its solubility, its average dose, its antitdotes, and its most common incompatibilities. And this is what the Pharmacopeia should give to the physician. If one book will not do for both pharmacist and physician, then a special abstract should be made for the physician's use.

Dr. Oliver T. Osborne, New Haven, Conn., thought the points made by Dr. Robinson were well taken. As to members on the Committee of Revision, he said that the mere title of M.D. has nothing to do with it. It is practicing physicians that are wanted. The question is, What is the man doing with his M.D.? If he is connected with a pharmaceutical concern he is not in practice. Dr. Osborne commended the report received from Professor Remington from the Pharmaceutical Association.

Dr. Henry R. Slack, La Grange, Ga., feared that Dr. Hill created a wrong impression by not qualifying his statment. The discussion, he said, was on the question of doses and whether medicinal properties should be mentioned in the Pharmacopeia. A professor of chemistry in one of the colleges stated that the object of the Pharmacopeia was to furnish the pharmacist with a book by which he could make his drugs and test them, and that it was not intended to teach therapeutics and materia medica to the medical profession. It was not intended to be a treatise on therapeutics. To say that the physicians had no voice in this, Dr. Slack said, is not exactly correct, because no man wielded a greater influence in that convention than Dr. H. C. Wood of Philadelphia.

Dr. George F. Butler, Chicago, said that the Pharmacopeia is not intended for any other purpose than to furnish a reliable authority for the purity of drugs and the proper preparation of pharmaceuticals. It is not so much a book for doctors as for druggists. When a certain remedy is prescribed it must be pure and properly prepared. The Pharmacopeia is chiefly a receipe book for the druggist, and never can be anything else. Dr. Butler agreed with Dr. Hatcher that all drugs should be tested pharmacologically on animals, but the results should be corroborated on sick human beings. The mere fact that a drug produces a certain action on a dog is no reason why it should produce such an effect on a sick person. It is, after all, the remedies doctors have used clinically, and from which they have derived good results that should find a place in the Pharmacopeia.

Dr. H. G. Piffard, New York City, one of the members of the Committee of Revision of 1880, said that the discussion so far is almost a repetition of the discussion which occurred at the meeting of the Committee of Revision for 1880. He was chairman of the subcommittee on titles. After a year's labor a report was agreed on. More than two-thirds of the report was cut out by the action of the pharmacists led by Dr. Squibb. Dr. Charles Rice, he thought, stated the matter clearly when he said that the doctors should say what kind of drugs they want and the pharmacists should decide the best means of preparing them.

Dr. J. J. Taylor, Philadelphia, called attention to the three drugs which Dr. Hatcher would exclude from the Pharmacopeia. One of them was cannabis indica. He felt that the practicing physician would be willing to drop everything official, if he could but have cannabis indica. Cannabis indica is probably dearer to the heart of the doctor than to that of the pharmacist, because of the extreme pharmaceutical difficulties in its manipulation. The crux of the matter is, he continued, that the physician who has been in practice a number of years, when he takes up the Pharmacopeia and finds that the majority of his favorite drugs are out of it, has but little, if any, further use for the book. So that, in his opinion, the drugs we have been accustomed to using with good results should with great hesitation be eliminated from the list.

Dr. M. Clayton Thrush, Philadelphia, said that it must be remembered that the Pharmacopeia was never intended to be a text-book. It is simply a standard for the identification and purity of certain medicinal products. It is the Pharmacopeia of the whole United States, and no matter how many preparations are added, it will not please everyone. It is impossible to satisfy all, for what is popular in one section of the country is practically obsolete in another. The committee is trying to adopt preparations that will satisfy the majority of the profession. Dr. Thrush commended Dr. Osborne's suggestion, that when the next committee meets, there should be on it an equal number of physicians and druggists. It is the physician's duty, he said, to select the preparation he prescribes, and it is the pharmacist's duty to prepare it.

Mr. M. I. Wilbert, Philadelphia, asked why, if the Pharmacopeia is the Pharmacopeia of the United States, should it not be restricted to drugs that are used in the United States, and why should it include drugs used only in one particular section of the United States? If drugs that are not widely used can be demonstrated to have advantages, they will soon be more widely used and will then be eligible for inclusion in the Pharmacopeia. Mr. Wilbert claimed that if the Pharmacopeia can be brought to the attention of every practicing physician in this country, it will prove to be the greatest educator that they have ever had, and that, after all, appears to be the greatest use for or the most important function of the Pharmacopeia.

Dr. J. P. Remington declared that the physicians of this country do not quite grasp the fact that the U. S. Pharmacopeia is the law of the land, and that its first valuation and its greatest function is to provide a standard for purity and for strength, and that while it is of use to the physician in the matter of providing a standard for the Food and Drugs Act, there is no other book that the U. S. Government relies on to provide a standard of purity for drugs but the Pharmacopeia. If average doses can be provided, the physician should say what the average dose is. Dr. Remington hopes that the American Medical Association and the Section on Pharmacology and Therapeutics will have a splendid record, and that it will be the report that will go into the next convention and that medicine will be well represented. After the Food and Drugs Act passed and was signed by the President, Dr. Remington received many letters from manufacturing chemists offering criticism, because for the first time in 100 years the Pharmacopeia touched their pocketbooks. Dr. Remington asked them to get together and give the Committee on Revision a report of what they wanted. They did so, and the work of correction and addition has been easy. With the approval of the Bureau of Agriculture in Washington, the Secretary of the Treasury and the Secretary of Commerce and Labor, the committee had to make some corrections in the

Pharmacopeia in order to make a book on which prosecutions can be based. Dr. Remington pointed out that the very fact that one can get from any drug store in the United States an unadulterated potassium iodid or bromid, or anything in the Pharmacopeia, is a tremendous advantage to the medical profession. The medical men in the last Committee on Revision were given entire charge. Dr. Squibb, Dr. Hare and Dr. H. C. Wood were on that committee, and while Dr. Lyon of Detroit is an analytical chemist, he is also a physician. A report from the American Medical Association, he said, would certainly receive respectful consideration, and will stand a very good chance of being adopted because it comes from the American Medical Association.

Prof. Henry Kraemer, Philadelphia, said that he was pleased to witness this awakening on the part of the medical profession. He agreed to the fundamental principle enunciated by Dr. Charles Rice, that the members of the medical profession should select the substances which enter into the Pharmacopeia, and that the pharmaceutical profession should provide the descriptions of these substances, necessary tests, and methods for making preparations. With the work thus apportioned, there is not the necessity for an equal numerical representation of the two professions on the Committee on Revision. He feels that five or six medical men on the committee would be sufficient to represent the interests of medicine. This number would constitute a large subcommittee.

Dr. Frank M. Reade, Richmond, Va., believes that the work of revision of the Pharmacopeia has been most excellently done by the pharmacists and chemists; and that the bad work, if there is any, has been done by physicians. They have failed to show what physicians want. The pharmacists have done their work well. They have provided tests for purity, and they have provided standards which have been adopted by the U. S. Government. They have given physicians that which enables them to get medicines from any drug store where medicines are dispensed. Dr. Reade suggested that the Section on Pharmacology should appoint men on the next Committee on Revision of the Pharmacopeia who will indicate what physicians want. The other men have shown that they will do their part as it should be done.

Dr. C. S. N. Hallberg, Chicago, said that the Pharmacopeia has always assumed the position to the medical and pharmaceutical profession that the statutes do to the profession of law. Since it has become a legal standard, it has assumed that position fully because it is now a law, and being legal it must be simply a code and statute. Nothing extraneous should be added because it may not be desirable. Dr. Hallberg defined the Pharmacopeia as being a book which provides standards for the identity, purity, quality and strength of drugs, chemicals and medicinal substances, and gives directions for the preparation and valuation, compounding and preservation of these substances. The Pharmacopeia can not go into all the details that every one wants. With regard to the doses, comparing these doses with those given in the works on materia medica, Dr. Hallberg said that quite a discrepancy will be found. The doses in the Pharmacopeia, of the pharmaceutical preparations, that is, the preparations from drugs, approach mathematical correctness. Thus, for example, if the dose of opium powder is 1 grain, the dose of the tincture of opium containing 10 per cent. of opium is 10 minims; but it is put at 8 minims as equivalent to 0.5 c.c. The doses of the extracts and tinctures in the dispensatories and in similar works often have been designed without reference to their drug-strength. In some instances the dose of the drug and of the extract is the same, though the extract is from four to five times the strength of the drug. These discrepancies pharmacists endeavored to correct in the last revision of the Pharmacopeia. The Pharmacopeia of the United States assumes more nearly the character of an international pharmacopeia than any other. Physicians of every school in the world practice here. Their wants have to be regarded. The pharmacists of the Philippines have the right to demand that some of the medicines they use shall be incorporated in the Pharmacopeia of their country. Porto Rico is also entitled to consideration in the Pharmacopeia of the United States. Dr. Hallberg believes the plan proposed by Dr. Remington a good one. There ought to be a list of drugs that are really being prescribed by physicians in this country. The pharmacists can secure statistical reports between now and the Decennial Convention of perhaps a million prescriptions distributed throughout various parts of the United States. The convention on assembling would know what articles are used sufficiently to warrant their retention in the Pharmacopeia.

Dr. Robert A. Hatcher, New York City, stated that his plea was that more interest in the Pharmacopeia be manifested on the part of the physician, not because six instructed men are not sufficient—one instructed medical man, if he had the instruction after thorough discussion by the medical bodies of the United States, would be sufficient. It seems incredible, he said, that in the entire state of Ohio there was not one physician to make a plea for the profession; not one was instructed to make it. If, he said, the country doctor is as benighted as some of the representatives of two cities in the eastern part of the United States, which he could mention, God help the country. He believes in making clinical tests of drugs, and, if possible, pharmacologic tests. He teaches his students that they must under no circumstances accept a pharmacologic test as final, as in the use of quinin, for example, but that the final test is the clinical result.

EVACUATION AND DEPLETION OF THE TYMPANIC CAVITY AS AIDS TO DRAINAGE IN ACUTE MIDDLE-EAR SUPPURATION.

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Notwithstanding the numerous advances in pathology and surgical technic which have, as it were, crystallized into a definite form represented by the modern simple mastoid and radical operations, the question of the minor surgical procedures in acute otitis, and the detail of their application, is still as open now as was a few years ago the question whether or not they should be applied at all. As a matter of fact, acute otitis media is to this day considered a self-limited disease with typical, cyclical course and critical defervescences like pneumonia, by no less an authority than Zaufal. His school, in common with other German otologists, has statistics to show or, more properly, to make it appear, that spontaneous perforation is preferable to that made by the knife, that paracentesis is generally unnecessary, and that the results of expectant treatment are at least equal to those obtained by early surgical interference. The fallacy and the folly of these views need not be pointed out to American otologists, nor need they be reminded that the conscientious surgeon will not be consoled by any percentages for the loss of a single life through needless waiting when a simple, safe and rapid procedure would have averted the danger of death. Anyone who has seen acute otitis involve the mastoid in a virulent process over night and lead to death in less than twenty-four hours, in spite of operation, or who has seen meningitis develop in a child in less than a day after the initial symptoms of pus retention in the tympanum, will take with a more than usually large grain of salt any suggestion for the treatment of acute purulent otitis media which fails to take into consideration the vital and essential facts that this process is one fraught with the most ominous potentialities for mastoid bone disease, cerebral or meningeal infection, general sepsis and death. Delay is more dangerous in this particular disease and in this region than in any other of which we know; prompt action may mean the saving of a life, while even if mistaken and unnecessary in a given case, paracentesis with a clean knife can do no harm to the patient.

A method which condemns a child to days and nights of suffering and danger while the surgeon is watching and waiting on the theory that the disease is self-limited, and failing to take the evident measure for relief, is itself to be unsparingly condemned as inhuman and unscientific. It has been objected that we are not always able to make a positive diagnosis of the presence of pus in the tympanic cavity, and the answer is that positive assurance is not required. In the presence of symptoms pointing to a middle-ear inflammation, whether or not the local signs of inflammation, of bulging of the drum, are definite or not, free paracentesis is indicated, not only as a curative but as a diagnostic procedure. The knife cures the condition it reveals. It is not necessary to find pus. As a matter of fact, which is too often overlooked not only by the general practitioner but by many otologists, we open the drum in acute otitis to prevent the formation of pus as much as to aid its escape. In the majority of cases in which paracentesis has been performed soon after the onset of definite local and systemic symptoms it is found that there is no pus in the tympanic cavity. The escaping fluid is generally blood-tinged serum with a few small flakes of pus not infrequently mucoid, while occasionally it may be frankly purulent. The fluid evacuated by the usual paracentesis is small in amount, while the discharge rapidly increases so that on the following day it is usually copious and undoubtedly purulent. This change in the character and amount of the inflammatory matter does not by any means imply that there was no pus infection present before the drum was opened, nor can it be twisted to suggest an infection of the middle-ear by the surgical procedure, as the occurrence is too uniform even in the experience of skilled and conscientiously aseptic otologists to admit of such interpretation. The opening up of the middle-ear and establishment of a connection with the outer air does seem to hasten the formation of pus and the *modus operandi* is not clear. As we have to deal with an infected mucous membrane it might appear that the primary engorgement was followed by a certain relaxation and breaking down of superficial tissues and increased transudation from the surface capillaries incidental to the relief of high tension in the tympanic cavity and its walls on the opening of the drum and the evacuation of fluid. The effect of free paracentesis on pain and fever, or even more ominous symptoms, no matter how inadequate apparently to account for the symptoms the amount of retained fluid may be, is marked and generally immediate. The lesson which this observation, made again and again, should have taught us unfortunately has still to be impressed. It should be recognized that the tension itself is almost as great a danger as the retention of exudate, congestion as much to be feared as pus, and our therapeutic procedures should aim not only to remove the inflammatory accumulation but to reduce the hyperemia, establish free drainage and prevent the reaccumulation of inflammatory matter. Relief of tension and the establishment of free drainage are the two main points in the treatment of acute otitis. How are they to be assured?

It is hardly necessary to go into the question of the technic of paracentesis, although, simple as that procedure is, it is often badly done. The needle, fortunately, has been superseded almost everywhere by the knife. We do not puncture, but slit the drum, preferably from below upward and throughout its entire extent, in the posterior quadrant, paying no attention to localized bulging (except it be in Shrapnell's membrane) or even to the absence of decided bulging. A Graefe cataract knife is an ideal instrument for this little operation. The incision may be carried out through the upper part of the drum into the upper wall of the external canal in case the symptoms are unusually severe, or the fundus changes indicative of intense reaction or of involvement of the deeper parts of the canal. Even a free incision may become agglutinated and have to be repeated. Bacon has called attention to the fact that the discharge in influenzal otitis is apt to be sticky at first, and that the tendency is for the opening in the drum head to be closed early, and accordingly advises not one but several incisions in the ear drum. An incision which will invariably remain open will probably always remain a *pium desiderium,* as there is evidently no means short of the excision of a portion of the tympanic membrane which will inevitably and invariably assure a permanent opening.

I called attention several years ago,[1] and on more than one occasion since,[2] to a method which not only tends to prevent premature closure of the paracentesis wound, but also aids drainage in the most efficacious way, and thus prevents infection of neighboring cavities and the spread of the intratympanic suppuration so effectually that during the last few years I have hardly ever seen a case of mastoid disease develop under my observation. The method, that of aspiration or suction-drainage of the tympanic cavity after paracentesis, is simplicity itself and requires, as stated in my previous communications, merely a small glass bulb or irrigating tip, a wisp of sterile cotton to be placed in the neck of it, and a foot or so of thin rubber tubing. Immediately after the drum has been opened the bulb is inserted in the meatus and vigorous suction applied. It is remarkable what an amount of inflammatory exudate is drawn up into the bulb by this procedure, even in cases in which after paracentesis there was only a very scanty spontaneous flow. Not only is the tympanic cavity freed of any fluid already accumulated there, but there is, in addition, a marked depletion of the mucosa with a corresponding lessening of vascular tension and hyperemia in the neighboring accessory air cells of the mastoid. I have pictured this procedure as a leeching or internal cupping, and this analogy is a close one. It is diametrically opposed in therapeutic mechanism to Bier's method of congestive hyperemia, which, as I have already pointed out, is fraught with danger for an organ with such peculiar vascular relations and susceptible neighboring structures as the ear. I need only refer again, on this occasion, to the fact that stasis acts centrifugally (from the affected area or infected point) damming back and spreading out not only the circulatory changes but also the infectious products and the micro-organisms which produce them.

Aspiration, on the other hand, tends to draw into the affected area and through it into the external world, in the case of a lanced ear-drum, the accumulated matter and the infectious exudate, besides depleting the affected tissues and reducing vascular tension and hyperemia over a large area. It thus accomplishes all that Bier's method aims to effect without the dangerous features of the latter, and is neither obnoxious to the patient nor irksome to the surgeon. This certainly can not be said of a method which requires the application of a constricting band to the neck day after day for hours at a time. In addition to the mechanical removal of accumulated fluid and the depleting effect, aspiration is a valuable aid to antisepsis. The removal of matter allows the secretion to flow out of the ear or to be removed more easily, the thinning of the contents of the middle ear by suction brings into play the agency of fresh serum, while, finally, we have the factor of the reduction in number of pathogenic micro-organisms by the aspiration. The incision in the drum is easily kept open if aspiration is performed, and it may be used to reopen a drum which has become agglutinated. I have never found it necessary to make multiple incisions. Aspiration alone will insure drainage, the most essential, invaluable and indispensable factor in acute otitis media as in all purulent processes.

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[1] Treatment of Acute Otitis Media in Childhood. Amer. Jour. of Surg., May, 1905.

[2] Aspiration of the Tympanic Cavity after Paracentesis. Med. Record, March 3, 1906; Aspiration of the Tympanic Cavity in Otitis Media; Annals of Otology, September, 1906.

No other measures but those of cleanliness are required. I have the ear irrigated frequently with hot solutions of mildly antiseptic action, such as Thiersch's solution 0.5 per cent., creolin 0.2 per cent., or plain soap suds. The action of these irrigations is mainly and avowedly mechanical and also tends to prevent thickening of the secretions by drying and consequent interference with drainage. This point is an important one, often overlooked by those who recommend measures for the treatment of purulent otitis which involve not only the thickening of secretions in the middle-ear but mechanical interference with drainage as well. As a type of the former procedure I may mention the insufflation of powders into the canal in the presence of an acute purulent process in the middle-ear. An example of the latter procedure is the insertion of gauze wicks and drains (*sit venia verbo*) into the external meatus, by which that natural drainage tube is converted into a tampon soaked in pus.

The conditions for free drainage afforded by the external auditory canal are ideal, and any attempts to improve them are not only illusory but defeat their own ends. Insufficient drainage is never due to conditions in the canal but invariably to the state of affairs in the tympanic cavity, the size, position or permeability of the opening in the drum, and it stands to reason that these conditions can not be affected by measures which stop short of the middle ear, and in practice, at all events, do not even reach the drum. For there can not be much doubt of the mechanical difficulty, not to say impracticability, of inserting the end of a gauze drain into the paracentesis opening, and yet this is seriously laid down as a step in the "drainage method." The drain can, however, be crowded up against the drum, and here it lies, stopping up the paracentesis opening and damming back secretions. Immediately after paracentesis there is a large admixture of blood with the fluid evacuated. This is apt to clot, and if a tampon is used retention is still more apt to occur. This also applies to the sticky secretion which is not only found, as mentioned above, in the otitis of influenza, but may be present in the more common types of middle-ear suppuration. The occlusive drain accomplishes two purposes, but they are not those of drainage and antiphlogistics claimed for it by its adherents, but rather acts as an occlusive bandage and as an infected poultice. Even if this drain is changed three or four times a day, which will require the services of a nurse, there is no guarantee that retention will be avoided. Secretion from the middle-ear is often so profuse as to render such a reliance entirely visionary. Syringing is grateful to the patient, keeps the ear clean and free from discharge for some time, and can be entrusted to the patient or to some member of the family after one or two demonstrations. After the acute symptoms have subsided and the secretion has become less profuse and thick, the antiseptic solution may be changed for a slightly astringent one, such as zinc sulphate, 0.5 per cent., or a solution made by adding pulvis antisepticus (N. F.) one dram to a pint of water. This will prevent swelling of the canal and check any tendency to the formation of granulation tissue in subacute cases. Eczema of the auricle and external meatus may be caused by irritating secretions, and possibly by repeated syringing, especially with too highly concentrated or too hot solutions. This may be avoided by carefully drying the skin and applying a little zinc oxid ointment after each irrigation.

Since making a routine measure of aspiration after paracentesis and recommending it to my colleagues in general practice by word of mouth whenever it was possible, I have been gratified by the rapid recovery of patients with acute otitis media and by the marked infrequency of mastoid involvement, as well as by the general interest taken in the method, as evidenced by the receipt of numerous letters and inquiries for details of the *modus operandi* and the apparatus, if one may dignify by this name the glass bulb and rubber tube, used by me in aspiration of the middle-ear.

60 East Fifty-eighth Street.

Special Article

TRAVEL NOTES FROM SOUTH AMERICA.

NICHOLAS SENN, M.D.
CHICAGO.

(*Continued from page 1771.*)

IX. THE MEDICAL PROFESSION AND HOSPITALS OF VALPARAISO.

The terrible earthquake of last year has had no effect whatever in checking the business interests of Valparaiso or the commercial importance of its port. Business is being conducted on as large a scale as before the earthquake, and the mercantile fleet in the open harbor is as large as it was at any time before the disaster. The people have become accustomed to the little shocks and tremblings of the earth, and go about their business as unconcernedly as though the foundations of the city had never been disturbed. There is always a certain fascination about danger zones, and repetitions of the same phenomena or occurrences create a sense of security and a contempt for danger. The city has now, as before the earthquake, about 150,000 inhabitants.

The number of physicians is 140, a large number, when we take into account that nearly one-half of the population can pay very little, if anything, for medical treatment. Overproduction of medical men is here, as in all South American cities, one of the most conspicuous social abnormalities. Office consultations are paid for at the rate of 5 to 10 pesos ($1.25 to $2.50), and there are only a very few men whose professional income will amount to 30,000 to 40,000 pesos ($7,500 to $10,000) a year. Although there are 140 individuals in the city who make the practice of medicine their vocation, there is not a single medical society, and I fear that only a very few of the practitioners take any interest whatever in the national association and the only medical journal published in the country.

Among the most prominent practitioners of the city with whom it was my privilege to make a pleasant personal acquaintance are Dr. Olaf Page, who has practiced here for more than thirty years, and who was surgeon general of the Chilean army during the war with Peru; Dr. Alfonso Klickmann, born in Chile of German parentage, but educated in Germany, who was major surgeon during the war with Peru, and brigade surgeon during the rebellion of 1891; Dr. John Trumbull, a highly resepected and able physician; Dr. Juan Carlos Atkinson, a young surgeon; Dr. Guillemo E. Münnich, recently appointed surgeon to the German Hospital; Dr. Konrad Fiedler, a prominent surgeon, and Dr. Oscar Jensen, house physician to the German Hospital. All of these gentlemen speak the .Spanish, English and German languages, and Dr. Page is in addition a good Italian scholar.

HOSPITALS OF VALPARAISO.

None of the hospitals of Valparaiso is modern, but, considering the impoverished condition of the country, severe criticism would be out of place. The South American people do what they can for the many sick poor, and that is all that can be expected of them. I have reason to believe from what I saw and learned in the different cities, that charity is only too often abused, and that many of the patients who occupy free beds ought not only to pay the hospital for the care they receive, but also for their medical and surgical treatment. As is everywhere true, the universally charitable disposition of the true physician, and the willingness of charitable institutions to aid the poor, are only too often taken advantage of by persons abundantly able to pay for hospital care and medical treatment. I was informed that after the earthquake the physicians of Valparaiso worked night and day for weeks and months without adding a peso to their bank accounts.

HOSPITAL SAN JUAN DE DIOS.

This was the largest hospital in Valparaiso before the earthquake. The main building, a large, square one-story brick structure, collapsed and remains in ruins. A beautiful little public park in front of it was devastated by the fire which followed the earthquake. The remains of a little artistic bridge and statues, and the charred stumps of the trees which ornamented it, are gruesome reminders of the conflagration which fed on the ruins of the earthquake. The main building was located at the foot of a steep hill, and the pavilions on the hill and around the ruins now furnish the hospital space. Crippled as it was by the earthquake, the hospital has now 450 beds, all of which are occupied. One large pavilion on the brow of the hill serves at present as a naval hospital and is in charge of a naval surgeon. The little chapel has been converted into an operating room. The altar and sacred pictures have given place to an operating room, and the implements and articles for surgical operations in the dim light of the former place of worship. The care of the sick is in the hands of 26 Sisters of Charity, female helpers, and orderlies, all of whom know little about nursing and much less about the preparation for surgical operations. The surgeons are obliged to prepare their patients, and must get along the best they can in their operations with an orderly as an anesthetizer. The sisters never show themselves in the operating room.

Dr. Atkinson enucleated suppurating inguinal glands without any assistance from any source, and I appreciated then, more than ever, the difficulties with which surgeons have to contend in hospitals where there are no trained nurses. I was wondering what he would have done if, by accident, one of the large blood vessels had been injured, since the hemorrhage was unnecessarily profuse without such a mishap, as he was obliged to grasp all the bleeding points and tie them without assistance. Dr. Page is chief surgeon of this hospital, and received his check for 40 pesos ($10), his monthly salary, at the time of our visit.

This hospital takes care of the sick prisoners in a ward guarded by an iron door with a sentry stationed outside of it. Every bed was occupied by a low grade of human being, whose very face betrayed his criminal disposition and perverted nature. Every available space in the hospital is crowded, and not much can be said of the neatness and cleanliness of the institution. There would be little inducement to serve in the capacity of surgeon in such a hospital if it were not for the consciousness of doing something for the sake of charity.

Among the interesting cases I saw here was that of a man, 62 years old, who had been operated on a week before by Dr. Page for cancer of the breast, with extensive infiltration of the axillary glands. The large wound looked well, but it was well he drained, as at several points suppuration had commenced. Another patient was operated on seven days before for a perforating gunshot wound of the abdomen. Abdominal section revealed three perforations of the small intestine, which were closed by suturing, and the patient was in a fair way toward speedy recovery, showing that sometimes the great triumphs of surgery are achieved under the most trying difficulties.

SAN AGUSTIN HOSPITAL.

The second general hospital of Valparaiso is the San Agustin, with accommodation for 400 patients. This hospital is in charge of 16 Sisters of Charity of St. Vincent de Paul. This institution also was seriously damaged by the earthquake, but no lives were lost. It is a three-story building, constructed of brick and stucco, and is so arranged that the wards open on two large courts which have been converted into little garden parks. The arched inner galleries are very long, and impart to the building a cloister-like appearance. Both walls and arches were badly cracked by the earthquake. The interior of the wards and the operating room are far superior to those of the San Juan de Dios Hospital, but are far from being modern. Mrs. Juana Ross de Edwards, a wealthy widow, intended to build this hospital and pay for it out of her own private fortune, but became displeased with the plans, and finally donated the grounds, worth $50,000, and $12,500 in cash, and left the sisters to do the rest. This hospital has a number of private rooms in the most desirable part of the building, for which patients pay $2.50 a day. The rooms are plainly furnished but comfortable, and well lighted and ventilated. The hospital was completed in 1891, and the first patients to occupy it were 2,400 sick soldiers in charge of Brigade Surgeon Klickmann, on their return from the revolutionary war.

MATERNITY AND TRAINING SCHOOL FOR MIDWIVES OF THE SAN AGUSTIN HOSPITAL.

The best feature of the San Agustin Hospital is its maternity department with 50 beds. This part of the hospital is managed in accordance with modern methods calculated to prevent puerperal infection. The training school was organized two years ago. The first year's class numbered twenty pupils, the second year's sixteen, and the whole number in attendance at the present time is 36. Two graduate midwives of the Santiago school attend to the normal labor cases, and give the pupils their practical training. Dr. Espic is director of the school, and associated with him in attending the maternity cases and as instructor is Dr. Tillmanns, a graduate of a German university. The midwifery course occupies three years, at the end of which time the pupils are examined by a commission sent by the Medical College of Santiago, and to those whose examination is satisfactory, licenses to practice midwifery are issued. Educated midwives are a necessity in Chile, as many of the people are too poor to employ a physician for labor cases. Thirty pesos ($7.50) is a large fee for a midwife in a labor case, and in the great majority of cases the fee is very small. Well instructed in the asepsis of midwifery, these women are a great benefit to the communities in which they practice their art. The gynecologic department of the hospital is in charge of Dr. Tillmanns, is well conducted and the little operating room is fairly well equipped and well adapted for aseptic work. Dr. Tillmanns showed me a number of patients on whom he had recently operated for myofibroma, ovarian cysts and pyosalpinx. All were doing well.

GERMAN HOSPITAL.

This hospital, built and supported by the many Germans who live in Valparaiso, is the best one in the city. It is situated in one of the many charming ravines which indent the hillsides high above the level of the business portion of the city. It is surrounded by a charming flower garden, shaded by pretty evergreen trees. It was built twenty-eight years ago, and has been enlarged from time to time as the need for more space increased. It is supported largely by a society of Germans, 300 to 400 in number, each of whom pays 25 cents a month, and in case of illness is entitled to admission, care and treatment without further expense. The present capacity of the hospital is 35 beds. The main building and wings are two stories in height, with wooden flooring. The hospital has a number of very comfortable private rooms, for which a charge of $2 a day is made, and 75 cents a day for accommodation in small wards of two or more beds.

Dr. Münnich, a graduate of the University of Breslau, a very able young surgeon, has recently been appointed attending surgeon, and Dr. Jensen, house physician. Dr. Fiedler and Dr. Klickmann send their private surgical patients to this hospital, as they prefer to operate here rather than in either of the two general hospitals that I have described. The doors of the hospital are wide open for private patients sent there by any of the physicians of the city. Although the hospital is German in name, and is largely supported by the membership fees of the German residents of the city, the majority of the patients admitted belong to other nationalities.

I was astonished to find that this hospital has no trained nurses. The nursing is in charge of natives, young men and women who from practice, have picked up what knowledge they possess, but who can not be relied on properly to prepare patients for operation, to render assistance during operations, or to take care of critical cases.. It is high time that this hospital should establish a training school for female nurses, as the best physicians of the city would be its best friends and supporters.

The two operating rooms, one for aseptic, the other for septic cases, are small, but well supplied with instruments and facilities for carrying out antisepsis and asepsis. I found Dr. Fiedler operating on a case of pyemia which developed during the course of a suppurating bubo of the groin. A large abscess appeared in the left clavicular region. When the abscess was incised, the clavicle was found to be denuded of periosteum. Other abscesses in different parts of the body had been incised previously. The thrombophlebitis in the neighborhood of the original focus of mixed infection had given rise to this complication. Dr. Klickmann showed me a patient on whom he had operated several weeks before for appendicitis. A few days after the operation intestinal obstruction occurred. The abdomen was again opened, and a part of a loop of small intestine was found to be gangrenous. This was incised and anchored in the wound. Dupuytren's clamp was later employed to restore the normal fecal circulation, with a view to heal the intestinal fistula, and from present prospects the operation promises to prove ultimately successful. He also showed me a man, 67 years old, on whom he had performed a high amputation of the thigh, followed by primary healing of the wound and great improvement in the general condition of the patient. Dr. Page was formerly the chief surgeon of this hospital, and his picture in the uniform of surgeon general of the Chilean army graces one of the walls of the main office.

In walking through the wards of any of the Valparaiso hospitals, one is reminded of the fact that he is in the southern temperate zone, as he looks in vain for tropical diseases. Tuberculosis, bronchitis, pneumonia and rheumatism figure largely in the hospital statistics and in the private practice of the physicians. Malaria, so common on the east coast, is very seldom contracted on the west coast. Dysentery shows in the same latitude as north of the equator, and is followed not infrequently by abscess of the liver. Venereal diseases, so common in all the large cities of South America, are very prevalent among all classes of society. I would like to see the profession of Valparaiso and of all Chile take more interest in medical societies and the current medical literature, and by so doing become more frequent contributors to the general fund of medical knowledge, the sum total of the careful clinical observations, original research and laboratory work created and maintained by scientific physicians in all parts of the world. South America has had and has now a large number of scientific progressive men, but their work, unfortunately, only too often has failed in reaching the rapidly flowing current of medical literature. Let us, north of the equator, do all we can to secure the interest and cooperation of the great mass of the medical profession on the opposite side of the equatorial line in everything that pertains to the progress of medicine and to the welfare of suffering humanity.

DEAD AND INJURED OF THE VALPARAISO EARTHQUAKE.

In a little book written by Dr. José Grossé, surgeon general of the Chilean army, entitled "Servicio Medico de un Terremento," which he kindly gave me, I found many facts and figures bearing on the loss of life and the numbers of injured in the Valparaiso earthquake.

The exact number of deaths could not be ascertained, as many of the corpses remain hidden under the débris of large collapsed buildings, especially under the ruins of one of the largest churches. Fortunately, there was no one in the ruined Victoria Theater.

Some estimate the number of dead as high as 7,000, but Dr. Grossé gives the figure as 1.33 per cent. of the population, estimating the latter at 150,000. This would make the number of dead 2,000. He compares this estimate with the statistics of the San Francisco earthquake in which the mortality was 452, or 0.12 per cent. of the population of that city, figuring the latter at 350,000.

The number of those wounded or made ill by the immediate or remote effects of the earthquake exceeded 10,000. There were 776 patients suffering from wounds of the head; 44 from wounds of the neck; 201 from wounds of the arm; 634 from wounds of the hand; 124 from wounds of the shoulder; 96 from wounds of the trunk; 402 from wounds of the leg, and 207 from wounds of the foot. The cases of fracture involved the following bones: Cranium, 142; bones of the hand, 18; shoulder, 10; trunk, 50; leg, 35, and foot, 14. The luxations involved the arm 4 times, the head, 7 times; the shoulder, 12 times; the leg, 3 times; and the foot, 12 times. Among the injuries was a large proportion of contusions, divided as follows: Head, 322; neck, 31; arm, 59; hand, 9; shoulder, 1; trunk, 138; leg, 96, and foot, 75. Only 27 amputations and one resection were made, which speaks well for the conservative treatment of the wounded.

Prompt action on the part of the authorities, who placed Dr. Grossé in charge of the wounded and sick, was the means of preventing much suffering and of saving many lives and limbs. A temporary hospital was erected, and this, with the existing hospitals, provided ample hospital space, while 11 dressing and first-aid stations, located where they were most needed, furnished prompt treatment for those who required care outside of the hospitals.

A large corps of military surgeons, civilian practitioners and medical students from Santiago volunteered their gratuitous services and did excellent work under the direction of Dr. Grossé. The Alcalde of Valparaiso, at the termination of Dr. Grossé's services, presented him with a flattering testimonial for his successful management of the trust imposed on him, and I am sure that all the sufferers from the earthquake and every citizen of Valparaiso would most heartily endorse the document.

The whole number of patients who received medical aid was 11,277. Of these, 4,836 were surgical and 6,441 medical cases; 751 received hospital treatment and 10,526 were cared for at dressing and first-aid stations, at dispensaries or at their homes.

Two physicians and four medical students had in charge the hygiene and sanitary part of the relief work, which consisted in disposal of the human and animal cadavers, and the disinfection of localities where decomposing human or animal bodies were lying or buried under the débris of collapsed buildings.

The most prevalent diseases which followed in the wake of the earthquake were bronchitis, pneumonia, rheumatism, influenza, dysentery and typhoid fever.

As has been the case in all great disasters the world over, the medical men of the city acted promptly and in harmony in giving aid to the victims of the earthquake, and gave another brilliant example of the nobility and humanitarian character of the medical profession.

Valparaiso, Chile, Aug. 16, 1907.

Clinical Notes

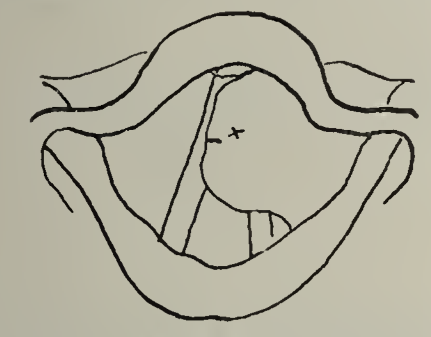
FOREIGN BODY IN LARYNX FOR TWO AND ONE-HALF YEARS.

STANTON A. FRIEDBERG, M.D.
Attending Physician, Ear, Nose and Throat Department, Cook County Hospital.
CHICAGO.

The case herein reported is that of a girl who was admitted to my service at the Cook County Hospital in July, 1907. The history obtainable was not satisfactory, only a few facts being ascertained as follows.

History.—Female, aged 12, Polish, had diphtheria five years previously. Following this there was some difficulty in swallowing for two months. There was no hoarseness at this time nor was there any history of other post-diphtheritic paralysis. On admission to the hospital the main complaint was of hoarseness. This had begun in the winter two and a half years previously and had been of gradual onset. At the time of examination she was able to speak only in a rough whisper, and even this required considerable effort on her part. During the winter she had occasionally had some pain which was referred to the larynx. There was no dyspnea, no difficulty in swallowing and no pain. Her general health was excellent. There was no history of aspirating or swallowing any foreign substance.

Examination.—This showed the nasal cavities and pharynx practically normal. The laryngoscopic picture was as follows: Both arytenoid cartilages were very slightly congested but not swollen. This congestion also involved the right vocal cord. Above the left vocal cord and in the location of the false cord there was a large tumor-like mass which covered the cord for about three-fourths of its extent, the posterior fourth being visible. This was seen to be slightly congested. This mass extended across the median line (see illustration) and partly covered the right cord. Anteriorly it extended up to the epiglottis where, on the left side, the base seemed to be infiltrated. On phonation it touched the right lateral wall of the larynx above the cord. The swelling was smooth and apparently covered with mucous membrane. No ulceration was present. About the middle of the free border of the mass appeared a small black object having the appearance of a small piece of wire. This was approximately 2 mm. in length and .5 mm. in width and did not project beyond the border or surface of the swelling. It was placed transversely to the antero-posterior axis of the growth. A diagnosis of foreign body was made. A skiagraph was taken which showed the foreign body to be an eyelet in an obliquely upright position.



Appearance of larynx with eyelet (x) in place.

Treatment.—Under local anesthesia consisting of a 10 per cent. solution of cocain applied to the larynx with a swab an attempt was made to remove the body with forceps. Although a number of different style forceps were used the result was a failure. This was due to several factors: The visible part of the eyelet did not project beyond the surface of the mass, so that it was impossible to grasp it; the border of the swelling was freely movable; the patient was unable to refrain from coughing when the attempt was made to seize the body. Direct laryngoscopy was determined on and under chloroform anesthesia several days later an attempt was again made. No especial difficulty was encountered in entering the larynx with the tube. After a most diligent search, however, the foreign body was not to be found. The tube used was perhaps a trifle large, and even in a normal larynx of a child that age could not have been forced below the vocal cords. What happened in this case was that the projecting edge of the swelling was forced downward as the tube entered. The arytenoid cartilages and a small part of the cords posteriorly could be seen. Otherwise the result of the examination was negative. No inconvenience was suffered from the examination. Having made two failures in attempting to remove the foreign body through the natural way, the question arose, How could the eyelet be removed? Laryngotomy was considered to be the last resort. In spite of the failure of the indirect method another trial was determined on. Three days following the use of the tube the larynx was again anesthetized. An attempt to grasp the body with forceps again showed the futility of this method. A Cordes cutting forceps was introduced and placed in position with the edge of the mass between the blades. The blades were closed, cutting the tissue on either side, and a strong upward pull was made which served to loosen the eyelet. The forceps were again introduced and the eyelet was easily removed. Some of the tumor-mass was also removed and appeared to be simply granulation tissue.

Subsequent History.—The subsequent course of the patient has been favorable. There has been a gradual disappearance of the granulation tissue, although there is still some present. The left cord is visible throughout its entire extent even on phonation. The voice has constantly improved; it still possesses, however, a slight element of hoarseness. No effort is required in articulation and progress during the past four months has been satisfactory.

The literature on the subject of foreign bodies in the larynx is quite voluminous, embracing an infinity of objects which have remained in the larynx from a few hours to a number of years. An attempt to give even a digest of what has been written would take up too much space. The case just reported is of interest because:

1. Of the long duration of the presence of the eyelet.
2. Of its location above the cord in a mass of granulation tissue which included the false cord. When the eyelet entered the larynx it is probable that during the coughing which followed it became wedged with one shank resting above the false cord, the other below it with one of its curved ends lodged in the ventricle.
3. Of the absence of symptoms except that of hoarseness.
4. Of the difficulties encountered in its removal. These, however, turned out to be more apparent than real.
5. Of the value of the skiagraph in showing exactly the nature and position of the foreign body.

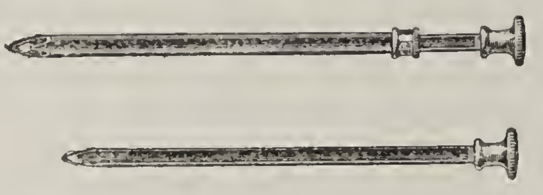
34 Washington Street.

Atypical Forms of Yellow Fever.—J. A. L. del Valle publishes in the *Revista de Med. y Cir.*, March 10, a study of number of cases of yellow fever presenting unusual features. He affirms that yellow fever as a disease entity has no pathognomonic symptoms, and that every non-immune with fever and general depression, in a yellow fever country, should be regarded as suspicious of yellow fever. During the terminal period of an epidemic of yellow fever every possibly receptive person presenting symptoms should be regarded as probably having yellow fever, no matter how atypical the clinical picture. In one of the atypical cases reported all the usual symptoms were present and very severe except that the temperature never rose above normal. In other cases the symptoms were so slight that the patients continued their usual occupations undisturbed until into convalescence, when the prostration became extreme. The urine should be examined at once, del Valle urges, in every case of illness in a yellow fever country, regardless of the symptoms presented. Finlay stated in a previous number that the proportion of ambulant cases of yellow fever had been exceptionally large during the last epidemics in Cuba.

COMBINED TROCAR AND DIRECTOR.

EDMUND F. WOODS, M.D.
JANESVILLE, WIS.

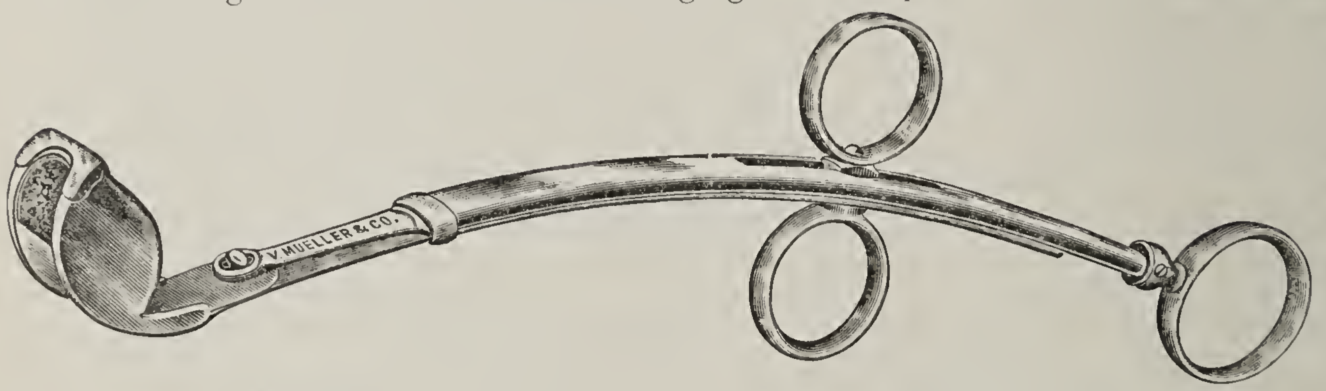
The instrument shown in the accompanying illustration is a combination of trocar and director and can be attached to any aspirator. It is triangular in shape, with a deep groove along one surface. It has a keen cutting point, and is easier to introduce than the usual round instrument. I find it very useful in deep-seated abscesses, where, after locating pus, the trocar is removed, leaving the grooved director in place to follow in with the knife. In such cases, after pus is located, there is no difficulty in cutting down to open and drain, as there sometimes is when the trocar must be removed before the incision is made. I have had these instruments made in two sizes, one four inches long, the other five.



A NEW ADENOTOME.

BURT D. LaFORCE, M.D.
OTTUMWA, IOWA.

This instrument is so made that when the adenoid is cut off it is removed with the instrument. This obviates the danger of the excised tissue lodging in the larynx, being swallowed or being pushed into the nares. The adenotome is made in three sizes and in such a way that there is no danger of its being broken while in use. The accompanying illustration renders further description unnecessary.



A new adenotome which provides for removal of the excised tissues.

DIPHTHERIA ANTITOXIN IN BRONCHIAL ASTHMA.

HERBERT F. GILLETTE, M.D.
CUBA, N. Y.

In The Journal, March 23, 1907, is a letter from Dr. Fitzmiller, of Piqua, Ohio, calling attention to the benefits accruing from the use of antitoxin in asthma. For some two years I have been bothered considerably by attacks of asthma, due to the dust or odor of a horse, not having it at night unless I drove during the day previous. On Oct. 19, 1907, I received 2,000 units of diphtheria antitoxin, and on Nov. 3, 1907, I was given 3,000 units. Only a slight reaction followed the injection, but I have had complete relief since the last dose.

On November 8, Mr. B. called on me at 8 p. m., and asked me to administer the treatment to him. Two weeks previously I had examined him for life insurance. He was rejected because of his history of asthma. He was 52 years old; weight 155 pounds, chest 35 to 37½ inches, an expansion of 2½ inches, so that the question of emphysema was not considered; height six feet. Family history negative, except that one brother died suddenly. He had asthma and bronchial catarrh. Urine normal; heart normal. He gave a history of a rheumatic attack 15 years previously. He coughed and raised plenty of sputa.

I procured 2,000 units of antitoxin globulin, from the same lot from which my first injection was taken, and administered it to him under the left scapula. While he was dressing, he said he felt a prickling in the chest, and in the back of his neck. He asked me whether I had had the same sensation, and sat down in a chair. At once he said he could not breathe. I felt his pulse and found it regular and full. I told him that probably he was faint, and put about 20 drops of adrenalin chlorid on his tongue, and placed him on his back on the floor. He was seized with a tonic spasm and died at once, not living five minutes after the injection. He was slightly cyanosed. As soon as I placed him on the floor, I telephoned for help and Drs T. S. Thomas and W. O. Congdon responded at once, but he was dead when they arrived, two minutes after being called.

The case was turned over to the coroner, with a request that the matter be investigated fully. An autopsy was held, and all the important structures were examined. The following is from the report:

The lungs appeared somewhat larger than normal, were much pigmented, especially the left apex, and filled with venous blood, but no tubercular lesions or cavities were found. The heart was empty, the valves normal; weight of heart, 12 ounces; pericardium adherent to heart, which was supposed to be due to pericarditis from rheumatic attack, which the patient stated he had suffered with some years previous. Liver normal in appearance; weight, 4 pounds. Kidneys abnormal, softer and more moist than usual; right kidney weighed 8 ounces; left kidney weighed 2 ounces, but did not seem to be cirrhotic. Spleen engorged with venous blood, looks darker than usual, and seemed to be somewhat granular.

It is not thought that any impurity of the antitoxin was present to account for the death, and it has been suggested that death was due to some obscure action of the antitoxin on the nervous system of the man. It is possible that time may prove that some precaution is to be used in administering the remedy to an asthmatic, but what that precaution may be, time only will determine. One pathologist has suggested that the condition known as the status lymphaticus was present, and many things point to its presence in the case.

Since the death of Mr. B. I have had reports of two cases where death took place, as in the case reported, following the use of antitoxin for the relief of asthma.

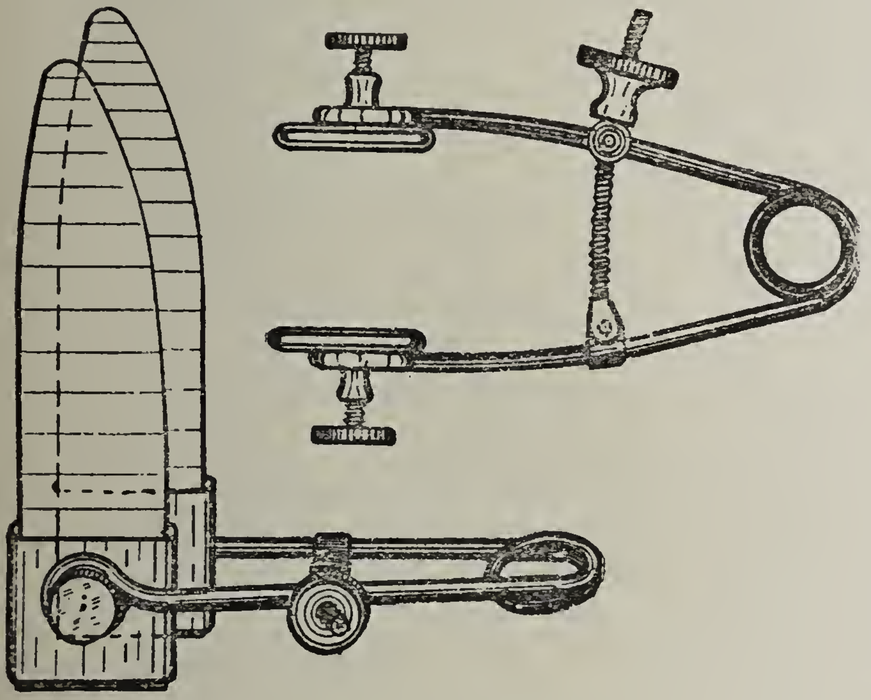
Impetigo Contagiosa.—Beers, in *Merck's Archives*, states that impetigo is not communicable. It commences as pustules; the lesions are deep, and the pustules are elevated and rounded. The general health is good. Treatment, he declares, is simple. A grain of calomel, in broken doses, is given, followed by a saline. Some constitutional tonic is then given to increase the general resistance powers of the individual. Externally, the treatment consists in softening the crusts with olive oil and then removing them with warm water and soap. As soon as this is accomplished, application of an ointment consisting of 10 grains of ammoniated mercury to the ounce is all that is necessary to complete the cure.

SUBMUCOUS BLADE SPECULUM.

FREDERICK E. NERES, M.D.
AND
DANIEL S. NEUMAN, M.D.
DENVER.

This speculum is designed to simplify, shorten and to facilitate generally submucous septal resection operations. A complete set consists of three pairs of blades of different sizes and one holder. One pair of blades is selected to suit the conditions of each individual case and fasten into the holder.

After incision and separation of the mucous membrane and perichondrium on each side of a deflected septum the speculum is inserted into the nasal chamber on the side of the incision, thence pushed forward into the incision, one blade of the speculum passing on one side of the cartilage and the other blade on the other side, thus "clothes-pinning" the cartilage and bone. By this procedure the blades act as guards on both sides and absolutely prevent button-holing the mucous membrane and perichondrium. The spring setscrew above the blades is then released in order to hold the mucous membrane apart; when thus spread as wide as convenient the septal cartilage and bone is plainly exposed between the blades and ready for removal without injury to the mucous membrane on either side and by this means the operation is materially shortened.


Submucous speculum, showing largest size blades in position.

The instrument is so designed as to have a spiral loop spring and two parallel shanks which are adjustable by means of a fast-running bar-screw connection. To the two parallel shanks are attached two slit sockets supplied at the side with setscrew connections; into these sockets the blades of the same size or different sizes may be placed and securely fastened by a setscrew on each side. The three pair of blades are all of the same length and thickness, 6 cm. (2⅜ in.) by 1 mm. (1/25 in.), but the width varies, the largest being 15 mm. (⅝ in.), the medium 12 mm. (½ in.) and the smallest 9 mm. (⅜ in.) wide. The two smaller sets of blades may be secured in the slit socket at any angle away from the horizontal to 45 degrees; any one blade or both can be shortened independently or placed at different angles. All the blades being of the same thickness, many opportunities are present for different adjustments in either the length or width of each blade.

The advantages claimed for this instrument are:

1. It materially shortens the time of operation.
2. It protects the mucous membrane.
3. It is small in size and light in weight.
4. It has interchangeable blades that are adjustable to different angles.

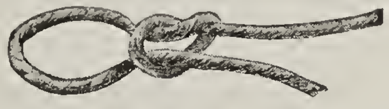
IMPROVED METHOD OF SECURING END OF SUTURE IN APPROXIMATING EDGES OF SKIN WOUNDS.

JOHN E. CANNADAY, M.D.
MOUNDSVILLE, W. VA.

During several years of active surgical work I have tried the various methods of wound closure in vogue, and it has seemed to me that all had many shortcomings. Consequently I have from time to time taken up first one method, then another, only to abandon them.

Sutures that penetrate all the layers of the skin are not infrequently followed by stitch abscesses. The penetration of the always infected superficial layers of the skin and the slight necrosis caused by varying degrees of tension together helping to bring about this. The interrupted tension sutures of silkworm gut, including muscle fascia, subcutaneous fat and skin, are usually tied tightly and often cause some infection. Catgut being a good culture medium when used as a suture through the skin, stitch infection often follows.

The subcutaneous skin suture has rightly grown more popular. When catgut is used in this manner there may be a little infection at each end of the suture line where the knot of beginning or ending is tied. When silk or silkworm gut is used no germ feeder is introduced into the wound, but when a hard knot has been tied at each end, removal of the suture is difficult for the doctor and painful for the patient. If each end has been tied around a roll of gauze the latter makes an undue amount of pressure on the ends of the wound, retains wound exudates which may decompose and threaten the patient with infection before the proper time for the removal of the sutures has arrived. When lead plates, buttons or shots are used at the ends the old objections of pressure arise, and, besides, such devices are a little complicated and are not always at hand.



For the subcutaneous skin suture I use a fair size of Pagenstecher's celluloid linen thread; this is non-absorbent, easily sterilized and very strong. It does not cling to the fingers like wet silk, is easily handled and, aside from its permanency in the tissues, is almost an ideal suture material.

In the beginning, after catching each side of the skin incision, I tie only a half bowknot (see cut) which holds securely, as the roughened surface of this linen suture does away with the tendency to slip. The end of the suture is left rather long. After closing the wound in the usual manner, being careful to avoid entering the most superficial layers of the skin with the needle, the suture is tied in the same way as at the beginning. When the time for removal of the suture comes the free end of the beginning bowknot is pulled on easily, untying the knot, the end is clipped close to the skin and slight traction on the knot at the other end of the suture easily removes the whole line of thread. The clinical results of this method have been excellent.

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[*For other information see second page following reading matter.*]

SATURDAY, JANUARY 4, 1908.

DEATHS OF PHYSICIANS IN 1907.

During 1907 the deaths of 2,013 physicians in the United States and Canada were noted in The Journal, equivalent to an annual death rate per 1,000 of 16.1, based on an estimate of 125,000 practitioners. This death rate does not differ materially from those of the previous five years, which were, respectively, 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73, and 1902, 14.74. The age at death varied from 21 to 97 years, the average being 58 years, 11 months and 18 days. The number of years of practice of the decedents varied from the first year of practice to the seventieth, with an average of 30 years, 4 months and 21 days. About 11 per cent. of those who died were members of the American Medical Association. Chief among the causes of deaths were heart disease, cerebral hemorrhage, pneumonia and violence, in the above order.

Causes of Death.[1]—During 1907, 190 deaths were attributed to general infectious, malignant and nutritional diseases and tuberculosis; 225 to diseases of the nervous system; 107 to diseases of the digestive system; 243 to diseases of the circulatory system; 181 to diseases of the respiratory system; 140 to diseases of the genitourinary system; 83 to miscellaneous diseases, and 141 to violence. Chief among the assigned causes of death were heart diseases, 234; cerebral hemorrhage, 184; pneumonia, 147; nephritis, 120; tuberculosis, 66; senile debility, 50; malignant disease, 42; typhoid fever, 32; appendicitis, 31; septicemia, 20; diabetes, 18; gastritis, 13, and influenza, 11. Two deaths each are reported from diphtheria, scarlet fever and tetanus.

The deaths from violence during the year numbered 141; of these 87 were due to accident, 37 to suicide. 16 to homicide, and one physician expiated the crime of murder in the electric chair. Falls, and steam and street railways accidents each were responsible for 25 deaths, poison for 12, drowning for 5, gunshot wounds and runaways for 3 each, and burns, suffocation and automobile accidents for 2 each. The 37 physicians who are reported to have killed themselves chose the following methods: Gunshot wounds, 13; poison, 9. 4 of which were from morphin, 2 each from carbolic acid and potassium cyanid and 1 from strychnin; 5 cut their throats; 3 hung themselves; stab wounds, drowning and jumping from heights each caused 2 deaths, and 1 was due to asphyxiation.[2]

Ages.—Of the decedents 85 were between the ages of 21 and 30, 253 between 31 and 40, 247 between 41 and 50, 344 between 51 and 60, 404 between 61 and 70, 331 between 71 and 80, 172 between 81 and 90, and 12 more than 90 years of age. The greatest numbers of deaths occurred at the ages of 67 and 62, when 54 and 51 deaths respectively were reported.

Years of Practice.—One practitioner had been in practice for 70 years, 50 for from 60 to 70 years, 267 for from 50 to 60 years, 558 for from 40 to 50 years. 961 for from 30 to 40 years, 1,381 for from 20 to 30 years, and 1,714 from 10 to 20 years.

Military Service.—The Civil War veterans who died during 1907 numbered 332, of whom 231 followed the federal fortunes and 101 the lost cause, 11 saw service in the Spanish-American War, 5 in the Mexican War, and 17 served in foreign wars. The medical department of the Army lost 24 by death during the year, the Navy lost 14, and the Public Health and Marine-Hospital Service, 8. Twenty-eight were surgeons in the National Guard, of whom 8 had attained the rank of surgeon general.

Medical Positions.—Medical colleges suffered a loss of 112 professors, lecturers, instructors or demonstrators; 231 members of hospital staffs died; 130 health officers or county or city physicians; 80 members of boards of education; 31 members of state boards of health or medical examination and registration; 21 editors of medical or lay journals, and 59 railway surgeons.

Among the more prominent dead of the year may be mentioned the following:

Robert Harvey Reed, Rock Springs, surgeon general of Wyoming, eminent as an editor and railway surgeon.

Sir William Hales Hingston, Montreal, dean of the medical profession of Canada.

Oronhyatekha, Toronto, a most notable Indian, fraternalist and temperance advocate.

John Hall Brinton, Philadelphia, surgeon and teacher.

William Baldwin Fletcher, Indianapolis, alienist.

Robert Augustine Marmion, Washington, medical director U. S. Navy, retired.

Felix Formento, New Orleans, authority on hygiene and sanitation.

William Thomson, Philadelphia, ophthalmologist and microphotographer.

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[1] It is difficult in many cases to verify the causes of death because of paucity of detail and the fact that the reports often are from lay sources, so that a large proportion of deaths are stated as having been due to "heart failure." "kidney disease," "paralysis." etc. The increased facilities for obtaining detailed information, however, are evidenced by the fact that the percentages in which age, duration of practice and cause of death could not be ascertained are less than in previous years. The age was not noted in 9.20 per cent. of the cases, the duration of practice could not be ascertained in 2.29 per cent., and no cause of death was assigned in 34.92 per cent.

[2] In this connection it may be of interest to refer to the report on page 67, this issue, of a "Symposium on Diseases of Physicians" at the Philadelphia County Medical Society, December 11.

Donald Macrae, Council Bluffs, leading surgeon of Iowa.

James Carroll, major and surgeon U. S. Army, expert on yellow fever, the first to contract the disease deliberately to test the truth of the mosquito theory.

Patrick Livingston Murphy, Morgantown, N. C., alienist and insane hospital superintendent.

George Frederick Shrady, editor of the *New York Medical Record.*

THE TREATMENT AND PREVENTION OF SCARLET FEVER BY INJECTIONS OF DEAD STREPTOCOCCI.

Impressed with the idea that streptococci, if not the actual cause of scarlet fever, at least play a most significant rôle in its course, Gabritschewsky[1] introduced the use of injections of dead streptococci for curative as well as preventive purposes in this disease. Before using this method on human beings he studied the preparation and action of streptococcal vaccine, so-called, on horses suffering from strangles. a disease caused by streptococci. Encouraged by the favorable results thus obtained, he proceeded to inject dead streptococci into human beings suffering from or exposed to scarlet fever. He used concentrated broth cultures of streptococci obtained from cases of scarlet fever and killed by heating to 60° C. and then mixed with 0.5 per cent. phenol. In each c.c. there were from 0.02 to 0.03 c.c. of bacterial substances, and 0.5 c.c. was the ordinary dose for children from two to ten years of age. If no undue reaction occurred, from one and one-half to two times this dose would be given again in the course of the next seven or ten days. From observations on more than 700 children thus treated he concluded that this method has a distinct preventive action, recommending it for use on a larger scale in actual practice. Following the first injection there may appear an eruption which resembles more or less the scarlatinal, but which is not associated with scaling. In a few cases angina also occurred and more rarely vomiting; these symptoms were interpreted in favor of the view that streptococci are the actual cause of scarlet fever, but it is evident that the angina may have developed quite independently of the injections. More recently Gabritschewsky[2] emphasizes again the fact that streptococci and streptococcal vaccines may cause scarlatiniform eruptions, which fact he holds to be strong evidence in favor of the streptococcus being the specific cause of scarlet fever.

Reverting now to the use of dead streptococci in the prevention of scarlet fever, we find that extensive series of cases thus treated are being reported from Russia.[3] In fact all the work so far published on this form of treatment of scarlet fever seems to have been done in Russia. Both Nidrigailow and Zlatogoroff express the hope that even if streptococci may not be the actual cause of scarlet fever but the cause rather of the complications which render the disease so feared, the use of the vaccine may be found of great value. Perwoff injected 283 children in 149 families and found that in those families in which the injections were made scarlet fever did not appear. In three families, in each of which a single case of scarlet fever was present, all children were injected with the exception of one, and all those injected remained well, whereas the uninjected child became ill after from two to three weeks. Schamarin used the injection in 185 cases, and of these two patients died, not having been injected until after the development of the disease. Of the other children none became sick, although twenty had come into direct contact with scarlet fever patients. His dose is as many decigrams of the vaccine of Gabritschewsky as the patient is old in years.

The largest series of cases comes from Nikitin, who has employed the vaccine in 767 cases; of these 149 patients were injected three times, 106 twice and 528 once. He employed the dose given by Gabritschewsky. The local reaction consisted usually in some swelling and redness of the skin around the puncture with a little tenderness, the temperature rising from 1 to 1.5° C. In rare cases the reactive phenomena were more pronounced, there being redness about the lymphatic vessels, swelling of the adjacent lymph nodes, even eruption over the whole body, rise of temperature as much as 3° C. and other general symptoms. After the second injection the reaction was always milder, and after the third hardly noticeable. Children who previously had passed through an attack of scarlet fever (nine cases) gave no reaction whatsoever. Children both of whose parents had had scarlet fever gave a mild reaction. Of the 767 persons injected only eight acquired scarlet fever, and all of these eight had received only one inoculation, while of those who received two or three injections not a single one became sick, although the majority of them lived in regions where scarlet fever was prevalent in rather severe degree, the mortality being 20 per cent. In four villages in which no vaccination was employed the percentage of sick was 16, whereas of the injected children the percentage of sick was only 1.4. The most important contraindications to the use of dead streptococci are existing fever and renal disease. Nikitin believes himself justified in concluding that injections of dead streptococci diminish the number of cases of scarlet fever and may be an effective method of bringing epidemics to a close.

We have given this summary of the Russian publications without comment. It is manifestly premature to embark on theoretical speculations in regard to the cause of scarlet fever on the basis of this work. It is, however, an accepted fact that streptococci are intimately associated with scarlet fever from the very first and it would not be altogether surprising if the injection of suitable quantities of dead streptococci were found to have some influence on the disease. We hope that the work commenced in Russia will be taken up soon in other countries also, so that the actual possibilities of the method may be clearly determined.

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[1] Centrlbl. f. Bakt., 1906, xli, p. 719.
[2] Berl. klin. Wochschr., 1907, No. 18.
[3] Zlatogoroff: Centrbl. f. Bakt., 1906, xlii; Nidrigailow, ibid; Langoway, ibid; Perwoff, Schamarin. Nikitin, Russky Wratch., 1907.

THE PROFESSION OF TEACHING.

Looking back after forty-seven years' connection with the University of Edinburgh, as student and teacher, the reminiscences of Mr. John Chiene, C.B., professor of surgery at that institution,[1] form a charming picture of a life devoted to the teaching of surgery. "Forty years ago," he says, "in the end of February, 1867, my dear master, John Goodsir, sent for me, his junior demonstrator of anatomy, to his house at Wardie, off the Granton Road. I found him lying on a camp bed in a narrow room, a small table at his side, and on the table his Bible and Quain's 'Anatomy.' He asked me how his students were getting on and bade me farewell. His last words were, 'Teach my students, Dr. Chiene. Good-bye.' He died shortly afterward, on the 6th of March, and I have taken these words as my life motto."

That tells the whole story. Mr. Chiene made teaching his work, his university and his students his first consideration. The practice followed. The modern tendency toward teaching for the sake of practice, and the fact that men are less and less making teaching their profession, are deplored by him. Fortunate is the university that has servants of such convictions. And yet under present conditions our younger men must rely, at least in part, on their private practice, for in clinical work the junior grades in our teaching institutions offer salaries which are quite inadequate. Nevertheless, it is possible to aim from the start toward a career of teaching, and it is the men who have held the subordinate positions, who have come in intimate contact with students for years, who make by far the best teachers. Great clinicians, operators or investigators are not necessarily the best teachers, though there is no reason why a great teacher should not be any one of the other three.

Each of us will probably recall examples of the two types of successful teacher—the one who saves us considerable exertion by forcing into our memories, whether we will or no, many important facts, the other who leads us on to the sure ground of reason, of independence. The first dogmatizes unconscionably, and he is a great comfort in the confusion of our early struggles. Both must have a fine sense of proportion and of medical students, and in the best we see a loyalty to their own institution without intolerance of others, and an enthusiasm for their work, which is the spirit that makes a true university atmosphere. Our country has produced many such, and the opportunity was never better for those who have the desire and the aptitude for medical teaching.

GRIP, HEART DISEASE, AND THE PACE THAT KILLS.

During the year just ended heart disease is reported to have caused many more deaths than in 1906—in Chicago and Boston 13 per cent. more, in New York City 29, in Detroit 26, in Philadelphia, 5, etc. Two factors are held responsible: the wear and tear of life in the present day and the prevalence of grip.

Such is the stress and strain of modern life that patients who are men of affairs can not be made to take the prolonged rest which is imperative during convalescence from grip. Nay, even from the beginning of that serious disease, will they persist in leaving their homes as usual after breakfast, when they most decidedly should be in bed. There is this difficulty even with elderly men. One of these recently disobeyed his physician. "Such a fussy lot are those doctors; besides, an old horse that lies down never gets up," he declared, putting on his overcoat and going to business. That afternoon he returned in collapse and died next day.

The fault is not with the medical profession, in whose power it unfortunately does not lie to command changes—however wise they may seem—in the manners and customs of the age. Their warnings against fast living, undue indulgence in food and intoxicants and against business habits which induce such nerve tension as must inevitably wreck the organism when it is visited by disease, may go on unheeded. But physicians are in duty bound to explain to every patient ill with grip the weakening effect on the heart muscle which the disease may have. To this is due the great weakness, listlessness and depression characteristic of grip. Sometimes death comes suddenly on comparatively slight exertion or excitement, the immediately causative lesion being a dilated heart. Toxic action on the myocardium, a heightened blood pressure, especially as affecting the right cavities, paralysis of the cardiac plexus—such are the things to be feared in grip; and very much so when the arteries are hard and the kidneys inefficient. When the temperature changes have been marked and prolonged, when there is a weak, rapid, intermittent pulse, dyspnea, cyanosis of lips and finger tips, a gray or dusky skin, epigastric pulsation, pain about the heart, right cardiac dulness and distension of the cervical veins, grave prognosis must be forthcoming.

THE NOBEL PRIZE IN MEDICINE.

The Nobel prize for the present year "for the greatest benefaction to mankind by a discovery in medicine in recent years" was conferred on Alphonse Laveran, the discoverer of the germ of malaria. There are features of Laveran's career which make the story of his discovery worth while telling, for it represents in type about how scientific discoveries are made and received. After graduation in medicine in 1867, Laveran joined the French Army Military Corps, and in 1874, when he was just entering his thirtieth year, he received an appointment as instructor at the Military Hospital of Val-de-Grace in Paris. His teaching proved the best possible rounding up of his scientific education and probably made him realize the limitations of his knowledge. His experience in France had not brought him in contact with malaria, so that, when he went to Algiers, four years later, his mind was free from preconceived notions regarding its cause. Within a year he suspected the cause, within two years he had found it.

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[1] Edinburgh Med. Jour., November, 1907.

The Italians did not accept Laveran's discoveries nor did the medical world in general. A bacillus of malaria had been described by Tommasi-Crudeli and this was generally accepted by Italians as the cause. Even when Laveran made a visit to Italy in order to confirm his Algiers observations and demonstrated there the parasite that he had discovered, it was not accepted. Marchiafava and Celli not only continued to write on malaria and its causation by a bacillus, but when, in 1884, Laveran published his epochal "Treatise on the Malarial Fevers," these Italian observers made their criticism of his position by publishing a paper bearing the title, "The Changes Which Occur in Red Blood Cells as a Consequence of Malaria and the Genesis of Malarial Melanemia." They insisted that there could be no possible doubt that Laveran had been mistaken and had taken certain effects of malaria on the red blood cells for the cause of malaria. It was the old objection to the significance of bacteria and of microbes generally once more revived. When the bacillus of anthrax was discovered, these minute particles which took the stains so deeply were said to be degenerated products, the effects of disease, and not at all the causes of disease. The Italian observers declared that during malaria there was a necrobiosis of the red blood cells as a consequence of which the hemoglobin was changed into melanin, and that of many living red blood cells there remained after the paroxysm only the circulating corpses, in which were the appearances described by Laveran.

Fortunately, however, other observers soon came to confirm Laveran's work. Another French observer, Richard, whose name in connection with malaria is not nearly so well known as it should be, not only confirmed Laveran's discovery, but succeeded in demonstrating that the malarial parasites, which Laveran thought to be outside of the red blood cells, clinging to them, really had their habitat inside these cells. This is probably the most important observation made with regard to malaria after Laveran's own, except, of course, that of the mosquito carrying of the disease: Laveran himself succeeded in demonstrating that just the same form of parasite was to be found in patients suffering from Roman fever as he had discovered in the malaria of Algiers. Within a year after their declaration of the nullity of Laveran's discovery, Italian observers changed their opinion, began to adopt Laveran's way of thinking, and in 1885 initiated a series of brilliant observations, which have greatly contributed to our knowledge of the life history of the malarial parasites. We are, indeed, under deep obligations to the Italian school of medicine in this subject, and if they had only not suggested the unfortunate term plasmodium we would feel still more deeply grateful to them. It has been said that the term plasmodium is perhaps one of the most inappropriate of all the names suggested for the malarial parasite, and yet, in spite of this, having once gained a foothold, it seems likely to maintain itself, as have so many other unsuitable designations in medicine. A plasmodium in scientific language is an irregular mass of protoplasm which undergoes very simple division and contains many nuclei, while the malarial organism has but a single nucleus and passes through a complicated life cycle. Metchnikoff suggested the name *Hemophillum malariæ,* a much better term, but it has never had any vogue.

The significance of Laveran's discovery can scarcely be exaggerated, and the Nobel Committee made no mistake in awarding him this year's prize in medicine.

THE DOMINANT IDEA AS A FACTOR IN PUBLIC HEALTH.

In an article in the *Boston Medical and Surgical Journal,*[1] entitled "A Study of Fifty-one Cases of Debility in Jewish Patients," Mr. H. Morrison calls attention to two remarkable illustrations of what one may call the result of diffused suggestion by world thought. We are accustomed to think of the influence of suggestion only as affecting the individual in an acute stage, so to speak; that is, as the result of some direct exciting cause, acting on him either alone or in company with many others subject at the same time to the influence of the same suggestion ("crowd suggestion"). But there is a far more subtle form of suggestion, which undoubtedly affects the physical and psychical conditions of whole groups of people, that of a common traditional belief. Mr. Morrison's instances referred to are given in his report of an investigation into the environments of a number of Jewish patients from the Massachusetts General Hospital, who were suffering from what, from its frequent occurrence, is known at that institution as "Hebraic debility." First, he points out that "the undercurrent of thought on this subject seems to be that from time immemorial women have been sick; it is a sort of privilege tolerated with them; it is even expected of them." The second observation is: "One often hears of the percentage of people seeking medical advice at hospitals, but one seldom considers that many people seek medical advice because there are hospitals." In Russia, as Mr. Morrison points out, hospitals are rare; so that in her old home the Russian Jewess learns by force of circumstances to disregard many minor ailments, undoubtedly existing, till they become relegated to the subconsciousness, in the presence of "the daily round, the common task;" much as one immersed in study or any engrossing occupation may become oblivious of the demands of hunger. But as the sight or the odor of food will drag forth the hunger into consciousness, so does the presence of means of relief within her reach restore the woman's ailments to a dominant position in her conscious life. There seems to be little doubt as to the potency of the "dominant idea," not only on the individual, in which respect we are usually ready enough to recognize its influence, but on whole communities and races as a result of traditional belief passively accepted.

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[1] Issue of Dec. 19, 1907. Abstracted in this issue, page 72.

CANCER RESEARCH.

The advances made during the past decade in the field of experimental research into the causes of cancer have been so marked and so far reaching that those prosecuting this work have felt for some time that the time had arrived for the formation of an American association for cancer research. Americans now occupy an enviable position in the front rank of cancer research; in fact, the first laboratory exclusively devoted to cancer research is American, and the suggestion for the recent successful international congress held in Heidelberg, was made by an American. The American Society of Cancer Research, a report[1] of whose first meeting, held recently, we publish this week, is the direct outcome of the efforts of American cancer research workers to found such a society. The membership of the society is composed largely of laboratory investigators, but it is the intention of the founders to broaden and expand the scope of the society. Special research work on cancer has been done at a number of places for several years. The State of New York maintains an institute at Buffalo; special workers are investigating this subject at Harvard and Cornell, and individual work is being done at the University of Pennsylvania, the Rockefeller Institute, the St. Louis Skin and Cancer Hospital, and at other similar institutions. It may reasonably be expected that much benefit will be derived from the coöperation which is bound to follow from the correlation of all this work through the agency of this society.

WANTED: AN EPICENE PERSONAL PRONOUN.

The difficulties arising from the lack in English of a personal pronoun common to both genders are suggested by the following paragraph from a work on the practice of medicine by one of our prominent writers, a professor in an old established Philadelphia medical college. Speaking of obesity, he says: "As a rule, the patient is not content with the plan of treatment which does not actually diminish the fat, partly because *he* has delayed consulting a physician until the condition is far beyond what *she* desires" (italics ours). We are not sure, however, that the "she" does not refer to the patient's better half, since we have recently learned that some women are acquiring an exacting standard concerning masculine adiposity.

THE PHYSICIAN'S FEE.

A Missouri court has decided that a physician can not take the patient's ability to pay as the standard on which to base the fee. A German court is said to have given out a similar decision. In another state a state official has been preparing indictments against physicians for adopting a uniform fee bill in a medical society. Between the two it is hard to say just what the physician should do and who should establish the standard of his remuneration. It is hard to see how anybody could better put a value on the physician's services than himself or his colleagues. The state certainly would make a poor job of it through the legislature, even if it has a constitutional right to do so in the case of the physician more than for any other class of workers. If we have reached the point that some of the English physicians think they are coming to, when the physician will be a public official, it would, of course, be all right, but we are not there yet.

Medical News

CALIFORNIA.

Communicable Diseases.—Diphtheria is reported at Alturas and Willows.——Two new cases of smallpox have been discovered in Stockton.

Inspectors Appointed.—The State Board of Health has appointed five inspectors, whose duty it is to inspect the bodies of the dead of the coast and bay cities and counties, where there are suspicions that bubonic plague existed.

Licenses Revoked.—The board of health of Los Angeles, by a vote of 3 to 2, on December 13, revoked the license of the German Drugless Sanitarium in that city; the three medical members of the board voted to revoke the permit and the two lay members are said to have opposed the action.

Fight Against Tuberculosis.—At the annual meeting of the Southern California League for the Prevention of Tuberculosis, held in Riverside, it was voted to change the name of the association to the California Association for the Study and Prevention of Tuberculosis, and to affiliate with the national and international associations. Dr. George H. Kress, Los Angeles, was elected secretary of the association.

Hospital Notes.—The plans of the five hospitals, at an approximate cost of $50,000, were presented to the San Francisco Relief and Red Cross corporation, December 10.——A new site for the Northern California Hospital at Eureka has been purchased for $5,500.——After ten years the Gilroy Private Hospital closed its doors December 31.——The new Siskiyou County Hospital at Yreka is now nearly completed and ready for occupancy.——A fire in Lane Hospital, San Francisco, threatened the destruction of the building and endangered the lives of the patients December 18, but prompt action on the part of the attendants averted a calamity.

Society Meeting.—At the annual meeting of the directors of the San Francisco County Medical Society, held December 17, Dr. Charles G. Levinson was elected president, and Dr. Arthur A. O'Neill, secretary, both of San Francisco.——At the annual meeting of the Santa Clara County Medical Society, held in San José, December 18, the following officers were elected: President, Dr. Peter A. Jordan, San José; vice-presidents, Drs. William S. Van Dalsem, San José; William F. Snow, Stanford University, and William W. Tourtillott, Morgan Hill; secretary, Dr. Kenneth C. Park, San José; treasurer, Dr. John F. Burns, San José, and councilors, Drs. William Simpson, Albert C. A. Jayet and Henry C. Brown, all of San José.

GEORGIA.

New Hospital.—At a joint meeting of the medical college officers and citizens December 12, a movement was inaugurated to give Augusta a modern hospital, at a cost of not less than $50,000. The plan is that a corporation be formed, with a capital stock of $50,000, divided into shares of $25 each. About $10,000 is already in hand for the erection of a children's annex to the hospital.

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[1] Society Proceedings, this issue, page 63.

Personal.—Dr. Henry M. Fullilove, Athens, has been named councilor for the eighth district.——Dr. W. B. Spain, house physician at the Macon Hospital, has resigned on account of ill health.——Dr. William E. Wood has been elected mayor of Dalton.——Dr. James T. Ross has been appointed president of the board of health of Macon.——Dr. John B. Rudolph has been elected mayor of Gainesville.

Elections.—At the annual meeting of the Richmond County Medical Society, held December 11 in Augusta, the following officers were elected: Dr. Eugene E. Murphey, president; Dr. William C. Kellogg, vice-president; Dr. George A. Traylor, secretary (re-elected); Dr. Charles W. Crane, censor, and Drs. Charles J. Montgomery and William A. Mulhern, delegates to the state association, all of Augusta.——The Ware County Medical Society held its annual meeting at Waycross, December 5. Dr. Robert P. Izlar, Waycross, was elected president; Dr. James C. Rippard, Waycross, vice-president; Dr. A. Fleming, Astoria, secretary-treasurer, and Dr. John L. Walker, Waycross, censor.——At the annual meeting of Chatham County Medical Society, held in Savannah, December 11, the following officers were elected: Dr. Thomas J. Charlton, president (re-elected); Dr. Joseph G. Jarrell, vice-president; Dr. J. M. Sigman, secretary; Dr. Marion R. Thomas, treasurer; Drs. John L. Farmer, Marion X. Corbin and Matthew F. Dunn, censors; and Drs. Thomas P. Waring and George R. White, delegates to the state association.——At the annual meeting of Muscogee County Medical Society, held in Columbus, December 5, Dr. Benjamin W. Allen was elected president; Dr. William T. Gautier, vice-president; Dr. Martin Crook, secretary; Dr. Thomas E. Mitchell, treasurer; Dr. Henry S. Munroe, censor, and Dr. Charles A. Dexter, delegate to the state association, all of Columbus.

ILLINOIS.

Communicable Diseases.—It is estimated that there are 50 cases of smallpox at Ridott, 20 miles west of Rockford.——At Havana there are said to be 35 cases of smallpox, almost all of mild type.——Diphtheria is said to be prevalent at Greer College, Hoopeston.

A Valuable and Accessible Library in Jacksonville.—The annual report of Dr. Carl E. Black, librarian of Morgan County Medical Society, shows what a valuable array of indexed literature is at the disposal of the members of this society. The library contains 1,729 volumes, well indexed, and the current medical literature consists of an excellent selection of representative medical publications, the contents of which have been systematically indexed by the Dewey system, making the subjects immediately accessible to any physician who wishes to look up a certain subject. The society is to be congratulated on its excellent facilities.

Chicago.

Death of Dr. Senn.—Dr. Nicholas Senn, who has been critically ill for some weeks, died at 1:25 p. m., Thursday, January 2. An extended notice will appear next week.

Physician Exonerated.—Dr. William A. Bennett, charged with the performance of an illegal operation which caused the death of a young colored woman, has been exonerated by the verdict of a coroner's jury.

Fire in College.—Fire in the Senn Memorial Building of Rush Medical College, December 24, caused great alarm in the hospitals near by. The fire was caused by the explosion of a gas meter, and was extinguished with little damage.

To Protect Workingmen.—The health commissioner is formulating plans for decreasing the mortality among the members of various trades, from so-called trade diseases, by the systematic dissemination of information regarding the causation and prevention of these diseases.

Hospital Association Formed.—The Chicago Hospital Association was organized December 21 at the Presbyterian Hospital, its membership being restricted to hospital superintendents. Asa Bacon, superintendent of the Presbyterian Hospital, was elected president; Charles T. Garrard, Chicago Eye and Ear Infirmary, vice-president; Anna L. Davis, Frances Willard Hospital, secretary, and Dr. Lawrence Ryan, St. Anthony of Padua Hospital, treasurer.

INDIANA.

Epileptic Village Nears Completion.—It is expected that the two cottages of the State Epileptic Village, north of New Castle, will be ready to receive patients January 1. The village now has 11 inmates.

Hospital News.—The Delaware County Hospital Association, Muncie, has purchased a site in that city and will at once proceed to equip a 30-room hospital.——The contract has been let for a new wing to St. Anthony's Hospital, Terre Haute, to cost $70,000; the addition will be four stories in height and 46x118 feet.

Communicable Diseases.—South West reports 4 new cases of smallpox; Elwood, 30; Alexandria, 10, and 21 are reported in the surrounding townships.——Diphtheria is reported from Evansville, and the Greenbriar school near Richmond.——Oswego is said to have an epidemic of measles which has caused the closure of the schools.

Personal.—Dr. Fred C. Dilley has been appointed health officer of Brazil, vice Dr. Samuel G. Hollingsworth, resigned.——Dr. Thomas B. Eastman, Indianapolis, severed an artery in the wrist by a glass wound in an Interurban wreck near Crawfordsville, recently.——Dr. Charles L. Armington, Anderson, was presented with a gold-headed cane in appreciation of his address at the annual memorial exercises of the Alexandria lodge of Elks, December 1.——Dr. Pierre G. Fermier, Leesburg, is reported to be seriously ill.——Dr. Harry H. Long has been appointed secretary of the La Porte County board of health.——Dr. F. C. Lamar has been appointed secretary of the board of health of Hagerstown, vice Dr. Eli H. Thurston, resigned.

November Diseases and Deaths.—During November the most prevalent diseases were bronchitis, tonsillitis and typhoid fever. Rheumatism and influenza were reported from every county; pneumonia and typhoid fever were less prevalent; diphtheria in mild form was reported epidemic in many localities, and during the month 31 schools were closed on this account. Smallpox was reported from 19 counties, but with no deaths, and in almost every case of mild type. An epidemic of diphtheria existed at Plainfield. The total number of deaths during the month was 2,543, equivalent to an annual mortality rate of 11.5 per 1,000, while during November, 1906, the rate was 13.3 per 1,000. The death causes were as follows: Consumption, 292; pneumonia, 245; violence, 175; cancer, 117; typhoid fever, 76; diarrheal diseases, 43; diphtheria, 36; puerperal fever, 14; influenza, 13; scarlet fever, 7; cerebrospinal meningitis, 9, and measles and whooping cough, each 3.

KENTUCKY.

Louisville Personal.—Dr. Granville S. Hanes, Louisville, has returned from Europe.——Dr. Ben C. Frazier has been ill with an infected wound of the foot.——Dr. Thomas H. Baker has resigned from the tuberculosis board of Louisville.

Register of Tuberculous Patients.—The Kentucky Antituberculosis Association expects, in the next few months, through the efforts of the county health officers and the state medical society, to have every case of tuberculosis in the state registered, and to provide thorough fumigation for every apartment occupied by such patients.

MARYLAND.

Personal.—Dr. James H. Billingslea, Westminster, has been elected president of the Maryland State Turnpike Association.——Dr. Richard P. Strong, director of the United States Biologic Laboratory, Manila, is spending some time in Baltimore.

Diseases and Deaths.—The statistics of the Baltimore board of health for the week ended December 28 show the influence of the unseasonable, warm and damp weather, and also note an epidemic of influenza in the city and over a large part of the state. There were 38 deaths from pneumonia; 8 deaths directly due to influenza; 4 to bronchitis, and 8 to typhoid fever. Scarlet fever is reported to be prevalent throughout Baltimore.

Novel Use of Transfers.—The backs of street-car transfers used in Baltimore during February and those used on Sundays during March will contain the following warning against tuberculosis:

> Consumption can be cured if taken in time. Do not neglect a cold, or such premonitory symptoms as slight cough, fever and loss of weight, but consult a good physician at once.
>
> Consumption is contracted through the spit of consumptives.
>
> Friends of Consumption—Dampness, dirt, darkness, drink.
>
> Enemies of Consumption—Sunshine, cleanliness, fresh air, nourishing food.
>
> An ounce of prevention is worth a pound of cure. Whether you have tuberculosis or not, do not endanger the health of your family and friends by careless spitting.

MASSACHUSETTS.

Communicable Diseases.—The first case of smallpox in Boston for a long time was reported, December 18, in a patient who had come from St. John, N. B., a few days before.——A large number of cases of diphtheria and scarlet fever is reported in Springfield.——An epidemic of influenza is reported to be raging in Smith College, Northampton, and Wellesley College.——Influenza is reported to be spreading rapidly in Boston.

Hospital News.—Mrs. Caroline A. Dring, Fall River, has donated $10.000 to the Union Hospital, $5,000 to be used for construction purposes, $2,500 for medical books, and the balance for a tablet, furniture and book plates.——By the will of the late M. A. Fenton, $5.000 is devised to the Lynn Hospital.——The Massachusetts State Commission on Hospitals for Consumptives is actively engaged in locating and planning the three hospitals provided for in the act.——The Common Council of Boston has appropriated $17.000 for the erection of buildings for the consumptive hospital at Mattapan.

Pharmacists Entertain Physicians.—The New England Branch of the American Pharmaceutical Association celebrated its second anniversary by entertaining fifty physicians in its jurisdiction at the Hotel Vendome, Boston, December 5. The proceedings of the evening dealt chiefly with the value of pharmacopeial as opposed to proprietary preparations, and the consensus of opinion was in favor of preparations named in the U. S. Pharmacopeia and National Formulary, and bore out in full the analyses and results obtained by the Council on Pharmacy and Chemistry of the American Medical Association.

Personal.—Dr. Theobald Smith, Boston, had conferred on him the degree of LL.D. at the recent convocation of the Chicago University.——Dr. Nebuther Holden, Southampton, has moved to Everett.——Dr. Felix D. Fontaine, Worcester, was given a banquet, in honor of his seventy-fifth birthday, December 14.——Dr. Frank D. Stafford has been elected mayor of North Adams.——Drs. Irving Packard and Edwin Drowne of the house staff of the Relief Hospital, Boston, are ill with influenza.——Dr. John O'Shea, house physician of the City Hospital, Boston, who has been seriously ill, is said to be recovering.

MICHIGAN.

Hospital Notes.—The Cadillac Hospital, given by Mr. and Mrs. D. F. Diggins to the city, is almost complete and will be formally opened next week. The Sisters of Mercy of Big Rapids will be in charge of the institution.——The Woman's Hospital at Pontiac has already $8.000 in hand, and the work of building the hospital will begin early in the spring.

Personal.—Dr. Charles F. Smith, Whitehall, and not Dr. Anson A. Smith, Muskegon, as erroneously announced, was elected alternate delegate to the state society from the Muskegon-Oceana County Medical Society.——Dr. Edward D. Kremers, Holland, has been elected secretary of the Anti-Tuberculosis Society recently organized by the Ottawa County Medical Society.——Dr. F. G. W. Fosdick has succeeded Dr. Henry C. Maynard, resigned, as health officer of Hartford.

Communicable Diseases.—About 60 cases of smallpox are reported from Manistee.——Springport reports 30 cases of smallpox.——East Lake has 11 cases of smallpox.——About 14 cases of smallpox are reported in Saginaw.——During the first 20 days of December 124 cases of smallpox were reported in the state from about forty localities.——Scarlet fever is reported from Oakwood.——The Michigan Military Academy, Orchard Lake, has been closed on account of the prevalence of diphtheria.

Seasonable Prevalence of Communicable Diseases.—The State Department of Health has issued a leaflet on preventable diseases showing their seasonable prevalence. Pneumonia was most prevalent in January, February and March; tuberculosis in March, April and May; typhoid fever in August, September and October; diphtheria in October, November, December and January; meningitis in March, April and May; whooping cough in June, December and January; scarlet fever in November, December and January; measles in February, March, April, May and June, and smallpox in January, February, March, April, May and December.

MINNESOTA.

Free Vaccine Virus.—On and after January 1 the State Board of Health will manufacture and distribute vaccine virus free to health officers throughout the state.

Hospital News.—A new detention hospital for the insane is to be erected on the grounds of the State Hospital, Fergus Falls, at a cost of $65.000, and a contagious ward is to be constructed at a cost of $10.000.——The St. Paul German Hospital has been incorporated by Rev. David Lebahn, Herman Hanstein and Herman A. Drechsler.

Personal.—Dr. and Mrs. Leonard F. Schmauss, Mankato, sailed from Bremen on their return December 28.——The house of Dr. Charles G. Weston, Minneapolis, was destroyed by fire recently.——Dr. Henry O. Schaleben, Thief River Falls, has gone to Iliamna, Alaska.——Dr. Willis H. Pratt has resigned as city physician of Stillwater and has been succeeded by Dr. James H. Haines.

Communicable Diseases.—An epidemic of diphtheria is reported at Big Falls. Schools have been ordered closed and public gatherings for the time being are prohibited.——Smallpox continues to be prevalent at Two Harbors.——Since August 20, 284 cases of smallpox have been reported in the state. There are now 24 smallpox patients in the Quarantine Hospital, Minneapolis.——Hibbing now has 14 cases of smallpox.——Nearly 20 cases of smallpox are reported in the vicinity of Freeport.——The schools of Farmington have been closed on account of scarlet fever.——Scarlet fever is reported to be epidemic near Wolverton.——Diphtheria is said to be spreading rapidly in and around St. Cloud.

MONTANA.

Found Guilty.—In the case of the Silver Bow County Medical Association versus Dr. Ferdinand Gattan, Butte, charged with unprofessional conduct and violating the ethics of the medical profession by advertising in the newspapers, the defendant was found guilty by a jury of physicians, and the recommendation was made that his license be revoked, thus confirming the decision of the State Medical Board in the case a few months ago.——Dr. Isadore D. Freund, Butte, is said to have been found guilty of not reporting a case of diphtheria, and to have been fined $25.00.

Communicable Diseases.—During October, 255 cases of typhoid fever, 165 cases of diphtheria, 31 cases of scarlet fever, 13 cases of smallpox, and 9 cases of measles were reported in the state.——A child of 6, on a Northern Pacific passenger train, was found ill with smallpox at Livingston; the passengers in the car were quarantined, and the car was sidetracked.——Smallpox is reported to have broken out on the Crow Indian Reservation, where five cases have appeared.——Scarlet fever is reported to be spreading rapidly in Great Falls.

Personal.—Dr. Laura Keisker, Butte, Secretary of the Silver Bow Medical Association, has been appointed expert and special agent to investigate the labor conditions among the women and children in the Middle West and Atlantic States, with headquarters at Washington, D. C.——Dr. Charles K. Vidal, Belt, has been appointed physician of Cascade County.——Dr. Robert P. R. Gordon, Great Falls, who was operated on in Rochester, Minn., October 23, has returned.——Dr. Edgar F. Dodds, Missoula, is reported to be ill with diphtheria, at the home of his mother, in Macon, Ill.——Dr. Louis Bernheim, Butte, has been acquitted of the charge of criminal assault, preferred by the mother of one of his patients. Dr. Bernheim has been seriously ill with angina pectoris.

NEW HAMPSHIRE.

Communicable Diseases.—There are said to be about 20 cases of diphtheria in Nashua.——The increase in diphtheria in Peterboro has compelled the Board of Health to order the closure of all schools and to prohibit church and social gatherings.——On account of the prevalence of diphtheria, the Lincoln Street and Straw schools, Manchester, have been ordered closed.

Personal.—Dr. August Guertin, Nashua, has been appointed assistant surgeon in the First Regiment, N. H. N. G., with rank of captain. Dr. Norman B. Webber, Manchester, has been commissioned major and surgeon. Dr. Richard H. Dillon, Manchester, major and surgeon, and Dr. Zenon Lavoie, Manchester, captain and assistant surgeon, have resigned.——Charles P. Health, a senior medical student, was drowned in Big Diamond Pond, near Colebrook, November 29, while hunting.

County Society Meetings.—At the annual meeting of the Rockingham County Medical Society, held in Portsmouth, Dr. John J. Berry, Portsmouth, was elected president; Dr. Abram W. Mitchell, Epping, vice-president; Dr. Walker Tuttle, Exeter, secretary; Dr. Alice M. Chesley, Exeter, treasurer, and Dr. William H. Nute, Exeter, censor.——At the annual meeting of the Grafton County Medical Society, held in Woodsville, December 10, Dr. George W. McGregor, Littleton, was elected president; Dr. George W. Hazelton, Haverhill, vice-president; Dr. George A. Weaver, Warren, secretary-treasurer; Dr. Edgar O. Crossman, Lisbon, delegate to the state medical society, and Dr. Milton S. Woodman, West Lebanon, alternate.

NEW YORK.

Rabies in Rochester.—The entire county of Monroe has been quarantined because of the positive proof that this disease was in Rochester and surrounding towns. This rigid quarantine has been considered necessary because so many dogs at large have bitten live stock, killed chickens, etc.

Crusade Against Tuberculosis.—State Health Commissioner Porter has been promised the assistance of Governor Hughes to secure from the legislature at its coming meeting, an appropriation of $50,000, to fight tuberculosis in the state. The commission includes among its members the following: Drs. Willis G. MacDonald, Albany; Edward B. Baldwin, Saranac Lake; Thomas Darlington, health commissioner of the city of New York; George W. Coler, Rochester; Alfred Meyer, New York City; Veranus M. Moore, Ithaca; John H. Pryor, Buffalo; William H. Watson, Utica, and Livingston Ferrand, secretary National Congress on Tuberculosis, New York City, and Homer Folks, New York City.

New York City.

The Harvey Society Lecture.—Prof. Ernest H. Starling of the University of London will give a lecture on January 11, in the New York Academy of Medicine, on "The Chemical Control of the Body."

Andrews Resigns.—After serving the Medical Society of the County of New York for seven years, its counsel, Champe S. Andrews, has resigned. His resignation has been accepted with general regret. He has been prominent in all the fights against clandestine or unlicensed practitioners and healers, so-called.

Epidemic of Heart Disease.—The health department finds that in this city the people live too fast, worry too much, require more exercise; as a result, for the first eleven months of the year 1907 there have been just 1,246 more deaths from heart disease than last year. There is no doubt but that the epidemic of influenza now prevailing has much to do with this increase in the mortality rate from cardiac disease.

Vaccinating After Midnight.—More than 20,000 lodging-house habitués were vaccinated before daylight by the physicians connected with the health department during the week ended December 28. Each of the doctors, accompanied by a policeman, was assigned to a lodging house; each of the lodgers was compelled to come downstairs and roll up his sleeves. The fire escapes were well guarded to prevent the escape of those not willing to be vaccinated.

New York Herter Lectures by Professor Starling.—Ernest H. Starling, professor of physiology in the University of London, will give the Herter Lectures of the year on the subject "The Fluids of the Body," beginning January 6 at 4 p. m. and continuing at the same hour throughout the week at the Carnegie Laboratory of the University and Bellevue Hospital Medical College, 338 East Twenty-sixth Street. All interested are invited.

Hebrew Charities Federated.—A meeting was held in Mount Sinai Hospital on December 14 at which ten of the great Hebrew charitable and philanthropic organizations of the city federated under the name of "the Council of Jewish Communal Institutions." The purposes of this federation are many. It is to consider purely local problems affecting Jewish eleemosynary institutions and to aid in their solution. It is to coordinate the work now done independently in the various institutions and is to work out an economical system of buying by cooperation. This new council supersedes the Federation of Organized Charities which was started about a year ago as a sort of clearing-house for charities.

PENNSYLVANIA.

Physicians Combine Against Common Evil.—The physicians of Altoona, representing the different schools of medicine, have combined with the view to prosecute and drive out a number of quacks and charlatans who have been practicing in that city.

Typhoid in Pittsburg.—With the pumping of the first filtered water from the new filtration plant in this city, December 21, Dr. James F. Edwards, superintendent of the bureau of water, made a recapitulation of what he calls "Pittsburg's thirty-year epidemic of typhoid." Since 1878 50,200 people have been stricken with typhoid fever in Pittsburg and 7,615 have died. Last year there were 5,729 cases and 608 deaths. His report further shows that one person out of every 36 had typhoid fever during the year, and that one out of every 10 who were stricken, died.

Officers Elected.—At the annual meeting of the Somerset County Medical Society the following officers were elected: President, Dr. Charles P. Large, Meyersdale; vice-president, Dr. William P. Shaw, Berlin; secretary and reporter, Dr. Henry C. McKinley, Meyersdale; treasurer, Dr. Walter S. Mountain, Confluence, and financial secretary, Dr. Bruce Lichty, Meyersdale.——At the annual meeting of the Washington County Medical Society the following officers were elected: President, Dr. Thomas D. M. Wilson, Washington; vice-president, Dr. Robert E. Conner, Hickory; secretary, Dr. John B. Donaldson, Canonsburg, and treasurer, Dr. Robert E. Thompson, Washington.

Vital Statistics.—The report of the State Department of Health, which will be issued in a short time, will show that 123,132 deaths occurred in this state during 1906. Of this number 8,679 were stillbirths. The death rate per 1,000 of population was 16.5. On a division of population into urban and rural on the basis adopted by the United States Census Bureau, namely, the classification of all boroughs under 8,000 population together with townships as rural, the urban rate was 18.1 and the rural 15.1 per 1,000. The greatest number of deaths occurred in August and the lowest in June, while the spring months furnished the lowest quarterly rate. Of the total deaths 62,642 were males and 51,793 were females, giving a death rate per 1,000 of 17.8 for males and 15.2 for females. Of all deaths 34 per cent. were of children under 5 years of age and 24.3 per cent. children less than one year old. The death rate per 1,000 of the native population was 14.5; of native males 15.4, and of native females 13.4. The death rate per 1,000 of foreign-born population was 21.2; of foreign males, 22.8, and of foreign females, 19.3. The death rate per 1,000 of whites was 16.2 and of blacks, 27.5.

Philadelphia.

Personal.—Dr. Samuel G. Dixon was elected president of the Academy of Natural Sciences December 17, and Dr. Thomas H. Fenton was at the same time made a curator.

Bequests.—The will of the late George Hirschfeld bequeaths $1,000 each to the Jewish Hospital and the Jewish Foster Home, and $100 to the Jewish Maternity Hospital.

Hospital Elections.—At the annual meeting of the corporators of the Rush Hospital for consumption and allied diseases, December 15, Dr. T. Mellor Tyson was elected secretary, and Drs. James Tyson and Edward Kerr were elected members of the board of management.

Lister Club Organized.—The Lister Club has been formed with 20 charter members, by a number of men interested in abdominal surgery, gynecology and obstetrics. The club is to be both scientific and social in character. It will hold three meetings a year, and at each meeting a scientific program is to be given, and a supper will be served. The scientific work is to be conducted along practical lines and presented in an informal manner.

New Municipal Hospital.—Plans for the additional buildings that will be required for the new Municipal Hospital have been completed. There is available for this purpose $250,000, and this sum will be used for the erection of the administration building and the smallpox pavilion. It is hoped to have the institution ready for the reception of patients by the autumn of 1908.——A contract has been awarded for interior alterations and additions to the Philadelphia General Hospital and the cost of the work will be $11,000.

Jefferson Hospital Changes.—By the appointment of an additional committee, the trustees of the Jefferson Hospital intend to enlist the aid of women in the general administration of the new institution, as well as in the care of the maternity department. It is the intention to appoint a visiting committee of 50 women, which will include sub-committees on college, maternity and hospital work. The Maternity Hospital, formerly conducted as a separate institution, will hereafter be combined with the Jefferson Medical College Hospital proper.

Health Report.—The total number of deaths reported for the week ended December 21 was 499, a decrease of 69 from those reported in the previous week and a decrease of 27 from the number reported in the corresponding week of 1906. The principal causes of death were: Typhoid fever, 17; diphtheria, 10; influenza, 7; consumption, 50; cancer, 20; apoplexy, 27; paralysis, 5; heart disease, 47; acute respiratory diseases, 86; enteritis, 20; cirrhosis of the liver, 8; acute nephritis, 5; Bright's disease, 34; congenital debility, 10; old age, 10; suicide, 4; accidents, 7, and marasmus, 5. There were 231 cases of contagious diseases reported, with 20 deaths, as compared with 219 cases and 27 deaths reported in the preceding week.

TENNESSEE.

Hospital Notes.—The Woman's Hospital, Nashville, is to be enlarged by building a wing to contain 50 rooms, which will be larger than the present building.——Dr. William L. Nolen has opened a private hospital in Chattanooga.

Dr. Krauss and the Combs Chemical Company.—Some weeks ago Dr. Wiliam Krauss, Memphis, Tenn., wrote to certain medical journals that were carrying the advertisement of the Combs Chemical Company, calling attention to this concern and its relation to Charles B. James, formerly of the Memphis Keeley Institute (now defunct), the James Alkaloidal Company, etc. The editor of one of the medical journals written to turned Dr. Krauss' letter over to the Combs Chemical Company, and the latter applied for an injunction to restrain Dr. Krauss from writing more letters derogatory to it. When the matter came up for trial the injunction was dissolved.

Personal.—Dr. Charles M. Drake has been elected assistant chief of the staff of the Knoxville General Hospital; Dr. J. B. Johnson, visiting obstetrician; Dr. John M. Kennedy, visiting pediatrician; Dr. Albert G. Kern, visiting surgeon, and Dr. John F. Massey, visiting physician.——Dr. Jack S. Dye, Chattanooga, has been appointed local surgeon of the Chicago New Orleans & Texac Pacific, and Alabama Great Southern railways, the Belt Line and the Chattanooga Railways Company.——Dr. J. L. Kelly, interne at the City Hospital, Memphis, is reported to be seriously ill with septicemia.——Dr. E. A. Reed, Knoxville, is said to have been fined $50 by the recorder on the charge of illegal sale of cocain.

GENERAL.

Southern Surgical Meeting.—At the twentieth annual meeting of the Southern Surgical and Gynecological Association, held in New Orleans, Dec. 17-19, 1907, the following officers were elected: President, Dr. F. W. Parham, New Orleans; vice-presidents, Drs. Willis F. Westmoreland, Atlanta, Ga., and Henry D. Fry, Washington, D. C.; treasurer, Dr. Stuart McGuire, Richmond, Va.; secretary, Dr. William D. Haggard, Nashville, Tenn. St. Louis was selected as the place for holding the next annual meeting in 1908. A report of the scientific proceedings will be commenced in the next issue of The Journal.

Tuberculosis Society to Meet.—The fourth annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held in Chicago, June 5 and 6, 1908. The organization of the sections has been arranged as follows:

Sociological Section—Mr. Ernest P. Bicknell, Chicago, chairman; Mr. Alexander M. Wilson, Chicago, secretary.

Clinical and Climatological Section — Dr. Henry Sewall, Denver, chairman; Dr. H. W. Hoagland, Colorado Springs, secretary.

Pathological and Bacteriological Section—Dr. L. Hektoen, Chicago, chairman.

Surgical Section—Dr. A. E. Halstead, Chicago, secretary.

Section of Tuberculosis in Children—Dr. William F. Cheney, San Francisco, chairman.

FOREIGN.

Academic Prize for Woman Medical Student.—The University of Heidelberg recently conferred the Moos prize on Maria Kobele, a medical student from Baden. The prize amounted to $225. It is stated to be the first time in Germany that an academic prize has been conferred on a female medical student.

Memorial to Brehmer.—The twenty-ninth German Balneologic Congress is to convene at Breslau, March 5. The general secretary of the congress is Dr. Brock, Berlin, N.W., Thomasiusstrasse 24. A memorial to Herman Brehmer, the inaugurator of sanatorium treatment of tuberculosis, is to be unveiled during the assembly.

Charlatans Sentenced in Germany.—One recent issue of a German exchange reports four cases in which charlatans were condemned to three, thirteen or eighteen months' imprisonment, with or without fines of $50, for injuries resulting from their practices. The suits were brought at Leipzig, Hamburg, Strasburg and Essen. At Wiesbaden two persons were fined $10 and $100 for calumniating a physician.

Abuse of Cocain as Extenuating Circumstance.—A German exchange states that a teacher involved in a criminal suit appealed for milder judgment on account of his addiction to cocain. He presented evidence to show that he had purchased $50 worth of cocain in the course of three or four months, and for several years had bought large amounts. Our exchange comments that it seems inconceivable that a layman could purchase such large quantities of such a dangerous poison merely from the drug stores.

Plague in China and Japan.—Consul-General Fowler reports the existence of bubonic plague at Tengchowfu, near Chefoo, and that information from Chefoo states that in the city of Tengchow bubonic plague was prevalent November 5, three or four persons in one family often dying within a few days of one another. The area of the infected portion of the city is constantly enlarging. Reports indicate that there have already been from 80 to 100 deaths. Sick, dying and dead are often transported to the country, and it is reported that the disease has broken out in several places in two or three counties. A further report, dated November 14, adds that in one shop a brick bed was torn out and three or four dead rats were found. The mason and one of the employés in the shop were taken ill almost at once and died within a day or two. Another man was also taken ill.——Passed Assistant-Surgeon Cumming reports from Yokohama that plague continues severe at Osaka and the whole city is said to be infected. A severe and fatal epidemic of plague is reported from the Goto Islands in Nagasaki ken, about 60 miles from the city.

Professional Secrecy and Knowledge of Crime.—At the meeting of the Berlin Medical Society October 30, one of the members reported a case of remarkable injury of the uterus during efforts at auto-abortion. After describing the details, he stated that the patient in question was waiting, heavily veiled, in the anteroom and was willing to allow the members to examine her. The president of the society interrupted the speaker with the remark that he had hitherto supposed that only an anatomic preparation was to be presented, and that he could not permit a person who had been guilty of a crime to be presented at a public meeting, as this might entail judicial consequences. This statement of the president was received with unanimous applause by the members present, and the speaker was not allowed to conclude his report. It was published in full, however, in the society proceedings. Kohn discusses the subject in the *Berl. klin. Wochschr.*, December 2, stating that the legal status of professional secrecy is still undetermined, citing Rubinstein's denunciation of a murderer, although the murderer had become known to him only by his applying for treatment of a wound received during the assault. He also refers to the case in which a Berlin physician warned the mother of a recently vaccinated child against a niece living with her whom he was treating for syphilis at the time. The Court of Appeals acquitted the physician after sentence by a lower court in the suit brought by the syphilitic. The judge in this case approved the physician's realization of a moral obligation. Professional secrecy and its violation are consequently matters left to the discretion of the physician, but in case he conflicts with the established rulings he must realize the possible dangers of such a course.

LONDON LETTER.

(From Our Regular Correspondent.)

London, Dec. 14, 1907.

Anuual Report of British Army at Home and Abroad for 1906.

The director general of the British Army Medical Department, in his report, states that the admissions to hospital have fallen steadily during the past sixteen years, from nearly 1,060 per 1,000 of strength to fewer than 600. To a certain extent this has been due to the introduction of the system of treating a considerable number of cases as outpatients, but the fall began some years before the introduction of this system. All diseases have shared in the general reduction. "It is probable," Sir Alfred Keogh states, "that one great cause of this is the increase of temperance in the army during recent years, but the greater proportion of the improvement may fairly be attributed to improved sanitation, both as regards the housing and clothing of troops, and also as regards increased knowledge of how to combat disease, not only on the part of the medical department of the army, but that of the army in general." The report points out that taking all diseases the United States heads the list with the enormous admission rate of 1,250 per 1,000.; the French, German and Austrian armies are all above 600; the British army serving in the United Kingdom comes fifth, and lowest of all is the Russian army, with 324 admissions per 1,000. As regards death rates, the American Army leads with a ratio of 6.14 per 1,000; the British and French armies come next with a figure about half of America's, while the German army is the lowest of all. These figures are, however, subject to certain explanations and reservations which are sent out. South Africa takes the first place for healthiness of all foreign groups, and India is the highest, both in death rate and constant inefficiency due to sickness.

Fog Dispersal.

The London County Council, according to the *Journal of the Royal Institute of Public Health* for December, has under consideration an apparatus for the dispersal of fog, invented by Signor D. Maggiora, which consists of strong steel cannons 60 feet high and 6 feet in diameter, which are used for the explosion of acetylene gas. Sir Oliver Lodge has attacked the problem by high tension discharges of electricity, and had an installation at work at the University College, Liverpool, which cleared away fog for a radius of 100 yards from the point of discharge. Since this time experiments have been made by using a rectifier invented by Mr. Cooper Hewitt, who, if we mistake not, is an American, and an arrangement has been fixed at the University College buildings in Birmingham and connected with the ordinary 200-volt continuous current mains of the Birmingham corporation. This current is passed through a Caldwell break and then to the preliminary terminals of the coil, being connected to a battery of the rectifiers, from which is derived a continuous current, at from 200,000 to 500,000 volts.

Notification of Births Acts in Great Britain.

As mentioned in The Journal a few weeks ago, a new act has been framed for adoption in Great Britain, whereby the birth of children must be reported within thirty-six hours from birth. The onus of performing this duty is first thrown on the parents, and failing these, on the medical man in attendance. No pay is attached to this responsible service, and medical men are protesting in all parts of the country against the enforcement of such a law. In fact, it has been repudiated in Manchester, and at a recent meeting of the corporation of Dublin the question has been postponed for one year.

Prevalence of Scarlet Fever in London.

Scarlet fever has been remarkably prevalent in the metropolitan area during the past few months. It is proposed that an enquiry into the matter should be instituted by the Local Government Board, as compulsory notification and the provision of isolation hospitals at a large cost to the public have not been followed by any conspicuously good effects. Although the modern policy of isolation does not seem to have decreased the prevalence of the disease, the mortality rate has shown a most gratifying improvement; the death rate in 1906 was only 2.9 per 1,000.

Anesthetics at Guy's Hospital.

At Guy's Hospital, London, there have occurred during the past few years a somewhat remarkable number of fatalities from the employment of anesthetics. In the course of the last six and a half years, there have been no less than thirty-eight deaths from that cause or an average of almost six patients a year. On the face of it this looks an alarming death roll, but when the fact is taken into consideration that nearly 18,000 persons are anesthetized yearly at Guy's Hospital, these feelings of surprise are somewhat modified. However, it is recognized that this death rate should be decreased, and a large committee has the question under consideration.

Dr. Haffkine and the Prevention of Plague.

Dr. Haffkine, who has done such valuable work in the investigation of plague in India and in the introduction of a prophylactic, has been under a cloud since the lamentable catastrophe in the Punjab in which nineteen persons contracted fatal tetanus after the inoculation from one of the bottles of his prophylactic. It appears clear (The Journal, March 2, 1907, p. 811) that the accident was not due to anything wrong in the prophylactic, but to opening the bottle with a forceps which had been dropped on the ground and which was not sterilized before use. Dr. Haffkine has been supported in his unmerited disfavor with the authorities by all the prominent scientists of Great Britain interested in the plague question, and the government has at last yielded to the pressure and reemployed him on honorable terms. In an important address delivered to the Epidemiological Society on the "Present Methods of Combating Plague," he described the present position of inoculation as follows: 1. Natives of India are more susceptible to plague than Africans, Europeans and some other races, but the inoculation treatment reduces the liability to attack to less than one-third of that in non-inoculated. 2. In one-third of the cases which occur in the inoculated the recovery rate is at least double that in the non-inoculated, the ultimate result being a reduction in the plague mortality by about 85 per cent. 3. All the cases of plague in inoculated Europeans have ended in recovery. 4. Inoculation is applicable to persons already infected and incubating the plague and prevents the appearance of symptoms, or else mitigates the attack. 5. In natives of India the degree of immunity conferred by inoculation, though it gradually diminishes, lasts during several outbreaks of the plague. 6. In Europeans the effect has not yet been seen to disappear since its introduction in 1897.

Twins Die at the Same Moment.

The greater similarity between twins than among ordinary brothers and sisters, and their consequent liability to be affected by disease in the same way has long been noted, but it has seldom been illustrated in such a marked manner as the following: In the London borough of Stoke Newington, male twins, aged eighteen months, died at the same moment from bronchopneumonia. An inquest was held and the attending physician stated that in his forty years' experience he had never met a similar case. The coroner also pronounced the case the most curious he had ever encountered. In the middle ages it was thought that the same fate would happen to twins all through life and that when one was ill the other became ill, but he said that he never knew of a case in which the death of each occurred at the same moment.

Miss Florence Nightingale Honored by Two Sovereigns.

King Edward has bestowed the Order of Merit on Miss Florence Nightingale. The recipients of this order, which was instituted by him as a recognition of distinguished services to art or science, number only twenty, and Miss Nightingale is the only woman on whom it has been conferred. Her name has long been a household word throughout the world in consequence of her work in nursing the wounded in the Crimean war—an absolutely new departure, for no woman had ever taken part previously in army nursing. She volunteered to superintend the nursing arrangements and her services were accepted by the government. The so-called hospitals in the Crimea were only huge barracks and lacked almost everything that a hospital should contain. In those terrible days Miss Nightingale was known to stand for twenty-four hours receiving fresh arrivals of wounded, directing her nurses, apportioning quarters, and dealing out supplies. The hospital commissariat broke down. She started a laundry and a kitchen, cleansed the hospital of filth, and introduced some organization. She next traveled on a tour of inspection of the other hospitals and did not leave the country until the conclusion of peace. On her return she was the heroine of the hour. Poems were written in her honor. She founded the Nightingale School for Nurses at St. Thomas' Hospital with the funds subscribed as a national testimonial to her on returning from the war. She was thus the pioneer of scientific nursing in Great Britain. She is now 88 years of age, and has not left her house for twelve years. She lives in seclusion and sees only near relatives, friends, and a chosen few from the nursing world. Her face is beautiful in old age, with softly rounded cheeks, almost devoid of the lines of time. The German Emperor, who is now in London, also paid tribute to Miss Nightingale by sending her flowers.

Crusade Against Nostrums in Great Britain.

Without the slightest doubt, a vigorous campaign is to be waged against quackery in general and nostrums in particular in Great Britain. The *British Medical Journal* has taken up the matter with enthusiasm and is using every legitimate means to show the medical profession and the public the folly and even the danger of encouraging the vendors of cure-alls. The *Lancet*, too, has pursued the same line, but more soberly as befits a paper which is an epitome of British conservatism. The *Pharmaceutical Journal*, the organ of the British druggists, is of all the journals, the most strenuous in the crusade against the manner in which the proprietary medicine trade is now conducted, for those in control clearly perceive what some of the other druggist journals do not or will not recognize, that the license given to the proprietors of secret remedies is doing an infinite amount of harm to druggists, in fact, it is becoming evident that a large number of druggists are under the thumbs of these capitalists. Of course it will be a difficult, perhaps, impossible task to make the general public realize that the majority of the widely-advertised nostrums are either useless or dangerous. There is no truer saying than that the ordinary individual likes to be humbugged. One lay journal of great influence which has always made a point of exposing abuses, has recently contained some scathing arraignments of the methods of those at the head of proprietary medicine concerns. This paper, *Truth*, is endeavoring to educate the public in the matter, but, unfortunately, it does not reach a very wide audience. The lay journals of large circulation have in this respect sold their birthright for a mess of pottage, and assist in misleading their readers as to the true significance of the proprietary medicine trade. However, there are signs of an awakening, and even if the public can not be persuaded that secret remedies are in the main pernicious, then the law must step in to protect the ignorant against themselves. The *Pharmaceutical Journal*, December 7, in an editorial, says that secrecy in medicine is unscientific, and that quackery clings to secrecy as an indispensable condition, and being an unwholesome inversion of the principles of industry, shuns competition. With which statement medical men will be in cordial agreement.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are **NOT** exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Acute Pharyngitis.

The abortive treatment is the same as for acute coryza, given in The Journal, Dec. 21, 1907, page 2100.

Any mild, warm saline or alkaline gargle is soothing to the irritated pharynx, and even simple warm salt solution is efficient, if gargled in sufficient quantity. The salt solution should never be made strong, else it is irritant. A proper strength is a half-teaspoonful to a glass of warm water. Also as a gargle for this inflammation nothing is much better than potassium chlorate solution, as:

℞.	gm. or c.c.		
Potassii chloratis	10	or	ʒiiss
Aquæ	200		fl℥vi

M. et sig.: Use as a gargle every three hours.

If there is much catarrh of the upper part of the pharynx, the mucopus should not be allowed to remain, as it tends to plug the Eustachian tubes, and air being aspirated from the middle ear congestion of the drum occurs. Hence the nasopharynx should be kept as clean as possible by spraying with some mild, warm alkaline solution. Weak suprarenal solutions may be sprayed into this region. If the catarrh tends to persist in the nasopharynx, daily insufflations of powdered boric acid are very efficient in stopping the catarrh.

If the catarrh of the nasopharynx becomes more or less chronic, a culture ground is formed in which various germs may thrive; consequently, such a condition should be carefully treated. If for any reason it can not be cured, at least methods should be daily used to keep the nasopharynx clean. The danger of such postnasal catarrh harboring the germ of cerebrospinal meningitis has been pointed out by Dr. A. Seibert, New York, in The Journal A. M. A., Nov. 16, 1907, page 1657. He recommends for the treatment of the nasopharynx in this condition a solution of equal parts of resorcin and alcohol, as:

℞.	gm. or c.c.		
Resorcinolis	25	or	℥i
Alcoholis	25		fl℥i

M. et sig.: For local applications by the physician.

("The alcohol must be heated before the resorcin is added.")

"A plug of absorbent cotton is wound around the end of an applicator, dipped into the above solution, and introduced into the nasopharynx. Swabbing is not necessary. Two applications, one past each side of the uvula, are sufficient. The cotton must be well soaked with the solution, but not sufficiently to cause dripping. These applications are best repeated every forty-eight hours, and six treatments usually suffice to stop all secretions of postnasal mucus in a chronic case, and two applications often suffice in recent cases. As the irritation may cause some nausea, the application should not be made directly after a meal."

Follicular Tonsillitis.

This disease is as contagious as diphtheria, and should be treated with the same local antiseptics, and the same preventive measures against giving the disease to others as diphtheria, and although fumigation is never done for this disease, it would doubtless prevent a great deal of its recurrence. The clinician often notes that several members of the same family or several persons closely associated have this disease at the same time. In cities it frequently occurs, almost in epidemics, during dusty periods when the streets are not properly watered; also, places of assemblage such as theaters become infected and from the applause that is given in such places the dust that arises from the floor is doubtless often the cause of a great many attacks of this disease.

It also seems to be proved that many attacks of acute inflammatory rheumatism begin by the germ entering the system by way of the tonsils, even if follicular tonsillitis is not present. On the other hand, an apparently typical follicular tonsillitis often precedes rheumatic symptoms.

There are doubtless several kinds of streptococci and possibly other germs that can cause follicular tonsillitis. It is often impossible also, when there is a slight exudate on the tonsils, to decide that it is not diphtheria. While a smear of the exudate on a slide stained and examined microscopically may show the Klebs-Loeffler bacillus, the positive test is that shown by a culture, which will require twenty-four hours. Hence, in every case of follicular tonsillitis the measures directed toward the treatment of the throat should be immediately and rigorously instituted, and if there is a reasonable suspicion that the infection is diphtheria, especially in children, antitoxin should be immediately used without waiting for the bacteriologic report.

If there is much general infection from the tonsillitis, as shown by a high temperature, headache and backache, one of the following prescriptions should be given:

℞.	gm			
Camphoræ monobromatæ		10		gr. iss
Caffeinæ citratæ		15	or	gr. iiss
Acetanilidi		50		gr. viii

M. et fac capsulas 5.

Sig.: A capsule every three hours, with plenty of water.

Or five tablets similar to the above prescription may be given to a patient for administration in the same manner. If the tablets are used, they should be crushed with the teeth and taken with considerable water.

Or:

℞.	gm.			
Caffeinæ citratæ		25		gr. iv
Acetphenetidini			or	
Phenylis salicylatis ..āā	1	50		gr. xxv

M. et fac chartulas 5.

Sig.: A powder, with water, every three hours.

(These powders may also be put into wafers, if desired.)

If the patient is seen late in the afternoon or evening, a small dose of calomel, 10 or 20 centigrams (2 or 3 grains), given with an aloin, belladonna and strychnia tablet is the best laxative treatment. If the patient is seen in the morning, it is better to administer a saline purgative, as the Compound Seidlitz Powder or Effervescing Citrate of Magnesia.

The local treatment of follicular tonsillitis and diphtheria is the same, as follows:

℞.	c.c.		
Aquæ hydrogenii dioxidi	200	or	fl℥vi

Sig.: Dilute with three parts of warm water and use as a gargle every three hours.

And:

℞.	gm. or c.c.		
Acidi borici	5	or	ʒi
Aquæ	200		fl℥vi

M. et sig.: Use undiluted as a gargle every three hours.

The gargles should be used alternately, each one every three hours (one or the other every hour and a half) during the day time, and every three or four hours at night. Directly after the peroxid of hydrogen gargle the mouth should be cleansed with plain warm water or physiologic saline solution, as the secondary effect of peroxid of hydrogen is to cause irritation in the throat. As it often tires the patient to go through the muscular process of gargling so frequently, swashing the tonsils and throat with the solutions is nearly as effective as the actual vibrations caused by gargling. Such treatment as above outlined will often stop a follicular tonsillitis in forty-eight hours.

If the patient has not much fever and is not very ill, two visits a day at the office for two days, with proper local treatment, will almost surely abort this disease. The tonsils should be swabbed with dry cotton, the exudate being thus removed. They are then swabbed with full strength peroxid of hydrogen solution and the throat is sprayed with the same, and then thoroughly cleansed with some mild alkaline solution. The tonsils and throat are next sprayed with a weak suprarenal solution, and the patient is given the above gargles for his own use.

If an exudate in follicular tonsillitis tends to persist or even to form membranous patches, insufflation of boric acid powder directly on the exudate, once or twice a day, is efficient treatment in hastening the cessation of the process.

As soon as the throat is clean, it is well to stop the peroxid gargle and to give potassium chlorate or some mild alkaline gargle in its place, and, of course, lengthen the time between the gargling.

If the patient is debilitated by the inflammation, a simple tonic is needed, as:

℞.	gm.		
Strychninæ sulphatis	.04		gr. ⅔
Quininæ sulphatis	2	or	gr. xxx
Ferri reducti	1		gr. xv

M. et fac capsulas 20.

Sig.: A capsule, three times a day, after meals.

If with this tonsillitis there are joint pains, or if the patient is known to be rheumatic, or if the patient is gouty, or has shown signs of uric acidemia, it is well to administer salicylate of soda for several days, beginning as soon as the patient is seen, as:

℞.	gm. or c.c.		
Sodii salicylatis	20	or	ʒv
Aquæ gaultheriæ	100		fl℥iv

M. et sig.: A teaspoonful, with plenty of water, three times a day, after meals.

Quinsy.

If, as often occurs, one side of the throat either in the tonsil or back of it, begins to swell and shows signs of suppuration, all irritating gargles are best omitted and nothing but hot, mild saline solutions, as one-fourth of a teaspoonful of salt to half a glass of hot water, or hot milk and water, equal parts, may be gargled, or, better, held in the throat for several moments over the inflamed side. This should be repeated every hour or two. Such measures will often abort the quinsy.

Sodium salicylate given in half-gram doses every two or three hours is an aid in the abortive treatment, but should not be continued after pus formation is evident, as it debilitates the patient.

Occasionally, cold applications at the angle of the jaw afford relief, but generally heat is more agreeable.

When it becomes evident that an abscess is forming, the sooner it is located and opened, the quicker will be the relief. The tonsils should be thoroughly swabbed with a cocain solution and punctures made with a sharp bistoury in what appears to be the most likely spot for the abscess. If this is not reached, which is more than probable at the first time, some relief is always experienced even from the slight loss of blood which these punctures entail. Constant watch should be kept for an indication of the situation of the abscess, and as soon as it can be located, again using the cocain, it should be opened freely. Taking advantage of the cocainization, as much pus should be pressed out as is possible, and at this time the throat and tonsils should be thoroughly sprayed with hydrogen peroxid solution. After the evacuation of the abscess relief is immediate, but the warm, mildly antiseptic gargles should be continued at increasing intervals through the convalescence. After the swelling has subsided a tonic containing iron is generally needed.

During the acute stage if the pain is intense, morphin is indicated and should be given.

Thrush.

Dr. J. Gordon Sharp (*British Jour. of Children's Diseases*, IV, 1907), states that he has seen seven children who have died in consequence of this condition. This disease is not necessarily confined to neglected children, but may occur among the better classes.

In treating the condition, he first cleans out the intestines with castor oil, and reduces the strength of the food to one part of milk to three parts of water, giving whey and weak beef tea in cases of diarrhea. Of course, the bottles and receptacles containing the milk should be most thoroughly cleansed.

His local treatment is as follows: A clean piece of linen or gauze is wrapped around the handle of a teaspoon, then dipped in warm water, and the entire surface of the mouth is wiped clean of the fungus growth, even to the point of causing bleeding. He next applies powdered boric acid to every part of the mouth, and also applies the boric acid to the nasopharynx, if that part is involved.

[Pure boric acid in the mouth and nasopharynx of children is rather severe treatment.—Ed.]

The following is a milder method of using the boric acid:

℞.	gm. or c.c.		
Sodii boratis	2		ʒss
Glycerini	10	or	flʒiii
Aquæ	ad 100		ad fl℥iv

M. et sig.: Use as a mouth wash.

While the physician himself should once a day attend to the cleansing of the child's mouth, it is only by eternal vigilance and constant care that the fungus is eradicated. Consequently after every feeding the mouth should be thoroughly cleansed, and perhaps a weak bicarbonate of soda solution, as a teaspoonful to a cup of warm water, is one of the best cleansers and at the same time soothing.

Also useful for this purpose is:

℞.	c.c.		
Liquoris antiseptici alkalini (N. F.).....	200	or	fl℥vi

Sig.: Dilute with five parts of warm water and use as a mouth wash.

If the child is nursing, the mother's nipples must be frequently and carefully cleansed with some mild antiseptic solution, as a saturated solution of boric acid. If the child is bottlefed the nipples should be kept in a boric acid solution, when not in use.

A careful arrangement of the diet, with a careful watching of the nutrition and the treatment of diarrhea and not pushing cathartics is the method that will finally produce a cure.

Adenoid Vegetations and Tuberculosis.—Roux and Roques report in the *Revue Mensuelle d. Mal. de l'Enfance*, for October, 48 cases of tuberculosis in young children with adenoid vegetations, out of a much larger number which they have encountered. All the children had enterocolitis, and Roux and Roques have previously published arguments to sustain their view that adenoiditis almost always precedes infantile intestinal disease. They believe that inflammation in the rhinopharynx is always the first reaction to invasion by the tubercle bacillus; it is the first manifestation of the defense on the part of the organism. They advise in studying the subject, that adenoid vegetations from infants between 4 and 10 months old should be selected for inoculation, and that the animals inoculated should be less than 15 days old (guinea-pigs 8 to 10 and rabbits 10 to 15 days old).

Correspondence

"Hyoscin-Morphin-Cactin Anesthesia."

New York, Dec. 24, 1907.

To the Editor:—I beg to call your attention to a passage in the article with the above title in The Journal, December 21, which seems to do injustice to our journal. On page 2106 a paragraph is quoted from the *New York Medical Journal* of October 19. The paragraph in question appeared in our advertising columns, not in our reading pages.

Frank P. Foster, Editor.

[The above is true; the paragraph quoted appeared in the department of "Therapeutic Items," which is composed of "reading notices."—Ed.]

Miscellany

THE PUBLIC HEALTH SERVICE.

Description of the Work and Requirements for Admission to the Commissioned Corps of the Public Health and Marine-Hospital Service of the United States.

[This article is published with the approval of Surgeon-General Wyman, and was prepared to answer in full questions regarding this service that are continually being received by us.—Ed.]

I. QUALIFICATIONS FOR ENTRANCE.

Commissioned medical officers of the Public Health and Marine-Hospital Service of the United States are appointed by the President, by and with the advice and consent of the senate, and no persons are appointed until after passing a satisfactory examination in the several branches of medicine, surgery and hygiene before a board of medical officers of the said service. Examination is conducted according to rules prepared by the Surgeon-General and approved by the Secretary of the Treasury and the President. No applicant is eligible to appear before a board of examiners if his age is less than 22 or more than 30 years, and, as a preliminary to a recommendation by the Surgeon-General for appointment as assistant surgeon, the applicant must have been graduated in medicine at some reputable medical college, and must have passed a satisfactory physical, academic and professional examination before a board of commissioned officers. The applicant must submit his diploma or a certified copy thereof to the board.

Examination.—The maximum mark in any one branch of the examination is 100, and no applicant is recommended for appointment who fails to receive an average grade of 80 in the ratings on the subjects on which he is examined. All academic and professional examinations for appointment are conducted by the board, and the order of examination is: 1, physical; 2, academic; 3, professional; 4, clinical; and 5, personal (including general aptitude and moral fitness).

Physical Examination.—Any one of the following defects is considered sufficient cause for rejection: decided cachexia, permanent defects of either of the extremeties or articulations, unnatural curvature of the spine, impaired vision (not including errors of refraction corrected by glasses), color-blindness, chronic disease of the ears, deafness, chronic ulcers or cicatrices of old ulcers likely to break out afresh, chronic cardiac affections, insufficient chest expansion, hernia, sarcocele, hydrocele, stricture of the urethra or rectum, fistula in ano, hemorrhoids, varicose veins of the lower limbs (unless slight), stature less than five feet. In addition to the above, the existence of any disease, physical deformity or abnormal condition of such character as to incapacitate the candidate for the performance of duties will be cause for rejection. The examiners pay special attention to conditions that may impair efficiency or cause early placing on "waiting orders," such as hereditary diseases, overstrain of nervous system, impaired vitality from excesses of any kind. Applicants are required to certify that they believe themselves free from any ailment (mental or physical) which would disqualify them for active service in any climate.

The board examines the applicant orally as to his proficiency in general literature, language, history, and such branches of general science as they may in their discretion think pertinent.

The written examination of applicants for appointment consists of questions on: 1, Anatomy; 2, physiology; 3, chemistry; 4, materia medica and therapeutics; 5, practice of medicine; 6, practice of surgery; 7, obstetrics and diseases of women; 8, hygiene; 9, pathology and bacteriology; 10, reports on selected cases at a hospital (these cases are selected by the examiners so as to give two—one medical and one surgical case—to each applicant).

This examination further consists of such inquiries as may tend to develop the general aptitude of the person for the special duties required of a commissioned officer in the service, and to show his moral qualifications for the position of trust and responsibility which he will assume when appointed.

When practicable, applicants for appointment are required to perform such surgical operations on the cadaver as may be directed by the examiners.

II. SALARIES AND FINANCIAL PROSPECTS.

The compensation of commissioned officers is fixed at a uniform rate for each rank, as follows: Assistant surgeons-general receive $2,900 per annum, surgeons receive $2,500 per annum; passed assistant surgeons receive $2.000 per annum; assistant surgeons receive $1,600 per annum. The officer in charge of the miscellaneous division of the bureau receives $2.000 per annum. After five years' service an additional compensation of 10 per cent. on the annual salary for each five years' service is allowed commissioned officers above the rank of assistant surgeon, but the maximum rate shall in no case exceed 40 per cent. Officers placed on waiting orders for a period longer than two months, while so placed receive 75 per cent. of the pay and increase received by said officers at the date on which they were placed on waiting orders, provided that no longevity increase of pay is allowed for any period of time elapsing while placed on waiting orders.

When a commissioned officer is serving on active duty where there are no quarters belonging to the service, he receives commutation for quarters at the following monthly rates, viz: For surgeons, $50 a month; for passed assistant surgeons, $40 a month, and for assistant surgeons, $30 a month. When on duty on board a revenue cutter or quarantine vessel, or on waiting orders, officers are not allowed commutation.

Commissioned medical officers, when on duty in a foreign country, unless on special temporary duty, receive commutation at the following rates: For surgeons, $90 a month; for passed assistant surgeons, $85 a month; for assistant surgeons, $80 a month. This regulation applies also to officers serving at any port beyond the geographical limits of the United States as they existed Jan. 1, 1898. Officers traveling under orders are allowed actual expenses.

Assistant surgeons, at the expiration of five years' service, are entitled to an examination for promotion to the grade of passed assistant surgeon, and are ordered to appear before a board of commissioned officers for this purpose.

A vacancy in the grade of surgeon is filled by promotion from among the passed assistant surgeons who are eligible in the order of seniority, after having passed a satisfactory professional examination in writing in the practice of medicine, surgery, hygiene, hospital and quarantine management, and regulations of the service, in addition to a physical examination.

When an officer reports himself or is reported unfit to perform his official duties by reason of disease, injury or age, he is ordered by the Surgeon-General, if in his opinion it is necessary, to appear before a board of commissioned officers, and if it appears that it is the result of disability incurred in the line of duty, he is recommended for "waiting orders" or for special duty of a light character. The law and regulations providing for the placing of an officer on waiting orders have all the effect of retirement for disability with the additional advantage that the removal from duty may be temporary or permanent, as best fits the needs of the case.

Work of Service.—The Public Health and Marine-Hospital Service of the United States is an outgrowth of the Marine-Hospital Service, dating from 1798, when Congress passed an act for the relief of sick and disabled seamen. Congress from time to time added to the Marine-Hospital Service duties of a public health nature, as occasion arose or the need became apparent, until in 1902 its functions had become chiefly those of a public health service, and for this reason congress changed its name to the Public Health and Marine-Hospital Service, and thus made this bureau at Washington a bureau of public health. Although its public-health functions are now the most important feature of the service, the marine hospitals, 21 in number, and the marine hospital stations, 141 in number, where professional care is given to the sailors of the merchant marine, are an important branch of the service, giving opportunity for professional work. Over fifty-five thousand sailors of the merchant marine were treated during the last fiscal year, and there were performed over eighteen hundred surgical operations requiring the use of anesthetics. A large sanatorium for the consumptive patients of the service is maintained at Fort Stanton, New Mexico.

Under the secretary of the treasury, the service administers the national quarantine laws and regulations, and to this end maintains 43 quarantine stations on the Atlantic, Gulf and Pacific coasts of the United States, and details officers in the office of the American consul at foreign ports from which vessels clear to the United States, to inspect vessels and sign bills of health in conjunction with the consular officer. It has charge of the maritime quarantine of Porto Rico, Hawaii and the Philippines. It administers the interstate quarantine regulations to prevent the introduction of contagious diseases from one state to another, and to this end when epidemics occur threatening the welfare of more than one state or territory, the service takes charge to protect the public health. It conducts the medical inspection of the millions of immigrants entering the country, and for this purpose maintains medical officers at all ports where immigrants arrive and also details officers to certain foreign ports from which many of the immigrants come. This serves to keep out the hundreds of thousands of sick and disabled, who, if entering the country would become public charges and objects of charity. It also prevents the introduction of thousands of cases of contagious diseases.

It maintains the Hygienic Laboratory in Washington for the investigation of matters pertaining to the public health. In this laboratory courses of instruction are given to officers to keep them abreast of the most scientific advances in medicine. It inspects and licenses all laboratories and establishments manufacturing and selling in interstate commerce, viruses, serums, toxins and analogous products. It inspects the manufacturing laboratories to guarantee proper methods. It buys in the open market the products of the laboratories and vaccine and antitoxin establishments and tests them for purity and proper strength, to protect the consumer and maintain a standard of strength and efficiency, that the prescribing physician may intelligently use the antitoxins, serums, etc., in the treatment of the sick. For this purpose it has established the standard unit for diphtheria and tetanus antitoxins. Licenses are granted only after inspection of the producing laboratory and examination of the finished product.

The Surgeon-General has annually, in Washington, a conference with the state and territorial boards of health, for the interchange of ideas and the establishment of uniformity of methods. The service also renders aid and cooperation to state and territorial boards of health requesting it. For this purpose the Hygienic Laboratory is used for investigation, and officers of the service are detailed for field work. Aid is also rendered to other government services and departments. It furnishes medical treatment to the officers and crews of the Revenue-Cutter Service, seamen employed on the vessels of the Mississippi River Commission, seamen employed on the vessels of the Engineer Corps of the Army, keepers and crews of the United States Life-Saving Service, officers and seamen on vessels of the United States Coast and Geodetic Survey, and seamen employed on United States Army transports or other vessels belonging to the quartermaster's department of the U. S. Army when not enlisted men of the army. It also examines, physically applicants for enlistment in the Revenue-Cutter Service and officers of same for promotion, and applicants for enlistment in the Life-Saving Service. Officers are detailed aboard revenue cutters going on extended cruises.

III OPENINGS.

The service is expansible. Its growth is limited only by the needs and demands of the people for public health work. Examinations for admission to the commissioned corps are held when there is need for additional officers. These examinations are usually held in the spring and fall. The next one will be held January 20, 1908, at Washington, D. C. Although the passing of an examination does not guarantee an appointment, for a number of years all candidates passing the required examination have received commissions.

IV. APPLICATION.

Graduates of medicine desirous of undergoing examination for the position of assistant surgeon in the Public Health and Marine-Hospital Service of the United States, must make an application addressed to the surgeon general, in their own handwriting, requesting permission to appear before the board of examiners. Applicants for examination should state their age, date and place of birth, present legal residence, and whether they are citizens of the United States, and name of medical school and college of which they are graduates, and furnish testimonials from at least two persons as to their professional and moral character. Applicants of foreign birth must furnish proof of American citizenship.

Race Suicide for Social Parasites.

In an address before a joint meeting of the Physicians' Club and the Law Club of Chicago, Dec. 13, 1907, Dr. W. T. Belfield discussed the above subject. In 1881, he said, there was approximately one murder for every 40,000 inhabitants in this country; in 1906, one for every 10,000. The other serious forms of social parasitism have increased in similar ratio. In the countries of northern Europe no such increase of crime has been observed. Thus in 1906 there were in Chicago 177 murders; in London, with three times Chicago's population, there were only 17 murders. In other words, Chicago had 33 murders to London's one, per unit of population.

Among the factors which encourage crime among us are the farcical maladministration of our medieval criminal laws; the notorious partnership between many criminals and many public officials; and the maudlin sentiment which has infinite compassion for the prisoner but none for those of us who manage to keep out of jail. Thirteen of London's seventeen murderers (two escaped arrest) were hung or imprisoned for life within a few weeks after the commission of their crimes; out of regard for our city's reputation, Dr. Belfield said he would not state the fortunes of Chicago's 177. In the protection of its citizens through the swift, sure and severe punishment of their assailants—and this is the only protection ever found effectual—Chicago compares with London, Berlin or Vienna as does an ox team with an express train for travel.

With the punishment of crime we are concerned as citizens, not as physicians. But in our professional capacity we can teach the public not how to punish but how to restrict crime by restricting the breeding of criminals. For the hordes of social parasites who crowd our costly and ever multiplying public infirmaries, breed their own kind—and the state pays the bills. Society has never placed the slightest restraint on their propagation; qualifications for a marriage license are indeed required by a few states, but marriage is nowhere essential to procreation. Society carefully rears all its defectives—criminals, imbeciles, idiots, etc.—to breed more of their kind, and robs its own worthy children to do so. The cattle breeder is wiser.

Sterilization of the male criminal by castration, though often proposed, will never meet general approval because it destroys the subject's sexual power; and while different men worship different gods, all men worship the same goddess—Venus. But sterilization can be secured with equal certainty without the slightest impairment of sexual power or pleasure simply by dividing the vas on each side—vasotomy. This little operation is performed in a few minutes under cocain anesthesia through a skin-cut less than half an inch long; it entails no wound infection, no confinement to bed; it is less serious than the extraction of a tooth. That obstruction of this tube does not impair sexuality is abundantly proved by the robust sexual health of thousands of men who have been unwittingly sterilized through bilateral epididymitis, and who never suspect their sterility until their marriages prove barren. That vasotomy itself is equally harmless to sexuality is shown by the experience of those on whom it has been performed; among these, within my personal knowledge, are married men who took this means, rather than criminal abortion, to prevent the transmission to offspring of their own hereditary taints, such as insanity and syphilis. The sterility caused by vasotomy can be subsequently cured by a slight operation which reunites the severed ends of the vas, should the subject ever desire to beget offspring. Irremediable sterility, such as is desired for the defective classes, is easily procured by removing a piece of the vas—vasectomy. Yet since these people seek pleasure rather than progeny, vasotomy is, in practice if not in theory, sufficient for them also.

The Indiana legislature passed a bill in March, 1907, authorizing the sterilization of "confirmed criminals, idiots, imbeciles and rapists" in the state institutions of Indiana. In the prison at Jeffersonville over 300 convicts under 30 years of age have been sterilized, some by authority of the state, but over 200 of them *at their own request.* This voluntary submission to sterilization by hundreds of convicts, removes the only conceivable opposition to this method of protecting society—namely, the sentimental.

The Report of the Royal Commission on Human and Animal Tuberculosis.—The second volume of the Appendices to the Report of the Royal Commission on Human and Animal Tuberculosis of Great Britain has just been issued. These appendices record the work done by individual members of the scientific staff of the commission. Dr. Cobbett's work is recorded in the present volume. His principal object was to investigate the pathogenic effects on various species of animals of tubercle bacilli obtained from cases representing so far as possible all the different clinical varieties of tuberculosis in both adults and children, and especially to ascertain whether some viruses were more virulent than others. Most of the material used was obtained at necropsies, but some, especially from glands and joints, was obtained at operations. Tuberculous sputum was also used. In each instance an emulsion was made which was either injected into the different experimental animals or into guinea-pigs from which cultures were obtained and then utilized for inoculation. The results are most important. The viruses were sharply differentiated into two classes. In one suitable doses, such as 50 mgm. of culture, produced rapidly fatal general tuberculosis in the calf and rabbit. In other words, the virus acted in exactly the same way as that of bovine tuberculosis. It may be remembered that in a previous report of the Royal Commission these two viruses were found to have similar cultural characteristics. In the other class the inoculation of 50 mgm. or even a far larger dose into calves produced only a transient disturbance of health and localized lesions which soon retrogressed. "Almost without exception the strains of tubercle bacilli fell into one or the other class." With regard to the first class of virus, Dr. Cobbett emphasizes the fact that general tuberculosis could not be produced by a small dose. The dose necessary was larger than can be supposed to be usual in infection of cattle under natural conditions. On the other hand, with the virus of the second class progressive tuberculosis could not be produced by subcutaneous inoculation of the calf, with a dose as large as 3 gm. (containing 10,000 millions of bacilli). Intravenous injection of suitable doses of the milder virus proved fatal from extensive consolidation of the lungs caused by the confluence of little infiltrated and edematous areas which arose around each collection of tubercle bacilli lodged there, but if sufficient lung was left to support life the tubercles retrogressed and the animal recovered. The same differentiation between the viruses of the two classes was found in other animals—rabbits, goats and pigs. Rats were affected by the bacilli of either class, only when administered in enormous doses. When the rats succumbed the result appeared to depend on enormous multiplication of the bacilli accompanied by very little reaction. A most interesting fact was shown by "passage experiments." By passing viruses of the second class through a series of calves a virus was obtained which gave the same reactions as that of the first class. It produced fatal progressive tuberculosis in calves and rabbits, and, moreover, its cultural characteristics were changed to those of the first class. Thus the finding of the previous reports of the commission are confirmed, and it is proved that there are viruses in the tuberculosis of man—a human and a bovinal one.

Plastic Operations on Nerves. Their Regeneration and Healing.—Spitzy and Bethe presented this subject at the last "Naturforscher Congress," the latter announcing that the field is thoroughly ploughed over now and that it is ripe for the seed of practical application. He described the theoretical foundations for the work and Spitzy related extensive practical experiences in it, after reviewing the history of the subject. His address is reproduced in full in the *Wien. klin. Wochschr.*, November 28. The results of anastomosis between various nerves show that 70 per cent. of the patients have been cured. The results were truly brilliant in some cases and in others not so good. In case of success results are obtained far more perfect than from tendon transplantation. The nature of the plastic operation depends on the kind of paralysis and the location. He makes a point of severing the nerve obliquely from the center toward the periphery, and never omits tubulization, that is, enclosing the severed stumps in a tube or sheath made from an artery taken from a dog and hardened in formalin. As the nerve substance is so exceptionally sensitive, he has devised some special instruments for the work. The blades of his forceps, for instance, end in rings. A metal electrode terminating in a needle for testing during operation, and encased in rubber for convenient handling, is a necessity. In order to bring a nerve to the desired spot through the deep soft parts, he uses a tube with a rounded cap. When the nerve is reached the cap is removed, and the nerve is drawn up into the tube by means of a thread, threaded into an ear sound. By this means the nerve can be pulled to any desired point without injury, after which the tube is withdrawn. If the nerve has to pass some point where compression is imminent, it is ensheathed in a dog's artery at this point. There is no sense in attempting an operation of the kind, he says, when the nerve that is to be used as a substitute is already affected with paralysis. Cases in which one group of muscles predominates to an extreme extent are peculiarly adapted for these operations; weakening this group helps to restore normal balance. He cites among other recent contributions to the subject Horsley's "Surgical Repair of Injured Nerves," in The Journal, March 3, 1906, page 639; also Ito's communication which was summarized in The Journal, November 30, page 1881.

The Virtue of Contentment.—A writer in the *Journal de Médecine* (Nov. 24, 1907), comments on the plethora of physicians and the decreasing remuneration for professional services. In France the number of physicians has increased from 15,000 in 1880 to more than 21,000 at the present time without any noticeable increase in the population. The author consoles his compatriots by the fact that the same is true of other countries and points to the 32,000 physicians who administer to the wants of 60,000,000 Germans, and to Spain, where there are 17,000 physicians to 17,000,000 inhabitants. The same increase is found in the rest of Europe and in the United States. But if the comfort of this comparison may exemplify the proverb "Misery loves company," the second reason for consolation has more solid ground as it concerns the comparative pecuniary rewards, and in this the American physician may find reason to be truly thankful. The author refers to the princes of German surgery, who receive as much as 500 fr. ($100) for a laparotomy, but speaks chiefly of the ordinary city physician whose visit is reckoned worth from 1 to 3 marks (25 to 75 cents). He says: "A decision rendered September 23 by a commercial court of Berlin may be instructive as to the compensation granted to Prussian physicians. Dr. L. was commissioned by the court to examine an employé dismissed on account of his health. After several examinations, followed by numerous reports, our confrère put in a claim for $3.45. The court found the bill too large and reduced it to $1.50 on the ground that the doctor had worked only three hours and that a wage of 50 cents per hour was sufficient remuneration."

Connection Between the Thyroid Gland and Diabetes.—A. Lorand affirms that the road to diabetes lies through the pancreas, but that it starts at various points. In some cases it may possibly originate in the suprarenals—the antagonism between the suprarenals and the pancreas seems to be established by Zuelzer's experimental research. He argues that there is likewise antagonism between the thyroid gland and the pancreas, and that changes in the thyroid gland may entail diabetes. It may develop in this way after emotional stress or after exophthalmic goiter, or there may be merely transient glycosuria. He thinks that diabetes should no longer be classed as a "metabolism disease;" frequently the metabolism is not materially deranged. On the other hand, pathologic conditions in one or more of the vascular glands are constantly encountered, wherefore, he declares, diabetes should be classed with exophthalmic goiter, myxedema and acromegaly. He has been treating diabetics with the serum from thyroidectomized sheep, and found that great benefit was derived in the cases in which symptoms resembling those in exophthalmic goiter were observed, especially nervous agitation and insomnia. This treatment is contraindicated when the symptoms indicate insufficient functioning of the thyroid gland. He has frequently noted that certain families display a predisposition to both exophthalmic goiter and diabetes, one of the parents having one disease and one or more of the children presenting the other. For this reason he advises restricting the ingestion of sweets and flour foods as a prophylactic measure for the children of diabetics. Lorand's article was read at the recent German "Naturforscher Congress."

The Medical Profession and the Public in France.—The Paris blank walls have been placarded recently with a poster lauding some proprietary article, headed in flaming type, "Protect Your Skin Against Your Physician." Desfosses comments on it in the *Presse Médicale*, November 16, remarking that the poster is merely one manifestation of what seems to be a general tendency to vituperation of the medical profession. Dieulafoy remarked in the course of a recent lawsuit that the medical body is attacked on all sides, in public, in the drawing rooms, at dinner parties, on the stage and everywhere. It seems to be the fashion for great and small, and books are written and the daily papers hold forth—all railing at the medical profession. Desfosses adds that besides satire and slander of the profession we now have damage suits, many of them brought by patients who have been treated or operated on gratuitously. The physician of old was the revered priest; nowadays the public is trying to make the practice of the medical profession a trade, a business. Will it really gain by the change? Dieulafoy added: "A physician is responsible only to his conscience," to which the judge added "and to the penal code." This well expresses the tendency of the times, striving to codify the healing art. A physician can not be condemned for an error in therapeutics, Desfosses remarks in conclusion, until the day when therapeutics is codified with exact laws.

Therapeutic Value of Oil and Bone Marrow in Stomach Affections.—Walko has found oil or its equivalent extremely useful in the diet of patients with hyperacidity and hypersecretion, both the alimentary and nervous forms, and also in case of ulcer, erosions of the mucosa, acid hyperesthesia and pyloric stenosis. He found it especially beneficial in 100 cases of ulcer, supplying nutriment in a non-irritating form, reducing the excessive secretion of acid, regulating the intestinal functions and possibly affording mechanical protection to the ulcer. The latter property is probably responsible for the sudden cessation of the pain. In case of chronic gastritis with erosions he found moderate amounts of oil for three or four weeks extremely useful. An emulsion of 50 c.c. olive oil with sodium bicarbonate gave surprisingly good results in case of hyperesthesia of the stomach. In his communication on the subject in the *Wien. klin. Wochschr.*, November 21, he adds that bone marrow contains 96 per cent. fat and can be used as a substitute for the olive oil. It is especially palatable when freshly cooked and spread on bread. The addition of cooked bone marrow to the diet has given most excellent results in his experience with hundreds of cases of stomach affections, having proved exceptionally beneficial in cases of debility and of gastric ulcer on account of its high nutritive value and digestibility, besides its mechanical and other properties. He never forces the oil, when it is taken with repugnance.

Keratin in Treatment of Tabes and Hepatic Cirrhosis.—S. M. Zypkin has been applying keratin in the treatment of tabes, chronic myelitis and disseminated sclerosis with such good results that he recently applied it in a case of cirrhosis of the liver, in which it proved equally successful. The patient was a x-para with cirrhosis of the liver, edema of the legs and extreme ascites, dyspnea and cachexia. After fourteen months of the keratin treatment she was restored to comparative health; the ascitic fluid had not recurred, and the enlarged liver had grown much smaller, while normal menstruation had returned. The edema was probably due to a concomitant chronic myocarditis, on which the keratin must have had also a favorable influence as the edema did not recur after the single tapping. The keratin, 2 gm., plus 10 c.c. of a 1 per cent. solution of sodium bicarbonate, was injected subcutaneously, a syringeful every day for two months. The symptoms seemed to become aggravated at first, the girth increasing to 109 cm., but then improvement became apparent and continued to progress. In the course of the treatment the patient took by the month 4,800 keratin tablets, averaging from 10 to 30 a day, after the first two months during which the keratin was injected. In his communication to the *Wien. klin. Wochschr.* for June 13 Zypkin states that he is inclined to ascribe the benefit to the glutin-binding capacity of the keratin, or to some direct action on the parenchymatous elements of the nervous system, improving their nourishment.

The Ocular Reaction to Instillation of Toxins.—Netter raised a warning voice at a recent meeting of a Paris medical society against too much enthusiasm for the "ophthalmo-reaction." He said that the reaction is liable to be followed by serious consequences. He knows of several instances in which Paris ophthalmologists have been treating serious eye trouble consecutive to instillations of tuberculin. Some cases of the kind were reported at the October meeting of the Société d'Ophthalmologie. He added that typhoid patients react to instillation of typhoid, paratyphoid and colon bacillus toxins and also to tuberculin. Chauffard stated that a chronic appendicitis in a young man suggested a possible tuberculous process, but the ocular reaction was entirely negative. Operation revealed, however, an extensive tuberculous process requiring resection of the cecum. H. Truc, the professor of ophthalmology at Montpellier, found the tuberculin ocular test entirely harmless even when applied to individuals with ocular lesions. It does not aggravate them and consequently is free from danger. The reaction occurred equally pronounced in the diseased as in the sound eye. In one case in which there was a tuberculous lesion in one eye, the reaction occurred equally marked on both sides, but there was no aggravation of the lesion. He applied the test to 23 patients with various ophthalmic affections, and the four with certain or suspected tuberculosis gave a positive reaction. The reaction occurred likewise, but with less intensity in four patients who showed no clinical signs of tuberculosis; the 15 others apparently free from the disease showed no signs of a reaction.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

TUBERCULOZYNE.

———, IOWA, Dec. 21, 1907.

To the Editor:—Kindly tell me composition, etc., of "Tuberculozyne" advertised by the Yonkerman Consumption Remedy Co. of Kalamazoo, Mich., also what can be done to prevent its exploitation in this community. There is a man here (presumably intelligent, an A.M., an ordained minister, and the editor of a weekly paper) who is urging this on some people, avowing that it cured his mother-in-law ("drove the consumption from her lungs to her bowels and finally cured it"). I have patients who are considering it and who will lose time that could be better utilized in proper treatment. They desire that I get them outside information in regard to the "remedy." Will not the pure food law in some way reach this class of stuff?

H. C.

ANSWER.—In discussing nostrums and fraudulent methods of exploitation in THE JOURNAL A. M. A., Nov. 10, 1906, p. 1549, Dr. Lyman F. Kebler, chief of the Drug Laboratory, Bureau of Chemistry, U. S. Department of Agriculture, commented on Tuberculozyne as follows:

"This remedy is placed on the market by a firm located at Kalamazoo, Mich. It is very interesting to note that the claims made are only for the cure of consumption. Two liquid preparations are employed, one colored amber with caramel, and another red with an anilin dye. The chief active constituents of the red medicine are alcohol and phosphatic material. Those of the amber-colored preparation are alcohol and a small quantity of an organic copper salt. It is also claimed by the firm to contain heroin. The presence of this, however, could not be established, and even if present it certainly does not possess a curative effect for consumption. A careful investigation of the remedy discloses the fact that the virtue of this medicine is claimed to reside almost solely in the small quantity of organic copper salt present. An extended investigation was entered into for the purpose of ascertaining to what extent such a copper salt was known by the medical profession to be of value in the treatment or cure of consumption, and no one appeared to be familiar with any properties inherent in organic copper salts that would be useful in the treatment or cure of consumption. It was found, however, that a considerable number of experiments had been made by a French physician in some of the

French hospitals with certain organic salts of copper, and, according to his results, such copper salts appear to have a beneficial influence in the treatment and cure of consumption, and when the case came up for final hearing this was the evidence presented by the company to show that it has a substantial basis for its remedy. Under the conditions it was difficult to assert that the remedy was not consistent with its claims. This brings out one of the most difficult features constantly being met with in dealing with these products. Medical literature teems with just such things as these, and it is not difficult to find evidence apparently of an authentic character to bolster up almost any fraudulent claim. Such is not only the case with past records, but current literature is following in similar footsteps. An interesting feature in connection with the treatment of this remedy is that the general directions prescribe the regularly recognized open-air treatment, coupled with a careful regulation of the diet. This is undoubtedly the basis of any success that may result from the use of this remedy rather than the medicine itself."

In *Collier's Weekly*, July 14, 1906, under "Quacks and Quackery," appeared the following:

"'Dr.' Yonkerman is one of those altruists who take 'a personal interest in your case.' He advertises a two-hundred-page free medical book on consumption, which will prove to the dissatisfaction of any reasonable person that he's got it. The reader is urged to fill out a symptom blank, in reply to which he gets a letter from John Adam May, M.D., 'consulting physician' and 'specialist in tuberculosis,' diagnosing that disease, and advising the use of Tuberculozyne (Yonkerman's remedy) at once. This letter, of course, is a form letter. I tested John Adam May, M.D., by sending him a list of symptoms that even a quack could hardly have regarded as possibly indicating tuberculosis, if he had considered them; but John Adam hadn't the wit to see the patent trap, and walked in by advising me that 'your symptoms indicate the presence of the poisonous toxins generated by the consumption germ.' 'Tuberculozyne' is one of those vicious morphin concoctions which dull the patient's perceptions, render him insensible of the augmented progress of the disease, and keep him the unconscious and profitable slave of the dispenser until death puts an end to the gruesome farce."

COMPOSITION OF CASTORIA.

WOBURN, MASS., Dec. 12, 1907.

To the Editor:—I will be glad to have any information you can give me in regard to Fletcher's castoria. I see it used much in my practice among children, and I wish to be able to tell parents its composition. WILLIAM H. KELEHER.

ANSWER.—Some thirty years ago one Dr. Samuel Pitcher patented a formula for the preparation of a syrup of senna with aromatics obtained by extracting senna with hot water containing a little sodium bicarbonate. This preparation was sold under the copyrighted name "castoria." Since then the patent for this preparation has expired and the preparation as well as the name "castoria," have become public property. According to the patent, the formula is as follows: To 135 pounds of senna leaves add 35 gallons of water at 65 degrees C., in which has been dissolved 48 ounces of sodium bicarbonate. Exhaust the senna by percolation until 240 pounds are obtained. In this dissolve 210 pounds of sugar and 4 ounces of Rochelle salts; then add spirit of gaultheria, 18 pints, and spirit of pepo, spirit of chenopodium (wormseed), spirit of peppermint and spirit of anise, of each 2 ounces. Castoria, therefore appears to be a syrup containing an aqueous extract of senna with aromatics. Senna preparations, prepared by extracting the drug with water containing alkalies were at one time supposed to have special value, in that certain resinous principles of senna were eliminated by this treatment. Now the resinous principles are removed by extracting the drug with alcohol and rejecting the alcoholic extraction which contains the resinous material; the drug prepared in this manner is then extracted with water. Such a preparation is official in the U. S. Pharmacopeia as Syrupus Sennæ.

BIER'S STASIS HYPEREMIA.

WICHITA FALLS, TEXAS, Dec. 23, 1907.

To the Editor:—What is the consensus of opinion among leading physicians as to the efficacy of Bier's hyperemic treatment of tuberculous joints? What is the method of treatment, supposing the knee joint to be the site of infection? J. W. DUVAL.

ANSWER.—Bier's method of treating inflammations by congestive hyperemia has the approval of the medical profession—to a considerable extent at least. The technic, as applied to such a joint as the knee, is as follows: A rubber band, or one made of elastic webbing, at least two and one-half inches wide, is applied around the leg above the lesion. The bandage should be tight enough to make the skin red, but should not interrupt the arterial circulation. It should not cause pain. It should be worn an hour or two once or twice a day. If the skin becomes tender, the position of the bandage should be changed. Other bandages should be removed and discharging fistulas should be covered up. The limbs should not be immobilized. Considerable time is required for the cure, nine months or longer. For further information see Bier's book or consult the following articles:

C. Deutschlander: *Munch med. Wochschr.*, liv, No. 16. v. Schmiedeberg: *Medical Record*, Aug. 17, 1907, abst. in THE JOURNAL, Aug. 31, 1907, p. 802. Willy Meyer: THE JOURNAL, Aug. 17, 1907.

DISEASES OF TWINS.

Mr. J. Lionel Tayler, 8 Adys Lawn, Willesden Green, London, N.-W., England, requests that any of our readers, who have in their possession evidence on the points mentioned below, communicate with him. He says: Twins, if they are true twins, are usually of the same sex, and are most frequently either much alike or much unlike.

Of like twins of the same sex at any age period, have you any medical experience of their suffering simultaneously or independently from like or unlike diseases in like or unlike- (separate) surroundings?

2. Of unlike twins of the same sex at any age period, have you any medical experience of their suffering simultaneously or independently from like or unlike diseases in like or unlike (separate) surroundings?

Please name specifically all diseases referred to, as this point is very important. Any additional information on the subject would be welcomed, and all remarks will, of course, be treated confidentially.

ANTIKAMNIA AND ACETANILID.

GRAND RAPIDS, MICH., Dec. 21, 1907.

To the Editor:—I have just received an advertisement of antikamnia which states that it is guaranteed under the Food and Drugs Act not to contain acetanilid. I have always supposed acetanilid to be the chief ingredient of antikamnia, and I am inclined to think that the Council on Pharmacy and Chemistry has made such a statement. Am I right? Or have they changed the formula? E. A. ROBERTSON.

ANSWER.—Antikamnia, as shown by the Council on Pharmacy and Chemistry, contained a little less than 70 per cent. of acetanilid. This, however, was before the national Food and Drugs Act went into effect. Since then phenacetin (acetphenetidin) has been substituted for acetanilid. (THE JOURNAL, Jan. 26, 1907, p. 340.) However, in England antikamnia still contains acetanilid; it is the same as that which was sold in this country previous to last January.

TUBERCULOSIS CONGRESSES AND LITERATURE.

CARRINGTON, N. D., Dec. 13, 1907.

To the Editor:—(1) Where can I get the transactions of the last International Tuberculosis Congress; (2) where the transactions of the national society; (3) where the best history of tuberculosis from the earliest times to the present day, and (4) where find the best information on this subject to-day? EDWIN L. GOSS.

ANSWER.—1. The transactions of the last International Tuberculosis Congress were published in 1906, in three large volumes, by Masson et Cie, Paris, from whom they are obtainable. An order may be sent through a United States dealer in foreign books.

2. The transactions of the National Association for the Study of Tuberculosis can be had only from a member, or in special cases by application to the secretary, Dr. Livingston Farrand, 105 East 22d Street, New York City, or through some director of the association.

3. The best historical treatises on tuberculosis are: Predöhl: "Geschichte der Tuberculose"; Waldenburg: "Tuberkulose," and in Newburger and Pagel: "Geschichte der Medizin."

4. The most extensive information on the subject can be found in the English translation of Cornet's text book on tuberculosis, edition of 1899. More recent in English are the articles on tuberculosis by Baldwin and Brown in Osler's "Modern Medicine," vol. iii, 1907, which give a good outline of the history of tuberculosis.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending, Dec. 28, 1907:

Cole, C. LeR., asst.-surgeon, now at Lawrence, Kans., en route to Fort Thomas, Ky., will proceed to Jefferson Barracks, Mo., for temporary duty at that post, and on the completion thereof will proceed to Fort Thomas, Ky., as heretofore ordered.

Snyder, C. R., asst.-surgeon, granted five days' leave of absence.

Davis, W. T., asst.-surgeon, granted 30 days' leave of absence.

Baker, C. L., contract surgeon, left Fort Warren, Mass., on leave of absence for one month.

Brewer, I. W., contract surgeon, arrived at Fort Warren, Mass., for duty.

Hereford, J. R., contract surgeon, returned to duty at Fort Dade, Fla., from leave of absence for one month.

Klernlff, H. N., contract surgeon, granted an extension of one month, fifteen days for his leave of absence.

Shepherd, J. M., contract surgeon, relieved from duty at Fort Apache, Ariz., and ordered to Fort Douglas, Utah, for duty.

McCowu, T. B., contract surgeon, relieved from duty at Fort Mott, N. J., and ordered to Fort Douglas, Utah, for duty.

Suggs, Frank, contract surgeon, granted leave of absence for one month.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Dec. 28, 1907:

Thompson, J. C., surgeon, detached from the *Chattanooga*, and ordered to Washington, D. C., and report to the Secretary of the Navy.

Hoyt, R. E., P. A. surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to the *Chattanooga*.

DeLancy, C. H., P. A. surgeon, orders of December 18 revoked; ordered to continue duty at the Naval Recruiting Station, Chattanooga, Tenn.

Zalesky, W. J., P. A. surgeon, detached from the Naval Recruiting Station, Chattanooga, Tenn., and ordered to the Naval Recruiting Station, New Orleans.

Brooks, F. H., asst.-surgeon, detached from the *Adams*, when placed out of commission, and ordered to the *Montgomery*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 25, 1907:

Rosenau, M. J., surgeon, granted leave of absence for six days from Dec. 26, 1907, under Paragraph 189, Service Regulations.

Oakley, J. H., P. A. surgeon, reassigned to duty at Fort Townsend Quarantine Station, Washington, effective May 28, 1907.

Parker, H. B., P. A. surgeon, reassigned to duty at Ellis Island, New York, effective Dec. 7, 1907.

Wille, C. W., P. A. surgeon, granted leave of absence for 1 month and 22 days from Dec. 22, 1907.

Earle, B. K., P. A. surgeon, granted leave of absence for 10 days from Dec. 24, 1907.

Lloyd, B. J., P. A. surgeon, granted leave of absence for four days from Nov. 22, 1907.

Bailey, C. W., acting asst.-surgeon, granted leave of absence for 7 days from Nov. 21, 1907, on account of sickness.

Cleaves, F. H., acting asst.-surgeon, granted leave of absence for 5 days from Sept. 23, 1907, under Paragraph 210, Service Regulations.

Nute, A. J., acting asst.-surgeon, granted leave of absence for 10 days from Dec. 21, 1907.

Stearns, H. H., acting asst.-surgeon, granted leave of absence for 9 days from Dec. 7, 1907, on account of sickness.

Thompson, W. R. P., acting asst.-surgeon, granted leave of absence for 21 days from Dec. 11, 1907.

PROMOTIONS.

P. A. Surgeons B. W. Brown, M. J. Rosenau, and J. M. Eager commissioned as surgeons, to rank as such from Nov. 9, 1907.

Foster, A. D., asst.-surgeon, commissioned as P. A. surgeon, to rank as such from Nov. 28, 1907.

Robertsou, H. McC., asst.-surgeon, commissioned as P. A. surgeon, to rank as such from Nov. 26, 1907.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Dec. 27, 1907:

SMALLPOX—UNITED STATES.

California: Los Angeles, Dec. 1-14, 24 cases; San Francisco, 16 cases, 1 death.

Illinois: Chicago, Dec. 6-14, 2 cases; Springfield, Dec. 6-12, 14 cases.

Indiana: Seven counties, Oct. 1-31, 75 cases; Elkhart, Dec. 8-21, 4 cases; Lafayette, Dec. 10-16, 1 case.

Georgia: Augusta, Nov. 27-Dec. 3, 1 case.

Kansas: Kansas City, Dec. 8-14, 1 case; Topeka, Dec. 11-17, 1 case.

Kentucky: Lexington, Nov. 24-30, 1 case.

Massachusetts: Everett, Dec. 8-14, 2 cases; Fall River, Dec. 8-14, 1 case; Waltham, Dec. 15-21, 1 case.

Michigan: Saginaw, Dec. 1-14, 9 cases.

Minnesota: Winona, Dec. 8-14, 1 case.

Missouri: St. Louis, Dec. 8-14, 1 case.

New York: New York, Dec. 8-14, 4 cases, 1 death.

Ohio: Dayton, Dec. 8-14, 5 cases.

Pennsylvania: Harrisburg, Dec. 17, 1 case (imported). Note: Dec. 6, 2 cases were erroneously reported at Altoona.

South Dakota: Vermillion, Oct. 1-Dec. 13, 30 cases.

Tennessee: Nashville, Dec. 8-14, 12 cases.

Texas: San Antonio, Dec. 8-14, 1 case.

Washington: Port Townsend, Dec. 7, 1 case (from S. S. *Alaskan*); Spokane, Dec. 8-14, 9 cases; Tacoma, 2 cases.

Wisconsin: La Crosse, Dec. 8-14, 2 cases.

SMALLPOX—FOREIGN.

Africa: Lorenzo Marquez, Oct. 1-31, 2 deaths.

Belgium: Ghent, Nov. 17-23, 2 deaths.

Brazil: Rio de Janeiro, Nov. 4-17, 25 cases, 9 deaths.

Canada: New Brunswick—Milltown, Dec. 14, 1 case.

Chile: Iquique, to Nov. 30, still present.

China: Amoy and Kulangsu, to Nov. 9, present; Shanghai, Nov. 4-17, 20 deaths, native population.

Ecuador: Guayaquil, Nov. 24-30, 4 deaths.

France: Marseilles, Nov. 1-30, 27 deaths; Paris, Nov. 24-30, 2 cases

Great Britain: Bristol, Dec. 1-7, 1 case; Liverpool, 1 case.

India: Bombay, Nov. 13-26, 4 deaths; Calcutta, Oct. 22-Nov. 2, 4 deaths; Madras, Nov. 16-22, 2 deaths.

Italy: General, Sept. 30-Dec. 5, 30 cases; Genoa, Oct. 1-31, 1 case.

Japan: Kobe, Nov. 10-16, 7 cases.

Mexico: Aguas Calientes, Nov. 24-30, 5 deaths; Monterey, Dec. 2-8, 1 death.

Peru: Lima: Nov. 23, still present.

Portugal: Lisbou, Nov. 24-30, 1 case.

Russia: Moscow: Nov. 17-23, 4 cases, 1 death; Riga, Nov. 24-30, 4 cases; St. Petersburg, Nov. 9-30, 3 cases.

Spain: Valencia, Nov. 25-Dec. 1, 32 cases, 2 deaths.

Turkey in Asia: Bagdad, Oct. 26-Nov. 2, 79 cases, 19 deaths.

Venezuela: Caracas, Nov. 22-Dec. 8, 800 cases, estimated 83 in hospital.

CHOLERA.

Hawaii: Honolulu, Dec. 19-21, 1 case, 1 death.

India: Bombay, Nov. 13-28. 8 deaths; Calcutta, Nov. 2-16, 267 deaths; Cochin, Oct. 5-25, 30 deaths; Madras, Nov. 9-22, 11 deaths; Nagapatam, Oct. 1-30, 28 deaths.

Japan: General, Aug. 4-Nov. 27, 3,049 cases, 1, 873 deaths; Kobe, Nov. 10-16, 4 cases, 1 death, from outbreak to Nov. 16, 472 cases, 332 deaths; Shinagawa, Nov. 23, present, on two torpedo-boat destroyers; Nagasaki keu, Nov. 11-17, 1 case, 1 death; Saseho, Nov. 20, still present; Yokohama, Nov. 19-25, 7 cases, 4 deaths.

Philippine Islands: Bocauc, Nov. 2, present; Calumpit, present; Manila, Oct. 27-Nov. 9, 18 cases, 18 deaths.

Russia: General, July 3-Nov. 6, 11,472 cases, 5,493 deaths.

Turkey in Asia: Sinope, Oct. 27-Nov. 5, 68 cases, 51 deaths (from S. S. *Gregory Merck*).

YELLOW FEVER.

Brazil: Rio de Janeiro, Nov. 4-17, 2 cases.

PLAGUE—UNITED STATES.

California: San Francisco, Dec. 18-23, bacteriologically examined 3 cases and 1 death.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Nov. 4-17, 12 cases, 1 death.

China: Amoy and Kulangsu, to Nov. 9, still present; Tcheng-chow-fu, to Nov. 15, 100 deaths, estimated.

Egypt: Alexandria, Nov. 21-27, 13 cases, 7 deaths; Port Said, 3 cases, 2 deaths; Provinces: Assiout, Nov. 26-Dec. 2, 8 cases, 8 deaths; Dakablieh, Nov. 27-Dec. 3, 43 cases, 24 deaths; Minieh, Nov. 9-15, 1 case, 1 death.

India: General, Oct. 27-Nov. 9, 17,766 cases, 13,210 deaths; Bombay, Nov. 13-26, 26 deaths; Calcutta, Oct. 28-Nov. 16, 46 deaths.

Japan: Nagasaki ken: Taira Mura, Goto Island, to Nov. 9, 22 cases, 11 deaths; Osaka, Nov. 16-27, 51 cases, 47 deaths, present to Nov. 27.

Peru: Caleta Coloso, Nov. 2-16, 3 cases, 1 death; Lima, Nov. 14-20, 1 case, 1 death; Ferrenhafe, 1 case; Paita, 7 cases, 7 deaths; Tacha, Nov. 7-21, 2 cases, 1 deaths; Trujillo, 16 cases, 8 deaths.

Marriages

Jesse D. Mars, M.D., to Miss Estelle Otis, both of Florida, N. Y., December 10.

John C. Augustine, M.D., to Mrs. Emma Meredith, both of Batavia, Ill., December 23.

Hugh S. Willson, M.D., to Miss Mary Richmond, both of Crystal, N. D., August 28.

Frank Dorsey, M.D., Cleveland, Ohio, to Miss Maud B. Sargent, of Malden, Mass., December 18.

George H. Green, M.D., Reardan, Wash., to Miss Anna Haven Guth, of Valparaiso, Ind., November 27.

William Hamlin Wilder, M.D., to Miss Caroline Louise Rothschild, both of Chicago, December 25.

Cassius L. Herren, M.D., Liberty, Ky., to Miss Dora Beck, of Cumberland County, Ky., December 15.

Samuel T. Revell, M.D., Louisville, Ga., to Miss Lettie Terry Jones, at Roanoke, Va., December 18.

Crittenden Joyes, M.D., Fort Worth, Texas, to Miss Almeda Griggs, of Waxahachie, Texas, November 19.

Hubley R. Owen, M.D., Philadelphia, to Miss Maud Smith, of Tioga, Pa., in June, 1906, in Haverhill, Mass.

Ora Berton Dunham, M.D., Goldfield, Nev., to Miss Georgia Savage, of Salt Lake City, Utah, November 4.

Samuel Gilmore Logan, M.D., Tyler, Pa., to Miss Ruby May Almy, of Brockwayville, Pa., December 12.

Hupp H. McIntyre, M.D., New Martinsville, W. Va., to Miss Grace M. Grimes, of Weston, W. Va., January 1.

Montie L. Rea, M.D., Charlottesville, Va., to Miss Pearl Watson, both of Charlottesville, Va., December 18.

George Herbert Williams, M.D., Fishkill-on-the-Hudson, to Miss Sarah Livingston, of New York City, December 14.

William H. Chapman, M.D., Nebraska State Hospital, Ingleside, to Mrs. Florence D. Sims of the same institution, December 21.

Lavinia Fraser McPhee, M.D., Independence, Iowa, and Mr. Alexander Edgar Green, of Winnipeg, Man., at Cedar Rapids, Iowa, December 19.

Deaths

Henry Patterson Loomis, M.D. New York University Medical College, 1883; a member of the medical societies of the State and County of New York; president of the New York Pathological Society and New York Academy of Medicine; visiting physician to the New York Hospital and Bellevue Hospital; consulting physician of the Board of Health of New York City; professor of materia medica, therapeutics and clinical medicine in Cornell University Medical College, New York City; a noted specialist on diseases of the heart and lungs; died at his home in New York City, December 22, from pneumonia, after an illness of five days, aged 48.

William Bayard, M.D. University of Edinburgh, Scotland, 1837; in 1895 president of the Canadian Medical Association; founder of the St. John General Public Hospital, chairman of the New Brunswick Medical Society and president of the Council of Physicians and Surgeons; coroner of St. John County for several years, and chairman of the Provincial Board of Health; said to have been the oldest graduate of the University of Edinburgh, who was given the honorary degree of LL.D. by that institution in 1907; died at his home in St. John, N. B., December 17, aged 94.

Hubbard Madison Smith, M.D. Starling Medical College, Columbus, Ohio, 1849; president of the board of trustees of the University of Vincennes, Ind.; postmaster of that city from 1861 to 1869; a member of the pension examining board for twelve years thereafter; a member of the Indiana State Medical Association and Knox County Medical Society; died at his home in Vincennes, December 23, as the result of a fall several days before, aged 87.

Charles Howell Bailey, M.D. College of Physicians and Surgeons in the City of New York, 1869; a member of the American Medical Association; a veteran of the Civil War; for several years president of the Board of Health of Bloomfield, N. J., and up to 1905 a member and president of the medical and surgical staff of the Mountainside Hospital, Montclair; died at his home in Bloomfield, December 18, from paralysis, aged 62.

George James Holmes, M.D. Albany (N. Y.) Medical College, 1882; a member of the American Medical Association; an ophthalmic and aural surgeon of New Britain, Conn.; sometime president of the New Britain Medical Society, and in charge of the eye and ear departments of the New Britain General Hospital; died at that institution, December 14, from pneumonia, after an illness of three days, aged 53.

George H. Briggs, M.D. University of Buffalo (N. Y.), Medical Department, 1852; surgeon of the Eighteenth Wisconsin Volunteer Infantry during the Civil War; from 1857 to 1859 superintendent of schools of Delavan, Wis., and for nine years physician to the Wisconsin Institute for the Deaf and Dumb; died at the home of his daughter, in Albert Lea, Minn., December 12, from heart disease, aged 80.

James W. Casey, M.D. University of Buffalo (N. Y.) Medical Department, 1862; a member of the medical societies of the State of New York and County of Monroe; a surgeon in the Federal service during the Civil War; president of the medical staff of St. Mary's Hospital, Rochester; died at his home in that city, November 18, from cirrhosis of the liver, after an illness of one year, aged 73.

Adolph Grimm, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1881; a member of the American Medical Association; for 23 years a member of the staff of St. Mary's Hospital, Cincinnati, and for the past fifteen years secretary of the staff; died in the German Deaconess Hospital, in that city, December 15, from tubercular peritonitis, complicating diabetes, aged 48.

James Madison Brannock, M.D. Jefferson Medical College, Philadelphia, 1851; surgeon in Bragg's Brigade, Cheatham's Division, in the Confederate service, during the Civil War; superintendent of the West Tennessee Hospital for the Insane; and since 1889 a resident of Richmond, Va.; died at the home of his daughter in that city, December 14, from senile debility, aged 78.

Mathew Oliver Jones, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1850; a member of the American Medical Association, and probably the oldest practitioner of Allegheny County, Pa.; for many years consulting physician to the Passavant Hospital, Pittsburg; died at his home in Allegheny, December 21, from senile debility, aged 85.

Nathan Avery Caldwell, M.D. Albany (N. Y.) Medical College, 1881; at one time health officer of the towns of Amsterdam and Hagaman, N. Y., and member of the consulting staff of the Faxon Hospital, Utica, N. Y., died at his home in Hagaman, December 20, while under anesthesia, preparatory to an operation for a disease of the bones of the leg, aged 51.

Louis F. Weaver, M.D. Jefferson Medical College, Philadelphia, 1875; in 1894 a member of the common council of Syracuse, N. Y.; twice coroner of Onondaga County, and 1894 a trustee of the Syracuse State Institution for Feeble-Minded Children; died at his home in Syracuse, December 18, after an illness of five years, aged 58.

Jefferson Ward Merrill, M.D. Medical Faculty of Queen's University, Kingston, Ont., 1902; assistant in Rockwood Asylum, and afterward house surgeon in Water Street Hospital, Ottawa, and later surgeon of the Canadian Pacific Railway at Chapleau, Ont., died in Ottawa, September 4, from cerebrospinal meningitis, aged 30.

Frank Farquhar Ferguson, M.D. Long Island College Hospital, Brooklyn, N. Y., 1880; a member of the American Medical Association, and for several years pathologist to the New York Hospital; a clinical diagnostician of unusual ability; died at Atlantic City, N. J., December 14, after an illness of two months, aged 60.

John Stuard Robertson, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1883; a veteran of the Civil War; at one time clerk of the Supreme and Circuit courts; house physician of Niles Sanitarium, Urbana, Ohio; died in that institution, December 22, aged 63.

Henry Case Spooner, M.D. Western Reserve University Medical College, Cleveland, 1859; surgeon of the Fifty-fifth Ohio Volunteer Infantry during the Civil War, and formerly a member of the legislature; died at his home in Republic, Ohio, from heart diseease, December 19, aged 70.

John C. Johnson, M.D. College of Physicians and Surgeons in the City of New York, 1850; a member of the medical societies of New Jersey and Warren County; and once president of the state society; died at his home in Blairstown, December 23, from senile debility, aged 78.

Thomas P. Gary, M.D. Medical College of the State of South Carolina, Charleston, 1857; a Confederate veteran; for many years a practitioner of Selma, Ala.; died at the home of his sister, at Gadsden, Ala., December 17, from uremia, after a short illness, aged 78.

William O. C. Harding, M.D. Eclectic Medical Institute, Cincinnati, 1891; local surgeon to the Panhandle System; died at his home in Elmwood Place, Cincinnati, December 17, from peritonitis, due to injuries received in a runaway accident five days before, aged 38.

Robert Newton Strong Barger, M.D. Rush Medical College, Chicago, 1868; a veteran of the Civil War; during which he served as hospital steward; died at his home in Hopedale, Ill., December 19, from cerebral hemorrhage, after an illness of three years, aged 65.

Joseph A. Biegler, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1867; surgeon in the Federal service during the Civil War; and sometime a member of the Board of Health of Rochester, N. Y., died at his home in that city, December 22.

Joseph Everett Garland, M. D. Medical School of Harvard University, Boston, 1877; a member of the American Medical Association; and for twenty-three years a member of the School Board of Gloucester, Mass., died recently, and was buried December 20.

William Austin Walker, M.D. Jefferson Medical College, Philadelphia, 1854; a member of the Medical Association of the State of Alabama and Bullock County Medical Society; died recently at his home, in Perote, Ala., and was buried, December 12, aged 75.

Hal R. Cohee, M.D. Medical Department of the Creighton University, Omaha, 1906; a member of the Missouri Valley Medical Society; died at his home in Wood Lake, Neb., December 9, from typhoid fever, after an illness of twenty-two days, aged 35.

Julia Wallace-Russell, M.D. Woman's Medical College of the New York Infirmary, New York City, 1877; of Concord, N. H.; physician in charge of the New Hampshire Hospital for Women and Children, Concord, since its foundation; died July 1, aged 63.

William Alexander Waters, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1852; formerly a practitioner of Clarkesburg, Md., died suddenly from heart disease, December 19, while visiting one of his tenants, near Boyds, aged 83.

George W. Wilson, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1870; a member of the

Iowa State and Poweshiek County medical societies; died at his home in Montezuma, from nephritis, December 16, aged 58.

James Harris Blake, M.D. University of Maryland School of Medicine, Baltimore, 1873; for 37 years a practitioner of Houston, Texas; died at his home in that city, December 16, from cerebral hemorrhage, after an illness of nine months, aged 60.

James M. Safford, M.D. University of Nashville, Medical Department, 1872; formerly professor of chemistry in that institution and Vanderbilt University; a distinguished chemist, geologist and educator; died in Dallas, Texas, July 2, aged 86.

Albert Cory, M.D. Rush Medical College, 1882; formerly physician to the Vernon County (Wis.) Asylum for the Insane and local surgeon of the Chicago, Milwaukee and St. Paul Railway, at Viroqua; died recently at his home in Chicago, aged 52.

Elmer Ellsworth Goodwin, M.D. Dartmouth Medical School, Hanover, N. H., 1896 a member of the Massachusetts and Essex District medical societies; died at his home in Haverhill, Mass., December 18, after an illness of five weeks, aged 42.

Charles Nathaniel Thayer (registration, Mass., 1894); a veteran of the Civil War, and twice a member of the legislature; died at his home in Fairhaven, Mass., November 12, from angina pectoris, after an illness of twenty days, aged 80.

Frederick Elliott Gordon, M.D. Medical College of Alabama, Mobile, 1882; a member of the American Medical Association; died at his home in Anniston, Ala., December 15, from heart disease, after an illness of several weeks, aged 46.

Theodore T. Haering, M.D. University of Munich, Germany, 1860; surgeon of the Ninth Wisconsin Volunteer Infantry, during the Civil War; died at his home in Bloomington, Ill., December 20, after an illness of one week, aged 74.

Edgar F. Northway, M.D. Hahnemann Medical College and Hospital of Chicago, 1903; formerly of Kenosha, Wis.; died at his home in Lordsburg, N. M., December 13, from tuberculosis, after an illness of two years, aged 35.

J. B. Honeycutt, M.D. Hospital College of Medicine, Louisville, 1891; a member of the Kentucky State and Barren County medical societies; died at his home in Glasgow, from cancer, December 17, aged 50.

Nathan Luther French, M.D. Tennessee Medical College, Knoxville, 1894; of Wartburg, Tenn.; a member of the American Medical Association; died at Harriman, Tenn., December 9, from typhoid fever, aged 40.

C. W. Meely (years of practice, Ohio, 1896), formerly of Wapakoneta, Ohio; an inmate of the Soldiers' Home, Dayton; died in the Miami Valley Hospital, Dayton, December 18, after a long illness, aged 86.

William Eves, M.D. Jefferson Medical College, Philadelphia, 1868; formerly of Williamsport, Pa.; a member of the pension examining board; died at his home in Hershey, Neb., December 18, aged 66.

Elige M. Koger, M.D. University of Tennessee, Medical Department, Nashville, 1904; a member of the American Medical Association; died at his home in Albany, Ky., September 8, aged 31.

Edward F. Butterfield, M.D. Metropolitan Medical College, New York City, 1861; formerly of Syracuse, N. Y., died at his home in Manlius, N. Y., from senile debility, December 17, aged 81.

Robert W. McClelland, M.D. University of Virginia, Department of Medicine, Charlottesville, 1862; died suddenly at his home in Arrow Rock, Mo., December 12, from angina pectoris, aged 72.

William Alexander Conkey, M.D. University of Louisville (Ky.) Medical Department, 1838; died at his home in Homer, Ill., December 2, from pneumonia, after an illness of two weeks, aged 86.

Edward P. Doherty, M.D. University of Buffalo (N. Y.) Medical Department, 1884; for six years surgeon of the Maritime Penitentiary, Dorchester, N. B., died, October 3, aged 46.

David S. Clark, M.D. Vermont Academy of Medicine, Castleton Medical College, 1854; a surgeon in the Civil War; died at his home in West Derry, N. H., December 20, aged 83.

M. C. Cox, M.D. Medical College of Georgia, Augusta, 1856; a Confederate veteran; died at his home at Lanford, S. C., December 18, after an illness of thirteen months, aged 72.

Everett H. Coleman (license, 1854), for many years a practitioner of Belleville, Ont.; died at his home in that place, November 1, from cerebral hemorrhage, aged 74.

H. L. Tooley, M.D. Medical Department of St. Louis University, 1907; of Purcell, Okla., died in Denver, Colo., November 27, from tubercular peritonitis, aged 24.

Frederick A. Noble, M.D. Philadelphia University of Medicine and Surgery, 1867; of Seattle, Wash.; died at his old home in Aurora, Neb., July 24, aged 65.

Deaths Abroad.

Oscar E. Lassar, M.D., professor of dermatology at Berlin, and founder of a popular private clinic for skin diseases, was fatally injured in an automobile accident, dying December 23, aged 58. He organized the Berlin Dermatologic Society and took a leading part in public hygienic measures, especially the introduction of baths for the poor. He was also a frequent contributor to scientific periodicals, besides the *Dermatologische Zeitschrift*, which he founded about fourteen years ago. For some years he served with Koch on the national board of health.

H. Folet, M.D., professor of surgery at Lille, France, died November 3, aged 64. He was president of the Northern Medical Society, and had published works on transplantations in men and animals, traumatic encephalocele, splenectomy, etc.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Utah State Board of Medical Examiners, Salt Lake City, January 6. Secretary, Dr. R. W. Fisher, Salt Lake City.

Arizona Board of Medical Examiners, Phoenix, January 6-7. Secretary, Dr. Ancil Martin, Phoenix.

Colorado State Board of Medical Examiners, Denver, January 7. Secretary. Dr. S. D. Van Meter, 1723 Tremont St., Denver.

Washington State Medical Examining Board, Spokane, January 7. Secretary, Dr. C. W. Sharples, Seattle.

Oregon Board of Medical Examiners, Portland, January 7-9. Secretary, Dr. Byron E. Miller. The Dekum Building, Portland.

North Dakota State Medical Examining Board, Grand Forks, January 7-9. Secretary, Dr. H. M. Wheeler, Grand Forks.

South Dakota State Board of Medical Examiners, Mitchell, January 8-9. Secretary, Dr. H. E. McNutt, Aberdeen.

District of Columbia Board of Medical Supervisors, Washington, January 9-13. Secretary, Dr. George C. Ober, Washington.

New Mexico Board of Health and Medical Examiners, Santa Fe, January 13. Secretary, Dr. J. A. Massie, Santa Fe.

Arkansas Homeopathic Board of Medical Examiners, Little Rock, January 14. Secretary, Dr. V. H. Hallman, Hot Springs.

Arkansas Eclectic Board of Medical Examiners, Little Rock, January 14. Secretary, Dr. A. J. Widener, Little Rock.

New Hampshire State Board of Medical Examiners, Concord, January 14-15. Regent, Mr. H. C. Morrison, Concord.

Vermont State Board of Medical Registration, State House, Montpelier, January 14-16. Secretary, Dr. W. Scott Nay, Underhill.

Wisconsin Board of Medical Examiners, Plankinton Hotel, Milwaukee, January 14-16. Secretary, Dr. J. V. Stevens, Jefferson.

Arkansas October Report.—Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, Oct. 9, 1907. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 19, of whom 9 passed, including 2 non-graduates, and 10 failed, including 7 non-graduates. Four old practitioners, including one non-graduate, were granted licenses by reason of having been registered under the old law. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
College of P. and S., Kansas City*	(1901)	78
University of Maryland	(1879)	84
Barnes Med. Coll.	(1899) 84; (1907)	77, 84
St. Louis Coll. of P. and S.	(1906)	79
University of Virginia	(1905)	87
FAILED.		
Cincinnati Coll. of Med. and Surg.	(1900)	38.1
Meharry Med. Coll.	(1906) 51; (1907)	73
REGISTERED UNDER OLD LAW.		
National Med. Coll., Washington, D. C.	(1902)	
Baltimore Med. Coll.	(1891)	
Arkansas University	(1896)	

* In 1905 this school was absorbed by the University of Kansas School of Medicine.

Indiana October Report.—Dr. W. T. Gott, secretary of the Indiana State Board of Medical Registration and Examination, reports the written examination held at Indianapolis, Oct. 22-24, 1907. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 63, of whom 55 passed and 8 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Rush Med. Coll.	(1903) 84.3; (1905)	91.7
Chicago Coll. of Med. and Surg.	(1906) 91.5; (1907)	83.2
Illinois Med. Coll.	(1906) 82.4; (1907)	86.7, 87.2
College of P. and S., Chicago	(1905) 90.4; (1907)	87.4, 88.8, 89.3
Hahnemann Med. Coll., Chicago	(1901) 89; (1906) 88.7; (1907)	86.5.
Northwestern Univ. Med. School	(1901) 91.1; (1907)	83, 93
Bennett Coll. of Ecl. Med. and Surg.	(1889)	86.3
Eclectic Med. Coll. of Indiana	(1907)	87.7, 89.2
State Coll. of P. and S., Indianapolis	(1907)	86.5
University of Michigan	(1904) 91.6; (1907)	93.3
University of Michigan, Homeopathic Department	(1907)	81.2
Kentucky School of Med.,	(1883) 75.1; (1901) 75.1; (1907)	81.3, 82, 83.8, 83.8, 86.4, 87.1, 87.3, 87.4, 89.4, 89.9.
Hospital Coll. of Med., Louisville	(1906) 81.3; (1907)	85.3, 83.8
University of Louisville	(1893) 82.8; (1907)	81, 81.9, 84.1, 89.9, 91.6, 92.8.
Indiana Med. Coll.	(1907)	75, 89.7
Louisville Med. Coll.	(1907)	79.3
Medical Coll. of Ohio	(1906) 91; (1907)	87.5
Meharry Med. Coll.	(1907)	82.4
University of Pennsylvania	(1907)	92.5
University of Virginia	(1906)	91.9
University of Naples, Italy	(1882)*	

FAILED.

College.	Year. Grad.	Per Cent.
Bennett Coll. of Ecl. Med. and Surg.	(1907)	73
College of P. and S., Chicago	(1906)	69.8
Jenner Med. Coll.	(1907)	69.5
Indiana Med. Coll.	(1906) 62.5; (1907)	71.5
Kentucky School of Med.	(1907)	61.9
Louisville Med. Coll.	(1891)	56.5
University of Louisville	(1902)	71

* Percentage not given.

Michigan Reciprocity Report.—Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, sends us the following list of reciprocal licenses isued by the board from Aug. 1 to Dec. 14, 1907, inclusive:

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Northwestern Univ. Med. School	(3, 1907)	Illinois
Rush Med. Coll.	(1902) Indiana; (1907)	Illinois
Woman's Med. School of Northwestern Univ.	(1900)	Kansas
Bennett Coll. of Ecl. Med. and Surg.	(1906)	Illinois
College of P. and S., Chicago	(2, 1905); (1907)	Illinois
College of Med. and Surg., Chicago	(1907)	Illinois
Hahnemann Med. Coll., Chicago	(1895)	Illinois
Medical Coll. of Indiana	(1904)	Indiana
Baltimore Med. Coll.	(1907)	Maryland
University of Michigan	(1884) California; (1875)	Ohio
St. Louis Coll. of P. and S.	(1900)	Missouri
Cleveland Homeo. Med. Coll	(1905)	Ohio
Jefferson Med. Coll.	(1906)	Vermont
University of Pennsylvania	(1902)	Penna.
Milwaukee Med. Coll.	(1904)	Wisconsin

Representatives from the following colleges were licensed under the exemption clause:

College.	Year Grad.
Univ. of Michigan, Dept. of Med. and Surg.	(2, 1906); (1907)
University of Michigan, Homeopathic Department	(1904)

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

State Journals Should Devote More Space to Medical Economics.

In the December *Ohio State Medical Journal*, a leading editorial on "Medical Economics" is evidence of the increasing interest taken in questions affecting the practical side of medicine. An abstract of the editorial follows:

> One of the prominent features of the new organization of the medical profession has been the great increase in interest in medical economics. This is shown not only by the resolutions passed and discussions indulged in by various medical societies, but also by the increasing number of articles devoted to this subject which are appearing in the medical press. While the scientific work of the profession is its chief aim, yet physicians are realizing that the possession of scientific knowledge imposes certain duties and responsibilities which demand their serious attention. There are a large number of subjects which are plainly auxiliary to scientific medicine.
>
> The different departments of our civil government devote 40 per cent. of the revenues to maintaining means of offense and defense for the protection of its citizens. What is the medical profession doing along these lines? As evidence of the necessity and importance of the medical profession paying attention to these matters, are instanced the attitude of one of the United States senators from Ohio on public health measures, the attitude of "patent-medicine" interests and their efforts to influence the public, as well as the desirability of the medical profession itself rigidly maintaining its own ethical standard.
>
> Officers of county and district societies and members of state and auxiliary committees on public policy and legislation are urged to take an active interest in their work. The state journal should devote more space and attention to medical economics and should establish a department for such subjects, as the value of this work seems incalculable.

Illegal Practitioners Cast Out of Missouri.

In the December *Journal of the Missouri State Medical Association* appears a report regarding the efforts of the State Board of Health and the medical profession of Missouri to revoke the licenses of various violators of the medical practice act. Besides Drs. Bye and Johnson of Kansas City, the revocation of whose licenses has been previously noted, the State Board of Health has revoked the licenses of Dennis R. Dupuis, alias Rupert Wells, and S. R. Chamlee, both of St. Louis. The evidence in these cases was collected by Health Commissioner Bond, through the various departments of the St. Louis Health Department, and was presented to the board by him with the assistance of the attorney of the St. Louis Medical Society, Mr. I. V. Barth. A number of other cases are now pending before the state board and will probably be disposed of at the next meeting. County societies in other parts of the state are taking up the work of investigating and prosecuting illegal practitioners in their districts.

The *Journal* also publishes a list of persons and institutions located in St. Louis affected by an order of the Postoffice Department, denying them the use of United States mails. Newspapers carrying advertisements of any of these individuals or institutions have also been declared unmailable. This list was given in THE JOURNAL, Nov. 23, 1907, page 1781

Most of these advertisements contained information or gave notice where abortifacients or the performance of criminal operations could be obtained. Newspapers containing such advertisements are not admitted to the mails, in accordance with the revised statutes of the United States and the regulations of the Postoffice Department.

In addition, the Postoffice authorities have declared the following names to be fictitious, and mail addressed to them will be sent to the dead letter office and not delivered:

De Myers Dennis Medicine Company.
De Myers Sanitarium, 2112 Olive Street.
Dennis Sanitarium, 2739 Washington Street.
North Side Sanitarium, 809 Bel—— Street.
South Side Sanitarium, 2344 South 12th Street.
Galen Medical Institute, 1516 Chestnut Street.

Besides having their advertising thrown out of the papers and their mail cut off, all of the individuals connected with the above institution, according to the *Missouri Journal*, have been convicted in the police courts of violations of the medical practice act or of the city ordinance.

The State Board of Health, the local medical societies, and the municipal health authorities are certainly to be congratulated on the good work which has been done. As the editor states: "A few more convictions and a few more stop orders by the Postoffice Department will cause the rest of these pests to depart with their wonderful discoveries and their sure cures to more fertile fields." The question arises, however, whether any state will care to furnish the breeding place for this transplanted brood. The information given above ought to be sufficient to warn the physicians in any community and to enable them to prevent the people, each in his own town or state, from being made the victims of these proved frauds.

Postgraduate Courses in Germany.

The annual report of the system of postgraduate instruction which is now being extended all through Germany, with its headquarters in the Empress Frederick House at Berlin, states that last year 29 courses of postgraduate lectures were given by physicians under direction from the central committee, with 2 other cycles with 24 lectures, and 7 lectures on medical economics given under the auspices of the "Seminary for Social Medicine." There were also 10 courses organized for students, given by privat docents and members of the faculty. Another branch of the work was represented by 10 lectures on first aid to the injured and Red Cross work. The permanent exhibition of medical and surgical instruments, appliances, etc., has been inspected by 5,000 persons, and the demand for the loan collections of casts, lantern slides, etc., for use in postgraduate work is constantly increasing.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month.

Second Weekly Meeting.

Bronchitis.

Acute Bronchitis.

Etiology. Most frequent cause. Inhalation bronchitis. Associated with what acute infectious diseases? Microorganisms most frequently found on mucous membrane.

Pathologic Anatomy. Changes in mucous membrane. Character of exudate. How do etiologic factors influence pathologic changes and exudate?

Symptoms: Initial symptoms and course. Most frequent complications. Symptoms and signs of onset.

Physical Signs: Physical signs of different stages with relation to changes in mucosa.

Prognosis: On what does termination depend? Influence of age on course.

Diagnosis: With what disease may it be confused? Give points of difference.

Differential Diagnosis.

Chronic Bronchitis.

Etiology. After what diseases does acute form become chronic? Associated with what constitutional diseases. Bearing of climate and season.

Pathologic Anatomy: Changes in different forms.

Symptoms: Age, symptoms and physical signs. Shape of chest.

Clinical varieties: (a) Bronchorrhea, (b) putrid bronchitis, (c) dry catarrh, diagnostic symptoms and signs of each.

Congestion of Lungs.

Active—Occurs in what conditions. Pathology. Symptoms. Differential diagnosis.

Passive—Mechanical. Usual cause. Pathology. Symptoms.

Hypostatic—Occurs in what class of cases. Factors in production. Pathology. Diagnosis.

Hemoptysis.

Causes. Significance. Mode of onset. Physical characteristics of blood. Course. Recurrence as a symptom.

Society Proceedings

COMING MEETING.

Med. Soc. of the State of New York, Albany, Jan. 28.

AMERICAN ASSOCIATION FOR CANCER RESEARCH.

First Regular Meeting, held in New York, Nov. 15, 1907.

Officers Elected.

The society adopted a constitution and elected the following officers: President, James Ewing, New York; vice-president, F. B. Mallory, Cambridge; secretary, Harvey R. Gaylord, Buffalo. The next meeting will be held at Buffalo in the spring of 1908.

Clinical Transfusion and Serum Reaction in Carcinoma and Sarcoma.

Dr. George Crile, Cleveland, Ohio, cited a case in which there were pathologic hemorrhages due to jaundice, caused by carcinoma of the gall bladder, and which afforded an ideal opportunity for testing the value of normal healthy blood in carcinoma. The patient had been exsanguinated and at transfusion a large amount of blood was transferred. The diagnosis of carcinoma was verified by an exploratory incision. The tumor, however, continued to grow, and although the hemorrhage was controlled there was no evidence that transfusion exerted any influence on the growth. Following this eight other cases of carcinoma were transfused. In none of the cases of carcinoma was there evidence of any influence on the natural course of the disease. Four incurable cases of sarcoma were transfused. Two were so far advanced that no operative measure could be undertaken, not even the partial removal of the tumor. In two, the cases were very unfavorable for an operative cure, but the major part of the growth was excised. In one of the unoperated cases the tumor became softer and regressed, and the patient gained in weight; however, after considerable regression was noted, a stationary period was reached and it finally began to grow again. Retransfusion was proposed, but the patient was not willing. In the two operative cases, one of which was a renal sarcoma, there is no recurrence of the growth as yet, but sufficient time has not elapsed to make these observations of value.

In fifteen cases of carcinoma and sarcoma observed, Crile and Beebe confirmed the observations of previous workers that hemolysis occurs in cases of malignant tumors. The object in making the hemolysis experiments was to determine the suitable cases for transfusion, as they had seen hemolysis of the new blood in some of their earlier cases. They also wished to determine whether or not this might afford a method of diagnosis, as suggested by Dr. Sam Peskind. In all but one case of carcinoma there was hemolysis, and in all of the cases of sarcoma it was obvious that the extent of the hemolysis was dependent, in part, at least, on the extent of the disease. It seemed to be rather quantitative. It is interesting, too, to note that two cases of advanced sarcoma, while they each hemolyzed normal blood, did not hemolyze each other. Various combinations were tried to determine whether or not data of diagnostic value could be obtained. In one case of a very large tumor of the breast, supposed to have been a benign tumor which had become malignant, there was no hemolysis, and at operation the tumor was found to be benign. Marked hemolysis was found in a case of carcinoma with metastasis in the liver. Of interest was the observation in a case of extensive carcinoma of the breast, operated on five years ago, the patient having returned to the hospital with a suspicion that there was recurrence. Her blood showed no hemolysis and a careful physical examination did not reveal any evidence of growth. Crile said that it will require many more observations and a greater refinement in the technic before one can determine whether or not this method will be of specific diagnostic and prognostic value. There is some evidence that it may become of such value.

Cancer in Mice.

Dr. H. R. Gaylord, Buffalo, reported from the New York State Cancer Laboratory further observations on a breeding establishment in Massachusetts, where cancer in mice is endemic. This is the same establishment which was reported at a meeting of the British Medical Association, in Toronto, in August, 1906. At the present time the laboratory has records covering eighteen months, during which time it has received fifty-one tumors in mice and knows of twelve other tumors in mice supplied to other scientists during this period, sixty-three tumors developing in mice during the period of eighteen months. In this time this breeder has reared approximately 7,000 mice. These fifty-one tumors, with the exception of one, have occurred in female mice. Forty-nine of them are tumors originating in the breast in females, one a squamous-celled epithelioma of the vulva and one a fibrosarcoma surrounding the right humerus. The breast tumors were distributed over the abdominal aspect and corresponding to the normal distribution of mammary tissue in the mouse. They presented everything from a simple adenoma to carcinoma solidum. In practically every tumor transition from simple adenoma to adenocarcinoma and carcinoma solidum could be traced. Fifteen of these tumors were transplanted; three took in the first generation and died out in the second; one continued and is now in the sixth generation.

Within the last year this breeder has begun breeding white rats at Gaylord's suggestion, and in stock coming from her establishment he has found four rats with spontaneous tumors. All of these tumors have been fibroadenomata of the breast, with the exception of one, which is unquestionably an adenocarcinoma. During this period the breeder has raised about 1,000 white rats. The laboratory has had business relations with a breeder in Washington for the past three years, who sells about 2,500 white mice per annum, and as many white rats. He has never been able to supply a single tumor from his own stock. The laboratory possesses at present five transplantable mouse carcinomata, and the spindle-celled sarcoma of the thyroid in a rat, previously described as developing, with two other cases of fibrosarcoma, in a cage which had been used by Dr. Leo Loeb for sarcoma rats brought from Chicago. This sarcoma of the thyroid has now been transplanted through eight generations. The number of successful inoculations was surprisingly high in the first generation, giving 5 tumors in 23 inoculated rats, or 21.8 per cent. In the second generation but 6 tumors developed in 172 inoculated rats, being 3.5 per cent.; the third generation, 14 tumors in 61 rats, or 23 per cent.; fourth generation, 8 tumors in 125 rats, or 6.4 per cent.; fifth generation, 29 tumors in 90 rats, or 32.2 per cent.; sixth generation, 37 tumors in 260 rats, or 14.2 per cent.; seventh generation, 12 tumors in 123 rats, or 9.8 per cent.; eighth generation, 99 rats have been inoculated, in which thus far but four tumors have developed. Summary: Total number of rats, 854; total number of tumors, 111; percentage of tumors, 13.

These tumors frequently reach great size, even exceeding that of the rat. There is no notable increase in virulence, the relatively high percentages obtained in one generation frequently falling low in the next. This is thought to be owing to the lack of susceptibility in certain races of rats. The tumor appears to take just as well in parti-colored rats as in white rats. There have been occasional spontaneous recoveries, and these rats have proved immune. The histologic characteristics of the tumor have not changed; it presents the characteristics of spindle-celled sarcoma.

A careful examination has been made of the different strains of transplantable mouse tumors in the laboratory in search of sarcomatous changes in the stroma of transplanted mouse carcinomata, as first described by Ehrlich and Apolant, and recently observed by Bashford, but no evidences of such transformation was found in any of the transplanted strains.

A few months ago the laboratory came into possession of a female thoroughbred English bulldog suffering from round-celled sarcoma of the vagina of the type described by Smith and Washbourn, Sticker, Bashford, Ewing and Beebe. Through the kindness of Dr. Beebe a spontaneously recovered and supposedly immune dog was sent from New York, and Dr. Crile came to Buffalo, and after deep bleeding transfused the blood of the immune dog into the dog with the primary round-celled sarcoma. During the first two weeks there was marked diminution in the size of the tumors, the mass which entirely filled the perineum decreased in both dimensions 2 c.c. and then remained stationary for a period. When it seemed to grow again, a second partial transfusion of the blood of a normal dog was performed. This made no impression on the tumor. A third transfusion was undertaken, employing two immune dogs furnished by Dr. Beebe, but, unfortunately, the dog was lost through the anesthetic. From this experiment it would appear that round-celled sarcoma acquired in the natural way by dogs may be influenced by transfusion with the blood of dogs rendered experimentally immune by spontaneous recovery from an inoculation tumor.

Observations on the Hemolytic Reactions of the Blood in Dogs Affected with Transplantable Lymphosarcoma.

Dr. Weil stated that his material consisted of eight dogs, some of which were actively growing tumors, others of which were in a stage of regression, while still others were entirely cured of their tumors. In addition, there were a number of control animals, without any history of tumors; some of these were healthy, others in very poor condition. From all of these animals serum was obtained, and also red blood corpuscles, the latter being made up to a 1 per cent. emulsion in normal salt solution. Corpuscles and sera of different animals were then mixed in definite proportions. Up to the present, more than 200 such reactions had been tried. It has been found that the serum from animals with tumors is almost, without exception, actively hemolytic. This activity seems to vary with the rate of growth of the tumors; it is, however, also present in animals in which regression is in progress, and to some extent also in recovered animals. The corpuscles of dogs with tumors, or recovered from them, are invariably more resistant to the hemolytic activity of sera derived from tumor dogs than are the corpuscles of dogs without a history of tumors. This resistance is not absolute, but distinctly greater than in other animals. The serum of dogs without a history of tumors is almost, without exception, non-hemolytic. The hemolytic activity of sera from tumor dogs is not due to anisotonicity.

Hemolytic Reactions of the Blood in Human Beings Affected with Malignant New Growths.

Dr. Weil found that the hemolytic activity of human serum, tested against human corpuscles, is extremely slight, and requires the use of far larger quantities of serum, and of smaller numbers of corpuscles, and observations extending over a much longer period of time. The serum of patients with malignant new growths has been found in a very large percentage of cases to be hemolytic under the conditions above stated. The resistance, or relative immunity of their corpuscles varies, but is ordinarily less than in normal individuals. A certain number of patients with tumors have serum which is not hemolytic when tested by any of the methods available. The distinction between the hemolytic and the non-hemolytic sera does not correspond to any clinical difference, notably not to ulceration of the tumors; two very much ulcerated cancers of the stomach were associated with non-hemolytic sera. Hemolytic activity is found in certain other conditions, notably certain infectious diseases, e. g., pneumonia and tuberculosis. Inactivation by heat seems to afford a differential between some of these sera and those of tumors. The far advanced cases of new growth do not owe their power to the secondary anemia, inasmuch as marked secondary anemias from other causes, and pernicious anemia, as far as hitherto examined, fail to show hemolysis.

Nature of the Infectious Lymphosarcoma of Dogs.

Drs. James Ewing and S. P. Beebe reported further studies on the nature of the infectious lymphosarcoma of dogs, with special reference to the possibility that this disease might be a form of canine syphilis. Systematic studies of transplanted tumors stained by Levaditi's method, during the past two years, failed to show the presence of spirochetæ in any intact tumors. Seven additional primary cases of the disease located in the vagina, obtained from Dr. T. G. Sherwood and Dr. C. Coakley, were examined by Levaditi's method. In one of these large numbers of spirochetæ were found in the ulcerated surface of the excised lesions, along with other bacteria. These spirochetæ resembled *Spirillum pallida*, and were found chiefly along the vessels of the trabeculæ, but also in and between the tumor cells. At some points the spirochetæ penetrated deeper than the bacteria; in others the bacteria were found deeper than the spirochetæ. This relation offered as strong evidence in favor of the etiologic relation of the bacteria as of the spirochetæ, but was inadequate to establish any importance for either organism. In one other case a few spirochetæ were found only on the ulcerated surface, while in the remaining five cases no spirochetæ were found in the tissues removed. Search for the involution forms of spirochetæ such as are found in tertiary syphilitic lesions was negative. It was thought that the spirochetæ might be very scanty, but yet present in the transplanted tissue, and might multiply after transplantation, while the graft was taking. In grafts removed at intervals of forty-eight hours to five days after transplantation, no spirochetæ were found by Levaditi's method. All these grafts appeared to be growing when removed. The fate of the transplanted cells was again followed in two series of plants, and the conclusion reached in previous experiments, that the tumor grew from the transplanted cells and not from the host's tissues, was fully verified. These results, together with the histology of the primary growths, and especially of the visceral metastases, the loss of infectivity of the filtrate through paper, seem to show satisfactorily that this disease is not an infection by spirochetæ or any other viable micro-organism, but is a true malignant neoplasm.

Transformation of Carcinoma into Sarcoma.

Dr. James Ewing discussed the significance of the transformation of mouse and rat carcinoma into sarcoma, reported by Ehrlich, Apolant, Loeb and Bashford. He urged that the occurrence of such transformations in the tumors of lower animals need not necessarily have any bearing on the behavior of human tumors, since the separation of cell types in tumors of lower animals appeared to be less rigid than in man. He believed that the mere presence of spindle cells exclusively in such mouse tumors was quite inadequate to prove their sarcomatous nature. He demonstrated a human adamantinoma, an hepatic metastasis of human melanoma, and tumors of the dog breast, in which the cells were largely of typical sarcomatous morphology, although of epithelial origin and nature. The adamantinoma, in places, strongly resembled Ehrlich's mixed tumor, but the spindle cells revealed their epithelial nature by the formation of enamel granules. It was especially in tumors of embryonal origin that these variations of cell form were to be expected, and it was perhaps unwarranted to compare such tumors with the mixed tumors of mice. Yet the mixed tumors of mice showed some indications that they were derived from embryonal tissue. Apolant and Bashford claimed to have demonstrated the development of the sarcomatous element from the transplanted stroma, but had not published photographs illustrating the process, while Apolant admitted the presence of some cells suggesting the transformation of epithelium into spindle cells. In Loeb's mixed tumor of a rat the sarcomatous element appeared to come from the host's connective tissue, or possibly from entirely separate islands of sarcoma in the original tumor. The observations on the nature and source of the spindle cells of the carcino-sarcoma of rats and mice were, therefore, not in entire agreement, and until further information concerning them was available one could not determine the real significance of these anomalous transformations of tumor structure. At present there appear to be four possible sources of the spindle cells of these transplanted tumors: 1, Transformed epithelial cells; 2, a sarcomatous element in the original tumor; 3, the stroma of the original tumor; 4, the connective tissues of the host.

Transformation of Carcinoma into Sarcoma.

Dr. W. E. Coley cited three clinical cases. The first was a case of sarcoma of the breast in a woman, about 45 years of age. The primary operation was performed by another surgeon and the disease was pronounced typical carcinoma. A local recurrence, clinically of an absolutely typical carcinoma, took place one year and a half later, and a second operation was performed. A microscopic examination was made and confirmed the diagnosis of carcinoma. About four months later, without any involvement whatever of the supra- or infraclavicular or cervical glands, a tumor developed in the angle of the jaw on the same side. This grew very rapidly and was removed at the end of three or four weeks, when it had reached the size of an English walnut. Careful microscopic examination was made by Drs. E. K. Dunham and B. H. Buxton, who pronounced it hyperplasia. From the rapid growth of the tumor and its clinical appearance, Dr. Coley believed it to be sarcoma. It recurred within a very few weeks, grew more rapidly than at first and when again the size of a small egg, was removed by Dr. Coley. This second tumor was also examined by Drs. Dunham and Buxton, and after taking a number of sections they made the diagnosis of small round-celled sarcoma. The tumor recurred within two or three weeks, grew with great rapidity, until finally it occupied the entire side of the face and neck and nose. It was then five months from the time it was first noted.

Dr. Coley cited another case of sarcoma and carcinoma occurring in the same individual. In this case the primary tumor was a sarcoma of the abdominal wall which was removed by a very extensive operation. The patient remained well for ten years, when she developed carcinoma of the breast.

In the third case cited the primary tumor was an adenocarcinoma of the rectum which was removed. Recurrence took place shortly afterward in the inguinal glands, and in this case careful microscopic examination showed the disease to be sarcoma. Dr. Coley had observed one case in which the primary tumor was sarcoma and a local recurrence seventeen years later was carcinoma. He also cited the well-known clinical fact that in families in which the hereditary influence was well marked it was not uncommon to find carcinoma in one member of the family and sarcoma in the other.

Mixed Toxins in Hodgkin's Disease.

Dr. W. E. Coley showed a patient with Hodgkin's disease, who had been treated with the mixed toxins of erysipelas and bacillus prodigiosus. The patient, male, aged 24 years, first noticed an enlargement of the glands on the right side of the neck a year ago. Three to four months later he noticed an enlargement in the axillary glands and a little later in the glands of both groins. His general health began to fail and he lost twenty pounds in weight. He was admitted to the General Memorial Hospital on Oct. 10, 1907, at which time he weighed 165 pounds. The blood count showed the following: Leucocytes, 4,050; red blood corpuscles, 4,070,000; polynuclear, 62 per cent.; large lymphocytes, 18 per cent.; small lymphocytes, 17 per cent.; transitionals, 3 per cent. The patient was placed on the mixed toxins, the injections being made in the pectoral region. The initial dose was ¼ mm.; the highest 1½ mm., which latter caused a temperature of 105.6. At the end of two weeks he developed toxemia and ran a temperature of 102-103, nearly every day, for more than a week, during which time he received no treatment, and lost eight pounds in weight. The toxemia was, no doubt, due to too rapid breaking down of the tumors. After the temperature fell to normal the toxins were resumed in smaller doses. Up to November 15 he had received fourteen injections, with the result that the tumors of the neck, axillæ and groin have practically disappeared, having diminished fully nine-tenths; the spleen was hardly palpable. The disease in this case was pronounced typical Hodgkin's disease (giant celled) by Drs. W. C. Clark and James Ewing.[1]

Dr. Coley showed the case as additional evidence in favor of the theory that Hodgkin's disease is really a type of sarcoma, and not an independent infectious disease, as believed by many. He stated that the argument usually advanced against Hodgkin's disease being a malignant tumor, was that it was never encapsulated; in its extension throughout the body it always confined itself to lymph gland tissue. This, however, he declared, was by no means true. He cited a personal case in which the tumor had been examined by Dr. Ewing, as well as by a number of other men, and pronounced typical Hodgkin's disease of the giant-celled type. Clinically, it was typically sarcomatous, and autopsy showed that in the inguinal region, the point of origin in this case, the tumor which was larger than a child's head, not only infiltrated the capsule, but infiltrated fascia, muscle, periosteum and bone, precisely like a malignant tumor.

Production of a Spindle-Celled Sarcoma Through Transplantation of a Carcinoma in a Japanese Mouse.

Dr. Leo Loeb said that after transplantation of a carcinoma, carcinomatous and sarcomatous tumor nodules were found as early as in the second generation of Japanese mice, in experiments carried out in the spring and summer of 1904. Certain tumor lobules found in the second generation consisted of a very intimate mixture of carcinomatous and connective tissue cells. In this case the two types of cells were of a surprising similarity. These structures were probably produced through a diffuse ingrowth of connective tissue into the carcinoma. Similar structures were demonstrated by the author in a spontaneous carcinoma of a white mouse. The sarcoma of the second generation took its origin in the connective tissue which surrounded the carcinoma. In order to study the difference in the fate of pieces of tumor after transplantation into the same animal in which the tumor had developed spontaneously, and into other animals of the same species, experiments were carried out with a mixed mammary tumor of a dog. After transplantation into the same dog, the pieces remained alive *in toto*, no central necrosis taking place in the transplanted pieces. After transplantation into other dogs the pieces became entirely necrotic. Dr. Loeb found that multiple deciduomata in the uterus of a guinea-pig can be produced at will in every guinea-pig at a certain period after copulation has taken place. They represent transitory benign tumors. They may also be regarded as the maternal portions of the placenta which originates without the usual stimulus of the embedded ovum.

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[1] At the end of another week all tumors had entirely disappeared.

Transfusion in Sarcoma.

Dr. S. P. Beebe reported the final results in a series of transfusions carried out by himself and Dr. George W. Crile. A series of ten dogs having lymphosarcoma actively growing were transfused with the whole blood of naturally or spontaneously immune dogs, and in eight cases the transfusion was followed by a complete retrogression of the tumors. The animals have been repeatedy planted since the absorption of the tumors, but in no case has it been possible to obtain growth in an animal cured by the transfusion. It is not possible to state accurately the relative importance of the blood from naturally immune or spontaneously immune animals in this process, but the impression gained during the course of the experiments is that a large transfusion from a spontaneously recovered animal gives the best results.

Tumor of the Rat.

Dr. Simon Flexner reported the results of Dr. Jobling's and his study of a rat tumor springing from the seminal vesicle. This tumor has now been transplanted systematically for more than two years and through about twelve generations. The tumor is relatively a slow-growing one; to reach the size of a walnut takes about three months, which is also about the average length of time required to produce internal metastases and bring about spontaneous death.

The implantations can be made successfully into the subcutaneous tissue, the muscles and the peritoneal cavity. In the first cases ulceration of the skin tends to occur, the tumor mass to slough away, leaving a thin layer of tumor infiltrating the skin and subcutis from which metastasis may occur; in the second cases the growth is infiltrative and presses through muscle, bone, etc., and also becomes metastatic; in the third case nodules arise in the omentum and distribute themselves over the peritoneal cavity and to the lungs, etc. When the abdominal cavity is invaded either by direct implantation or by extension from the adjacent tissues, a common site of tumor growth is between the esophageal extremity of the stomach and the diaphragm. The walls of the stomach are often penetrated so that ulcers by digestion are formed, and from an ulcer on one side, the other and opposed side of the stomach may be infected and a tumor produced which may ulcerate subsequently. The cells of the tumor are considerably more differentiated than is the case with the simple sarcomata; they are larger and rather of epithelioid or endothelioid character, besides which they are not disposed in a simple and uniform manner, as in the simple sarcomata, but they may be united into a tolerably uniform tissue, or they may be aggregated into strands, separated by thin bands of fibrillar tissue, and thus present an organoid appearance. This character is present in the original tumor and has been repeated through the transplantation generations.

At the beginning of the growth of the implanted masses, spindle cells, of simple sarcomatous types, or a mixture of these and fibroblastic cells, appear in great numbers, and the larger, peculiar cells of the tumor are less conspicuously present. This relation may hold in the growing tumor mass, although, as a rule, the larger cells tend to increase in number and to predominate over the others, and every developed tumor shows more or less of the tubular structure mentioned. However, at times, a tumor graft will start to proliferate entirely, or nearly so, from the larger cells and begin at once to produce strands separated by connective tissue, so that the sarcomatous character is suppressed and the organoid character made dominant. But here again the developed tumor will contain both elements, although the organoid element may now predominate.

The eleventh generation of the tumor has divested itself largely, if not entirely, of the simple sarcomatous character and has become a tumor of proliferating tubular or adenomatous type. That is, the large cells now line large branching spaces and lie on a relatively dense connective tissue support. The cells form more than a single layer and the granular protoplasm surrounding the individual nuclei is not differentiated separately. The cells themselves have changed less in character than in arrangement and in relation to the stroma. The tumor as it presents itself in this generation could not be held to be a sarcoma. A macroscopic change in texture, etc., has accompanied the change in microscopic appearances, and lymphatic metastasis, previously very uncommon, has now become relatively frequent.

A growing tumor does not prevent a second and even a third graft from taking in the same animal. The secondary grafts can be implanted anywhere—immediately next to the growing tumor or at a distance. As stated in percentages, the secondary grafts tend to remain below the primary, which in certain cases may reach 100 per cent. In every large series of successful implantations a certain number of spontaneous retrogressions occur. Rats which have recovered spontaneously are protected, although not absolutely, from successful reimplantation of the tumor. This immunity endures for a period of several weeks, but not indefinitely, at least not in all the animals. That this is a fact is shown by the higher percentage of successful reimplantations in animals which had recovered spontaneously three months before as compared with those which had recovered only one month before the secondary inoculation. This immunity appears to be histogenetic. That is to say, it can not be conferred on uninoculated rats by transferring the blood serum or corpuscles of recovered rats. Blood serum has no restraining effect on the tumor growth. Blood corpuscles do restrain the growth somewhat. But the degree of restraint is about the same whether the blood corpuscles come from normal rats or rats which have recovered from the tumor.

An emulsion of the tumor does not inhibit or promote the growth of tumor grafts unless it has been heated (50 C. for half an hour), when it exerts a marked promotion of tumor growth as indicated by the percentage of successful implantations, the greater rapidity of growth, and the fewer number of retrogressions. This heated emulsion can overcome, at least to a small degree, the strong acquired immunity of rats which have recovered from tumor, and to a larger degree the natural refractory condition which is found in rats which have resisted implantation of a tumor of less than maximal virulence. Emulsions of the organs of rats do not exercise this influence.

The implantations are less successful in hybrids (mixed white and black rats) than in white rats, and of twenty wild gray rats inoculated, no one showed tumor growth. Mice are insusceptible to the tumor, although the grafts may first enlarge somewhat and remain alive in the subcutaneous tissue, so that they can be reimplanted in the rat for about thirteen days.

Fine emulsions of the tumor, strained through gauze and filtered through paper, are uninfective for white rats. Since the fine emulsions still contain intact tumor cells, it would appear that cell-aggregates, or possibly aggregates of cells and stroma, are essential to successful implantation. Peritoneal fluid containing microscopic tumor masses can be used successfully for intraperitoneal inoculation, but the fluid from cysts which occasionally develop in large intramuscular and subcutaneous tumor nodules was not infective.

DISCUSSION.

Dr. F. B. Mallory, Boston, suggested that it is possible that the changes in the structure of the tumor described by Dr. Flexner are not so difficult to explain as they seem to be. An analogous relation exists normally between the ependymal and neuroglia cells of the central nervous system. In early embryonic life the latter are derived from the former. In adult life, in certain situations (covering the chorioid plexus) the ependymal cells do not produce neuroglia fibrils; lining the ventricles and the neural canal they may. It has never been definitely decided. The neuroglia cells themselves, of course, are surrounded by numerous neuroglia fibrils. In a glioma over the coccyx, which he reported several years ago, the original tumor consisted of neuroglia cells of the large embryonic type surrounded by their neuroglia fibrils. Masses of these cells, together with their fibrils, were embedded in a connective tissue stroma. Some of the metastases of this tumor in the groins showed a papillary adenomatous structure lined with ependymal cells having fibrils at their base, although neither the original tumor nor its recurrence showed any such picture. In other words, there are two types of cells (one epithelial-like, the other connective tissue-like) produced in one tumor. Dr. Mallory thought that in Dr. Flexner's case we are, perhaps, dealing with a primitive type of cell which may differentiate into cells of different types just as the original mesodermal cells give rise to mesothelial and mesenchymatous structures; i. e., his tumor may be a simple type of embryoma in which the cells which tend to differentiate like epithelial cells have become the more prominent.

Dr. H. R. Gaylord, Buffalo, pointed out that the essential of the observation of Gaylord, Clowes and Baeslack on the immunity following spontaneous recovery of mice from inoculation tumors was that the animal must have acquired the disease. In his opinion there was no essential difference in the phenomenon observed by Ehrlich in which after repeated inoculations a certain residue of mice were found with acquired immunity. In his own observations he assumed an arbitrary standard as evidence of tumor formation. The tumor must have existed in the mouse a certain number of days and reached a certain size before he was willing to concede that it had acquired a tumor. Fifty per cent. of the spontaneously recovered animals were found in the very earliest period accepted, and it seems that the animals rendered immune by repeated inoculations as carried out by Ehrlich must be those in which the processes of spontaneous recovery have taken place. The only difference between his work and Ehrlich's is that he required as evidence of spontaneous recovery a palpable tumor, and that animals which recovered from such tumors were immune to further inoculation with the same tumor. It is gratifying to find, he said, that Dr. Flexner had observed the same phenomena in his rat tumor that he had first observed in mice and since in his rat tumor, although they differed distinctly in growth and histologic characteristics.

Dr. Gaylord called attention to an apparently new phenomenon observed in the State Laboratory in the sarcoma rats. Dr. Flexner had stated that there was no difficulty in implanting a second tumor in an animal in which a first inoculation had been successful, as opposed to the observation of Ehrlich, later confirmed by Clowes, that in mice the establishment of a first inoculation tumor usually prevented the development of a second inoculation. In attempting to repeat this observation in sarcoma rats, animals were reinoculated every six days, with the result that it has been found that some 25 rats out of 40 thus inoculated have developed more than one tumor. These have persisted side by side for a period equal to that usually required to kill when the tumors were not inhibited, and then retrograded. The tumors make their appearance successively, some growing as large as small hazelnuts and then remaining stationary for a period of from twenty to thirty days, when the tumors entirely disappear in a period of from seven to eight days. In only one case did a rat develop two tumors which grew until exitus. A number of these rats have been reinoculated, some of them a year later, and have proved to be immune. This phenomenon has occurred so often that it appears to be characteristic of the present state of virulence of this tumor and suggests that repeated successful inoculations may, under certain conditions, tend to bring about immunity, where one inoculation does not suffice. It is possible that the marked difference in this respect between this tumor and Dr. Flexner's, in which multiple grafts regularly grew side by side to exitus, may be explained by the great virulence (90 to 100 per cent.) of Flexner's tumor, and the relatively low virulence (13 per cent.) of Gaylord's, but it appears that in many respects each tumor is a law unto itself, with the exception of certain basic phenomena which have now been found with sufficient regularity to establish their character as fundamental.

Dr. Jobling reported that in their experience with the rat tumor at the Rockefeller Institute, the growth of secondary and tertiary tumors apparently did not affect the rate of growth of tumors already present in the animal.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Dec. 11, 1907.

The President, **Dr. James B. Walker**, in the Chair.

SYMPOSIUM ON DISEASES OF PHYSICIANS.

Diseases of Physicians.

Dr. Roland G. Curtin presented a summary of his experience in the study of diseases of medical men, with a tabulation of the cases and remarks on the frequency of diseases, some of which were unusual and some more common. The probable cause was given, also the mode of life necessary to preserve health, with directions tending to prolong the practitioner's life, especially in old age. The statistics given did not embrace slight ailments or any of the severe forms of disease in which Dr. Curtin had been called in consultation. His findings in regard to the drug habit among physicians differ from the conclusions of Dr. Crothers of Connecticut. The showing of 28 deaths from angina pectoris bears out the appellation of "doctors' disease" for this affection. Only four cases of Bright's disease were noted, all of severe type. The milder ones were not mentioned. Ten cases of renal calculus were found. The cause of this large number was difficult to explain. At least half of the number were young practitioners. A general study showed that clergymen have twice the chance to attain the age of 65 that the physician has. This is accounted for by the constant stress attendant on the physician's life. The automobile was said to greatly add to the strain on the nervous system.

The Longevity of Physicians.

Dr. Joseph P. Tunis showed that the mortality of the medical profession is higher than that of all other occupations. According to Dr. Ogle's statistics, the farmer is the longest lived, and the clergyman enjoys the greatest longevity of the learned professions. G. M. Beard, in 1866, said that "the greatest and hardest brain workers of history have lived longer, on the average, than brain workers of ordinary ability and industry." Beard found that the average age at death of 500 of the greatest men in recorded history was 64.2. From an insurance point of view, physicians have shown a slightly greater mortality than was anticipated. Taking them as a whole, they are, however, "average risks."

Mortality Table of Physicians at Different Periods.

Year.	No. investigated.	Investigator.	Mortality.
1834	624	Casper	56.4
1885	3,865	W. Ogle	59.3
1886	8,627	J. M. French	56.47
1907	2,000	J. P. Tunis	60.6

Dr. Tunis concludes that statistics prove: (1) The truth of the popular belief that all men live longer nowadays than they did fifty years ago; (2) that the most satisfactory statistics of longevity can be secured only by selecting groups of men living under the same conditions; (3) that the diseases to which physicians are especially liable affect the cardiovascular and nervous systems; (4) that the secret of long life would seem to lie in abstemiousness, brain work and contentment, presupposing a sound mind in a sound body.

Diseases of Great Physicians of the Past.

Dr. William Pepper pointed out the difficulty in drawing conclusions as to the commonest forms of disease in the physicians whose names were mentioned, as it was only in those cases in which the men had suffered from some interesting disease that the cause of death was given. The cases are, however, classified according to certain loose groups, the most interesting group including those who have described diseases and have themselves suffered from the same disease. Another group includes those who have fallen victims to various diseases in the line of their duty. Laennec fell a victim to a disease, the nature of which he had taken pains to describe. Lancisi and Corvisart died of diseased heart, and Boyle sank under the ravages of the disease of which he had been the most successful illustrator. Sir Benjamin Brodie, the great surgeon, died of cancer of his right shoulder joint. Dupuytren, the most famous surgeon of the last century, died of an empyema. Refusing to submit to an operation, he said that he "would rather end his life through God's hand than that of a surgeon." In more recent times Mikulicz, who wrote on cancer of the stomach, himself fell a victim to this disease. Fowler, of Brooklyn, having written on appendicitis, died of this disease. On the memorial tablet of Dr. Jesse W. Lazear, who died of yellow fever, are the words, "With more than the courage and devotion of the soldier he risked and lost his life to show how a fearful pestilence is communicated and how its ravages may be prevented." Dr. Guillotin, the inventor of the guillotine, had his own head chopped off. A number of distinguished physicians have been great sufferers from the gout. Sydenham said: "More wise men than fools are victims of this affection." Angina pectoris has claimed its share of the medical profession, and in this group may be mentioned the names of Sir James Y. Simpson, Sir Charles Bell and John Hunter. Instances are cited illustrative of Osler's statement that the profession offers many examples of good work thoroughly and conscientiously carried out by men with aneurism of the aorta. Dr. Thomas King Chambers first had an aneurism in the left popliteal artery, eleven years later one in the right leg cured by pressure, and finally aneurisms of the carotid arteries. Richard Bright died of the consequences of extensive and long-standing ossification of the aortic valves of the heart, the exit for the blood being reduced to a mere chink. Robert Liston died of an aneurism of the aorta, which must have existed for years, and been fostered by the great physical exertions, which characterized his recreation as well as his work. Another group is given, including those having suffered from apoplexy, and still another and larger group is classified under the heading of miscellaneous.

DISCUSSION.

Dr. James C. Wilson said that there are two main groups of morbid conditions to which physicians are particularly liable: the infectious diseases of adult life, and the general diseases of the period of involution of life, diseases especially of the cardiovascular system, of the kidneys and of the nervous system. Neurasthenia, the drug habit and alcoholism are also to be considered. These are said to be the result largely of improper living combined with inherited feebleness of organism. The man who enters on the practice of medicine with impaired powers of resistance and lack of self-discipline is liable to become neurasthenic or to fall a victim of one of the drug habits.

Dr. James M. Anders, commenting on the frequency of cardiovascular degenerations among physicians, declared that the experience of any single physician or group of physicians even could not solve the problem, since individual experiences differ widely. As pointed out by Dr. Tunis, physicians live under different conditions, pursue different lines of professional work, and their habits are equally various. Dr. Anders holds, however, that it is possible to accumulate a sufficiency of data on which to base valuable practical conclusions. An analysis of 115 cases showed tuberculosis to be present in nearly 15 per cent., while organic heart disease, gout, obesity and neurasthenia stood second in point of frequency. Angina pectoris, diabetes mellitus and nephritic colic—conditions which appeared to lead in Dr. Curtin's experiences—were less common, although when compared with their incidence in general the percentage among physicians is still abnormally large. The cases of angina pectoris, nephritic colic and diabetes occurred among men who might be counted as brain workers, but they also led unusually sedentary lives and were given to the pleasures of the table. Of morphinism in doctors there were five cases, which result agreed with Dr. Curtin's statistics rather than with those of Dr. Crothers. It is remarked, however, that morphin is often used in secret by physicians. Dr. Anders feels strongly that an extensive statistical inquiry would reveal sufficient facts and data on which to base valuable conclusions. The subject is one bringing up the whole question of the influence of occupation as a causative factor of disease, which, whether considered in relation to the professional crisis, brain workers in general, merchants, artisans, clerks or laborers even, is not fully appreciated by the medical profession.

Dr. David Riesman referred to a feeling prevalent among the laity that physicians have no right to be ill, and regarded it as probably a relic of the superstition of the barbaric age when disease was looked on as a demon that could be exorcised by the medicine man, who, naturally, if he could drive it out of the patient, would drive it out of his own body. Instances were cited of disease contracted in the course of the work of physicians. Whether physicians are prone to certain diseases could only be learned by statistics. Dr. Riesman's own practice shows that of some diseases there is a rather large number of cases among physicians. He has had seven cases of appendicitis, two of tuberculosis of the lungs, two of pneumonia, ten of neurasthenia, four of arteriosclerosis and a number of others, one and two of a kind. Arteriosclerosis seemed to be rather common. Two of his patients were under 35 years of age and were total abstainers in regard to alcohol. Loss of sleep and the use of tobacco are generally considered productive factors. His experience shows neurasthenia to be rather profound in the medical profession. While it can not be said that physicians are exempt from disease, it is believed that they will work longer when handicapped than any other class of men, because of their sense of responsibility and the fact that no one can take a doctor's place.

Dr. James Tyson has seen a good many physicians with enteric fever. He has often been consulted for morphinism by physicians who realized their complete helplessness. He has also known cases in which physicians have most successfully overcome the habit. The cocain habit in his experience has been a very frequent occurrence among physicians. This habit is much more easily overcome than morphinism. Of angina pectoris he has seen a number of cases. Two cases were cited showing the impossibility of drawing conclusions of a prognostic character from the symptoms. The presence of albuminuria and casts in the case of a physician who has been very much overworked, but which pass away almost immediately on rest, is a condition falling under his observation. Neurasthenia he regarded as almost a doctor's disease, stating that, after women, doctors come in as a class of neurasthenics.

Dr. Jay F. Schamberg regards the strain and stress under which the physician lives and his exposure to contagious and infectious diseases as essential factors in the varying incidence of certain diseases in the medical profession compared with the general population. He referred to the fact that Dr. Edward Jenner was the first to call attention to the pathologic cause of angina pectoris and refrained from publishing his views on the subject during the lifetime of John Hunter because of his intimacy with his friend and teacher, and, although he made known his views to the physicians of Hunter, he was only given credit for his knowledge after Hunter's death, when these gentlemen found a calcification of the coronary arteries.

Dr. Albert R. Moulton, from his experience with cases of drug addiction, is inclined to believe that the percentages given by Dr. Crothers of the drug habit among physicians are exaggerated.

Dr. Roland G. Curtin stated that in fifteen deaths from angina pectoris among physicians five had died suddenly after a hard day's work and a hearty meal. He suggested that the heaviest meal should not be taken at night and that the physician should rest, if tired, before and after the meal. After the age of 50 it is important that physicians gradually reduce their work, avoiding night work and shortening that of the day.

Dr. William Pepper said that, as the historian of the evening, he would simply refer to that good old physician Rabelais, who, after his study of this subject, said that "there be more old drunkards than old physicians."

Book Notices

SURGICAL INSTRUMENTS IN GREEK AND ROMAN TIMES. By John Stewart Milne, M.A., M.D., Aberd., Keith Gold Medallist in Clinical Surgery. Illustrated. Cloth. Pp. 187. Oxford: The Clarendon Press, 1907.

There is no more gratifying sign of the returning scholarship in medicine than the fact that a modern physician can spend "five or six years" in an investigation such as that presented by Dr. Milne in his "Surgical Instruments in Greek and Roman Times." This is no piece of quasi "scholarly" work perpetrated by an hour's search nightly into indexes, but the result of painstaking research at home and abroad in the very texts themselves of ancient writers and among the various "finds" of ancient surgical instruments preserved to us in the treasures of widely scattered museums. Neither is it the work of some veteran practitioner of medicine, undertaken as a form of intellectual recreation during the well-earned leisure consequent on a life of successful and fairly remunerated toil, but of one comparatively on the threshold of his professional career, but who has already given evidence of "practical" attainments and shown promise of an eminently successful future in his chosen sphere.

The author first gives a brief account of those ancient authors whose writings have any bearing on his subject. This is followed by a chapter on the material, execution and ornamentation of ancient surgical instruments in general; after which he proceeds to a detailed consideration of the various forms of instruments and *"étui,"* or outfits, a term that would include our modern dressing cases, instrument cases, medicine chests, etc. Appendixes contain inventories of the chief instruments in the museums of England, France, Belgium, Germany, Austria, Greece, Denmark, Switzerland and Italy, and a bibliography of the subject. The work concludes with a triple index of English, Latin and Greek terms, and a series of fifty-four full page half-tone illustrations of various instruments from specimens extant in museums and in the private collections of the author and others.

Coming to the subject matter, we learn that the material used for instruments was principally highly tempered steel and bronze for the cutting instruments, while in such instruments as they might be suitable for, tin, lead, gold, silver, horn, wood, bone, ivory and stone were variously employed. Of the steel instruments comparatively few remain to us, owing to the perishable nature of steel by oxidation. While instruments entirely of bronze are numerous, the bronze handles only of many instruments are found. In these cases the blade was doubtless of steel; so that we must not imply from the vast preponderance of bronze a comparative paucity of steel, for, as the author is careful to point out, the heaps of scoria left wherever there was good iron in the Roman provinces clearly indicate to how great an extent iron was in use; while the scoria left in the Forest of Dean alone by the Roman founders contained such a large percentage of iron that "they were smelted over again in later times, and to do this occupied over twenty furnaces for a couple of centuries." The idea that iron alone was at the disposal of the ancients is an error based on the fact that one word in both Latin and Greek serves for both iron and steel; but the description of the qualities of the "iron" of which their instruments were made clearly indicates that it must have been not only steel, but steel of a very high temper; and this idea is confirmed by the excellence of steel produced by the Chinese and even by African natives of the present day, by primitive processes closely akin to those of the ancients.

There is a great deal of difficulty in gathering from the unaided text of classical authors the exact characters of most of the instruments referred to, but by dint of comparing numerous passages in which some characteristic or use of a particular instrument is described with various forms that are still to be seen, Milne has been enabled to arrive at a great degree of accuracy in his identification and description of instruments. The difficulty arises from several causes, the most obvious of which is that, as happens also in the present day, treatises on surgery do not ordinarily go into details about the instruments mentioned, with which the reader is expected to make himself familiar, if he is not already familiar, by actual inspection of the instrument itself and by watching the use of it in the hands of others. A further reason lies in the fact that specific names, in Latin especially, were not very common, a generic term, with qualifying adjectives when needed, being made use of. For instance, the term *scalpellus* does duty for many kinds of knives, of which, as Milne demonstrates, there were certainly seven varieties, viz., straight-bladed knives, cutting on one edge only, and on both edges, each of which might be either sharp pointed or blunt pointed. A similar division is made of knives with curved blades, except that the curved knife cutting on both edges, described by Galen as useful in dissections of the thorax, is of the sharp-pointed variety only. A third reason of the difficulty is to be found in the fact that of many Greek writings the only texts now extant are translations, often themselves from translations, e. g. parts of Soranus, the original Greek of which is lost, as is also the original Latin translation therefrom by Moschion; the now surviving texts being only a Greek translation from the Latin version of Moschion and a Latin rendering from this Greek retranslation.

Of knives there were in use among the Greeks and Romans scalpels and bistouries of various kinds, pterygium knives, uvula and tonsil knives—the latter in pairs, right and left, curved on the flat—shears, fistula knives, lithotomy knives and many others. Of "probes" we hear of bulbous probes, ear and ophthalmic probes, grooved directors, tongue depressors, uterine sounds, uterine dilators (the latter almost the exact prototypes of Hegar's dilators), trachoma and other curettes, and spoons and hooks, sharp and blunt. Among forceps we find uvula, polypus, and epilation forceps, tumor forceps and eyelid fixators. There were bleeding cups, ear and aspirating syringes and clysters—the latter of a form common even up to the nineteenth century and only of late years replaced by the Higginson syringe—insufflators for blowing powders into the throat and nose, and cannulas for ascites and other paracentesis operations; cauteries of many kinds which were used for counterirritation, hemostasis, and as a bloodless knife for destroying tumors; raspatories, chisels, gouges, drills, trephines, bone forceps and elevators, for bone operations; tooth forceps, stump forceps, scalers, and elevators; catheters, male, female and child; bladder sounds; a form of instrument used for lithotrity when the stone was too large for extraction by lithotomy, specula, vaginal and anal; cephalotribes, decapitators and blunt hooks; uterine curettes and pessaries of various kinds; sponges and sponge tents, sutures, serrefines, etc. As to midwifery forceps, Milne is doubtful if the ancients possessed them; for although Francis Adams, commenting on Paul of Ægina, III, 376, asserts that though the Roman and Greek writers do not mention them Avicenna does, and further remarks that a forceps was dug up in the house of an obstetrix at Pompeii, bearing a considerable resemblance to the modern midwifery forceps, Milne concludes, for reasons cogently stated, that the passage in Avicenna refers to the extraction of the dead fetus by the craniotomy forceps; while to the reported find of midwifery forceps at Pompeii, considering the jealous vigilance with which such finds are secured for the museums, he pertinently asks, "Where is that forceps now?"

We gain many interesting sidelights during the perusal of this fascinating work on points that touch us closely in these modern days, of which we may quote two examples. First as to asepsis. The author says: "We must notice the fact that the majority of instruments we know were all of metal, not folding into hollow handles of wood, bone, etc., as the instruments of a decade ago did, so that they were easily cleaned. In fact, we shall see that when the scalpel and handle were not forged in one piece they were united by something very like our aseptic joint. Hippocrates insists on the importance of keeping everything in surgery absolutely clean."

Another passage demonstrates the continuity of human nature, for surely it is not difficult for us to recognize in the following description a weakness still to be found in our ranks: "Lucian satirizes a medical man who sought to conceal his ignorance by a display of a fine library, bleeding cups of silver, and scalpel handles inlaid with gold—the devices of quacks, Lucian says, who did not know how to use the instruments when the necesssity arose."

Medicolegal

Construction of Accident Policy Covering Blood Poisoning Sustained by Physicians or Surgeons Through Wounds.

The United States Circuit Court of Appeals, Eighth Circuit, had, in Fidelity and Casualty Company of New York vs. Thompson, an action brought by the latter party on a policy of insurance "against disability . . . resulting directly, and independently of all other causes, from bodily injuries sustained through external, violent and accidental means," wherein it was declared: "This policy, subject otherwise to all its terms and conditions, covers blood poisoning sustained by physicians or surgeons resulting from septic matter introduced into the system through wounds suffered in professional operations."

There was evidence tending to show that the plaintiff, as stated in the policy, was an operating dentist; that during the life of the policy a patient, on whom he was in the act of professionally operating for affected teeth, suddenly coughed, and thereby particles of septic matter were conveyed from the patient's mouth to the conjunctiva, or mucous membrane, of the plaintiff's eye; that the septic matter infected this membrane and was thus introduced into his system, and that he was in consequence wholly disabled from practicing his profession for a period of ten weeks, and partially disabled for a succeeding period of twenty-six weeks. There was also evidence that he felt the impact of the particles on the surface of the eye, but no evidence that it produced any pain at the time, or abraded, penetrated, broke or bruised the conjunctiva, or that the septic matter was introduced into his system otherwise than through the process of infection, in like manner as if the particles had entered the nose, mouth or throat and had lodged on and infected the mucous membrane thereof.

The defendant company requested the trial court to include the following in its charge to the jury: "You are instructed that, by the terms of the plaintiff's policy of insurance, it is made to cover blood poisoning sustained by a physician or surgeon resulting from septic matter introduced into the system through wounds suffered in professional operations; but you are also instructed that there is no evidence of the plaintiff having received any wound, and he must recover, if at all, on other provisions of the policy." But the court denied the request, and included in the charge the following definition of the word "wound," taken from the Century Dictionary: "In surgery, a solution of the continuity of any of the tissues of the body, involving also the skin and mucous membrane of the part, caused by some external agent, and not the result of disease. In medical jurisprudence, any lesion of the body resulting from external violence, whether accompanied or not by rupture of the skin or mucous membrane—thus differing from the meaning of the word when used in surgery."

Without doubt, the Court of Appeals says, it was essential to a right of recovery under the provision relating to blood poisoning that the septic matter should have been introduced into the system through a wound. What, then, is a wound within the meaning of this provision? No purpose would be served by stating the various meanings ascribed to the word by lexicographers, writers on medical jurisprudence, and judges, for they all recognize that one of its well-recognized meanings—that principally employed in surgery—includes an abrasion, breach or rupture of the skin or mucous membrane, whereby animal venom or virus, or some impure, poisonous or irritating matter, may gain entrance to the underlying tissues and contaminate the blood; and this, as the court thinks, is the sense in which it is employed in this provision. It is there used only in respect to physicians and surgeons when performing professional operations, and then only in respect of a bodily injury through which septic matter may be introduced into the system and result in blood poisoning. Plainly, therefore, it refers to such a wound as removes the protection given to the tissues and blood by the skin and mucous membrane and so permits of the introduction of septic matter capable of poisoning the blood; in other words, it refers to an abrasion, breach or rupture of the natural covering through which the septic matter may gain entrance.

As so employed, it does not embrace such a wound as is described in the latter portion of the definition given in the charge, and does not include the blowing against the eye of that which does not mechanically abrade, break or rupture the conjunctiva, but merely communicates to it an infectious disease by contact with its outer surface. So far as was disclosed by the evidence, the immediate mechanical effect of the particles blown into the plaintiff's eyes was not different from what it would have been if they had consisted of so much pure rain water; they did not wound it, but infected it from the exterior, operating in like manner as do some other species of infecting matter when they come in contact with unbroken skin or mucous membrane of other parts of the body. Indeed, it appeared that the pathogenic germs in what was blown into the eye were chiefly pneumococci, which, if carried into the lungs, produce pneumonia; but it would not be said in such a case that the infection of the lungs was through a wound.

The conclusion is that the instruction requested should have been given, and also that the latter part of the definition given to the word "wound" was rendered inappropriate by the other terms of the provision relating to blood poisoning.

When "Patent Medicines," Etc., Are Intoxicating Liquors.

The Court of Appeals of Georgia holds, in Mason vs. State, that medicinal, toilet and culinary preparations, recognized as such by standard authority (such as the United States Dispensatory) and not reasonably capable of use as intoxicating beverages—e. g., tincture of gentian, paregoric, bay rum, cologne, essence of lemon, wood alcohol—are not ordinarily to be regarded as being within the meaning of the expression "intoxicating liquors," though such articles are liquid, contain alcohol, and may produce intoxication.

But "patent medicines," cordials, bitters, tonics and other articles not recognized by standard authority as being within the class just mentioned are to be regarded as being intoxicating liquors, if they are capable of being used as a beverage and contain such a percentage of alcohol as that, if drunk to excess, they will produce intoxication.

The expression of "intoxicating liquors," as used in statutes, in the absence of other words tending to limit the meaning, may be defined as including any liquid intended for use as a beverage or capable of being so used containing alcohol, obtained either by fermentation or distillation, or both, in such a proportion that it will produce intoxication when taken in such quantities as may practically be drunk.

Liability of Medical Colleges and Eleemosynary Institutions.

The Court of Appeals of Georgia holds, in Medical College of Georgia vs. Rushing, that the Medical College of Georgia is not a public institution of the state because it is designated by law as a branch of the University of Georgia. It says that the state has no interest in the college and exercises no control over it. The college has simply received from the state comparatively small benefactions, for specific purposes. Therefore, the court concludes that the Medical College of Georgia is a private corporation, and that it is liable for the torts or wrongful acts of its agents in the conduct of its business and within the scope of their authority.

Moreover, while the college has been declared by the Supreme Court of Georgia to be a public eleemosynary institution, the Court of Appeals holds that public eleemosynary institutions are liable for the torts of their agents, the same as private business corporations, if they have any property, or are in receipt of any income, not exclusively devoted to public charity, out of which a judgment against them can be satisfied.

The question whether the patient is a charity patient or the institution is paid for his treatment, the court says, does not change the rule of liability, if, under the law, this class of institutions is liable at all. That a private person acting without compensation is in many cases liable for negligence is well settled. Where a hospital holds itself out for the treatment of the sick, whether this treatment is to be given as a gratuity, or is to be paid for, the implication arises that such treatment will be performed in a skilful manner, and such hospital or institution will be liable for unskilful or negligent treatment of the patient.

Again, the court says that, under the acts creating this college it is authorized to educate young men to practice the profession of medicine and surgery; but the hospital connected with it and managed by it, according to the allegation of the petition, is for the treatment of patients for a compensation. It is, therefore, not entirely a charitable institution, but derives a revenue from its business; and the court does not see why it should not be subject to the same rule of liability for the negligent conduct of its agents as any other private corporation.

Therefore, the court holds that where the college conducts a hospital for the treatment of the sick and injured for compensation, it is liable in damages for the unlawful and unauthorized mutilation of the remains of a patient who died at the hospital; and this would be true whether the college was compensated for the board, lodging and treatment of such patient, or not.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

December 21.

1 The Salicylates in Diagnosis and Treatment. A. Haig, London, England.
2 Antemortem Clinical Conditions and Postmortem Findings in an Irregular Case, with Presentation of Pathologic Specimens. M. A. Cleaves, New York.
3 Epilepsy; General Tuberculosis; Syphilis. J. F. Munson, Sonyea.
4 *High-Frequency Metallic Discharge. A New Treatment; Its Possibilities. F. R. Cook, New York.
5 *Fibroid Tumors of the Uterus and Their Treatment. F. De W. Reese, Cortland, N. Y.
6 *Identity of Visual and Color Sensations. G. H. Talbot, Newtonville, Mass.

4. **High Frequency Current.**—Cook reports on the use of the high-frequency current discharged from the point of an insulated wire. He has found it useful in enlarged tonsils, especially in the adult; in cutaneous lesions characterized by hyperplasia, e. g, acne, acne rosacea, papilloma, moles; for the removal of scars, in which he considers it superior to the *x*-ray, and in hemorrhoids. He reports eleven illustrative cases.

5. **Uterine Fibroids.**—Reese considers the etiology of fibroids which he ascribes to irritation of the uterine muscular wall stimulating the growth of muscular fibers that should be stimulated only by pregnancy. He advocates a "knifeless" method of treatment, consisting essentially of nerve sedatives, such as asafetida, valerian, etc., combined with fluid extract of hydrastis in 10 minim doses before meals. Locally, he recommends application of picric acid in glycerin, 3 grains to the dram, or ichthyol and glycerin. This is placed in the vagina twice weekly by means of a tampon. Uterine douches must be stopped. This constitutional and local treatment should begin at or before the time at which Noble regards the operative treatment as on debatable ground, viz., when the fibroid tumor is subperitoneal. He gives the following rules for operating: When the patient has neither the time nor the means to take the knifeless treatment method; if there is severe hemorrhage or signs of cystic or malignant degeneration; if the patient has tumor cachexia with complications; if the tumor continues to grow after a few months' knifeless treatment; if the tumor is submucous. His conclusions are drawn from his last fifty cases of fibroid tumors.

6. **Color and Visual Perceptions.**—Talbot summarizes his paper as follows: Light is the effect of undulations of the luminiferous ether. Each color of the spectrum is caused by a definite number of undulations or vibrations per second. It is the normal stimulus to the eye. The percipient parts of the eye are the retina and the essential elements for vision are in the layer of rods and cones and the outer nuclear layer. These, like all other bodies, contain molecules and are capable of the same molecular motion or vibration. When they vibrate in unison with certain colors, the sensation of that color is conveyed to the brain, where it is properly interpreted. Visual perceptions are the result of different wave lengths or of diffused colors affecting the granules and the rods and cones and producing more or less rapid vibrations therein. It is the color, rather than form or outline, that enables us to distinguish objects. And, finally, it is color alone that gives us distinct visual impressions.

New York Medical Journal.

December 21.

7 *Nasal Sporozoon (Rhinosporidium kinealyi). J. Wright, New York.
8 *Treatment of Sarcoma by Roentgen Rays. G. E. Pfahler, Philadelphia.
9 *Proteid Incapacity in Infants and Children. H. D. Chapin, New York.
10 The Little Known, Atypical (Unfertilized) Egg of Ascaris Lumbricoides. O. T. Logan, Changteh, Hunan, China.
11 *Recurring Pleural Empyema. J. H. Pryor, Buffalo.
12 Peripheral Spinal Degeneration Revealed Only by Longitudinal Sections of Cord and an Axis Cylinder Stain. S. D. Ludlum, Philadelphia.
13 *Etiology and Treatment of Thrombosis. H. A. Duncan and G. M. Illman, Philadelphia.
14 *Quinin Sulphate. J. Y. Shearer, Sinking Spring, Pa.
15 *Pathology of Icterus Neonatorum. A. Granet, New York.

7. **A Nasal Sporozoon.**—Wright reports some details of a papillomatous looking growth, removed from the nasal passages by Dr. E. C. Ellett of Memphis. An examination of this growth, made by Dr. William Krauss, caused it to be regarded by that pathologist as clearly a protozoan disease, though he was unable to decide on its exact nature. Reports of growths by Kinealy, Minchin and Fantham, and Beattie, caused Wright to return to the study of the growth, which was sent to him in 1903, with the result that he believes the organism to be the same as that reported by the above named observers as having been noted only in India, all the cases, only four or five in number, being natives of the small state of Cochin, on the west coast, which has given the name to "Cochin leg." Dr. Ellett's case occurred in a farmer who had never been away from the neighborhood of Memphis, Tenn. In all cases observed, the organism has occurred in granulation tissue near the vestibule of the nose, which suggests the conveyance of infection by the finger nails. Very minute white dots stud the tissue, and are seen with a low power to be small spheroid cysts embedded in granulation tissue. He describes in detail, with illustrations, the structure of the cysts, which are regarded as protozoan organisms. There is no evidence of metastasis in any of the cases.

8. **Sarcoma.**—Pfahler collects a large number of cases of sarcoma treated with the Roentgen rays, together with reports of his own, making a total of 22 cases. He describes the technic and arrives at the following conclusions: 1. Roentgen ray treatment of sarcoma has in the past been confined to inoperable and rapidly recurrent sarcomata. In other words, it has been practically confined to the treatment of hopeless cases, and therefore the results obtained are marvelous. 2. It can be recommended in all inoperable cases, but the more extensive the disease, the less likely are we to obtain a complete recovery. 3. In operable cases, the rays should be used before and after operation. In each case, there should be a consultation between the surgeon and the Roentgenologist. 4. The freedom from recurrence is surely greater than that obtained from any other form of treatment in the same class of hopeless cases. Some of these patients have remained well for from three to four years after cessation of treatment. 5. Finally, much will depend on careful technic and skilful application of the rays.

9. **Proteid Incapacity.**—Chapin concludes that the class of cases which show actual proteid incapacity is made up of those who are permanently physically unfitted, and those who may be only temporarily unfitted, through digestive disturbance, for digesting proteids. Those in the first class will die. Many of the second class can be saved by mother's milk or by the use of very light fluid diet that remains fluid or soft in the stomach until digestion becomes stronger. In some of these cases the use of vegetable proteid with milk proteid, especially vegetable proteid rich in iron (oat or legume), what he has termed mixed proteid feeding, may cause a general upbuilding, and improved digestion will follow. Whenever there is difficulty with milk proteids in a fairly well-nourished child, mixed proteid feeding, using high proteid gruels with the milks, should be tried, for there may be only proteid idiosyncrasy.

11. **Recurring Empyema.**—Pryor reports a case and offers the conjecture with regard to the recurrence of the attacks of empyema that microbic life remained latent in a pocket formed in the process of healing and became active under unknown favorable conditions. So far as he can learn, no bacteriologic examination was made of the pus at the time of

the primary attack, and thus the presence of the streptococcus on both occasions as a causative agent can not be established. Whether the time of closure of the external opening has any relation to recurrence it is difficult to say. The fact that years of health expire before a secondary manifestation seems to make the influence doubtful. We are apt to assume that any residual pus will be found at the lower boundary of the pleural cavity and below the site of drainage.

13.—Abstracted in The Journal, Dec. 14, 1907, page 2032.

14. **Quinin Sulphate.**—Shearer details the evil results of the administration of quinin, and asserts that, according to the dose, quinin acts (1) as a tonic, (2) as a stimulant, (3) as an antipyretic or depressant. The tonic action is accomplished by doses of from half a grain to one or two grains. In doses of from three to five grains every three or four hours the action is distinctly that of a stimulant. As an antipyretic, quinin sulphate should be given in doses of from ten to forty grains. He has repeatedly given from twenty to forty grains. He illustrates his application of these principles in pneumonia, hematuria, convulsions, hemorrhages, gastric ulcer and syphilis.

15. **Icterus Neonatorum.**—Granet believes that both the liver and the disintegration of the maternal erythrocytes are responsible for this peculiar kind of jaundice, which is physiologic. As to the absorption of the surplus of bile pigments which finally causes the jaundice, three possibilities are present: First, as the terminal capillaries which surround the hepatic cells constitute a portal system, the intravascular and perivascular pressure equals zero. If the hepatic cells are overfilled, the pressure within the bile capillaries will be forcibly raised after a time, and the biliary pigments will penetrate into the lymph spaces and reach the general circulation through the thoracic duct. Second, should we assume an increase in the viscidity of the bile due to a state of saturation with biliary pigments, the possibility of temporary plugging of the bile capillaries might be considered. In this case, the chances of absorption of the bile through the lymph spaces are evident. Third, another way of absorption, peculiar to the new-born, is through the ductus venosus, as pointed out by Quincke: The flow of bile into the intestines not being impaired in icterus neonatorum, but rather increased, part of it is reabsorbed, gathered into the portal vein, and partially poured into the vena cava through the ductus venosus, which remains unobstructed during the first few days of extrauterine life.

Boston Medical and Surgical Journal.

December 19.

16 Series of Ninety-one Consecutive Blood Cultures. L. J. Rhea and A. B. Emmons, Boston.
17 Effect of Florida Climate on Acute and Chronic Disease. F. Fremont-Smith, Washington, D. C.
18 *Study of Fifty-one Cases of Debility in Jewish Patients from the Massachusetts General Hospital. H. Morrison, Boston.

18. **"Hebraic Debility."**—Morrison concludes a particularly thoughtful paper on his personal investigation into the environments of fifty-one cases of what is known at the Massachusetts General Hospital as "Hebraic debility" from the frequency of its occurrence among the poorest class of Russian Jews, as follows: 1. Debility is a common condition among Jewish patients coming to the Massachussetts General Hospital; as a rule it is temporary, but it is apt to recur. 2. The prevalent symptoms are pain, constipation, and apprehension. 3. The etiology of these debilitated conditions is to be traced to the peculiar circumstances under which the Jews have lived and still live in eastern Europe. Here in America the economic strain during the early years after arrival is an important factor. 4. Debility is especially common among the Jewish women of the immigrant class, because the economic strain weighs very heavily on them. With them, also, imitation and tradition and the ease with which medical advice can be obtained, are factors to be considered. 5. These debilities are peculiar not to the Jew, but to the abnormal condition under which he has been living. As soon as he is relieved from these conditions his symptoms are not different from those of other races. 6. Finally, in the treatment of the cases considered it is well to bear in mind the importance of the old sentiment, "not the disease only, but also the man."

Texas State Journal of Medicine, San Antonio.

November.

19 Report of a Monstrosity. S. L. S. Smith, San Angelo.
20 Detection and Prevention of Disease in School Life. J. W. Torbett, Marlin.
21 Roentgen Ray Filters. G. D. Bond, Fort Worth.
22 Acute Mastoiditis with Lateral Sinus Thrombosis—Report of Case. W. D. Jones, Dallas.
23 *Comments on Operative Methods for the Relief of Retrodisplacements of the Uterus. J. M. Inge, Denton.
24 Operative Measures for Mammary Cancer. H. C. Scott, Temple.
25 Vesicovaginal Fistula. R. J. Alexander, Waco.

23. **Uterine Retrodisplacements.**—Inge deprecates the custom of operators and instructors of teaching or adhering to a particular method in spite of various complications or conditions found in various cases. Most surgeons lose sight of their duty to the young surgeon and student by seldom emphasizing the fact that in a vast number of retrodisplacements, uncomplicated and giving no trouble, the patients need no operation at all, also that when operation is necessary the dissection required to relieve other conditions should determine largely the best method suited to each particular deformity. He prefers to use the natural structures, the round ligaments, when possible, being secured high up in the pelvic cavity.

New York State Journal of Medicine, New York.

November.

26 *Syphilis in Children. L. Weiss, New York.
27 *Cardiac Dilatation Following Acute Infectious Diseases. J. E. Blake, Brooklyn.
28 Treatment of Lumbar Pott's Disease Complicated by Psoas Abscess. J. M. Berry, Troy.
29 Gynecologic Diseases. W. B. Chase, Brooklyn.
30 Milk Production. J. F. DeVine, Middletown.

26. **Syphilis in Children.**—Weiss states that the number of cases of acquired syphilis in children is insignificant in comparison to the number of cases in which the syphilitic taint has been inherited from the parents. The modes of transmission are threefold: 1. Direct infection of the healthy mother by the diseased father having florid secondary symptoms causing in the mother the same kinds of lesions. The child so conceived usually dies *in utero* and is aborted. 2. Direct transmission of the syphilitic taint through the infected sperm of the father, the mother being healthy. In such cases, the mother may remain well and even the child may escape. The mother may become immune through absorption of toxins elaborated by the fetus (Colles' Law). When the infection is on the part of the mother with a diseased ovule the taint is more disastrous to the child than paternal heredity. This condition is rare. 3. Infection of the fetus when the parents were healthy at the time of impregnation and infection of the mother takes place during pregnancy. By treatment of the parents or by natural attenuation, viable healthy children may be born and these are immune against the acquisition of syphilis (Profeta's Law). The author draws a composite picture of the syphilitic child or adolescent and discusses epilepsy, progressive paralysis, and locomotor ataxia, in relation to inherited syphilis.

27. **Cardiac Dilatation and Infectious Diseases.**—Blake discusses the causes of cardiac dilatation and divides cases into four principal groups. 1. Cases in which no special cardiac symptoms are noted until the sudden onset of a rapidly fatal cardiac paralysis. 2. Cases in which no special cardiac symptoms are noted until the sudden onset of a dangerous cardiac weakness, followed by eventual death or recovery. 3. Cases in which the loss of muscular power appears to be progressive and the circulation becomes more and more embarrassed until death ensues. 4. Moderate or severe cases which develop more or less rapidly, but which tend to partial or complete recovery. This includes the vast majority of the cases. These groups he further considers in detail. He gives seven cases illustrating the various types and emphasizes the following points: In all toxemias the heart is more or less affected. This is particularly true of the acute infectious diseases. In typhoid, influenza, rheumatism, diphtheria and scarlet fever the heart involvement is frequent and is often out of all proportion to the severity of the original attack. The symptoms of cardiac weakness may develop at any time after the beginning of the attack, but most commonly after convalescence has begun. The first evidence of cardiac involvement is revealed by changes in the first sound heard at the apex and by diminished tension in the arteries. If the loss of

cardiac tone is sufficiently great, dilatation follows. This is characterized by irritability of the heart, softness, weakness, and irregularity, of the pulse. Symptoms of failing circulation depend on the degree of muscular weakness and extent of dilatation. A dilatation outward to one finger's breadth beyond the nipple line is usually recovered from; two fingers' breadth is exceedingly dangerous, and three fingers' breadth is usually fatal. Vomiting in a case of dilatation is usually the precursor of sudden death. All patients with infections diseases should be carefully watched and appropriate measures taken to reduce the work of the heart to a minimum, prevent strain, and eliminate toxins as rapidly as possible before symptoms of heart failure threaten or are present. In every case of infectious disease the heart should be frequently examined until convalescence is fully established.

Ohio State Medical Journal, Columbus.

November 15.

31 *So-Called Aplastic Anemia and Its Relation to Progressive Pernicious Anemia. W. J. Stone, Toledo.
32 Typhoid Fever; Etiology, Diagnosis and Treatment. A. S. Rudy, Lima.
33 Treatment of Typhoid. J. P. Dewitt, Canton.
34 General Considerations in Anesthesia. R. A. Rice, Columbus.
35 Report of Some Unusual Cases of Syphilis. C. G. Foote, Cleveland.
36 Method of Extracting Thickened and Opaque Capsule After Removal of Cataract. D. W. Greene, Dayton.

31. **Aplastic Anemia.**—Stone reports a case of so-called aplastic anemia and makes an exhaustive examination of the literature, discussing the theory of aplastic and pernicious anemias. From these he concludes that the course, blood picture and autopsy findings in the aplastic form are decidedly different from those in the pernicious. As to treatment arsenic has been of little avail in the cases reported, and seemed to do positive harm in the author's case. The propriety of administering the heavy metals, mercury and arsenic, in cases either of the aplastic or progressive pernicious type should be questioned when evidences of kidney damage, increasing albuminuria, and epithelial casts make their appearance.

Journal Missouri State Medical Association, St. Louis.

November.

37 *Case of Aneurism of Right Subclavian; Ligature in First Portion; Recovery. H. E. Pearse, Kansas City.
38 *Differential Diagnosis Between Chorea Minor and Tic. W. W. Graves, St. Louis.
39 *Surgical Treatment of Tuberculous Peritonitis. H. C. Dalton, St. Louis.
40 *Plea for the Cross-Eyed Child. J. Green, Jr., St. Louis.
41 *Rupture of the Body of the Uterus During Parturition; Report of Case. N. A. G. Tesson, Kansas City.
42 Concussion of the Brain. I. A. Marshall, Ironton.
43 Medical Ethics. O. B. Hall, Warrensburg.
44 Case of Infantile Paralysis. G. M. Moore, Linn Creek.

37. **Subclavian Aneurism.**—Pearse reports a case of aneurism of the subclavian external to the vertebral artery, but extending inward in fusiform shape beyond the scalenus anticus The thyroid axis had fused into the sac and its separate branches had to be tied and cut. The aneurismal sac was cut away; the operation, which had many difficulties, occupied three hours and ten minutes, and was entirely successful, the patient, a locomotive engineer being now at work again and able to handle his engine as well as ever. Pearse believes the collateral circulation to have been established as follows: 1. Above: The blood of the ligated vertebral artery is soon replaced by anastomosis with its fellow of the left and by anastomosis with the thyroid axis on the left. 2. The anastomoses of the ligated thyroid axis are maintained and blood is passed to the branches of the axillary. Below: The intercostal arteries anastomose with the superior thoracic, long thoracic and subscapular. Other small channels about the shoulder in a healthy well developed subject are also available.

38.—This article was published in the *Medical Record* Aug. 24, 1907 and abstracted in The Journal Sept. 7, 1907, page 876.

39. **Tuberculous Peritonitis.**—Dalton briefly discusses the history and literature of the subject. In his experience it is not always possible to make a diagnosis. But when the abdomen has been opened the picture presented points clearly to the source of the disease. To avoid damage to the bowel, the best plan is to keep as close to the parietal or pelvic peritoneum as possible while exposing the affected region. It may be possible to evacuate a tuberculous mass and to apply iodoform emulsion in glycerin to the diseased area, and then to close the abdomen without drainage. Simple evacuation of the fluid, excision of the primary focus when possible, and closure of the abdomen without drainage will yield the best results. He reports four cases.

40. This article was published in the *Interstate Medical Journal*, November, 1907, and abstracted in The Journal, Dec. 7, 1907, page 1953.

41. **Rupture of Uterus.**—Tesson discusses the origin, symptoms and treatment of intraperitoneal rupture of the uterus, with report of a case, and says that in suspicious cases the diagnosis may be easily and safely made by inserting a well-cleaned hand or finger into the uterus and examining its walls. He feels that the physician who hesitates to clean his hand as best he can in obstetrical cases and insert it into the uterus, is not doing justice to himself or to his patient.

Medical Fortnightly, St. Louis.

December 10.

45 *Atresia of Vagina; Femoral Hernia of Bladder. W. S. Wiatt, St. Louis.
46 The Circulatory System. M. P. Overholzer, Harrisonville, Mo.
47 *What You Can Not Do with Purgatives. E. Walter, Evansville, Ind.
48 *Education of Physicians and the Public Regarding Insanity. F. P. Norbury, Jacksonville, Ill.

45. **Atresia Vaginæ and Femoral Bladder Hernia.**—Wiatt reports a case of atresia of the vagina which leads him to the conclusion that when menstrual molimina concur in a virgin with a history of amenorrhea, the physician is justified in a bimanual examination under anesthesia. He also reports a case of femoral hernia of the bladder, deducing therefrom the conclusions that in operations for the radical cure of hernia, or for strangulated hernia, a sterile urethral sound should always be ready for exploration and identification of the bladder. If after a hernial sac has been opened and its contents returned to the abdomen a second sac appears within the first, or to the inner side of it, it is not to be opened until a sound has been passed into the bladder and it has been positively identified. Any hernial sac which is unusually thick and covered by an unusual amount of fat should warn the operator of the possibility of a hernia of the bladder.

47. Abstracted in The Journal, Nov. 2, 1907, page 1552. It was published also in the *Lancet Clinic*, Nov. 16, 1907 and elsewhere, and will not be listed again.

48. Abstracted in The Journal, Oct. 19, 1907, page 1391.

American Medicine, Philadelphia.

November.

49 *Modern Tendencies in Treatment of Bone Tuberculosis. H. A. Wilson, Philadelphia.
50 *What Health Departments Can Do to Secure Pure Milk by Inspection of Dairies and Farms. T. Darlington, New York.
51 Stasis Hyperemia or Bier Treatment of Acute Inflammations and Septic Wounds of the Extremities. W. P. McIntosh, Portland, Me.
52 Personal Experiences with Frontal Sinus Disease. R. H. Johnston, Baltimore.
53 *What Health Departments Can Do to Secure Pure Milk by the Permit and License System. E. Wende, Buffalo.
54 Cataract Operation. F. D. Skeel, New York.
55 Surgery of Appendicitis. W. Dow, Regina, Canada.
56 *Is the Vital Principle Ponderable? A. O'Malley, Philadelphia.

49. **Bone Tuberculosis.**—Wilson reviews the changes that have occurred from the time of Pott in the treatment of tuberculosis of bones and joints, and incidentally deals with Bier's hyperemia, Lorenz's functional ankylosis method, and Wright's research into the possibilities of serum therapy as applied to bone tuberculosis. The first has been widely accepted, the second Wilson considers has not yet been given sufficiently clear data to prove its value or its necessity. With regard to the third, it seems worthy of trial at the hands of those competent by training to use it, but, in the absence of sufficient practical trial, opinion as to its value can not yet be expressed. The net results of the method of treatment of the past twenty-five years is the drawing of special attention to prophylaxis, the critical and careful study of signs and symptoms in the early stage, particularly such trivial things as so-called growing pains, rheumatics, etc.

50. **Milk Inspection.**—Darlington describes what has been done by the health department of the city of New York in the regulation of the milk supply and recapitulates the conclusions of the commission appointed by Mayor McClellan to study and report on the best methods of milk inspection and control, in brief, as follows: 1. Uncontaminated milk from a healthy cow is always wholesome. 2. The danger of transmitting tuberculosis through milk is slight in the absence of considerable udder disease. Systematic inspection and condemnation of cows revealing tuberculosis on physical examination is recommended. 3. The education of the farmers in this matter is insisted on

53. **Pure Milk.**—Wende says it must be accepted that milk is a source of transmission of bovine tuberculosis, particularly in early life. He grades dairies into three classes and describes the handling of the milk from its source to the consumer. He criticises the state supervision and describes the methods of the health board of Buffalo. He demands a stricter supervision and control by the state; a dairy standard and a license and permit system; the evolution of the standard grade large individual ice producer and the extinction of the small menacing contributor; the dairy to be a preparer and not a mere producer; the adoption of refrigerator cars and cooling chests; the city milk dealer to be a contributor not a manipulator; abolition of milk cans and adoption of single service paper containers for direct consumption from udder to mouth. The container can be made an educator by labeling it with pertinent facts.

56. **The Vital Principle.**—O'Malley examines critically the hypothesis of Duncan MacDougall concerning "soul substance," and his experiments of weighing the body at the moment of death, with the conclusions drawn therefrom. Those given to the study of medical metaphysics will read this article with interest.

Archives of Pediatrics, New York.

November.

57 Nervous Anorexia in Children. F. Forchheimer, Cincinnati.
58 Congenital Stenosis of Duodenum. H. L. K. Shaw and L. K. Baldauf, Albany, N. Y.
59 Report of Case of Amyloid Disease. H. C. Carpenter, Philadelphia.
60 Maternal Impressions, with Report of Case. J. T. Rugh, Philadelphia.
61 Indications for and Technic of Paracentesis of Drum Membrane. J. McCoy, New York.
61½ Hemorrhagic Typhoid, with Report of Two Cases Occurring in Children. W. W. Woodward, Philadelphia.

Washington Medical Annals, Washington, D. C.

November.

62 *Operative Treatment of Deflections of the Nasal Septum. C. W. Richardson, Washington.
63 Cases of Unusual Fractures of Bone. W. P. Carr, Washington.
64 Cases of Unusual Urinary Calculi. W. P. Carr, Washington.
65 *Influence of the Gonococcus in the Causation of Sterility. J. T. Jobnson, Washington.
66 Case of Amebic Dysentery with Abscess of Liver. D. S. Lamb, Washington.
67 *Functional Disturbances of the Nervous System Due to Gastroenterogenous Poisons. P. S. Roy, Washington.
68 Case of Endotheliomatous Cyst of Greater Omentum. E. M. Hasbrouck, Washington.
69 Case of Congenital (?) Hypertrophy of Pylorus. B. G. Pool, Washington.
70 Case of Viavi Treatment. D. S. Lamb, Washington.
71 Prevention of Death During Anesthesia by Chloroform and Ether. R. Reyburn, Washington.
72 Tuberculosis of the Placenta. E. E. Morse, Washington.
73 Case of Sarcoma of Cerebellum. R. S. Lamb, Washington.

62. **Deflections of the Nasal Septum.**—As a result of comparative observations, Richardson contrasts the results of the old method of dealing with deflections of the nasal septum and those attained by the submucous operation, as follows: The old method gives, after the operation, a septum maintaining its anatomic integrity; the submucous operation gives a flaccid septum, minus certain elements considered formerly essential to its anatomic integrity. The operation by the old method requires about five minutes in its consummation; the submucous operation requires from one-half to one hour in actual operating time. The old method requires the wearing of a splint for a week or ten days; the packing in the submucous operation is removed in twenty-four hours. In the old method there is considerable pain and discomfort until the splint is removed; there is no pain after the submucous. In the old method of operating the patient is confined to bed for one week and is uncomfortable and feverish until the splint is removed; the submucous patient is out of bed at the end of twenty-four hours and at the end of forty-eight hours is practically well. The old method is rarely attended with perforation—Richardson has had only two in his whole experience. Theoretically, the submucous method should be attended with like results—practically perforations do occur. Richardson feels himself becoming a strong advocate of the submucous operation, because it gives less discomfort to the patient, taxes the skill of the operator, and when satisfactorily done gives most delightful results.

65. **The Gonococcus.**—Johnson emphasizes the importance and wide spread influence of the gonococcus as a factor in disease, and particularly in sterility. Instead of its being the woman that was at fault in nine cases out of ten of childless marriage, as was formerly believed, it is probable that the man is at fault in far the larger proportion of cases. Gonorrhea is responsible for most salpingitis and for the specific endometritis. Moreover, according to Jacobi and Currier, the vulvovaginitis of little girls, which is generally of gonorrheal origin, has the effect of retarding or altogether preventing the normal development of the uterus and its appendages. Large numbers of women, too, live lives of chronic invalidism, too frequently as the result of chronic gonococcic infection. Johnson suggests the inauguration of a campaign of education by the medical profession and urges that the sanction to marriage should be refused to all known to have been recently infected until the use of modern methods of diagnosis has proved the absence of specific germs.

67. **Gastroenterogenous Poisoning.**—Roy discusses the natural means of the organism for combating toxic conditions and then gives a résumé of our knowledge of some of the intestinal poisons, namely, indol, hydrogen sulphid, nitrates, the acetone bodies, and ammonia.

New Orleans Medical and Surgical Journal.

November.

74 *Bacteria Carried on Appendages of the Domestic Fly. E. P. A. Ficklen, New Orleans.
75 Chlorosis: Its Diagnosis and Treatment. I. I. Lemann, New Orleans.
76 Peripheral Nerve Injuries: Their Prognosis and Treatment. R. M. Van Wart, New Orleans.
77 Practical View of Bacteriology for the Physician. J. D. Wels, New Orleans.
78 Cases of Achylia Gastrica. S. K. Simon, New Orleans.
79 Case of Metol Poisoning or Intoxication. H. D. King, New Orleans.
80 Fractures. E. D. Martin, New Orleans.
81 Gangrene of the Foot Following Influenza. C. W. Allen, New Orleans.
82 Chyluria. C. W. Allen, New Orleans.

74. **Bacteria in Flies.**—Ficklen discusses the relation of flies to disease from a historical standpoint and gives a description of the house fly, deducing that infection by means of flies can take place only in the following ways: 1, direct normal contact; 2, intravenous or subcutaneous infection through an abrasion, etc.; 3, indirect infection by the pollution of food. He describes the bacterial flora of the house fly and reports a series of experiments with flies allowed to feed on anthrax, hog cholera, and typhoid, the flies subsequently affording pure cultures of the respective organisms. His studies emphasize the importance of taking stringent measures for the eradication of flies during times of widespread sickness. Particularly must all stables and cattle sheds be strictly supervised and the manure rendered uninhabitable to the eggs and larvæ of the fly, for which purpose he recommends spraying with a strong solution of bichlorid of mercury. He points out the necessity for a competent corps of inspectors, for "sanitation" has no meaning to the class of people who should practice it most. The average dairyman or stable owner thinks of carrying out only the letter, not the spirit, of the law, yet these men carry the welfare of the community in their hands.

St. Louis Medical Review.

November.

83 *Treatment of Malaria. C. Paine, Peoria, Ill.
84 *Treatment of Inoperable Carcinoma of the Uterus by Acetone. G. Gellhorn, St. Louis.
85 Opsonin and Vaccine. G. McConnell, St. Louis.
86 Surgery of the Ureter. B. M. Ricketts, Cincinnati, Ohio.

83. **Malaria.**—Paine considers the treatment of malaria exhaustively, both as regards the intermittent and remittent

forms, and also pernicious malaria. With regard to the intermittent form he says that a hypodermic injection of morphin sulphate ¼ grain, and atropin sulphate 1/150 grain will markedly modify the severity of the chill if administered before it is due. He considers the administration of quinin by the mouth, by hypodermic and intravenous injection by hypodermoclysis by rectal enemata and suppository and by inunction. With regard to its administration by mouth he has found its therapeutic action remarkably aided by the addition of from one-quater to one-half of a grain of powdered capsicum or one or two grains of powdered ginger. He considers the use of salts of cinchona, salicin, methylene blue, Warburg's tincture, arsenic, opium, and eucalyptus, describes the treatment of an average case with the after-treatment and also the treatment in infants and children and in latent and masked forms of malaria.

84. **Carcinoma of the Uterus.**—Gellhorn writes a report on the treatment of inoperable carcinoma of the uterus by means of acetone, supplemental to a paper in The Journal, April 27, 1907, which covered the same ground.

Chicago Medical Recorder.

November 15.

87 *Preliminary Report on Ten Cases of Chronic Joint Disease Treated by Tuberculin Injections by Wright's Method. J. Ridlon, Chicago.
88 Unusual Case of Mixed Infection of Right Upper Extremity. E. H. Ochsner, Chicago
89 *Painless Removal of Adenoids and Tonsils. H. Gradle, Chicago.
90 Dilated Veinlets on External Nose and Septum; Permanent Closure with Positive Galvanic Needle. O. T. Freer, Chicago.
91 Relationship of Druggists and Physicians. H. B. Hemmenway, Evanston, Ill.

87. **Chronic Joint Disease.**—Ridlon reports on ten cases of chronic joint disease treated after Wright's method with tuberculin. His conclusions are as follows: A low tuberculo-opsonic index with local joint symptoms may be accepted as evidence of joint tuberculosis. But the practically normal tuberculo-opsonic index together with local joint symptoms neither proves nor disproves joint tuberculosis. When the diagnosis of joint tuberculosis has been made a high tuberculo-opsonic index should be maintained, if possible. With a high tuberculo-opsonic index, an operation for the removal of all or part of the local disease may be undertaken. Not so with a low index. If use of the diseased joint lowers the opsonic index the joint must be protected; if it does not lower the index it may be permitted; if it raises the index it should be insisted on. General elevation of the temperature following an injection includes too large a dose. A persistent lowering of the index during treatment indicates that the injection has been given at the wrong time, during what Wright calls the negative phase, instead of during the positive phase. He believes the joint injection treatment guided by the tuberculo-opsonic index to be a most promising step in advance in the treatment of tuberculous joint disease.

89. **Painless Removal of Adenoids.**—Gradle thrusts into the posterior wall of the pharynx, as high as possible after elevating the soft palate with a soft hook, a hypodermic needle, 10 c.c. long, after spraying with cocain, and injects a mixture of cocain and adrenalin. The needle is introduced through a blunt cannula as a guide. After ten minutes the operation will be painless. For the tonsils, if the child is submissive, about ten drops of a 1 per cent. or even 0.5 per cent., solution of cocain with adrenalin (1 to 4000) is injected all around the periphery of the tonsil, and produces complete insensibility. Pain, however, is felt when strong traction is made, especially with the snare.

Surgery, Gynecology and Obstetrics, Chicago.

November.

92 *New Operation for Cure of Salivary Fistula. C. S. Hamilton, Columbus, Ohio.
93 *Deferred Operation for Ruptured Ectopic Gestation. F. F Simpson, Pittsburg.
94 *Metastatic Carcinoma of Tube and Ovary in Cancer of Cervix. F. J. Taussig, St. Louis.
95 *Enuresis in the Female Due to Phimosis. G. E. McGirk, Philipsburg, Pa.
96 *Chronic Suppurative Processes in Hand. A Clinical. Experimental and Anatomic Study. A. B. Kanavel, Chicago.
97 *Cancer of Thyroid, with Report of Three Cases. A. E. Halstead, Chicago.
98 Technic of Supravaginal Abdominal Hysterectomy. T. J. Watkins, Chicago.
99 Case of Cicatricial Contraction Following Burn, with Relief by Wolfegraft. J. S. Davis, Baltimore.
100 Technic of Removal of Tuberculous Glands of Neck. S. C. Plummer, Chicago.
101 *Surgical Treatment of Puerperal Fever. W. J. Sinclair, Manchester, England.

92. **Salivary Fistula.**—Hamilton describes the details of a new operation for fistula of Stenson's duct, consisting essentially in an elliptical incision around the fistulous orifice on the cheek, and transplantation of the orifice to the buccal mucosa, where it is fixed by appropriate sutures. This method is not practicable if the fistula is located so far posteriorly that the proximal portion of the duct is not long enough for transplantation.

93. **Ruptured Ectopic Gestation.**—Simpson considers the question of immediate operation for ruptured ectopic pregnancy and combats the idea that the larger percentage of those who sustain a ruptured ectopic gestation will almost inevitably bleed to death, which is the commonly urged reason for immediate operation. He contends that operation should not be done unless all conditions are favorable for a successful issue.

94.—Abstracted in The Journal, May 18, 1907, page 1707.

95. **Enuresis Due to Female Phimosis.**—McGirk discusses the anatomy and the nerve supply, direct and reflex, of the female genitalia, and recommends that an examination of the clitoris should be a routine practice in all gynecologic cases as well as in children who habitually handle the parts. He reports cases of enuresis in both children and adults successfully treated by circumcision, and describes the operation.

96. **Suppuration of the Hand.**—Kanavel, in an exhaustive clinical, experimental and anatomic study, admirably illustrated, goes at great length into various forms of suppuration of the hand and offers the following résumé: Necrosis of the distal phalanx ordinarily ends in sloughing of the diaphysis alone. Joint function should be preserved. Incision should be made laterally instead of on the palmar surface. The proximal interphalangeal joint is most commonly involved. The proximal phalanx escapes while the epiphysis and part of the diaphysis of the middle phalanx are destroyed. Conservative operations may be done with some success. Isolated involvement of the tendon sheaths may be present. Incision of the sheath should expose all involved parts. Chronic palmar abscesses frequently point on the dorsum passing along the lumbrical canals, and may be opened along these canals. Complete function can be promised patients suffering with palmar abscesses uncomplicated by tendon-sheath or osseous infection. Chronic dorsal abscesses may point at a distance from the focus owing to the dorsal aponeurotic sheet. The carpal joints are frequently invaded from the radial bursa, abscesses and sinuses appear on the dorsum. Every effort should be made to preserve the integrity of the tissue between the first and second row of carpal bones. Serious forearm abscesses lie below the flexor profundus digitorum and may be opened either in front in connection with an incision in the palm or in isolated cases by lateral drainage. Trophic changes result from the tendency of the pus to extend along the nerves and blood vessels.

97. **Cancer of Thyroid.**—Halstead records three cases, and dwells on the etiology, pathology, clinical course, symptomatology and diagnosis.

101. **Puerperal Fever.**—Sinclair, in his contribution to the Nicholas Senn Festschrift, discusses at length the history of puerperal fever, describes the theoretic basis of efficient treatment and concludes that the mischievous meddlesomeness must cease, and operation must be resorted to only on clear indications for interference. When symptoms indicating infection set in, action must be prompt and unhesitating. The distinction between puerperal sapremia and septicemia must be abandoned, and as a corollary we must abandon the weakness in action and the procrastination depending on the distinction. When symptoms suggesting puerperal peritonitis appear, and when after exact, watchful observation a presumptive diagnosis is reached, prompt operation is demanded. Operation in the future will save many unhappy women, such as we in the present permit to perish by inaction.

Louisville Monthly Journal of Medicine and Surgery.

November.

102 *Relations Between the Medical Profession and the People. H. H. Grant, Louisville.
103 *The Kentucky State Medical Association: Its Needs, Organization and Ambition. D. M. Griffiths, Owensboro.

102.—Abstracted in THE JOURNAL, Nov. 16, 1907. page 1707.

103.—Abstracted in THE JOURNAL, Oct. 26. 1907, page 1465.

Virginia Medical Semi-Monthly, Richmond.

November 8.

104 Value of Elimination in Treatment of Certain Forms of Epilepsy. J. A. Hodges, Richmond.
105 Establishment of Sanatoria in Florida Through State Aid. for the Treatment of Incipient Tuberculosis. E. N. Liell, Jacksonville, Fla.
106 Tabes. B. R. Tucker, Richmond.

November 22.

107 Report of Cases of Unusual Derangement of Knee Joint. A. R. Shands, Washington, D. C.
108 Intubation. P. D. Lipscomb, Richmond.
109 *The Age in which We Live. C. Pope, Louisville. Ky.
110 *What You Can Not Do with Purgatives. E. Walker, Evansville, Ind.
111 Principles of Surgery. S. McGnire, Richmond.

109.—Published in the *Lancet-Clinic*, Nov. 16, 1907.

110.—Published in the *Lancet-Clinic* Nov. 16, 1907, *Virginia Medical Semi-Monthly*, Nov. 22, 1907, and in the *Medical Fortnightly*, Dec. 10, 1907. Abstracted in THE JOURNAL, Nov. 2, 1907, page 1552.

Vermont Medical Monthly, Burlington.

November 15.

112 *Uterine Cancer in Vermont. C. W. Strobell, Rutland.
113 *Autointoxication. H. C. Jackson, Woodstock.
114 *Practice of Medicine as a Business. J. F. Blanchard, Newport.

112.—Abstracted in THE JOURNAL, Nov. 30, 1907, page 1868.

113.—Abstracted in THE JOURNAL, Dec. 7, 1907, page 1948.

114.—Abstracted in THE JOURNAL, Dec. 7. 1907, page, 1949.

University of Pennsylvania Medical Bulletin, Philadelphia.

November.

115 Investigation of Physical, Chemical and Biologic Condition of the Air in the Philadelphia Rapid Transit Subway. H. L. Bates, Philadelphia.
116 Distribution of Motor Root in Anterior Horn. A. R. Allen, Philadelphia.
117 Regeneration of Bone. (Concluded.) H. S. Wieder, Philadelphia.

Denver Medical Times and Utah Medical Journal, Denver.

November.

118 Emphysema of Orbit and Lids Following Removal of Middle Turbinal. E. W. Stevens, Denver.
119 Palpation; Aid to Diagnosis of Surgical Diseases. C. C. Allison, Omaha, Neb.
120 Nevada: Its Opportunities for Medical Men. F. E. Waxham, Denver.
121 Ileocolic Circle. B. Robinson, Chicago.
122 Subphrenic Abscess Following Pneumonia. P. J. Pothuisje, Denver.
123 Laboratory Diagnosis for the Practitioner. J. C. Todd, Denver.
124 Complications of Rheumatism. I. B. Laker, Eureka, Utah.
125 Diagnosis and Treatment of Osteomyelitis. J. W. Aird, Provo, Utah.
126 Veratrin. R. J. Smith, Schenectady, N. Y.

Montreal Medical Journal.

November.

127 Hygienic and Dietetic Treatment of Pulmonary Tuberculosis. H. M. Kinghorn, Saranac Lake, N. Y.
128 Listerism—Antisepsis and Asepsis. A. H. Wright, Toronto.
129 Accidents in Thoracentesis. W. F. Hamilton, Montreal.
130 Epidemic Cerebrospinal Meningitis. J. J. MacKenzie, Toronto.
131 Treatment of Cerebrospinal Meningitis. A. D. Blackader, Montreal.
132 Primary Melanosis of Palate: Nasobuccal Fistula of Recent Sarcomatous Origin. J. N. Roy, Montreal.

Northwestern Lancet, Minneapolis.

November.

133 Contact Typhoid. H. W. Hill, Minneapolis.
134 Wien Nasen Pot-Pourri. W. S. Wood, Albert Lea, Minn.
135 Preventive Medicine. A. L. Baker, Kasson, Minn.
136 Punctured Wounds, with Report of Case. W. E. Moore, Tyndall, S. Dak.

Indiana Medical Journal, Indianapolis.

November.

137 Tuberculosis: A Historical Sketch. J. Stewart, Anderson.
138 Report on Tuberculosis. T. Potter, Indianapolis.

West Virginia Medical Journal, Wheeling, W. Va.

November.

139 Examination of Blood. J. W. Moore, Charleston.
140 Treatment of Alcoholic and Other Narcotic Drug Habitués G. H. Benton, Chester.
141 Proprietary Medicines. G. D. Lind, New Richmond.
142 Appendicitis from Standpoint of General Practitioner. J. W. Preston, Keystone.
143 Mastitis. H. K. Owen, Elkins.
144 Rapid Method of Staining Spirochæta Pallida. W. J. MacNeal, Morgantown.

Western Medical Review, Omaha.

November.

145 Treatment of Colds and Influenza. D. T. Qnigley. North Platte, Neb.
146 Late Work in Laryngology and Rhinology. H. B. Lemere, Omaha.
147 *Treatment of Puerperal Sepsis. C. Rosewater, Omaha.
148 Psychologic Suggestion as a Remedy for Disease. A. E. Clongh, Madison, S. Dak.
149 Appendicitis Complicating the Puerperium. D. C. Hilton, Lincoln, Neb.

147.—Abstracted in THE JOURNAL, June 8, 1907, page 1982.

American Journal of Surgery, New York.

November.

150 Treatment of Infantile Paralysis. R. W. Lovett, Boston.
151 Surgical Treatment of Cancer. W. S. Bainbridge, New York.
152 *Frequent Interdependence of Dislocated Kidney, Gall-Bladder Trouble and Appendicitis. E. Harlan, Cincinnati.
153 Skiagraph as Aid in Diagnosis of Tuberculous Bone Lesions. A. Jacoby, New Orleans.
154 Blood Examination in Surgical Diagnosis. I. S. Wile, New York
155 Gonorrhea in the Female Genital Tract. D. W. Roose, Manistique, Mich.

152.—This article was published in the *Medical Fortnightly*, Oct. 10. 1907, and was abstracted in THE JOURNAL, Oct. 26, 1907, page 1467.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

December 7.

1 Wounds and Injuries of the Eyeball, Eyelid and Orbit. S. Snell.
2 Scientific Use of Evidence in Surgical Practice. H. Marsh.
3 *Unexplained Fever in Infants and Children. H. Ashby.
4 *Urinary Mucous Tract and Not the Blood Stream, as Route of Invasion by Pathogenic Organisms Under Certain Conditions. C. J. Bond.
5 Unusual Motor Car Accident. G. Beatson.
6 *Ocular Reaction to Tuberculin. W. MacLennan.
7 *One Hundred and Twenty-one Cases Tested with Calmette's Tuberculin. J. S. Webster and J. A. Kilpatrick.
8 Case of Achondroplasia. J. A. C. Macewen.
9 Child with Multiple Deformities. E. Jepson.
10 *Tuberculin Ocular Reaction. H. Downes.
11 Case of Myositis Ossificans. E. J. Maxwell.
12 Use of the Seton. E. Pratt.
13 Poisoning by Bromoform. J. A. Langdon.

3. **Unexplained Fever.**—Ashby discusses various forms of fever occurring in infants and children, in which the usual causes of fever—infectious diseases, tuberculosis, influenza, meningitis, otitis, and "teething"—are excluded, on the basis that fever is due either to the presence in the blood of some bacterial toxin or to reflex or vasomotor causes. Gastrointestinal infection is of course one of the commonest causes, and he particularly emphasizes the number of opportunities the young child has of gastrointestinal infection—crawling about on the floor, putting everything into its mouth, "comforters" given it to suck, overmuch kissing, and dangers connected with its food and feeding bottle. He describes instances and refers especially to infantile pyelitis as a cause likely to be overlooked, if not altogether, at least for a long time. From the fact that nearly all the sufferers in the latter form are girls, he concludes that the infection is frequently by way of the urethra. It is necessary in such cases to call in the aid of a bacteriologist, especially if the urine is strongly acid. Among other causes he names a small patch of pneumonia, local empyema, cerebrospinal meningitis, influenza, septicemia from absorption by the tonsils or nasopharynx, a boil, etc. All these cases demand bacteriological aid, as well as investigation of the blood, urine, and cerebrospinal fluid. Of another class are the type often spoken of as "bilious attacks" and the nerve storms, "or in other words, epilepsy." Some feverish states are plainly due to gastric insufficiency with or without chronic intestinal catarrh. An examination shows a dilated stomach, or one which is in a chronic condition of diastole, with decomposing contents and a constant evolution of gas. Similar

symptoms may be produced by intestinal dyspepsia. In cases of the neurotic type, clever children who must be doing something and who get a rise of temperature whenever they become fatigued, when all the possible causes, including worms, have been excluded, the wise practitioner sends the child into the country, accidentally breaks the family thermometer, and supplies another which can not be made to rise above 99. Neurotic children, dyspeptic ones, and even some with a batch of tuberculous glands somewhere out of sight and touch, are best away from the observation of the anxiety their ailments give their friends, and leading a healthy outdoor life.

4. **Pathogenic Organisms and the Urinary Tract.**—Bond points to a class of cases clinically reproducing the features usually associated with pyelitis, without any history of calculus, instrumentation, or injury to the urethra or bladder, gonorrhea or stricture. It has been usual to ascribe such cases to a blood infection, say with *Bacillus coli*, which is excreted through the kidneys, thus giving rise to the symptoms. The following facts seem to throw light on the real method of infection: 1. The majority of cases occur in the female, and the pregnant state or gynecologic condition appears to be the predisposing cause. Campbell has shown bacterial infection of the urethra to be frequent in gynecologic cases, and in pregnancy Rebland and Cumston have drawn attention to pyelonephritis as a complication of pregnancy, and Lohlein and Olshausen have pointed out that the ureters are found dilated in women dying in labor. The pressure of the uterus on the ureter at the pelvic brim during pregnancy, Cumston thinks may cause obstruction leading to partial hydronephrosis, and he suggests that virulent organisms find their way into the blood stream and so infect the kidneys in their state of lessened resistance. Bond points out that in the address in surgery before the British Medical Association, in 1905, he demonstrated that under certain circumstances a regurgitant mucous stream does occur in the genitourinary tract, capable of conveying foreign particles, such as indigo, along the whole length of the tract from the anterior urethra to the upper end of the ureter. This condition demands, however, as a predisposing factor, some temporary arrest, partial or complete, in the normal outgoing flow of the natural secretion. He then records three cases of his own in which there were distinct symptoms at the beginning of a nephritic attack, of a definite cystitis, transitory in character, but definitely preceding the kidney symptoms. Putting together the clinical, bacteriologic and experimental facts, he says that it is impossible to resist the conclusion that the infection, whatever the organism may be, enters the body by way of the mucous canal of the urethra, spreads thence to the bladder, and is carried upward along the ureters to the pelvis of the kidneys. He recounts the objections against the blood-stream theory of infection, and thinks that this theory of duct infection may be extended to other affections besides those caused by the pus-forming organisms, e. g., tuberculosis of the testis, fistula-in-ano. This view is in harmony with the observed phenomena of toxic processes. It is important, then, to safeguard the orifices of the mucous canals by attention to bathing and personal hygiene. Possibilities of treatment are also opened out.

6. **Ocular Reaction to Tuberculin.**—MacLennan has made over a hundred observations, 70 with Calmette tuberculin, 25 with the "old" and 10 with the "new" tuberculin. The analysis of his cases brings out these facts: 1. For the most part Calmette's claims are fully justified. 2. The test apparently reveals the presence of tuberculous lesions that are benign and unsuspected from a clinical point of view, as well as those that are more obvious. 3. In those cases in which a subcutaneous injection of old tuberculin has given a positive or a negative reaction the same result has followed the application of the ocular test. 4. There seems some evidence that a solution of the old tuberculin may answer equally well. If further experience proves the test reliable, it will be a valuable aid in the early diagnosis of tuberculosis in obscure cases.

7. **Calmette's Tuberculin Reaction.**—Webster and Kilpatrick found that all definite cases with bacilli in the sputum gave the reaction. In doubtful cases some gave it, some did not. In presumably healthy individuals two gave the reaction and two did not, but no conclusion can be drawn in the absence of clinical examination. No conclusions can be drawn as to the relation of the reaction to the extent of the lesion. The reaction gives some promise of utility, but its reliability can only be ascertained after much more extended experiment.

10. **Id.**—Downes' 24 cases add their testimony to the view that the reaction is valuable but not infallible. He suggests that it would be useful to learn the value of the test in the so-called pretuberculous stage of the disease. He warns against giving undue importance to it, as has been done with regard to tubercle bacilli in the sputum.

Lancet, London.

December 7.

14 *Treatment of Dysentery. F. M. Sandwith.
15 *Contributions from History and Literature to the Study of Precocity in Children. G. Guthrie.
16 Cases of Myomata of Uterus Presenting Unusual Features and Calling for Urgent Surgical Interference. W. F. Brook.
17 Case Showing Division of Clavicles Into Two Halves, with Other Bony Deformities; Cleido-cranial Dysostosis. E. I. Spriggs.
18 *Plea for Uniformity of Conditions in Vaccination. A. H. Gerrard.
19 Pulmonary Regurgitation Due to Vegetative Endocarditis Consequent on Rupture of Aneurism of Heart. T. Oliver.
20 *Treatment of Trigeminal Neuralgia by Injection of Osmic Acid Into the Gasserian Ganglion. G. A. Wright.
21 Outbreak of Food Poisoning Due to Eating Brawn. G. F. Buchan.
22 *Acute Pulmonary Edema. L. Williams.
23 Carcinoma of Ovary Occurring in Child Aged Seven. E. W. Parry.
24 Unusual Case of Appendicitis. A. K. Gordon.
25 Case of Rheumatic Hyperpyrexia in Child Aged Six. G. H. Lock.

14. **Dysentery.**—Sandwith points out that even in countries where dysentery is not indigenous there is a danger from its importation by carriers, cases not recognized or diagnosed as diarrhea or so mild that they do not seek treatment. These individuals, however, are capable of transmitting the disease, which may take a virulent type with the person infected. Sandwith discusses bacillary and amebic dysentery. The diagnosis is not difficult to those who have trained themselves to examine the excreta. Tenesmus exists only when the lower rectum is affected. The diseases most often confounded with dysentery are carcinoma, polypi and syphilis of the rectum, hemorrhoids, and in those returning from the tropics bilharziasis. The following points should be remembered in the differentiation of the two forms: 1. Amebic dysentery, unless skilfully treated at the beginning, runs usually a chronic course, while the bacillary form lasts only from four to eight days in mild cases and from three to six weeks in serious ones. 2. In the amebic form no bacilli can be found except under the rare conditions of a mixed infection, with both amebæ and bacilli. 3. Toxic symptoms, such as high fever, rapid emaciation, and nerve complications, exist in bacillary dysentery, but not usually in the amebic form. 4. Liver abscess is a frequent complication of amebic dysentery, and does not exist in the unmixed bacillary form. The conditions necessary for a certain diagnosis of bacillary dysentery are the positive agglutination reactions of the dysentery bacillus with the blood serum of the patient, or the isolation of the bacillus from the feces of the patient, or from the organs after death. Instances are quoted to show the probable introduction of the dysentery bacillus by the mouth. Treatment demands first, rest in bed, warm clothing, physiologic rest for the intestine. Alcohol does not help the dysentery and is bad for the liver. Food should be tepid. Dysentery must be treated just as carefully as typhoid. The bowel should be cleaned out with castor oil, dram doses of magnesium sulphate, or calomel, 1/6 grain. Enemata of saline solution are given for tenesmus, or suppositories of cocain, opium, or belladonna. The bedpan must invariably be used. Quinin should be given if a malarial taint is suspected. Shiga's serum treatment is commended. A new method is the use of a bacterial vaccine. The amebic form is seven or eight times more frequent than the bacillary. The general treatment is as above, but small doses of opium may be required or bismuth salicylate may be given in 15 grain doses every four hours, and a mustard plaster is applied to the epigastrium; he lies flat, without pillows, in bed, and 15 minims of laudanum are given in water, followed in a quarter of an hour by 30 grains of powdered ipecac. Rigid rest is enforced to prevent vomiting. The treatment is repeated nightly, reducing the ipecac by 5

grains and the laudanum by 5 minims each time until no laudanum and only 5 grains of ipecac are being taken. This is continued for a week or ten days. Sandwith has never seen any good from the calomel treatment and thinks it has been fatal in the case of elderly feeble patients. He much prefers magnesium sulphate. Enemata of quinin, 1 in 1,000, raised in a few days to 1 in 500, or silver nitrate, 1 in 1,000, or copper sulphate of the same strength are useful. The enema, a pint in quantity, should be given high with the buttocks raised. This should be given every morning and a cleansing enema of two pints of saline solution, in which an ounce of linseed has been allowed to soak for some hours is given in the evening. All enemas should be warm.

15. **Precocity.**—Guthrie discusses the varieties of intellectual precocity, the age at which special precocity is manifested with reference to musicians, painters and sculptors, poets and literary men, scholars and historians, mathematicians, men of science, naturalists, philosophers and metaphysicians, leaders of men, precociousness of memory and *idiots savants*. His conclusions are that precocity in itself is not a pathologic condition tending to early decease or to premature mental decay and that all eminent men have been precocious as children, though their precocity may have passed unrecognized. If brightness and ability were no longer regarded as morbid or unfavorable signs unless associated with nervous instability and hyperesthesia, and if teachers would refrain from pressing on bright and clever but neurotic children who show signs of impending mental exhaustion which are easily recognized, the term precocity would lose much of its evil significance. The precocious child is not necessarily a genius, but by careful management he may at least be prevented from becoming a failure in mind and body.

18. **Vaccination.**—Gerrard recommends that all vaccination should be placed completely under state control, and that all lymph should be prepared by the government to avoid inequality.

20. **Trigeminal Neuralgia.**—Wright has extended the injection of nerves with osmic acid to the injection of the Gasserian ganglion itself. The patient was anesthetized, and an incision made from above the zygoma downward and curving forward along the lower border of the jaw. The zygoma was resected and turned down and the coronoid process was divided and turned up. The inferior dental and lingual nerves were found and traced up to the foramen. By means of a curved dental syringe a few drops of a 2 per cent. osmic acid solution were injected into the ganglion through the foramen. The nerves were then torn away and the wound closed. The results were fairly satisfactory in the first case and very satisfactory in the second.

22. **Acute Pulmonary Edema.**—Williams describes a case of the form of acute fatal pulmonary edema which comes on suddenly without any premonitory warning. It ended fatally within a quarter of an hour from the beginning of the attack. Although articles have appeared on the subject and many cases have been put on record he remarks that the English and German text-books are almost entirely silent on the subject, the French books being the only ones that seem to take any cognizance of this form of the disease.

Medical Press and Circular, London.

November 27.

26 Lingering Labor: Its Causes and Treatment. J. Morrison.
27 *Tuberculosis in Childhood and Its Relation to Milk. J. McCaw.
28 Abortive Treatment of Syphilis by the Intensive Method. R. Duhot.

December 4.

29 Exophthalmic Goiter and Myxedema. R. W. Philip.
30 High-Frequency Effluvation and Sparking in Treatment of Malignant Tumors. J. A. Riviere.
31 Gastrojejunostomy and Regurgitant Vomiting. K. W. Monsarrat.

27. **Tuberculosis in Childhood.**—McCaw adduces evidence tending to show that the large percentage of tuberculosis met with in children is bovine, and is caused by the ingestion of bovine tubercle bacilli in milk, meat, etc., and that this form of tuberculosis is chiefly surgical. The author's experience is that in limited tuberculous lesions of a surgical nature the injection of Tuberculin R is followed by favorable results. To protect children from tuberculosis McCaw recommends the notification of all births within twenty-four hours so that the infant's environment may be inspected by health visitors; complete control of the milk supply by the state; medical inspection of school children; enforced sanitation of dwelling houses in the poorer districts; segregation of all advanced cases of phthisis, and removal of children from houses containing consumptives, and compulsory notification of tuberculosis. In tuberculin, notwithstanding the general professional lack of confidence in it, he sees a remedy of the greatest value, now that the dose can be graduated by the opsonic index to a nicety.

Glasgow Medical Journal.

December.

32 Breisky's Kraurosis Vulvæ; Four Cases, Three of Them Complicated with Epithelioma. J. Edgar.
33 *Physiopsychology of Hallucinations. J. H. MacDonald.

33. **Hallucinations.**—MacDonald discusses the well known hallucinations of Luther, George Fox, Joan of Arc, Cromwell, Dr. Johnson, Cowper, Pope, Byron and Goethe, and their relations to insanity. He also considers the relation of hallucination to crime. In some forms of insanity, hallucinations are but fleeting episodes, in others they are almost constant phenomena. In many cases they are the earliest phenomena of mental aberration. Hallucinations may be of any of the senses, but those of hearing are the most common, probably, and after them those of sight. He discusses in detail the various forms, and states that when we enquire into their nature we find that their production involves a very complicated mechanism whose component parts are concerned in the functions of sensation, consciousness, perception, and memory (image formation, conservation, and reproduction). Hallucination should be defined in terms not of perception, but of memory, for perception consists in the consciousness of the presence of a real object stimulating one or more of the sense organs, along with the notion obtained of the sensible attributes of the object. The residual something that remains in the nervous system as a consequence of perception, is the "image" which we term visual, auditory, gustatory, olfactory or kinesthetic according to the sensory pathway by means of which the perception has been realized. The faculty of reproducing memory images is not possessed by all men in the same degree, a fact which affords one of the most substantial reasons for differences in intellect and conduct. The various parts of the cerebrum are not all developed proportionately and the inequalities in their evolution cause inequalities in function, which find expression in the readier formation, the more certain and durable conservation, and the readier and more vivid reproduction of images in those parts of the cerebrum best evolved. In this way memory types are formed among men, causing differences in inclinations, emotions or aptitudes. He explains precocity and power in artists by the vividness of their capacity for reproducing mental images, and points out the close resemblance between the images so produced and those of hallucinations. If we suppose this subjective representation of a previous perception—such as will enable certain artists to visualize a person so completely for instance that they can then proceed to paint his portrait in his absence—to be markedly intensified and a reverse current of nerve energy, so to speak, to set in, projecting the image so that it appears to be outside the body, we have one of the theories of hallucination. It is worthy of note that those who are congenitally blind never have visual hallucinations because the sensory centers for vision have never been developed, and there are no visual images conserved therein, but such hallucinations may occur in those who have once possessed the power of sight. A hallucination is never an entirely new creation of the brain, but is simply a reproduction of memory images, and in cases in which the hallucination seems new, strange, and enigmatical, we have to do merely with a new combination of its component elements. Dreams are the hallucinations of the sleeping state. Imagination is the same formation of new ideas from memory images in the waking state. In the sane and waking state the association and coordination of the images is secured by the regulating influence of the higher intellectual centers, while in the insane and in sleep the controlling power is weakened so that imagination

runs riot. It is noticeable that hallucinations vary in different races and at different periods of history according to the knowledge and the dominant ideas of the day and the people. Compare the gods, satyrs, etc., of the Greeks with the saint or devil visions of the middle ages, and the hallucinations of a mechanical character of the present day, the reception of telephone, telegraph, aerial messages, etc. MacDonald next considers the influence of hallucinations on the thought and conduct of the sufferer and their relation to sanity, and in regard to the latter concludes that when the subject of hallucinations fails to recognize these as anomalous productions of his brain, and allows his thoughts to be directed from their ordinary course and his conduct to be regulated by the hallucinatory mental content, he is no longer of sound mind.

Clinical Journal, London.

November 27.

34 *Acute Pulmonary Disorders in Childhood and Infancy. F. J. Poynton.
35 Position, Deformities and Injuries Associated with Adduction of the Foot. E. M. Corner.

December 4.

36 Cirrhosis of the Liver in Children. C. Bolton.
37 Position, Deformities and Injuries Associated with Adduction of the Foot. E. M. Corner.

34. **Acute Pulmonary Disorders in Childhood.**—Poynton discusses pleurisy, empyema, pneumonia and pneumothorax. Pleurisy is often a puzzling illness in children and infants owing to the detrimental effect of pain with its shock and suffering on such young children. Pleurisy presents striking instances of the simulation of abdominal disease by thoracic disorders, e. g., appendicitis. Pain and tenderness may be referred to the right iliac region when the disease is confined to the chest. He therefore can not agree that all patients with appendicitis should be promptly operated on without a thorough realization of what such a rigid line of action entails. It takes for granted an ability possessed by few to diagnose appendicitis. All will agree that one ought not to operate on the appendix when the condition is a severe pleurisy. Yet a rigid rule of practice will probably lead to this being not infrequently done. Another disease closely simulated by phrenic pleurisy in childhood is general peritonitis. He deprecates the widespread fear of opium in infancy and says it is interesting to see the rapidity with which children in pleurisy come back from what appears to be death's door on relief of pain, for the cautious use of opium is a most effectual remedy. Empyema he considers the most difficult of all pulmonary diseases. Acute tuberculous pleurisy with a clear exudation may, on account of the virulence of the infection,be accompanied by sweating, high irregular fever, wasting and anemia, the general signs of empyema. Exploration is not without danger and rib excision should be preceded by a preliminary aspiration to allow the heart to recover a normal position and to avoid the dangerous collapses he has seen follow on the operating table. As regards shortening the drainage tube he has seen disastrous sequelæ from attempts at rapid closure. Localized empyemata are the most difficult ones to treat. An intralobar empyema is liable to burst into the air passages and thus cause suffocation. Apical empyemata are rare. On the left side the percussion dulness must be distinguished from pericardial extension. On the right side it is closely simulated by tuberculous infiltration of the upper lobe. Suppurative pericarditis is one of the chief dangers of an overlooked empyema. Other dangers are suppurative meningitis and malignant endocarditis. In pneumonia the helplessness of infants introduces curious difficulties, seemingly almost trivial. An infant suddenly refused food. It was noted that there had been some nasal catarrh, and this with the fog, had plugged the nares with mucus and grime, so that breathing was possible only through the mouth, and the child choked on feeding. Removal of the obstruction restored the power to take food.

Annales de l'Institut Pasteur, Paris.

October, XXI, No. 10, pp. 753-831.

38 *Prophylaxis of Syphilis. E. Metchnikoff.
39 Experimental Cancer in Mice. (Cancer expérimental des souris.) J. Bridré.
40 Toxicity of Therapeutic Serums. Besredka.
41 Cultivation of the Pale Spirochete. (Contribution à l'étude de la culture de "Treponema pallidum.") C. Levaditi and J. McIntosh.
42 *Hemolytic Action of Extract of Schlerostomum. G. M. Weinberg.
43 Association of Spirilla of Tick Fever with Trypanosomes. R. Trautman.
44 Analysis of Mixtures of Volatile Fat Acids. A. Lasserre.
45 Malarial Regions Erroneously Claimed to be Free from Anopheles. E. and E. Sergent.

38.—Summarized in THE JOURNAL, Nov. 2, 1907, page 1562.

42. **Hemolytic Action of Extract of Certain Helminths Found in the Horse.**—The extract of the *Sclerostomum equinum* displayed extreme hemolytic action, dissolving the red corpuscles of the horse and of other domestic and laboratory animals. Extracts of the other intestinal parasites found in the horses did not possess this hemolytic action. The sclerostomum is the only one that feeds on the blood of its host. These findings throw light on the anemia of ankylostomiasis in man.

Presse Médicale, Paris.

November 23, XV, No. 95, pp. 761-768.

46 The "Cardiac Liver." E. Géraudel.
47 Human and Experimental Atheroma and the Suprarenals. Josué.

November 27, No. 96, pp. 769-776.

48 Tuberculosis in a Flatfoot. (Tuberculose d'un ancien pied plat.) A. Broca.
51 Increase in the Population of the Various Countries of Europe.
50 Technic of Antitetanus Serum Injections. P. Hardouin.

Semaine Médicale, Paris.

November 27, XXVII, No. 48, pp. 565-576.

51 Increase in the Population of the Various Countries of Europe.
52 *Local Applications of Arsenic for Septicemia Following Infection of Wounds. S. Cerny (Prague).

52. **Local Applications of Arsenic in Septicemia from Infection of Wounds.**—S. Cerny of Prague is the author of the local treatment of superficial cancer with arsenious acid. He here reports favorable results from local application of a very small amount of arsenious acid or white arsenic to the infected wound in cases of septicemia. He applies it on a pledget of cotton small enough to be packed into the wound, or else sprinkles the powder on the skin if only the epidermis is involved. The general symptoms gradually subside and the patient recovers. Cerny adds that in contact with the secretions of the wound the arsenic becomes transformed into soluble alkaline arsenites which penetrate through the adjacent tissue where they dehydrate the altered cells and dry them up. It has also a powerful disinfecting action, destroying everything foreign it encounters, while respecting sound tissue. Another important property of the arsenic is its vasodilating influence, thus favoring the afflux of nourishing blood, while it contracts the lymphatics, thus obstructing diffusion of the toxins. The lymph is squeezed out, droplets constantly accumulating on the surface of the wound. To absorb them, he applies moist antiseptic compresses over the wound and region, above the arsenic. In his extensive experience with this treatment during the last two years he has never observed any by-effects or symptoms of intoxication. He suggests that the arsenic treatment might prove useful in case of snakebite, but has not had much clinical experience in this line. He believes that this local arsenic treatment will render surgical measures superfluous in many cases, and save limbs otherwise doomed to amputation to arrest the blood poisoning.

Archiv für klinische Chirurgie, Berlin.

LXXXIV, No. 3, pp. 629-915. Last indexed, Nov. 30, p. 1881.

53 Abdominal Gunshot Wounds in the Russo-Japanese War. (Bauchschüsse.) L. Bornhaupt.
54 Traumatic Arteriovenous Aneurism of the Internal Carotid with Pulsating Exophthalmos. Becker.
55 Constriction Hyperemia in 138 Cases of Acute Suppurative Infections. (Stauungsbehandlung acuter eitriger Infectionen.) L. Wrede.
56 Experimental Study of Changes in Stomach Due to Thrombosis and Embolism in Portal Vein Region. (Magenveränderung nach Thrombose und Embolie im Pfortadergebiete.) E. Payr.
57 *Cancer After Exposure to Roentgen Rays. (Entstehung bösartiger Neubildungen auf der röntgenbestrahlten Haut.) E. Schümann.
58 *Consequences of Nephrotomy for the Human Kidney. (Folgen der Nephrotomie für die menschliche Niere.) W. Röpke.
59 Juvenile Fractures of the Tubercle of the Tibia and Scaphoid and of the Heel. (Juvenile Fracturen der Tuberositas tibiæ, Tuberositas navicularis und des Tuber calcanei.) A. Kirchner.

57. **Cancer Following Roentgen Exposures.**—Schümann reports another case of cancer developing on the hand of a Roen-

gen operator; the growth was removed by Trendelenburg last February. He also reviews the other similar cases on record. including that of Dr. Fuchs of Chicago. whose death occurred recently four of these professional cases occurred at Hamburg. which has been a center for Roentgen work in Germany. Schümann states that he has found no record of cancer developing after an acute *x*-ray burn. Chronic *x*-ray dermatitis seems to be the soil on which the cancer develops. He calls attention to the fact that chronic Roentgen dermatitis has many points in common with other skin affections, which likewise predispose to cancer. The Roentgen cancer seems to affect young persons —the fatal cases were all in men just entering the thirties. The carcinoma has generally several centers and rapid growth was observed in most. In conclusion he reviews the cases on record in which cancer developed after Roentgen treatment of lupus. Mendes da Costa had this experience in seven out of seventy-one cases of lupus treated by Roentgen exposures. Wyss and others have reported similar cases, but the number is so small in comparison with the number of persons who have had lupus cured under Roentgen treatment, that Schümann does not think the possibility of cancer should deter from its application. Riehl observed a spindle-celled sarcoma and a carcinoma develop an inch apart on the site of a patch of lupus which had healed seven years before under seventy Roentgen exposures. In one of the cases of professional Roentgen cancer the patient had a carcinoma on the arm and a spindle-celled sarcoma on the right cheek. Treatment should be the same as for other forms of cancer, and the wound heals as under other conditions.

58. **Consequences of Nephrectomy for the Human Kidney.**—Röpke summarizes the findings in nine cases after nephrotomy, one from his own experience. In most cases the formation of an infarct was evident. The kidneys which escaped this had all been incised along the natural dividing line between the halves of the organ, the vessels thus all escaping injury. Zondeck asserts that this can be accomplished by making the incision 1 cm. behind the highest convexity. in the direction toward the kidney pelvis. thus incising in the natural space between the ventral and the dorsal systems of blood vessels.

Berliner klinische Wochenschrift.

November 25, XLIV, No. 47, pp. 1499-1530.

60 *Case of Diphtheria Bacillus and Streptococcus Sepsis. F. Mahler.
61 *Milk Containing Iron. (Ernährung mit eisenhaltiger Kuhmilch.) Schnütgen.
62 Influencing Electric Excitability of Children with Tetany by Application of Galvanic Current. (Beeinflussung der elektrischen Erregbarkeit bei tetaniekranken Kindern durch den galvanischen Strom.) P. Philippson.
63 *Ocular Reaction to Tuberculin. (Ophthalmoreaktion auf Tuberkulin.) S. Cohn.
64 Forensic Reliability and Importance of Complement Binding Biologic Test. (Forensische Verwertbarkeit und Kenntnis des Wesens der Komplementbindung.) C. Bruck.
65 Cold Abscess of Larynx. (Kalter Abscess des Kehlkopfes.) A. Rosenberg.
66 Successful Operative Treatment of Traumatic Meningitis. A. Schlesinger.
67 Anatomic Bases for Weakness of the Heart. (Anatomische Grundlagen der Herzschwäche.) H. Beitzke.

60. **Case of Diphtheria Bacillus and Streptococcus Sepsis.**—Mahler reports a very severe case of this condition in a unipara of 31, treated by antidiphtheria and antistreptococcus serums. An extensive erythem developed, followed by dry necrosis of the skin involved, leaving a defect down to the muscles on the thigh as the patient recovered.

61. **Cow's Milk Containing Iron.**—The cows are fed with a prepared fodder which insures that the milk contains a certain proportion of iron. Schnütgen reports from Senator's clinic nine cases of debility in adults in which great benefit was apparently derived from ingestion of a quart of this milk daily.

63. **Ocular Reaction to Tuberuculin.**—This is another favorable verdict on this test for tuberculosis, but Cohn found that 8 out of 12 typhoid patients also presented the specific reaction to instillation of the tuberculin. He remarks that if these findings of a positive response to the tuberculin test are confirmed in other clinics it will demonstrate that a specific hypersensibility to bacterial albumin in general is evolved in the course of typhoid fever, as well as to typhoid bacillus extracts in particular. None of his pneumonia patients gave a positive response except in one case in which there were other signs of tuberculosis. Cohn's conclusions from these and other experiences with the 310 patients tested at A. Fraenkel's clinic at Berlin are to the effect that a positive reaction to instillation of a 1 per cent. solution of tuberculin is presumptive evidence of tuberculosis. The reaction was positive in 38 out of 41 patients in the first and second stages of tuberculosis, but only in 22 of 45 in the third stage. He found that a subsequent subcutaneous injection of tuberculin is liable to reproduce the local reaction in the eye or elicit it if it had not appeared before. He proposes to follow with care the after-history of the three patients in whom the reaction was negative in the first group. A negative response to the test is not an absolute sign of the absence of tuberculosis, he remarks, as half of the patients in the third stage of tuberculosis gave negative response. A single instillation enhances the susceptibility to the action of the tuberculin in non-tuberculous adults—not in infants—so that a second instillation in the same eye is liable to induce the reaction; in the tuberculous. in this case, the reaction generally involves the other eye.

Deutsche medizinische Wochenschrift, Berlin.

November 21, XXXIII, No. 47, pp. 1929-1976.

68 *Treatment of Arteriosclerotic Atrophy of the Brain. A. Cramer. Clinical lecture
69 *Combination of Tabes Dorsalis and Affections of Heart and Large Vessels. (Vereinigung der Tabes dorsalis und Erkrankungen des Herzens und der Gefässe.) A. Strümpell.
70 *Importance of Cellulose in the Diet of Diabetics. (Bedeutung der Zellulose für den Kraftwechsel der Diabetiker.) A. Schmidt and H. Lohrisch.
71 Treatment of Luxations in General. H. Tillmanns.
72 *Treatment of Eclampsia. E Bumm.
73 Benefit from Systematic Lumbar Puncture in Treatment of Cerebrospinal Meningitis. J. v. Bokay.
74 Inflammation of Normal Skin Induced by Static Brush. (Die durch den faradischen Pinsel hervorgerufene Entzündung der normalen Haut.) C. Kreibich.
75 Pathogenesis and Treatment of Multiple Abscesses in Infants. (Multiple Abszesse im Säuglingsalter.) F. Lewandowsky.
76 Diet in Treatment of Obesity. (Küche für Entfettungskuren.) W. Sternberg
77 Chair for Office Examinations. (Untersuchungsstuhl.) A. Deutsch.
78 Suture Material Put Up to Remain Permanently Sterile. (Dauernd steriles Fadenmaterial.) Wederhake.

November 28, No. 48, pp. 1977-2024.

79 *Treatment of Apoplectic Seizure. (Behandlung des apoplektischen Insults.) Goldscheider. Clinical lecture.
80 *The Latest Immunization Procedures. (Neuere Immunisierungsverfahren.) A. Wassermann. Commenced in No. 47.
81 *Ocular Reaction in Tuberculosis. (Ophthalmoreaktion.) E. Franke.
82 Acute Leukemia and Streptococcus Sepsis. H. Eppenstein.
83 Treatment of Strictures of Urethra with Fibrolysin. H. Lang.
84 Lime, Phosphorus and Nitrogen in the Child Brain. (Kalk, Phosphor und Stickstoff im Kindergehirn.) M. Cohn.
85 *Acute Poliomyelitis and Kindred Conditions. F. Harbitz.
86 Four Cases of Familial Congenital Cataract. Enslin.
87 *Importance of Differential Diagnosis of Organic and Functional Aphonia. E. Barth.
88 Two Cases of Poisoning with Nutmeg. (Vergiftung mit Muskatnuss.) G. Mendelssohn.
89 Important Points in Disinfection. (Desinfektionslehre.) Christian.

68. **Treatment of Arteriosclerotic Atrophy of the Brain.**—Cramer thinks that the physician has it in his power to arrest the process and restore the patient to his business, or at least to prolong life or postpone mental decay in case hemiplegia is already established. The success depends mainly on the promptness with which treatment is instituted as soon as the triad of headache, dizziness and occasional lapses of memory is observed. The first condition for success is to rest the affected organ, which can be done only by keeping the patient away from business and eventually away from his family. If there are unusual causes for worry in business or family life and if family and friends do not cooperate with the physician to keep the patient's mind at rest, then the great demands on the vascular system from the emotions experienced cause the incipient brain affection to make rapid progress, and the physician's efforts are liable to prove futile. All demands on the vascular system should be reduced to the minimum. The patient is advised to keep in the open air with carefully regulated walks on level ground, avoiding all kinds of strenuous exercise, loud. continuous speaking, alcohol, cohabitation, etc. The patient must also be warned to travel only during cool weather, for long sittting in a hot car on a very hot, muggy day is a severe tax on the heart and vessels. The intestinal functions must be supervised; straining at stool is dangerous. Oil enemas may

prove useful in chronic constipation, but should not be kept up for more than two weeks as they have a depressing effect. A course of treatment with Carlsbad Mühlbrunnen has always proved successful in Cramer's experience. He has the patient take a glass or two before breakfast for a month and then skip a month, to begin again if necessary. In the intervals, if fruit in the evening does not answer the purpose, he gives a mild laxative, changing it each time. This treatment kept up for six months or more, with the Carlsbad water every second month, has been very effectual. In less than a week the mental disturbances previously noted have completely subsided. In case focal symptoms are already apparent, absolute rest must be enforced and fluctuations in the blood pressure avoided until a certain consolidation of the acute cerebral process can be assumed. Medicinal treatment should be commenced at once on the first suspicion of arteriosclerotic atrophy of the brain, with potassium or sodium iodid in a simple solution as the main reliance. He commences with 0.25 gm. (4 grains) of the iodid, increasing the dose very gradually up to 2, 3 or 4 gm. (30, 45 or 60 grains) a day. This treatment should be kept up for years, interposing pauses of a week or two every six weeks. Even in case of an idiosyncrasy to the iodid and reaction with coryza, some of his patients have kept up the iodid notwithstanding, to their great ultimate benefit. In case the patient reacts to the iodid with loss of appetite or albuminuria, the drug should be stopped at once. The iodid should never be given alone; it is best given with milk and after a meal. In case of much mental disturbance the bromids can be temporarily given in connection, and stopped when the patient is tranquilized.

69. **Tabes and Heart and Vascular Affections.**—Strümpell calls attention to the frequent coexistence of aortic or other vascular affections with tabes. He thinks that they are all the result of one cause—syphilitic infection. The discovery of some symptom suggesting tabes, such as absence of pupil reaction, is an instructive finding in a vascular affection. The tendon reflexes are also important from this point of view.

70. **Importance of Cellulose in the Diet of Diabetics.**—Schmidt and Lohrisch have found cellulose very useful in the diet of diabetics whose glycosuria persists in spite of the complete absence of carbohydrates from the diet. Cellulose is a food of the second class, producing warmth but not sparing albumin. Its nutritive value has been stated to be 37.5 gm. fat and 75 gm. cane sugar as equivalent to 100 gm. cellulose. The tabulated metabolic findings in three cases are given in detail before, during and after a period of ingestion of cellulose. No by-effects or injurious after-effects were observed, while the findings indicate that 75 per cent. of 30 grains of cellulose was assimilated daily and had a favorable influence on the metabolism and energy. It was given in the form of a vegetable rich in cellulose, but deprived of starch, etc., by a special process of preparation. The vegetable used was dried white cabbage, chopped, and boiling water poured over it several times until the water ceased to give the reaction for sugar. The cabbage was then dried and ground fine. The preparation then contained about 50 per cent. pure cellulose, and from 1 to 3.5 per cent. nitrogen. The cabbage was given to the patients n the form of a broth with an absolute meat diet. They are experimenting with other methods of giving the cellulose now that they have demonstrated that some diabetics can readily assimilate cellulose. Two out of the five patients submitted to the tests failed to assimilate appreciable amounts f the cellulose, and they are not included in the tables.

72. **Treatment of Eclampsia.**—Bumm remarks that treatment of eclampsia is still merely empiric-symptomatic, and that the physician is powerless in the severer forms. These seem to occur in groups, and autopsy reveals extensive necrosis in kidneys and liver. This malignant form is distinguished less by the number and severity of the convulsions than by the profound coma which may follow the first convulsions, and be accompanied by complete absence of reaction to any stimuli. It is frequently accompanied by fever, hemoglo-inuria or complete suspension of the renal functions, and jaundice. He has recently had occasion to observe a series of cases of this severe type. Rapid delivery had a mortality of only 2 or 3 per cent. in his experience, when done after the first attacks, while the death rate was between 23 and 30 per cent. when delayed later. Instrumental dilatation of the undilated cervix is liable to cause injury, and the balloon takes too much time; better results were attained by slitting the anterior wall of the cervix. The fetus can then be extracted and the whole operation concluded in ten minutes. This technic requires an expert, he says, and one should be summoned early in every case of eclampsia. Only when delivery is rapidly pushed through can good results be anticipated. If a number of attacks have already occurred the parenchyma of liver and kidneys is seriously injured by this time and the prognosis is far from good. There has been a reaction of late years against narcotics in eclampsia, as they have a mortality of 30 per cent. at least—just about the same, Bumm remarks, as if nothing had been done. The narcotic merely arrests one symptom but by no means cures the eclampsia. It aggravates the condition when injected during coma and may weaken the heart action and respiration and thus favor pulmonary edema. He says that there is no sense in giving a paralyzing poison to a woman already suffering from a paralyzing poison. At the commencement of the eclampsia, while the consciousness is unimpaired and the nervous system still responds to stimuli, there is less objection to the use of narcotics. In these conditions Bumm has found that morphin acts best when given by the rectum; possibly it may thus act directly on the nerve ganglia which transmit the convulsion-exciting stimulus. No benefit has been derived from lumbar puncture and reduction of the pressure of the cerebrospinal fluid. Drugs to stimulate the kidneys to action fail of their effect in eclampsia; hot packs around the trunk on a level with the kidneys, combined with repeated massage of the kidneys, are liable to be more effectual.

79. **Treatment of Apoplexy.**—Goldscheider lays great stress on the necessity for leaving the patient where he is, not attempting to remove him. If he has to be taken elsewhere the transportation must be done with extreme gentleness, and the distance reduced to the minimum. He should never be allowed to travel, even in the mildest cases. The clothing should be removed as if the patient had been severely wounded—cut off if necessary. The aim is to keep him absolutely quiet; he must not make a movement nor speak, but be placed with the chest and head slightly raised, in a quiet, cool room. No one should be allowed to tempt him to speak or induce emotional excitement. An ice bag to the affected side of the head in case the face is congested and hot is useful. In case of difficulty in respiration during coma the mouth and throat should be wiped out repeatedly and the head bent forward a little to keep the tongue from falling back, or the jaw and tongue may have to be drawn forward. Oppenheim recommends lying on the side. In case the patient vomits, he must be quietly and cautiously turned on the side and the vomited masses wiped away to keep the air passages free, supporting the head the while. The nurse in such cases must be well-trained, and if the patient is a very heavy man a strong male nurse is preferable. No means are known by which vomiting can be prevented in these circumstances. Mustard pastes and moist heat to the epigastric region or calves might be tried, and venesection should be considered. The latter generally produces a transient improvement, and in exceptional cases the improvement may be permanent. The theoretical objections against venesection are not sustained in practice. Still better results might follow if it were done earlier. He advocates it when the cerebral hemorrhage is diagnosed beyond question, and the congestion in the head with full bounding pulse persists while the comatose condition continues unmodified or is growing worse. Small, weak, rapid pulse and pallor contraindicate venesection. He withdraws from 200 to 300 c.c. of blood from the arm on the unparalyzed side. Collapse, insomnia, headache, convulsions, should be treated symptomatically, not shrinking from narcotics. It is generally better to leave the patient quiet than to apply mustard paste, vinegar enemas, or other revulsive measures of doubtful utility. The physician should himself investigate the patient's capacity for swallowing. One spoonful can be swallowed, perhaps, but a little time is required for the parts to recover from the fatigue of deglutition before another spoonful can be managed. The second spoonful should never

be given until convinced that the preceding one has been duly swallowed. Even when the swallowing reflex seems working normally, nothing should be given by the mouth in case of complete unconsciousness or great stupor. The patient does not feel hunger or thirst in such case, and if the blood pressure drops from transient inanition, so much the better. In case of weak pulse or collapse, fluids should be supplied by the rectum or by subcutaneous infusion. Feeding by the stomach tube is not advisable except when the paralysis of the swallowing muscles persists with full consciousness. Purgatives disturb the patient, and straining is liable to be dangerous, but a cautiously given rectal enema may be useful, and the urine may have to be drawn several times a day. The iodids should be commenced at once in case of gradually developing hemiplegia in arteriosclerotics, but it is better to wait for a week after an apoplectic stroke, especially when the patients are unaccustomed to the drug.

80. **Progress in Immunization.**—Wassermann reviews the history of immunization in the last few years, showing the practical results attained. Among them he mentions the active protecting inoculations against typhoid fever, plague and cholera, the serum diagnosis of syphilis, the differentiating cutaneous and ocular reactions to tuberculin, the work with opsonins and the introduction of antidysentery and antimeningococcus curative serums—all of which have proved of practical benefit.

81. **Ocular Reaction in Tuberculosis.**—Franke reports experiences which confirm the testimony of others in regard to the diagnostic value of this simple test which any physician can readily apply.

85.—This article appeared in The Journal, Oct. 26, 1907, page 1420.

87. **Differentiation of Organic and Functional Aphonia.**—Barth emphasizes the fact that a comparatively slight organic affection of the throat may be accompanied by a functional aphonia. The latter is due to disturbances in coordination, and as soon as correctly coordinated movements can be regained the aphonia is cured, although the organic affection may still persist. Treatment should therefore be two-fold, directed in turn against the organic and the functional disturbances. This is especially necessary in tuberculosis. In a case described, the patient was growing more and more depressed over her progressive pulmonary tuberculous affection and aphonia. A sudden fright restored her voice, and this encouraged her and was soon followed by the arrest of the tuberculous process.

Jahrbuch für Kinderheilkunde, Berlin.

November, LXVI, No. 5, pp. 503-632.

90 Metabolism and Energy of the Child Between Ages of Three and Six. (Stoff- und Kraftwechsel des Kindes im dritten bis sechsten Lebensjahr.) E. Müller.
91 *Curative Serum Made by Moser's Technic in Treatment of Scarlet Fever. (Mosers Serum als Heilmittel bei Scharlach.) B. A. Egis and N. J. Langovoy. Experiences with Same. W. Moltschanoff.

91. **Serum Treatment of Scarlet Fever.**—The mortality in the severer cases was reduced under the serum treatment from 47.4 to 16.1 per cent. in the extensive experience in Russia related. The action seems to be antitoxic, but no effect on the complications of the disease were observed. The frequency of by-effects and the large amounts of the serum required are the dark side of the experiences related. In Moltschanoff's experience the mortality dropped from 16.2 to 10.4 per cent. The temperature always subsided after application of the serum and sometimes the pulse, respiration and nervous phenomena also showed marked improvement, but there did not seem to be much of an effect on the disease process as a whole. The duration of the fever or of the sickness did not seem to be influenced and the throat lesions were not modified, while there was no evidence that it prevented complications or influenced their course.

Mitteilungen a. d. Grenzgebieten der Med. und Chir., Jena.

XVIII, No. 2, pp. 169-376. Last indexed, Nov. 9, p. 1640.

92 Chronic Appendicitis with Adhesions. (Appendicitis chronica adhaesiva.) H. v. Haberer.
93 *Experiences at Heidelberg with Affections of the Pancreas. (Pankreaserkrankungen.) L. Eloesser.
94 Spontaneous Rupture of the Esophagus. F. Cohn.
95 Function of the Vater-Pacinian Corpuscles. M. Ramström.
96 *Experimental Study of Function of Thyroid and Parathyroids. (Funktion der Schilddrüse und der Epithelkörperchen.) E. Hagenbach.

93. **Pancreatic Affections.**—Eloesser describes nearly 75 cases of acute and chronic pancreatitis, tumors and cysts, and reviews them from the standpoints of differential diagnosis, operative technic, etc. The Cammidge test of the urine was applied in 16 cases and the results harmonize with Cammidge's assertions with the exception of one case in which the reaction was positive, but the pancreas proved to be sound. The reaction was never obtained in numerous tests of healthy persons. Eloesser declares that if further experience confirms the value of this test it will prove to be a most important step in progress in the early diagnosis of pancreatic affections, although the technic is complicated and its interpretation is not easy. The technic was summarized in The Journal, Oct. 26, 1907, page 1460. In some cases of chronic pancreatitis dragging along for about a year before operative intervention restored the patients to health, the lack of fever and the absence of symptoms pointing to the pancreas were noticeable. The emaciation and the pigmentation might perhaps have suggested a pancreatic affection. A hemorrhagic diathesis seemed to be particularly marked in the cases of jaundice with pancreatic complications. Hemorrhagic pancreatitis with fat necrosis is not a bacterial process, and consequently can only benefit by removal of the extremely toxic matters. He therefore advises immediate operation in every abdominal affection suggesting the possibility of hemorrhagic pancreatitis unless collapse is directly imminent. If fat necrosis is found, intervention should be restricted to the pancreas and concluded as rapidly as possible, draining from the rear, and giving calcium chlorid before and after the operation to combat the hemorrhagic tendency. In chronic pancreatitis clay-colored stools are frequently observed even when there is still free outlet to the bile. That finding, in the absence of icterus, points to the pancreas. Fat stools also suggest a pancreatic affection when there is no jaundice. In one case described, the symptoms of chronic pancreatitis subsided after a gastroenterostomy. In another case the findings suggested cancer of the pancreas, but gastroenterostomy relieved the patient, a woman, and although the pancreas is still enlarged, she is otherwise in good health nearly four years since the operation. In simple cirrhosis of the liver the jaundice does not appear so suddenly and the emaciation is not so sudden and extreme as in case of a pancreatic affection. The symptoms of chronic pancreatitis extended over 14 and 20 years in three cases and in others over many months and years. This long duration of the affection differentiates it from cancer. A number of cases are on record in which the patients recovered completely after the abdomen had been opened and closed again on discovery of a supposed inoperable cancer in the pancreas. Eloesser thinks that the recovery in these cases was due principally to the measures preparatory for and consecutive to the laparotomy. He believes that some of the patients would have recovered without the laparotomy if they had been thoroughly purged and then kept on a "laparotomy diet" for a time. Whenever food is taken the pancreas function is excited and the hyperemia and swelling of the gland keep up the inflammation. By complete rest of the gland, conditions favorable to healing are provided. The marked tendency to hemorrhage and icterus, however, frequently compel operative interference, as also the fear of pancreatic diabetes later. Phillips has recently reported that out of six patients treated with internal measures for a long time, two developed glycosuria and died in diabetic coma, and Mayo Robson has reported tardy glycosuria in a patient who had been in good health for six years after simple laparotomy. He believes that this might have been prevented by opening up the biliary passages. The operations that relieve the biliary passages and divert the bile from the pancreas certainly seem more rational treatment. Eloesser also discusses the frequent coincidence of a traumatic pancreatic affection with pregnancy, especially cysts in the pancreas. One patient with a pancreatic cyst recovered under internal measures alone. Attention is called to his method of stretching the intrapancreatic portion of the common bile duct in chronic pancreatitis. This part of the duct is liable to be

compressed by sclerotic changes in the surrounding tissue, and its dilatation may suffice for restoration of a normal outflow of the pancreatic secretions, although it does not prevent return of the compression later.

96. **Functions of the Thyroid and Parathyroids.**—Hagenbach summarizes his experimental research in the statements that cats bear removal of the thyroid gland and the inner parathyroid bodies. The outer parathyroid bodies left preserve the animal from tetany. They do not act vicariously for the missing thyroid gland, and consequently typical cachexia thyreopriva develops. The anatomic findings then suggest athyreosis (congenital myxedema, etc.). Subsequent removal of the two remaining parathyroid bodies is followed by pronounced tetany. It is evident, he adds, that the thyroid and the parathyroid bodies are entirely different, both in their embryonal development and in their functions.

Münchener medizinische Wochenschrift.

November 19, LIV, No. 47, pp. 2313-2360.

97 Diagnostic Importance of Pupil Symptoms. O. Bumke.
98 Hemolysis from Snake Venom. (Hämolyse durch Schlangengift.) Coca and von Dungern.
99 *End Results of Tuberculosis Sanatorium Treatment. (Dauerresultate der Lungenheilstätten.) K. Croissant.
100 Flatfoot and Tuberculosis of the Ankle. (Plattfuss und Fusswurzeltuberkulose.) P. Ewald.
101 Ophthalmia Neonatorum. (Augenentzündung der Neugeborenen.) F. Schanz.
102 Varying Findings in Respect to Spirochete of Syphilis. (Wechselndes Vorkommen der Luesspirochäte.) H. Vörner.
103 Aneurism of the Aorta After Acute Aortitis. P. Buttersack.
104 Transient Edema of the Papilla of One Eye. (Eine Lokalisation des akuten umschriebenen Oedems.) C. Handwerck.
105 Colored Photomicrographs. (Buntfarbenmikrophotogramme.) R. Hoffmann.
106 Loop Tape Measure for Precise Measurements of Circumferences. (Fesselbandmass.) K. Wahl.
107 Improved Spectroscope. (Neues Spektroskop.) O. Schumm.
108 Functions of the External Ear. R. Geigel.

November 26, No. 48, pp. 2361-2408.

109 *Dangers and Treatment of Placenta Prævia. P. Zweifel.
110 Appendicitis in Children. (Blinddarmentzündung der Kinder.) B. Riedel.
111 *Operative Mobilization of Rigid Chest Wall in Treatment of Apical Tuberculosis and Alveolar Emphysema. (Operative Mobilization des in der oberen Apertur stenosierten und des starrdilatierten Thorax.) W. A. Freund. Id. A. Stieda.
112 Acute Fatal Poisoning from Industrial Benzol Fumes. (Benzoldampf.) L. Lewin.
113 Two Cases of Fatal Intoxication from Intrauterine Treatment of Endometritis with Solutions of Zinc Chlorid. (Gebrauch von Chlorzinklösungen bei der Behandlung der Endometritis.) M. Hofmeier.
114 Successful Transplantation of an Epithelioma Induced by Ether in the Lens of a Salamander. F. Reinke.
115 Chemical Physiology of the Cell Nucleus. (Chemische Physiologie des Zellkernes.) H. Studel.
116 *Kaolin—Fuller's Earth—in Treatment of Diarrhea and Meteorism of Various Origins. (Die Stumpfsche Bolustherapie.) J. Görner.
117 Treatment of Epididymitis and Buboes with Constriction Hyperemia. K. Stern.
118 Protection of the Perineum. (Dammschutz.) P. Mathes.
119 Advantages of Warming the Chloroform for General Anesthesia. Haun.
120 Plastic Pubiotomy, to Render the Effect Permanent. Id.
121 Flowing Steam Sterilizer. W. Prausnitz.

99. **Permanent Results of Sanatorium Treatment of Tuberculosis.**—In Germany the 87 public and 37 private sanatoriums for lung affections, with 8,422 and 2,000 beds respectively, are not turning out many permanently cured patients. That is to say, the permanent results of sanatorium treatment are no better than those of dispensary treatment alone for the working classes. This is particularly true of patients in the first stage of the disease. Croissant has been making a special study of the conditions at Heidelberg, comparing the end results of sanatorium and dispensary treatment. The sanatorium treatment is not followed on an average by longer survival, but occasionally the result is a brilliant one. Patients in this class, who live rationally and thus maintain the benefits derived, form an object lesson on the prevention and cure of tuberculosis that can not fail to be of far reaching benefit, although the effect can not be estimated for years to come. The great drawback to sanatorium treatment is that the patients return to their former unhygienic mode of life, and the benefit derived soon slips away from them.

109. **Placenta Prævia.**—After reviewing the dangers of placenta prævia for mother and child, Zweifel remarks that the mother alone should be considered when the fetus is small and the delivery is premature. Such children seldom survive in case of placenta prævia; during the last eight years only 8 children weighing less than 2,500 gm., and 39 weighing over this left the clinic alive out of 178 cases of placenta prævia. Of this number only 78 were born alive. He advises tamponing for a week at least in every case in which hemorrhage during the last half of pregnancy suggests the possibility of placenta prævia. The colpeurynter is indispensable for this, and it can be kept ready for use in oil or glycerin. The hemorrhage is best arrested by prompt version, but the child should not be delivered until the os is nearly or entirely dilated. This waiting is dangerous for the child, and when there seems to be no danger of laceration of the cervix he advises intervention. As the lacerations occur only while the head is emerging, it is possible, by waiting during this stage, to have the head spontaneously delivered. The fingers should be held so as to protect against laceration and allow the child to draw air into the lungs, or a catheter can be inserted in the mouth. In case of placenta prævia centralis, the two fingers introduced for combined version should be passed around the front lobe of the placenta if possible, as this is less injurious to the child than boring through the afterbirth. Scarcely any child survives when the latter is done, and consequently there is no further need for haste in delivery. Premature delivery occurs often with placenta prævia, in which case active measures are not necessary, the prospects for survival of the child being so meager. None of the patients in his experience would have been benefited by Cesarean section, while the mortality would certainly have been higher in the 274 cases of placenta prævia since 1888. There was fatal hemorrhage in 17, puerperal fever in 2, and sepsis in 3. The women had lost a quart or two of blood before entering the maternity in the fatal cases, or sepsis was already under way. The total mortality was 8 per cent. He urges prompt removal to a maternity on suspicion of placenta prævia.

111. **Surgical Treatment of Apical Tuberculosis and Emphysema of the Lungs.**—Freund's experience has been peculiar. Fifty years ago he published arguments showing the feasibility and possible great benefit to be derived in certain cases in which the chest wall had lost its elasticity by restoring elasticity by resection of a part of the rigid wall. His suggestion met with no response until recently, when it has been acted on with brilliant results in some cases, as mentioned in these columns. Freund here goes over his arguments again, reenforcing them. They have gained an unanticipated support in radioscopy, and clinical experience seems to confirm his conclusions in every respect. Stieda here reports a case of chronic emphysema of the lungs improved to such an extent by Freund's operation that he earnestly commends it as the routine procedure for all cases of chronic emphysema resulting from primary rigidity of the chest wall from degeneration of the costal cartilages. His patient was a sailor 51 years old.

116. **Kaolin—Fuller's Earth—in Treatment of Diarrhea and Meteorism.**—On Dec. 22, 1906, page 2113, THE JOURNAL described the favorable results obtained by Stumpf in the treatment of cholera with Kaolin—fuller's earth or bolus alba—taken internally. He has also found it extremely beneficial in treatment of gastric ulcer, as a dressing for wounds, etc. Nearly half a pound of the kaolin (200 gm.) is stirred into a glass of water and drunk at once. A number of clinicians have confirmed his statements in regard to the therapeutic value of this treatment, and Görner here relates extensive experience with it. He gives from 50 to 100 gm. (750 to 1,500 grains), stirred into a glass of water; and the patient drinks it at once. Infants are given from 10 to 30 gm. (150 to 450 grains) of the kaolin. It is taken on an empty stomach. Acute gastrointestinal catarrh is especially adapted for this treatment, he says. The vomiting and diarrhea are rapidly arrested, and convalescence promptly follows. In chronic catarrh the effect is less manifest, although benefit is frequently observed. He commends this treatment as a simple means of arresting diarrhea of all kinds. He adds that prophylactic administration of fuller's earth might protect persons exposed to typhoid fever, and might prove useful to disinfect the intestines before an operation. He has had no experience with the kaolin in treatment of cholera, but as Stumpf's assertions in other respects have been so amply confirmed, he urges a trial of it in this disease. In five infants out of nine

with severe dysentery or gastrointestinal catarrh, the result of the treatment was satisfactory, but it failed to relieve in cases of long standing. It never disturbed the appetite nor induced flatulence or constipation. Benefit was apparent in all but three of twenty patients with diarrhea from tuberculous intestinal processes. Even in a severe case of general amyloidosis the palliative effect was good, arresting the diarrhea for five days each time it was given. One or at most two doses cured at once in eight cases of severe gastroenteritis. Stumpf took nearly half a pound of the kaolin every morning for a long time to prove its harmlessness. He ascribes its therapeutic efficacy mainly to its mechanical action, burying the germs in the clay.

Gazzetta degli Ospedali, Milan.

November 3, XXVII, No. 132, pp. 1379-1394.

122 *Cultivation of Typhoid Bacilli from Blood in Bile Culture Medium. (Ricerca del bacillo del tifo nel sangue colle culture in mezzi biliari.) L. Borelli.
123 *Treatment of Cutaneons Epithelioma. G. Polini.

November 10, No. 135, pp. 1411-1426.

124 Virulence of Certain Intestinal Germs in Connection with the Products of Putrefaction. G. Fornario.
125 *General Relaxation of Joints. (Sindesmolisi poliarticolare.) L. Tarabini.
126 *Ocular Reaction to Tuberculin. (Oftalmo reazione Calmette.) G. Malan. Id. G. Alessandri.
127 Clamp for Intestines. (Nuovo enterostato.) S. D. Herbin.
128 *Symmetrical Gangrene of Extremities. D. Sassi.

November 17, No. 138, pp. 1443-1458.

129 *Rhizomelic Spondylosis. A. Giovine.
130 Diagnostic Value of Cutaneous Reaction to Tuberculin. S. Cannata.
131 Value of Auto-serodiagnosis and Inefficacy of Auto-serotherapy. P. Tagliamuro and M. Mauro.
132 Anesthetic and Therapeutic Action of Blue Light. (Luce azzurra.) A. M. Winderling.
133 Polyclonia and Camphor Bromide. (Policlonia e bromuro di canfora.) E. Tognoli.
134 *Conjunctivitis in Early Diagnosis of Measles. (Nuovo sintoma precoce dei morbillo.) A. Belfadel.

November 24, No. 141, pp. 1475-1490.

135 Origin of Cheyne-Stokes' Phenomenon. A. Pari.
136 Mulberry Juice as Differentiating Reagent. (Nuovo indicatore.) G. Campanella.
137 Premenstrual Fever Presumptive Sign of Latent Tuberculosis. P. Galli.
138 Chronic Serous Vaginalitis of the Spermatic Cord Result of Incomplete Obliteration of Embryonal Passage. G. de Poloni.

122. **Cultivation of Typhoid Bacillus on Bile.**—Examination of the blood for typhoid bacilli has been found simple and reliable at Bozzolo's clinic when bile was used for the culture medium. The most convenient preparation was a glycerin-aqueous solution of a dried alcoholic extract of desiccated bile. The bacilli are found most constantly during the first week and during exacerbations or relapses of the typhoid fever.

123. **Local Treatment of Superficial Cancer.**—Polini asserts, from much experience, that chlorid of zinc is superior to arsenic and other drugs in the local treatment of cancer.

125. **General Relaxation of the Joints.**—Tarabini summarizes nine cases from the literature and reports in detail a case personally observed in which a housemaid of 20, previously healthy, gradually developed a condition of general relaxation of the joints, especially the articulations of the jaws, shoulders, and ankles; the ligaments were evidently relaxed beyond control. Some of the joints seemed swollen and attempts to use them induced pain. Aubeau ascribes the condition to a lymphatic diathesis, but nothing of the kind was apparent in this patient. The blood findings were: Hemoglobin, 85; reds, 4,504,000; whites, 8,200. The leucocytes included 41.66 per cent. lymphocytes, of which about 23 per cent. were small; 55 per cent. polynuclears, and 3.33 per cent. acidophiles.

126. **Ocular Reaction to Tuberculin.**—Malan tested fifty patients and states that the findings were constantly negative in the non-tuberculous cases and positive in the tuberculous cases, including some of tuberculous meningitis, peritonitis and pleurisy. There was no reaction in the advanced cases of phthisis, and he thinks that the findings would probably be negative also in case of an encapsulated and dormant tuberculous process. Alessandri's experience with the test on 75 patients merely repeats that of Malan in respect to its reliability.

128. **Symmetrical Gangrene of the Feet.**—Sassi reports two fatal cases in breast-fed infants, both of whom had had chronic enteritis. The gangrene was apparently the result of thrombosis of arteritic origin.

129. **Rhizomelic Spondylosis.**—Giovine reports from De Renzi's clinic at Naples five cases of this affection in women 21, 23, 25, 35, and 45 years old, respectively; the first symptoms were noticed several years earlier. There seemed to be an evident connection between the disease and preceding pains in the bones and joints, presumably of a rheumatic nature. A familial or hereditary tendency was also evident in some of the cases, and an "arthritic," gouty taint was manifest. Some of his patients presented symptoms of all three forms of the affection: neurogenic, articular and myogenic. The peculiar tenacity of the affection is a striking feature, but great benefit in respect to the pains was derived from energetic faradization, and the entire syndrome was very favorably influenced by profuse sweating induced by electric light baths.

134. **Early Sign of Measles.**—Belfadel calls attention to the peculiar location of the first signs of catarrhal conjunctivitis in the incipiency of measles. In 78 out of 111 patients he noted this phenomenon as the first sign of the disease. Instead of commencing as usual in the conjunct'val cul-de-sac and spreading thence over the conjunctiva, the first signs of inflammation are noticed in that part of the bulbar conjunctiva which is exposed, close to the cornea. This is the point where pterygium usually develops. The measles conjunctivitis spreads in one or two days over the rest of the conjunctiva, but its appearance at this point may differentiate the disease in its earliest stages.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Atlas and Text-Book of Human Anatomy. By Johannes Sobotta, M.D., Professor of Anatomy in the University of Würzburg. Edited with Additions by J. Playfair McMurrich, A.M., Ph.D., Professor of Anatomy in the University of Toronto. Vol. III. Pp. 342. With 297 illustrations. Cloth. Price, $6.00. Philadelphia: W. B. Saunders Co., 1907.

History of Nursing. By Adelaide Nutting, R.N., President of the American Federation of Nurses, and Lavina L. Dock, R.N., Secretary of the American Federation of Nurses. Vol. I. Cloth. Pp. 549. Vol. II. Pp. 461. Price, $5.00. New York: G. P. Putnam's Sons, 1907.

Kosmetische Hautleiden, No. 17. Von Dr. S. Jessner. Die Akne und ihre Behandlung, No. 2. Dritte verbesserte Auflage. Dr. S. Jessner. Juckende Hautleiden, Nos. 3 and 4, von Dr. S. Jessner. Paper. Index to entire collection supplied. Würzburg: A. Stubers Verlag (Curt Kabitzsch), 1907.

Diseases of the Nose and Throat. By D. Braden Kyle, M.D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia. Fourth Edition, Revised and Enlarged. Pp. 725, with 215 illustrations. Cloth. Price, $4.00. Philadelphia: W. B. Saunders Co., 1907.

A Manual of Venereal Diseases. By Sir Alfred Keogh, K.C.B., Lieutenant Colonel Leishman, Lieutenant C. H. Melville, R.A.M.C., R.A.M.C., and Major C. E. Pollock, R.A.M.C. Pp. 282. Cloth. Price, $1.50. New York: Oxford University Press, 1907.

Variations of the Bones of the Hand and Foot. By Thomas Dwight, M.D., LL.D., Parkman Professor of Anatomy at Harvard Medical School. Pp. 101. Cloth. Price, $5.00. Philadelphia: J. B. Lippincott Co., 1907.

Der Tatsachliche Krebserreger Sein Zyklus und Seine Dauersporen. By Dr. Robert Behla, Geheimer Medizinalrat. Pp. 189. Paper. Berlin: Verlagsbuchhandlung von Richard Schoetz, Wilhelmstrasse, 10, 1907.

Thinking—Feeling—Doing. By E. W. Scripture, Ph.D., M.D., Assistant Neurologist, Columbia University. Second Revised Edition. Pp. 261. Cloth. New York: G. P. Putnam's Sons, 1907.

A Treatise on Plague. By W. J. Simpson. M.D., Aberd., F.R.C.P., Lond., D.P.H., Camb. Professor of Hygiene, King's College, London. Pp. 466. Cloth. Cambridge: At the University Press, 1907.

Fourth Report of the Caroline Brewer Croft Fund Cancer Commission of Harvard Medical School. Pp. 83. Paper. Boston: Harvard Medical School, 1907.

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Address

THE PROBLEMS OF STATE BOARDS OF HEALTH.*

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PORTLAND, ME.

It is fitting that acknowledgment should be made first of the honor conferred by this conference on the state from which I am a delegate, by your selection of its representative as your president for this year; on behalf of my colleagues I beg that you will accept the expression of appreciation which I bring from them, and permit me on my own behalf to thank you again for such share of the honor as rests on me. I venture to hope that at the close of this meeting you may still hold toward me the same feeling of confidence and good will that prompted your action of last year in electing me to preside at this annual conference. My own appreciation of the privilege is the greater because of my positive conviction that this body continues to find its greatest usefulness in a strict adherence to the line of action contemplated by its originators, and reaffirmed at the meeting of 1900 at Atlantic City, when its purpose was declared to be "to confer, to compare methods, to detail experiences, to seek helpful suggestions" which would enable us when we returned to our homes to profit by our meeting and by our interchange of ideas, rather than for the formal reading of set papers. The experiences of the past few years, especially those of that meeting when we met to express our views and declare our attitude toward the plague invasion of the western coast, have strengthened the belief that, whatever the nature of our relations by law to the health service of the general government which have been those of cooperation and mutual confidence, the individuality of this organization should be maintained, and it should not lose its identity or weaken its influence by allowing itself to become an adjunct or appendage to any other body, sanitary or medical. Its time or place of meeting and the character of its discussions should depend on its own convenience and interests, and on them alone.

A NATIONAL DEPARTMENT OF HEALTH.

Among the subjects which have been brought prominently to the attention of sanitarians during the past year is a renewed proposal for the creation of a National Department of Health to be in charge of a cabinet officer, to be designated the "Secretary of Public Health."

Various organizations have already given this proposition favorable consideration, and one, at least, has decided on a definite and organized line of action. The American Association for the Advancement of Science has formed a committee of one hundred to consider the question and has invited to identify themselves with that committee, prominent sanitarians, members of our state boards of health, distinguished educators, philanthropists and social economists. To what extent this conference may deem it best to express approval of the proposition in any of its aspects or of any plan of organization is for you to determine.

The committee of one hundred has but recently, at a meeting held in New York, April 18, 1907, perfected an organization and concentrated its activities by the appointment of an executive committee of seven members whose names offer assurance of thoughtful consideration and unprejudiced conclusion.

Few of us, I think, can fail to appreciate the fact that, admirable as is the character of the work which the general government is doing in various directions to promote directly or indirectly the health and well-being of the people, much more is to be gained by uniformity of management and concentration. However favorably the idea of a "department" may impress any one of us on first thought, it must seem, on reflection, that the practical aspect of what to secure, and how to obtain it, and how to conduct it, and what will be its scope and relations to existing national or state bureaus or boards, involve some questions not altogether easy to decide offhand.

Personally I should regret to see any plan proposed or organization perfected which would fail to utilize the Bureaus of Chemistry, of Animal Industry, and particularly the carefully organized and admirably conducted Public Health Service, which is second to no similar service in the attainments of its officers and the character of its work. I should much dislike to see any action urged which would in any degree supersede any of these bureaus or contract their fields of usefulness, after so much of time and money and effort have been spent to develop them and to bring them to their present high degree of efficiency, nor do I think such result a necessary outcome of the discussion.

So far as the question at issue involves the status of the Public Health Service, however, I have a pronounced opinion which I do not ask any one to share with me unless he arrives at a conclusion from his own point of view. That opinion is that its powers and opportunities as a Public Health Service are of vastly more importance than its work as a Marine Hospital Service, for which it was originally intended; that they are by no means as complete and extensive as they should be, and that the service under its present management is deserving of the most cordial cooperation on the part of every one whose official duties bring him into relation with it, and that whatever may be done by our assistance to secure for it more ample powers and facilities for its work should be given it.

I do not agree with those who argue that an enlargement of the bureau as it now stands would not be a sufficiently marked step in advance of what we now have; I believe it would be a decided step toward something which we all desire, but which I do not believe it practicable to reach by a jump. At present I believe much is to be gained toward attaining the finality of our hopes by laboring to secure for established bureaus, under single control, greater resources and powers for the cultivation of a wider field of usefulness. I regard it at present as better policy to develop further something which we have in existence rather than to reject a little because we can not enjoy at once our ideal.

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* Address of President, delivered at the Annual Conference of State and Provincial Boards of Health of North America, Washington, D. C., May 30, 1907.

RELATION OF NATIONAL TO STATE HEALTH DEPARTMENTS.

No argument is needed in this presence in favor of efforts to secure more extensive relations between the general government and the health interests of the country at large. Local self-government finds a conspicuous demonstration of its value in the ways in which the interests of our states have been conserved and promoted by state boards of health. They are abundantly able to continue this work as their several necessities demand, and the relation of the general government should be advisory and cooperative except in matters of maritime and border quarantine or those involving international questions or interstate relations brought about by epidemics, in which the national authority should be supreme. It is to be hoped that the time may come when the quarantine administration of every port from Maine to Alaska will be in the hands of the general government.

I do not hesitate to affirm also that the national government should control and administer all sanitary inspection along our entire border land. Few of us view these questions from an altogether disinterested standpoint, and the selfishness which prompts the expression of this wish I freely admit, without, however, conceding that the urgency or desirability of such control is any the less.

THE IMMIGRATION PROBLEM.

My own state, Maine, has a border on sea and land of some hundreds of miles. It has intimate communication with foreign countries by several Transatlantic steamship lines, and with Canada and the west by numerous railways, two of which, the Canadian Pacific and the Grand Trunk, transport yearly through Maine thousands of immigrants to the Western Canadian territory and to our own northwest. These immigrants land either at Halifax, St. John or Portland, and Maine has spent thousands of dollars, of which the city of Portland has contributed no inconsiderable part, for restrictive measures by train inspection, quarantine and vaccination against the entry of smallpox from Europe, the Maritime Provinces and Canada. An insignificant portion of this traveling population tarries in Maine, but most of it passes on, either to the west or Canada. The benefit to Maine for self-protection is comparatively small, and there seems to be no good reason why the cost of measures which are ultimately in the greatest part for the benefit of other states or foreign territory should be borne by our state. In greater or less degree the same argument holds good for every border state with similar conditions.

We in Maine have always, when application has been made, received the substantial aid of the Surgeon General of the Public Health Service by the appointment of acting assistant surgeons for inspection service, on our own nomination, whose salaries have been paid in part by that Bureau.

The Surgeon General, however, has frequently been hampered by lack of funds, resulting in withdrawal of his assistance after the more urgent need for combined effort has passed; then the total expense has again returned for the state to bear. Such conditions have existed during the past winter and exist now.

For many years the city of Portland, although illy able to afford it, bore the entire cost of quarantine and inspection of immigrants who at once passed over the Grand Trunk Railway to Canada, until, through the efforts of the state board of health, the Public Health Service assumed entire charge.

For these reasons, which have come close to our interests, I believe that all responsibility, labor and expense of excluding from the country communicable diseases by land or sea should be assumed by the general government. I believe, too, that the necessity of such control, which is always apparent to us of the coast and border states, is one potent reason why some form of a national department of health should be developed, organized to meet all the demands which the health interests will make, and provided with ample funds for its maintenance and administration. No sum would be thought too extravagant to promote or conserve our commercial interests; certainly no sum should be considered as misapplied which helps a people to a knowledge of its sanitary needs, its vital statistics, the saving of life, and the greater prosperity thereby secured.

The lines of work which could properly and profitably be carried on by the general government for the benefit of the country at large are many and readily suggest themselves to those of you who have followed at all the discussion of this subject, but there need be no fear that in any of them will the advisory or executive relations of the state boards to the people of their several states be encroached on.

Whatever may be our individual views on the general question, we shall lose nothing, I am sure, if we preserve an open mind and weigh carefully and analyze with deliberation its various aspects which are bound to present themselves. It seems to me that it is not something to be decided hurriedly, and where there are sure to be honest differences of opinion there is the greatest need of a conservative attitude.

It would seem to be a wise procedure for representatives of all the different organizations actively interested to confer and, if possible, to agree on what is the most desirable form which governmental control should assume, or what is most practicable to try to obtain, and try to agree also on some course of action on which we can unite to procure the necessary legislation; otherwise there is likely to be exhibited an absence of concerted action which will do little to invite confidence on the part of Congress or in any way to further the project.

No one organization has a monopoly of interest in this project; no one organization can secure its accomplishment unaided. Let us, therefore, be willing to consider the matter in all its bearings and identify ourselves, if at all, with that course which will promise to secure the greatest advantage to the greatest number.

STATE HEALTH LEGISLATION.

Interesting and valuable results came at the last conference from our exchange of information as to the resources at command of the different boards, and the outcome of recently attempted legislation in the several states is of great interest. I am persuaded, therefore, that much benefit will ensue, if a part of the time of this meeting is devoted to a brief report from each representative of what has been accomplished for sanitary legislation in his state during the past year and what gain has been made in the direction of enlarging the powers or duties of his particular board. If some of us have met with disappointments they will be, in a measure doubtless, assuaged if we can learn that others have been more generously equipped. In this connection it may not be out of place for the introduction of a plea for the renewal of the systematic interchange of information on current sanitary conditions which formerly obtained between the different state boards. In the early years of their existence some of us found this clearing-house method of the greatest practical assistance. This custom has prevailed among the New England boards to perhaps a wider extent than elsewhere, but it was often found that prompt notification to other boards, to take a single instance, of the outbreak of contagious disease, without waiting for inquiry, was of immense advantage in enabling one state to anticipate threatened invasions. It invited to more intimate acquaintance between the officials of the different states, prompted cooperation between boards, and kept each in touch with all to the mutual advantage. For some reason not easy to determine, perhaps because of the greatly increased pressure of work which came with enlarged powers and the burden of new duties, this practice has to some degree fallen into disuse. I think this a mistake and earnestly urge that it be renewed for the common advantage.

It is also a matter for regret that of late years our meetings have been wholly limited to attendance from the United States. This is a conference of State and Provincial Boards of Health of North America, and our friends across either our northern or southern line should not feel that, because in the organization of our Public Health Service the National Congress provided that the Surgeon General should yearly confer with the representatives of the different states, the essential nature of this organization has undergone any change. We can assure them that this is not so in the least; such conferences as we may hold under the law do not in any way affect the nature of our own conferences between ourselves, nor prevent their participation in the discussion of matters of common interest by health organizations of the different countries. We can not know too much of each other nor have too familiar an acquaintance with the health laws of our neighbors, and we should utilize every means of bringing about a renewal of relations which have in the past been mutually agreeable and profitable.

THE ANTITUBERCULOSIS CAMPAIGN.

The unparalleled interest now displayed throughout the civilized world in the prevention and restriction of tuberculosis is convincing proof that the educational method of securing results in public sanitation is producing practical results. In some departments of public health work, notably that alluded to, the pupil is outstripping his teachers, and the demand for practical methods and means threatens to exceed the supply. The present situation and the attitude of the lay public toward the subject of tuberculosis emphasizes how this agitation waxes by its own activity. Skilfully guided, it can not fail to be of the greatest conceivable benefit to mankind; if it undertakes to manage itself, as there is evidence that it sometimes does, the outcome is not infrequently disappointing and disastrous. Is there not a possible danger that the public is being overeducated; that it is being led to expect too much by a too positive affirmation of things which are not always so, and by the prediction of results which do not always arrive?

Much of extravagant prediction may be laid to enthusiasm, but when the layman is gravely assured that the date is known on which tuberculosis will have been eradicated from a particular country; when he is informed that all cases of tuberculosis can be cured by the erection and maintenance of sanatoria; when it is thought worth while to consume time in discussing what use can be made of the sanatoria plants after they are no longer needed, it seems to me we may well be apprehensive lest there be some time an unpleasant reaction with loss of interest and lack of confidence and support.

Do not understand me as meaning to say that such statements as I have indicated are common. Far from that; but I have heard them in places where they were accepted as gospel because of the authority from whence they came, and I have made the allusion merely to indicate what seems to me an unwise tendency to overconfidence which may some time annoy us.

NEED OF ACTION AGAINST OTHER DISEASES.

The extraordinary situation, for it certainly is such, impresses me most forcibly in that we may be in danger of forgetting that there are other conditions and diseases the importance of which may be dwarfed in our minds by the popular interest in tuberculosis. I am willing to assume the functions of the *advocatus diaboli* and assert that some other conditions might, with the same aroused interest on the part of the public under the same systematic attack and with the demonstration of the same tangible results, be reduced to the same controllable minimum which we hope and confidently expect in the case of tuberculosis.

Suppose it were possible to invoke against typhoid or diphtheria a fractional part of the present antagonism to tuberculosis; suppose we could induce the people to look on scarlatina and epidemic cerebrospinal meningitis as they do on smallpox. Not as they look sometimes when we talk vaccination to them, but as they do when the malignant form of the disease threatens, and some of us have seen that, what might we not accomplish with their aid given freely as they give it now to fight tuberculosis?

The greater prevalence of the disease and the economic loss it entails are not conclusive reasons for this exceptional antipathy. It is because they have been educated in a hundred ways, and I am proud to know that I am addressing some of those who have helped to educate them. Typhoid, diphtheria, scarlatina and cerebrospinal meningitis leave people just as dead as does tuberculosis, although not so many of them. The former diseases are a great deal harder to manage and, when epidemic, cause vastly greater disturbance of the social equilibrium. Why do we not organize campaigns against them? Why do we not try some of the same kind of education which we are applying in the case of tuberculosis? Why have we not succeeded in creating the same kind of public demand for their extirpation? Curiously enough, the public apprehension from these diseases seems lulled in the face of the greater interest in the disease which is so much more insidious and so much more widely spread. Mankind seems to think that the end of our fighting resources has been reached. Has it? I think not; and just so firmly I believe that no one should be allowed to think so. I am not reflecting on any zeal displayed against tuberculosis as too great or misplaced, but for more in other directions, because we have yet much to learn about some of the other communicable diseases.

State boards of health are endowed with such a variety of widely different advisory and executive functions that one part of their work has as much demand on us as another so far as its complete fulfilment is to be sought, and there is need of care lest we magnify too much some of our duties at the expense of others which are more commonplace. Our obligation to the public is to see that none of the duties be overshadowed, and no impression should be allowed that any part of our sanitary work can be advantageously ignored or neglected. Few of the state boards of health of this country will ever be in danger of becoming "mere collectors of vital statistics," as seems to be feared.

THE VALUE OF STATE LABORATORIES.

Among all the equipments of state boards of health none are of greater service to an active board, or of more practical value to the people of a state, than laboratories of hygiene. Wherever they have been established they have speedily proved themselves indispensable, and it is not too much to affirm that any state not so provided is seriously handicapped. A lack of facilities for chemical and bacteriologic work in connection with the diagnosis and study of disease and for research, places a board in the humiliating position of being unable to meet promptly the demands of its people by giving them positive information and intelligent advice. Such conditions are in the highest degree uneconomical; they are wasteful alike of life and money, and no small part of our duty lies in helping those boards which are without them to secure them. Surely every board that has one would shrink from trying to work without it.

Small as were the early ambitions of these now indispensable adjuncts to health work, the value of their assistance can hardly be estimated. From analysis of drinking waters they have passed on to that of food products, to diagnostic work in typhoid, tuberculosis and diphtheria; to the production of inoculative materials for the induction of immunity and for cure, and have helped us to most useful knowledge of the principles and technic of disinfection and the nature of disinfectants. In every direction they have added to our power, and in some conspicuous instances their advantages have been more directly brought to the people by the circulation of diagnostic outfits and by the special study of special conditions by trained traveling inspectors and investigators. There is room for a still wider extension of this particular feature of laboratory activity, particularly in the direction of investigating the newer methods of diagnosis.

They are more and more branching out into research work, always looking to the practical application of their conclusions, and the hope of still greater opportunities is always with us. Even the most modestly equipped laboratory may be made to demonstrate results that will appeal to the most hardened legislative economist or taxpayer. There is no need to cite these facts to those who have had personal experience or observation. This topic has been touched on in the hope of stimulating any of my hearers who do not now have such assistance to make renewed and systematic efforts to obtain it. Every one of the boards so equipped will respond with any aid you may ask, and any and all information desired as to their practical operation will be placed at your disposal to be used as argument for their establishment. It can be confidently asserted that after you have obtained them, no matter how small your resources or the limitations of your activities, your satisfaction will be exceeded only by your wonder at how you could do without them.

We know what the laboratory can do in diagnosis; we have seen how in some of the states, where the demand warrants, vaccine lymph and antitoxic sera have been produced as an economic proposition. New hopes are now being entertained that out of the study of the opsonic theory, which aims to increase the phagocytic power of blood cells against pathogenic bacteria, some practical way may be found to make its application capable of general adoption. Its technic, which is delicate, requiring special skill in manipulation, is not yet within easy reach of the individual practitioner or health inspector, but the hygienic laboratories may be able, if they take up this work, to find a way. It has been demonstrated as of practical value in local infections, and it is by no means beyond the range of probability that it may be equally so for systemic infections like smallpox and even typhoid.

NEED OF PHYSICIAN'S COOPERATION.

In its efforts to get at the existence of communicable and preventable diseases by compulsory notification of cases, organized hygiene has not received and does not now have, the assistance from the individual practitioner of medicine which it deserves. Collected as members of national or state bodies, physicians are profuse with resolutions and generous with expressions of approval of legislation leading to this end; as individuals, too many of them seem to consider themselves superior to the law and prone to place the interests of themselves or their patients above those of their fellow-citizens.

No health law was ever enacted which assumed to dictate in any particular with reference to the purely professional relations of physician and patient or the therapeutic management of a case; yet, judging from the complaints of local boards of health, one would suppose that laws providing for the compulsory report of cases of tuberculosis, typhoid, diphtheria, scarlatina, measles and whooping cough involved some grave interference with vested rights. There is little trouble with smallpox when recognized because the physician knows the attitude of the public, and because he is usually glad to be rid of its care. Possibly the attitude of the profession is much the same toward yellow fever and plague, but to these my experience has never extended.

There is no more constant complaint from local boards of health than that deaths are being reported from cases of typhoid and tuberculosis which were not previously known to exist, and this is especially true of the smaller communities. A few of the state and larger city boards can secure compliance with the law even in the case of tuberculosis, but more can not do so. I confess that a practical remedy has not yet presented itself to me, and perhaps I shall not be alone in grateful appreciation of any suggestion as to how such may be secured without antagonizing those whose good will and cooperation in other directions is essential. Until public opinion recognizes it as imperative we shall continue to be seriously hampered in our efforts to find removable causes of disease, and our vital statistics as to the prevalence of disease and its results will continue to be very far from reliable. Perhaps the only feasible way is to keep hammering at both public and profession until we bring them to our way of thinking. To create a demand for unpopular restrictive laws by first passing them is an altogether disheartening proposition.

Doubtless by this time you have concluded that I have scolded quite enough, and that pessimism has no place in such a gathering as this. I plead guilty to the extent of only exercising the privilege with the hope of exciting discussion if you disagree, and no doubt you do, with some of my criticisms. We have much more reason to be satisfied than to find fault, and my comments, I assure you, have not been made in that spirit. State boards of health have no cause to be ashamed of their records, nor to feel that collectively or individually they have not justified their existence.

If we all thought alike there would be little progress; let us trust that our differences of opinion may always result in action for the common good. At the end of my chapter of lamentations, permit me to allude to a matter which is of vital interest to the continued usefulness of this conference as an effective health organization.

THE SECRETARY'S DUTIES.

No one who has been given the opportunity to observe can doubt that a board of health whose membership and executive organization are constantly shifting will fail to accomplish the most effective work in comparison with those boards whose membership continues practically undisturbed and whose secretary has a relative permanence of office.

This conference has been well served by competent and painstaking recording officers on whom has fallen the heaviest part of the burden in making it what it is. Our debt to the present active and efficient incumbent of the office is not to be lightly estimated. The man who has many things to do is the one who does things, and it is urged on the conference to make easier the labor by giving to the office some measure of permanency and adopting a definite and liberal policy with reference to assistants. The secretary should be empowered to employ all the aid he needs to issue the annual proceedings and early notices of the time and place of meeting of the conference, and if the present assessment on the several boards is not sufficient to defray the cost let it be increased. Service as good as we have been able to command is worth paying for, and we have no right to take too much of a secretary's time from his legitimate work as a state officer nor ask him to load himself down with the drudgery of purely clerical work; and, above all, we should not make it difficult or impossible to obtain the kind of service we need by withholding adequate support, and if any body would profit by having a permanent secretary this one would. I do not think we should ask a busy officer to do more than supervise and direct the work of the secretary's office.

In closing this address, permit me to express the pleasure I find in the privilege of greeting you as members of this conference. While we miss familiar faces and regret the changes which death and retirement have brought about, all of us who have been long in the work can cherish the memory of delightful comradeships and lasting friendships and turn to welcome heartily the newer members, confident that, whatever may be the changes in the personnel, the work will go on, that there will be no lessening of enthusiasm, and no loss of that courage which makes a fight half won.

The Fruits of Science.—"While we must be careful not to hamper pure science by demanding fruits from it at every tep, we must nevertheless be careful that in the pursuit of nowledge as knowledge the fruits are not overlooked."—Dr. R. J. Rowlette in *Dublin Med. Journal.*

Original Articles

THE IMPORTANCE OF THE EARLY RECOGNITION AND TREATMENT OF RACHITIS.*

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The typical advanced case of rickets presenting marked bowing of the legs and other exaggerated deformities is easily recognized and could, in fact, scarcely be overlooked. That the malady can ever be allowed to reach this extreme stage, as so frequently happens, is but another instance of the strange parental blindness to forms of disease which progress so insidiously that the departure from the normal is not recognized. This perhaps arises from such constant familiarity with the infant's appearance that its peculiarities come in some way to be accepted as belonging naturally to the individual. In no other way can we account for the degree of bony deformity which takes place before the parents awaken to the necessity of seeking medical assistance, and even when such children are finally brought to the physician it is not, in a large proportion of the cases, because of the most obvious effects, but because of one of the more acute associated symptoms of the rachitic malnutrition. An excellent example of this appeared recently at the clinic in a Syrian child two years old with marked deformity of all the long bones and difficult respiration due to associated bronchitis. Noticing the interest taken by the staff in the child's extremities, the father rather impatiently insisted that these were of no importance, but that the only trouble lay in the difficult breathing.

This apathy on the part of the parents with regard to the abnormality of rachitic deformities is only equaled by the failure of physicians to recognize not only definite early symptoms of rachitis, but also the importance, from the therapeutic standpoint, of the rachitic factor in very diverse manifestations. It is but repeating what every physician should know when it is stated that the malnutrition which affects the bony structures may affect almost equally, although not always so noticeably, the nervous, ligamentous, muscular and digestive systems. Indeed, symptoms referable to these latter may predominate in the picture. The claim has even been made that all bottle-fed children are, as a rule, to some degree rachitic. While this is by no means true of that comparatively small proportion of artificially fed infants whose food receives management of a highly intelligent order, nor of those who are endowed by Nature with exceptionally good digestive powers, it is true without question of many children who have not thrived on haphazard milk feeding or have been long subjected to a diet of condensed milk or patent infant foods.

To this list must also be added the not inconsiderable number of nursing infants who develop evidences of rachitis toward the end of a normal or prolonged period of lactation, whether from bad environment, racial predisposition, or from an increasing paucity of the more essential constituents of the breast milk. Such a racial predisposition is most commonly seen in New York among the negroes, and the Italians, Greeks, Syrians,

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

Armenians and other nationalities from southeastern Europe.

While the larger number of these cases occur among the poor, rickets is found in all classes. Yet, although the great prevalence of the condition is generally accepted academically, the actual recognition of rachitic manifestations in the patient, especially in the early or more atypical forms, unfortunately often fails or is neglected. This may be due in part to want of thoroughness in examining the entire body of the sick, or even fairly well, infant when presented for advice or treatment, but is also largely due to a faulty appreciation of the extremely varied symptoms of this vice of nutrition.

To the student or practitioner whose knowledge of rickets is derived from books or from the advanced cases presented in clinics, more especially by the orthopedic surgeon, the term suggests primarily a large square head, narrow chest, marked rosary, pot belly and bowed legs. He also may recall the enlarged epiphyses, delayed dentition, head sweating, open fontanel and lumbar kyphosis. When he meets with such a case which shows the majority of these earmarks he finds no difficulty in arriving at an immediate diagnosis. But if confronted with a case presenting but few of these classical symptoms, or one which instead of having reached its full development is still incipient, he may either hesitate to pronounce it rickets or be led by the prominence of some associated symptoms, such as obstinate constipation, chronic intestinal indigestion, convulsions or bronchitis, to overlook the underlying cause and so miss the opportunity of striking at the root of the real etiologic factor.

When the habit is once formed of rapidly but carefully inspecting and palpating the entire body of every young child presented for treatment, rachitic stigmata of varying degrees will be discovered much more frequently than is usually realized, and important indications for treatment will not be overlooked.

It is, as has been implied, a too common error to assume that because some of the usual symptoms are lacking the difficulty can not be rachitis. Rickets manifests itself under many guises and its early force may be expended chiefly on a few structures, although careful investigation will usually reveal confirmatory evidence in other directions. The epiphyses at the wrist may be unmistakably enlarged while the bones of the head are apparently normal. On the other hand, the head may show varying degrees of enlargement and squareness due to overgrowth of the frontal and parietal bosses with no recognizable involvement of the epiphyses. The weakness of the muscles of the back and of the ligaments of the spine resulting in the typical rounded kyphosis of the lower dorsal and lumbar region may be the condition which first attracts attention. Abdominal distension, favored by weakness of both striped and unstriped muscle fibers, may be extreme, moderate or completely absent. The same variability pertains to the bending of the long bones, irregularity of dentition and the rest of the commoner manifestations.

To this rule the thorax comes nearest to presenting an exception. Enlargement of the costo-chondral junctions, commonly known as beading of the ribs or the rachitic rosary, is probably the most constant sign of all, and even when not recognizable externally by palpation may, as so well pictured by Holt, be present on the inner surface of the thorax. In fact, the abnormal softness of the thoracic structure may be first strikingly apparent from the sinking in of the chest walls during inspiration in some acute affection of the respiratory tract.

Even if one has never had the opportunity to study at autopsy the effects of this condition on the underlying lung, one need only spend a few minutes watching this collapse of the anterolateral areas of the thorax where expansion should take place to realize what a serious handicap this is to the infant. It enhances primarily the danger of pulmonary involvement. It increases necessarily the dyspnea and frequency of respiration in the efforts properly to oxygenate the blood. It multiplies the labor and fatigue, adding to the possibilities of exhaustion of the muscles of respiration and of the respiratory center. It results in poor expansion; if not actual atelectasis or consolidation of anterior portions of the pulmonary tissues, which should take on vicariously the work of aërating the blood during any temporary involvement of the posterior and more dependent portions. What wonder that with this crippling of one of the most vital mechanisms the rachitic child succumbs when a normal child would have survived.

Prominent as may be the enlargement of the head and the bending of the long bones, such incidence of the disease does not begin to have the importance or to be fraught with the danger to life which results from the instability of the nervous system with its proneness to convulsions, nor from the soft and flexible thorax which increases many fold the danger from an intercurrent bronchopneumonia. It can not be too strongly restated that the real menace of rickets, both during infancy and more remotely in the later life of the individual, lies in its more subtle effects on the organism. In addition to convulsions and pneumonia already mentioned, there are dangers from laryngismus stridulus and chronic intestinal indigestion, while the greater liability of the contracted chest to tuberculous disease in later life, and the danger to the parturient mother and her infant from rachitic deformities of the pelvis, are matters of general observation. No more potent arguments could be advanced for the prophylaxis, early recognition and treatment of this condition.

In some instances I have succeeded in so impressing colored mothers of severely rachitic children with their responsibility for the degree of the deformity that they have brought their later infants or those of their neighbors to the dispensary during the first few months after birth. With supervision of their care and feeding these children have escaped the difficulty. But such prophylaxis is rarely possible and our efforts must be chiefly directed to the early recognition of rachitic tendencies.

While not claiming that the individual symptoms of head sweating, restlessness, constipation, beading of the ribs and baldness of the occiput, caused by constant movement of the head on the pillow, when occurring singly invariably indicate the rachitic type of malnutrition, they are symptoms which should be carefully observed and considered and, if appearing together, should put us on our guard and make preventive treatment advisable. If to these be added one or more of the other classical evidences, our duty becomes imperative. If the patient is the subject of laryngismus, tetany, head-nodding or craniotabes, even if rachitic signs are doubtful or apparently wanting, antirachitic measures offer the most probable line of successful treatment. This is also true of convulsions, unless some other exciting cause is clearly present.

Rachitis may undoubtedly begin before the fifth month, just how much earlier is a mooted point. Thereafter it is recognizable with increasing frequency during the latter half of the first year and may be most marked during the second year. Its distinctive features very often appear rather early when there has been a considerable period of general malnutrition, and I consider it one of the distinct advances of recent years that the different types and phases of malnutrition are now regarded less as diseases *per se* and more as the avoidable results of vicious or unintelligent methods of feeding.

Despite the different conditions which may lead to the development of rachitis and the comparatively long period during which it may first reveal itself, there must be a time when the process is incipient, and it should be our aim to detect it promptly and to begin treatment at this stage before it has advanced to the point of becoming a serious present or future menace to health or life. I have laid considerable stress on prophylaxis because even in nursing infants, having what I have called a racial predisposition, much may be accomplished in this direction by better hygienic conditions for mother and child, but more especially by attention to the mother's diet, the employment of remedial measures which will be mentioned later, and by checking the tendency to undue prolongation of the period of lactation. In these cases we must also supplement the deficient proteids of the breast milk at an earlier period than usual by giving the proteids of cow's milk, egg albumin and beef juice.

The influence of condensed milk in the causation of rickets and that of such infant foods as are not designed to be administered with a proper proportion of fresh cow's milk is so well recognized that in this connection it is only necessary to insist that their use, if they are used at all, should be limited to certain periods of emergency and thereafter promptly replaced by cow's milk.

Efficient prophylaxis in the bottle-fed is by no means a simple matter, owing to the difficulty experienced at times in securing the digestion and absorption of cow's milk, and especially of the necessary amounts of its proteid, casein. This difficulty fortunately is overcome readily by many children under proper management, and the number with whom it becomes a serious matter decreases to a certain point in proportion to the experience of the physician. In the earlier months, therefore, prophylaxis and treatment are practically the same as that of malnutrition in general.

After the fifth or sixth month, however, when the rachitic element tends to reveal itself more distinctly, certain measures become of definite value. It is a mooted point whether general tenderness of the body belongs to the symptomatology of rickets or denotes a tendency to scorbutus, but fresh orange juice, which has such a signal effect on scorbutus, has also a beneficial influence on the rachitic infant. At this period or even earlier we may also begin the administration of pure cod liver oil, at first in small quantities and increased with tolerance to half a dram or more three times a day. If not well borne, and especially in warm weather, pure olive oil has considerable value as a substitute. More than usual attention should be given to securing the ingestion and digestion of an adequate quantity of proteid, and usually by the seventh month, if need be, and assuredly in the later months of the year, this may be assisted by administration once daily of beef juice or the white of one egg, the latter incorporated with the contents of one of the bottles.

In undertaking the treatment of older children who have entered on their second year scraped rare meat pulp may be given at once and soft boiled eggs are of important assistance in making up for previous proteid deficiencies in the diet.

The management of the starch-containing foods in these older patients requires especial care, but also an intelligent differentiation of conditions. That advanced rachitic cases often show starchy indigestion is notorious. This is, indeed, truer in proportion to the degree to which the starches have been undercooked or given in excessive quantities to the exclusion of animal proteids. The more marked cases are those children with distended abdomens and foul undigested stools whose condition has been aggravated by insufficiently cooked cereals, potato or an excess of bread in their diet. Oatmeal and potato are better interdicted entirely in such cases, and other starchy foods if given should be limited to a small amount of thoroughly cooked and strained cereal of some other kind, or to zwiebach, or stale bread dried to a crisp in the oven. Total exclusion of starchy food is by no means always necessary. Cereal additions to milk make available a considerable amount of vegetable proteid and mineral matter which are craved and promptly assimilated by the underfed organism of certain rachitics. There surely is no contraindication to the judicious use of suitably prepared starchy food when any considerable degree of intestinal indigestion and distension is lacking.

Of the more distinctly medicinal measures the use of cod liver oil has already been alluded to. Its use for long periods is certainly of great value. When an adequate amount of fat is lacking in the food, as in feeding with condensed milk, it may, within limits, act both as a prophylactic and curative measure. It is also valuable under other conditions in the subacute bronchitis to which rachitic patients are so liable. It is also the best of all mediums for the administration of phosphorus.

Recently in re-entering on my yearly term of service in one of the children's hospitals my attention was directed to an evidently rachitic youngster who was in bed because he was unable to walk. Enquiry elicited the information that he was an Italian aged 28½ months. When admitted to the hospital four and a half months previously he had seven upper and six lower teeth, but despite treatment with tonics, phosphates and good diet, he had shown no inclination to walk and had cut no other teeth. My suggestion that phosphorus be given him elicited the perfectly frank statement from the house physician that he supposed that the phosphorus treatment of rachitis had been long since "exploded" and discarded. Receiving, however, 1/200 grain of phosphorus in 30 minims of cod liver oil thrice daily, the child stood on his feet in less than two weeks, walked with assistance in twenty-one days, and just one month from the beginning of treatment walked alone and was cutting three additional teeth. These prompt results, which I had confidently expected, made a convert of the house physician. The opinion voiced by him at first, and which has been gaining ground in recent years owing to the position taken by some of the foremost writers on pediatrics, seems to me an unfortunate one and detrimental to the best interests of many rachitic children, inasmuch as I find phosphorus to be the agent which can be relied on to cut short most promptly the acuter symptoms of the rachitic process.

It is certainly important that no single remedy should be emphasized so strongly as to lead the practitioner to the belief that with its use he may neglect the all-important dietetic and hygienic measures of treatment. Rachitis, indeed, tends to spontaneous recovery on the proper assimilation of a broader general diet, and special attention should always be given to the introduction of such articles as shall compensate for the previously insufficient proteid, but phosphorus is, at certain junctures, almost a specific. As seems most rational, it is particularly useful in rachitic instability of the nervous system—in tetany, laryngismus stridulus, head-nodding and the tendency to convulsions.

On children with a fairly developed musculature, but who have passed the usual age without walking or who, having begun to walk, have ceased to do so owing to a further advance of the malady, the effect of phosphorus is relatively brilliant. Such immediate results can not, of course, be expected when the musculature is not sufficient to support the body, but even here the effect may be seen in greater activity. On delayed dentition it has also naturally a less certain, but frequently favorable, influence.

Reasonably prompt in its action on the nervous system and in restoring the use of the limbs, its effects on the osseous system are necessarily slower and less readily detected. Bone deformities, though checked, remain or are but slowly affected in part. To this latter fact more than to any thing else I believe the skepticism concerning the efficiency of phosphorus to be due, for the rapidity of its action on different tissues and structures can not inevitably be the same and it is also difficult to differentiate its effects from those of other measures used coincidently. My use of phosphorus with small quantities of cod liver oil opens, I am aware, an avenue for discussion, but the results in equally suitable cases have not been so prompt with cod liver oil alone. Out of several hundred cases in which I have used the combination of phosphorus and cod liver oil I can recall but two in which I suspected that it was not well borne. It is suitable for administration during the moderate or cold months of the year, but during the hot summer months or during an intercurrent attack of diarrhea its use, following the customary rule for all cod liver oil preparations, is suspended and the phosphates of iron and calcium are substituted.

Children with evident rachitis who are not under any antirachitic treatment may be found in most children's hospitals. I have been surprised to find how often rachitic evidences are passed over by hospital internes and also how frequently, when recognized, they receive no special treatment. This leads me to feel that their medical instruction concerning rickets has been such as to make them look on it as a condition by itself, with a well-developed symptom-complex which requires treatment only in its severer forms, but is negligible when its manifestations are but moderate, or when they are overshadowed by some more acute affection. This attitude of the hospital interne is probably fairly representative of recent graduates in general.

Much more attention than formerly is now given to the maintenance of well-balanced nutrition in the subjects of artificial feeding, with the purpose of avoiding the incidental starvation of particular structures, and, conversely, when such deficiencies are discovered measures are at once adopted for their correction. Of these the rachitic tendency is one of the commonest and its correction the most important on account of its possible dangers.

I would urge the necessity of an earlier recognition of rachitis, call attention again to the dangers with which it menaces the child and to the immediate importance of instituting special dietetic measures, and ask for a further consideration of the special value of phosphorus in cutting short the active and progressive stage of the disease.

DISCUSSION.

DR. A. W. FAIRBANKS, Boston, asked Dr. Southworth to what he attributes the inability of these children to walk; whether to muscular weakness, ligamentary relaxation, or to bone weakness. And, whether he considers that organic phosphorus has any advantage over the inorganic form in the treatment of these children.

DR. J. C. COOK, Chicago, believed that in the present state of knowledge of rickets, and in the frequency with which it occurs, physicians are liable to neglect other defects and find themselves in the state they were in 10 or 15 years ago with the teething children; in other words, dub every child rachitic that fails to walk, talk or produce teeth at the proper age. Dr. Southworth, he said, stated that rickets at five months was the earliest period at which the disease occurs. Dr. Cook has seen two children born, or has seen them within a few hours after birth, with well-marked rachitic rosary and laryngismus stridulus. He protested that so many of the spinal paralysis cases are liable to be neglected in the rachitic diagnosis, satisfying oneself that rickets exists, and that nothing else probably does. As stated by the author, the cause of rickets is ordinarily the food supply. Dr. Cook's experience has been that the food supply, while it may predominate, is not the sole cause. At a clinic attended by many colored and Italian children, he has seen many cases of rachitis, and from observation he is inclined to the belief that it is much more frequently a matter of hygiene than has been thought. Namely, a nursing baby, with the milk apparently normal as to laboratory findings, will frequently be found rachitic. It is not the artificially fed children only. The treatment of these children is getting them out of doors, and giving them orange juice. He claimed that if Dr. Southworth, instead of giving the children cod liver oil in the summer time, would put them out of doors, he will get quite as good or better results.

DR. J. L. MORSE, Boston, Mass., agreed with Dr. Southworth as to the frequency of rickets. Some years ago he studied nearly 400 consecutive babies in the out-patient department at the Infants' Hospital in Boston, and found bony signs of rickets in 80 per cent. Rickets, he said, is not as common as this in private practice, but he believes that 50 per cent. of the babies seen in private practice show bony signs of rickets. The only pathognomonic signs of rickets, in his opinion, are the skeletal. While there are other signs of rickets, one can not be sure that they are due to rickets, and not to something else, unless the bony signs are present also.

Dr. Morse believed that Dr. Southworth was claiming too much when he said that indigestion and many nervous symptoms are due to rickets. In many cases they undoubtedly are due to rickets, but in other cases they certainly are not. It is far more likely, he said, that indigestion is the cause of rickets, than that rickets is the cause of indigestion. Head nodding, convulsions and so on, merely show an irritable nervous system, which may or may not be due to rickets. Dr. Morse agreed with Dr. Southworth that in all probability unhygienic surroundings have almost as much to do with the etiology of rickets as has improper food. Rickets, in his experience, is more likely to occur in those taking a food low in fat and containing an excess of carbohydrates. This is one of the diseases in which, in his opinion, the much-abused proteids are not at fault.

He disagreed entirely, however, as to the presence of tenderness of rickets. Dr. Southworth said that he has seen the tenderness of rickets cured by orange juice. Dr. Morse believes that the tenderness was not due to rickets but to a complicating scurvy so mild that no other signs were present. Dr. Southworth also spoke of adding the white of one egg to the food in order to increase the amount of proteid. The white of one egg, however, is equal to but 12 calories. This amount is contained in one tablespoonful of cow's milk. As to treatment, Dr. Morse agreed with Dr. Cook that the best thing is to put the patients out of doors. Next to that it is necessary to feed them properly. The food to be given is that best fitted for the individual infant, with possibly an excess of fat. He has given children phosphorus until he has feared that they would light if rubbed too hard, without having seen the slightest benefit. He thinks it is the other things which are done, and not the phosphorus, which makes them gain.

Dr. I. A. Abt, Chicago, thought that the teaching promulgated for many years that rickets is due to an excess of fats, has created a wrong impression as to the etiology. While rickets may, under some circumstances, be due to an excess of fat, his own conception from cases he has seen, is that it is due to a general toxemia, a chemical poisoning, produced by faulty metabolism. Perhaps, he said, the food ingested produces toxic products, which when in excess cause various bone symptoms, perhaps at times bone tenderness. Babies have pain; they are restless; cry; do not sleep, and Dr. Abt believes that this is frequently due to pain and bone tenderness. He believes also that rickets may be congenital. He has seen and read in the literature, of cases where children were born with cranial tabes, and where from the first day of life rickets became manifest. In a large number of these cases cranial tabes was definitely established, so that in certain families rickets is congenital. For instance, he thought that a study of Italian children would usually reveal congenital rickets. As to treatment, he agreed with Dr. Southworth, though he believes one mistake made is that physicians do not begin sufficiently early to feed something more than milk. Many of these children with rachitic tendencies may be given, at 7 or 8 or 9 months of age, animal broth, broths with vegetables boiled in, well salted. Dr. Abt believes that beef broth prepared in this way is antirachitic.

Dr. C. G. Kerley, New York City, believes that rickets is a nutritional disorder due to defective feeding or defective assimilation. If it were an infection, it would be peculiar that just as soon as these children are fed properly and placed under proper hygienic conditions, they improve rapidly. Being then a nutritional disorder, the line of treatment is suggested by the nature of the disease. A high proteid diet, he said, answers best in those cases. In those under 1 year of age good cow's milk and oatmeal gruel have served him well. After the first year, milk, meat, eggs and gruels made from dried legumes have been entirely satisfactory. Of course, these substances need not form the diet exclusively, but they should form a large part of it. As to the value of cod liver oil, Dr. Kerley agreed with Dr. Southworth. The beneficial effects following the use of phosphorus he is inclined to doubt. Early in his professional life, he used it a great deal. One of his assistants, several years ago, suggested that they treat every other rachitic case with phosphorus. Careful observation of these patients, by weighing and measuring, showed that those which did not get phosphorus did as well as those which received it. The tenderness of rickets and the absence of typical signs, he looks on as incipient scurvy. Often times when these cases are given orange juice, they improve at once.

Dr. E. W. Goodenough, Waterbury, Conn., said that inasmuch as there may exist causes of faulty nutrition in the uterus as well as after birth, there is no reason why there may not be rachitis at birth. As far as his experience goes, rachitis does not show itself until children are old enough to have indigestion and, as a result, faulty metabolism. A large number of children who are breast fed are fed by people who are not clean. Every time the baby cries, the mother gives the child the breast; fed frequently when well, if sick these children are fed more often, thus increasing their indigestion and giving them every opportunity to have autointoxication and resultant faulty metabolism.

Dr. L. T. Royster, Norfolk, Va., about ten years ago was interne in the New York Infant Asylum, when he observed almost exclusively white cases of rickets. At present he sees only negroes. Every case that he saw in New York came in from very poor surroundings. It was a well-recognized fact that those children could not get well at the Sixty-first street branch, and they were sent to Mount Vernon, where they got fresh air. As to the negro in the South, those children are frequently not weaned until 15 months old and eat ham and cabbage, or anything they desire. Dr. Royster has seen many cases of rickets in children breast fed by healthy mothers, and he sees many children fed on ham and cabbage at 6 months who have no rickets. But, he said, back of it all there unquestionably is the standpoint of hygiene, and the nutrition of the mother. It is an inheritance of unhygienic surroundings. Since the negro has been a free being he has not taken care of himself or his offspring. Any child that has a fever must be shut up in a room with a temperature higher than the child's temperature. It is a sin to open the windows and let in a little air. As to the matter of inheritance, the inheritance of superstition is paramount, and until that can be eradicated from the human mind, rickets will not be cured. A combination of cod liver oil and fresh air in his practice works wonders.

Dr. R. B. Gilbert, Louisville, Ky., believed that rickets is esentially a disease in which there is a deficiency of lime salts out of which the child gets bone and teeth. An early symptom is sweating and profuse urination. It ought to be recognized early. A mother who indulges freely in acid food, and who has the attendant fermentation in her stomach, gives her child milk that is acid, and the infant will soon become rachitic. Acid fermentation in the stomach of a bottle-fed baby is the same thing. As to the hereditary theory, Dr. Gilbert believes that there can be nothing in it. He has knowledge of two or three adults who had rickets in their childhood and were hunchbacks, and who have children who are normal. It means better hygiene, better assimilation of food, plus a better supply of lime salts to the bone. Heredity, he said, can be explained simply by a continuation of bad hygienic surroundings from one generation to the other. In his clinic there is a majority of the colored element and there is much rickets among them. He does not believe in the treatment by phosphorus in minute doses. He has tried it without any effect. As for orange juice, that is beneficial only in cases of scorbutus.

Dr. G. H. Cattermole, Boulder, Colo., said that in Colorado the cases of rickets improve when the diet is sufficient and of a suitable kind. The patients usually seen are the children of Italian miners, but they are also found among the well-to-do. So far as he has had an opportunity to observe, frequent pregnancies are a predisposing factor.

Dr. T. S. Southworth, New York City, answering Dr. Fairbanks' question, why these children did not walk, said he did not know. The rachitic process influences various structures in the body, not the bones alone, but the ligaments and muscles as well. As to the use of organic and inorganic preparations of phosphorus, he thinks that the use of phosphorus contained in the officinal oil of phosphorus is better than the use of it in chemical combination. It will, he said, cut short the acute symptoms of rickets more rapidly than other measures alone. He suggested that if some of those who have not had success with phosphorus, will give it careful use with that end in view, they will get a more favorable impression. He has seen rickets at three months. Of course, he said, the congenital cases have been recognized.

Hygienic measures he did not emphasize so much, because we all recognize that change of hygiene is often necessary. Dr. Morse, he said, misunderstood him if he thinks that he (Southworth) considers chronic indigestion to be a pathognomonic indication of rickets, without any other signs. He simply referred to the chronic indigestion which is so common an accompaniment, and part of the picture of advanced rickets. As to the tenderness of rickets, whether it is of scorbutic origin, that also is a mooted point. Certainly there are rachitic children who cry when approached and who show tenderness, but do not show any scorbutic stigmata when examined. Whether they would, if neglected for a longer time, show evidences of scorbutus, he did not know, but he doubted it. Dr. Southworth believes that the white of an egg daily in the food is useful. By stating the value of a food in calories not all is said. There must be assimilation of a sufficient amount of lime salts. Of course, there is almost too much lime in cow's milk, but the difficulty is to get that lime assimilated properly.

FALSE STATEMENTS CONCERNING CAUSES OF ORAL PATHOLOGY.*

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To state a cause of a diseased condition, without the conclusion being formulated by logical reasoning, which should always accompany clinical inquiry, is misleading. When such a statement appears in a journal devoted to scientific thought it is likely to be accepted as authority, especially if the statement emanates from one supposed to have made a study of the etiology of disease within the region referred to in the opinion expressed.

Ability to recognize causes and defend the part they take in producing effects is proportional to knowledge acquired by study and observation. The process of reasoning is the distinguishing of truth from falsehood, the deducing from evidence an understanding of a proposition. To express with exactness is to comprehend in its fulness.

A pathologic condition is an effect; a comprehension of its causes is a result of an appreciation of phenomena associated with the region affected. Pathology has its basis in physiology and physiology its foundation in anatomy. To comprehend the anatomy of the animal machine we must take it apart, analyze it, and recognize the construction of the parts by the harmony of their association. All those agents or influences capable of deranging either directly or indirectly the structure or functions of the machine are causes of pathologic conditions, and their study as producers of such is technically known as etiology. In the pursuit of the study it is essential, in order to appreciate the influences that operate to weaken or alter structural arrangement and prevent normal function, to have in mind the construction and function of the machine in health.

To assume a cause may be necessary in the absence of sufficient knowledge to immediately express a decision, and is legitimate in pursuing the investigation into that which is obscure. The assumption then is a working hypothesis and should be supported by demonstrated facts associated with something analogous to that under discussion. In the realm of abstract thought a discussion may thus be conducted and an opinion formed whereby one may be guided in his action. In diagnosing and the pursuit of knowledge as to causes of disease the unknown may become more intelligently understood by such a course of reasoning.

The hearsay of the ignorant may be proven when submitted to analysis. To say an inflamed dental pulp is a cause of pain in the ear may be assumed, but it requires a familiarity of the distribution of the fifth pair of nerves, the indeterminate character of impulses conveyed to the brain, which are so often symptomatic of pulpitis, and the finding of an inflamed pulp to warrant an opinion and institute treatment.

A PRESUMPTIVE STATEMENT.

In THE JOURNAL of the American Medical Association May 19, 1906, page 1516, appears this sentence: "The practice of dentists of covering teeth with crowns of metal is one of the most frequent causes of sinus affection." This sentence is a part of an article on "The Nasal Accessory Sinuses" by Emil Mayer, M.D., Adjunct Attending Laryngologist to Mount Sinai Hospital, Chief of Clinic, Ear and Throat Department of the Mount Sinai Hospital Dispensary, New York. Read before the Metropolitan Medical Society, New York City, March 27, 1906, and is to be found in the division of the article, "Etiology of Sinus Affection."

It is a regret that no published discussion of the article followed, as it would have been of interest to learn the impression such a condemnation of a useful, comfort-giving prosthetic treatment had on the hearers.

Is this statement worthy to be discussed before this section? No; so far as the intelligent understanding of sinus affections and the rôle diseased teeth take in producing it, are appreciated by those in attendance. If there were no other reasons, we might smile and let it pass. But what impression has it made on the minds of those wishing enlightenment on the etiology of sinus affections who are not familiar with the worth the practice of stomatology has won in benefiting human kind? This and the reflection it has on our prosthetic treatment are the most vital reasons for presenting a rebuttal to such presumption.

The covering of teeth with metal crowns a cause of sinus affection! How? What kind of metal, gold or platinum, as each is used? Porcelain does not appear to have such an effect, in the opinion of the writer of the paper, though many roots are more frequently crowned with porcelain than with metal by the ethically-inclined practitioner, and often crowns of teeth with defective enamel are covered with porcelain. But it is a crown of metal we are to deal with, though it is not specified whether as a cause it is direct or indirect.

Presuming, as a working hypothesis, that a metal covering is a cause of sinus affection, how can it by logical reasoning be demonstrated? Perhaps the roots of a superior molar were found to extend into a sinus that was in an empyematous condition, a glance into the mouth revealing said molar covered with metal. Eureka! It is the metal covering causing the trouble. One is reminded of a student who accompanied his preceptor on the visitation of patients and was impressed with the keen observation and logic of the experienced doctor when a patient was told, without any apparent information being given, that he should not again eat oysters during his indisposition. The student being somewhat perplexed as to how the knowledge was obtained, on leaving the sickroom asked how it was known that the bivalves had been indulged in, and received the reply: "I saw the shells under the bed." On a subsequent day the student was sent to see and report the condition of the sick one, and returned with the startling information that the patient had eaten a horse, as there was a saddle and bridle under the bed.

ANATOMIC RELATIONSHIP.

In reviewing the relation of the teeth to the maxillary sinus we are reminded that the floor of the sinus is situated over the superior molar and premolar teeth and may descend between their roots; it is lined with a mucoperiosteum covered with ciliated epithelium, and the bone forming it is cancellous in character. The roots of the superior teeth are situated within the cancellous portion of the maxillary bone and often extend so far upward as to form the uneven outline on the floor of the antrum. The wall between the apices of the teeth and sinus is in some cases exceedingly thin, and in rare cases is absent, leaving only the mucoperiosteum covering over the end of the roots as they extend into the antrum.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

A tooth consists of a pulp, dentine enamel and pericemental membrane. The pulp is the formative organ of the dentine and, after that function is fulfilled, is the medium of furnishing nutriment to that tissue. It is situated within a chamber in the central portion of the teeth, and in shape somewhat resembles the tooth it is related to. It is formed of loose connective tissue and cells, blood vessels and nerves, the last two entering the organ at the apex of the tooth.

The dentine is a hard, transparent substance composed of an organic matrix impregnated with calcareous salts; through this matrix radiates tubuli from the central cavity containing a soft fibril, which take their origin from the cells of the pulp lying next to the dentine.

The enamel is a hard substance investing the crown portion of the tooth. It is the hardest tissue found in the animal body, is low in organic constituents, and may be said to be a coat of mail for the protection of the tooth. The cementum in the human tooth is an investment for the roots and resembles bone in histologic character, and it is covered with the pericemental membrane which unites the root with its alveolus.

PATHOLOGIC CONSIDERATION OF THE TEETH.

The pulp and the condition of the pulp chamber is of importance in considering the treatment of the teeth, whether it be for the simple operation of filling for the arrest of caries, the placing of an artificial crown on a root, or covering the dentine with metal or porcelain as a substitute for the coat of mail.

If by a blow or the encroachment of caries of the dentine the vital force of the pulp is so reduced that it succumbs and gives up its life, fermentation and decomposition, with the concomitant phenomena that obtain after death in tissue of like endowment, follow.

The process is an analytic one, taking place through the agency of micro-organisms terminating in the production of poisonous ptomains, and if no interference is prescribed the peridental membrane becomes inflamed, pus is formed and a pathologic condition known as alveolar dental abscess is presented.

During the progressive stages more or less of the poisonous products are absorbed by the dentine and cancellated bony structure and perhaps the mucoperiosteum of the floor of the antrum become affected should the apices of the roots of the affected tooth extend close or into the sinus.

MALPRACTICE.

If a tooth containing a devitalized pulp be filled or crowned without converting the poisonous mass within the pulp chamber into non-poisonous and harmless matter, the removal of the same and the filling of the chamber to the apical foramen the diseased condition will not be abated but aggravated, and a condition established more severe and dangerous than the former. Such practice, however, is not dentistry, and he who resorts to such methods is unworthy of being called a dentist. The placing of the filling or crown is an act of ignorance or indifference to the necessity of a return to normality before substituting an artificial part, and is as wrong as to charge a syringe with water impregnated with cadaverin and putrescin and inject it into the tissues. The practice of covering teeth with metal covering during a condition that is possible to pass into a pathologic one of greater magnitude is as deserving of condemnation as the removal of the vermiform appendix without preparing the field of operation, and proceeding with the operation with indifference to antiseptic and aseptic methods, or the placing of an artificial limb on a gangrenous stump and expecting the limb to perform its function with comfort and without interference to the process of repair.

OTHER STATEMENTS FALSE IN THEIR APPLICATION TO DENTISTRY.

Dentistry has often been brought in contact with statements from general practitioners of medicine that are reflections on the science and art that constitute it. The devitalizing of pulps with arsenic trioxid, the use of amalgam for filling cavities produced by caries, have been condemned without reasoning or obtaining data from those learned in pathology of the teeth and other tissues of the oral cavity and the therapeutic properties of drugs and material employed in treating diseases which are within the province of dental practice.

We have heard of late that the substituting of lost teeth by a bridge is a menace to the health of the individual wearing such. With but a limited knowledge of oral prophylaxis one can observe that many bridges and crowns worn in the mouth should be relegated to the scrap pile and the patient be the better for it. It can also be observed that bridge work and crowns placed in the mouth after proper preparation of the tissue they rest on, are helpful adjuncts in maintaining hygienic, oral condition, and instead of being a menace to the general health, are serving useful assistance in aiding digestion and promoting health. To thousands of individuals who would be obliged to relinquish social and professional duties "they are lengthening out the enjoyable period of human existence."

DISCRIMINATION.

Let there be a discrimination between true surgery of the teeth and their associated parts that appreciates and comprehends the antiseptic and aseptic treatment that antedates and accompanies the art of repair and the commercial practice that passes by those fundamentals. We are specialists and our work approximates the work of other specialists, that of the laryngologist and rhinologist in no small degree, and all who would familiarize themselves with their own specialties should appreciate that of others and work in unison and diffuse knowledge that will be helpful. Insinuation and false statements but divert the sympathetic harmony, while unity of thought and study will divide the ethical from the commercial in all.

DISCUSSION.

Dr. Francis A. Faught, Philadelphia, referred to erroneous statements apparently coming from authentic sources and appearing in scientific journals, exploiting proprietary drugs and obscure preparations which appear quite profusely in the dental magazines, but which, of course, do occur and have occurred more frequently previously in medical journals. He mentioned, particularly, antikamnia, which is advertised in reputable journals, although it has been absolutely condemned by the Council on Pharmacy and Chemistry of the American Medical Association: Also Campho-phenique, a preparation which has been advertised as containing certain ingredients in certain proportions, but which has been found by analysis to have an entirely different composition. Tyree's Antiseptic Powder is advertised extensively among dentists and has been given testimonials by dentists. This has been analyzed by the Council on Pharmacy and Chemistry and shown not to be as advertised, both as to the claims made as to its composition and the effects to be derived from its use. Dr. Faught stated that there are many reputable preparations about which little is known, and many combinations which dentists and physicians might make themselves if they were better versed in therapeutics and materia medica. Where they can use preparations of their own combining from pharmacopeial drugs, they should do so, in preference to purchasing any proprietary preparation, no matter how ethical, and especially those preparations which have been shown to be practically fakes.

The Council on Pharmacy and Chemistry, Dr. Faught continued, examines remedies which have been advertised to the profession, and somewhat to the laity, and for which claims have been made that they contain certain percentages of certain substances combined in certain ways, etc. The Council is made up of physicians and pharmacists. It is not a work for which the members are paid, but a labor of love, and their stamp of approval on a preparation should certainly give it at least preference in practice, as compared with something which they have shown by their examination of samples purchased in the open market, to be false; in other words, to contain substances which have not been advertised or to contain substances in proportions not as advertised. Dr. Faught said that in addition to the three preparations he mentioned there are others which have been shown to be nothing like the descriptions of the preparations put on the market to sell to the laity and the dentist. He urged dentists to give their patients the benefit of the doubt and prescribe ethical preparations or write prescriptions of preparations of their own combining, and not the preparations advertised by manufacturers who are manufacturing for profit solely.

Dr. V. A. Latham, Chicago, expressed her belief in the mechanical side of the profession, but stated that it should be applied with an anatomic reason. Without considerable work on the condition of parts and teeth, it follows that it is exceedingly difficult to maintain a bridge satisfactorily on its posts. Again, the cleaning of a bridge is a very hard piece of work, in view of some of the positions in which bridges are placed. Few patients wearing bridges have mouths that are not much more disgusting than they otherwise would be, and Dr. Latham can not but feel that for people to wear so many mechanical devices is bad hygiene. Therefore, the greatest blessing is preventive dentistry.

Dr. James Truman, Philadelphia, said that he understood Dr. Luckie to quote some one as having stated that the crowning of the molar teeth of the upper jaw is likely to produce abscess in the antrum. Why should it not, he asked, produce it? If there is one pathological condition to which dentists, as a rule, pay no attention, it is the fact that they can not interfere with the proplasmic contents of the tubes, exposing the contents of those tubes to thermal irritation, without causing the death of the pulp. This operation of crowning is done every day. If it extends to the removal of the enamel, and this is liable to occur, the result will be, necessarily, the destruction of the pulp which, through inflammation, may produce peridental inflammation, and peridental inflammation results in abscess, and thus the whole cycle of inflammation is presented, eventually resulting in abscess in the antrum. Dr. Truman was surprised that Dr. Luckie should take the position that the quotation is incorrect. The pathologic conditions that follow many of these operations are to-day among the most important matters that ought, in his judgment, to be considered in any dental association. The average dental operator is working on cases every day in practice, without a particle of regard for the sequelæ that may result. He will place a band on the peridental membrane and force it down until he produces irritation. The pain that follows will gradually subside. He will dismiss the patient, and in the course of a few months, or at most a year or two, the peridental membrane is destroyed, necrosis of the cemental tissue takes place and death of the tooth follows. The pathologic result is not an uncommon occurrence. It is liable to occur in any mouth treated for crowns or bridges.

The dictum that went from Chicago some years ago, of extension for prevention, Dr. Truman regards as another one of those fallacious ideas that dentists should consider seriously. The idea of cutting down an approximate surface of a tooth below the free gum margin, and expecting that this will subserve the interest of that tooth, is all wrong, he said. Dr. Truman does not condemn all these so-called progressive changes in dentistry, neither does he condemn the crown or the bridge; but he wanted to impress on those who perform these operations that they must always remember the possible pathologic conditions that may follow work on the sensitive portions of the human organism, and that if this is not done, then dentistry will fail to the extent of the lack of judgment manifested.

Dr. M. I. Schamberg, New York City, believed, with Dr. Truman, that a just regard must be had for the pathologic conditions that arise from the insertion of crowns under adverse conditions; but to allude to a gold crown on a tooth as a cause of antral empyema, he considered misleading to the medical profession and the lay public, who would regard all crown and bridge work as a practice to be condemned. For that reason Dr. Schamberg agreed with Dr. Luckie that it is well, from time to time, to hold in check investigators who jump hastily at conclusions, and off-hand make the statement that antral empyema is the result of the insertion in the mouth of gold crowns. The same condition would arise with the insertion of too large a gold filling impinging on the gum or allowing a sick pulp to remain in the tooth.

Dr. H. C. Register, Philadelphia, asked whether the tooth referred to was a vital one or a devitalized one. He understood how a metal crown placed on a vital tooth can, through thermal and chemical influences, cause it to be devitalized, which would probably, as Dr. Truman explained, terminate in abscess of the antrum.

Dr. George V. I. Brown, Milwaukee, Wis., emphasized the danger of hasty diagnosis with regard to empyema of the maxillary sinus, because, he said, it is an exceedingly difficult matter to decide this doubt of a known pathologic condition of the teeth in connection with the maxillary sinus. Of six patients he operated on, two had histories directly connecting the trouble with diseased molars. As a matter of fact, when those antrums were thoroughly opened up, it was very evident that in each of those cases the tooth condition was merely coincident. The real trouble was disease coming from the nose. Dr. Brown emphasized that of the small percentage of cases of empyema in antra coming from some condition of the teeth, the dentists are responsible for the empyema.

Dr. F. I. Fossume, New York City, presented the case of a man, about 60 years of age, who complained of a pain on the left side of his face, especially marked at night. His family physician, who had first been consulted, sent him to a rhinologist, who treated the posterior part of his nares. There was considerable discharge from the nose. The last molar tooth being particularly sensitive to concussion, however, the patient consulted Dr. Fossume, who tested the molar and found it normal. He then had a radiograph made; this demonstrated a small tooth root located immediately in front of the sensitive tooth, which had remained *in situ* for fifteen years. The root piece was removed, and as it encroached on the antrum, this was opened in its extraction, a free pus flow ensuing from the maxillary antrum. The antrum was treated in the usual way, and, the case responding to treatment, healed in three weeks.

Dr. S. B. Luckie, Chester, Pa., stated that the point he wished to make was not the placing of the crown on the tooth, but the unscientific manner in which it was done, the lack of discrimination in putting it there, that caused the disease. It is not placing the bands on the teeth, but driving them against the peridental membrane that produces inflammation, a lack of care in preparing for the operation.

With reference to the use of proprietary preparations, Dr. Luckie suggested the appointment by the section of a Committee on Pharmacology. Dentists could then find out all about the cements and whether they contain anything that would be hurtful, and what tooth powders and preparations that are used in pulp canals are composed of without taking the word of the maker. Tyree's Antiseptic Powder, he said, is not what it has been advertised to be; and the same criticism may be made of campho-phenique and other preparations. There should be some way of selecting those proprietary articles that are scientific preparations and which can be used with safety.

THE SIGNIFICANCE OF CHANGES IN THE OPTIC NERVE IN CERTAIN AFFECTIONS OF THE CEREBROSPINAL SYSTEM*

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When I was requested by your secretary to read a paper before this Section it occurred to me that it might be a fitting opportunity to familiarize neurologists with the classification of diseases of the optic nerve as used by ophthalmologists, and to attempt to elucidate, in a measure, the significance of changes in these structures in connection with diseases of the central nervous system. It may seem, perhaps, that such an exposition is unnecessary, in view of all that has been said and written on ophthalmic neurology, but experience has taught that even in this well-traveled path there is still a lack of perfect understanding between ophthalmologists and neurologists.

This has arisen in a large part, perhaps, by reason of the uncertainty which exists at times in the mind of the ophthalmologist when he is requested by the neurologist to render a report on any given case. He is aware that something definite is demanded of him and that his testimony is often awaited as corroborative evidence in the diagnosis of some obscure lesion, and yet it frequently happens that he does not feel able to pronounce with certainty that a nerve is actually inflamed or to discriminate between a primary or a consecutive atrophy. Indeed, a direct answer to these questions is often impossible. Even the physiologic variations in the appearance of the nerve are very great, and many times an inflammation or an atrophy may be simulated by what is in reality only a likeness to these conditions. When dealing with such uncertainties, therefore, the ophthalmologist often feels unable to do more than describe to the neurologist what he sees and, without attempting any positive diagnosis of the conditions with which he is confronted, permits the neurologist to draw his own deductions from the findings which are reported to him.

Then, too, ophthalmologists are not wholly united in their classification of diseases of the optic nerve, and the employment of terminologies, which are often different, render the clear conception of the entire subject of inflammation and atrophy confusing and difficult of comprehension. Koenigshofer, following the fundamental division which is adopted in describing diseases of the spinal cord, has recently proposed a classification according as the inflammation of the nerve presents a focal or more generalized lesion. Thus under the focal or transverse form are included all varieties of inflammation of the nerve, those originating from the sheath and from the interstitial tissue as well, which traverse its entire cross section and spread longitudinally as well as transversely. Under the generalized group, on the other hand, are collected those processes which show themselves from the first as definite defects in the visual field, as, for example, involvement of the papillo-macular bundle, with well-defined central scotoma. Lesions in the nerve included in the first group follow infectious processes, those in the second, intoxication and nutritional processes.

The classification which has been adopted by most ophthalmologists, however, and the one which will be followed in this paper, is based on the location of the inflammation according to its site in the axis of the nerve, the term "papillitis" being used to designate all forms of inflammation which affect the head of the nerve and produce visible ophthalmoscopic changes, while involvement of the nerve in its deeper portion is described by the terms "descending" and "retrobulbar" neuritis; as frequently in the early stages of these latter types there is no ophthalmoscopic evidence of the inflammation, its existence must be determined by other means.

Although this division of optic neuritis was made by von Graefe, subsequent investigations have shown that there is no pathologic evidence to support such a base of distinction, for both papillitis and descending neuritis continually merge into each other, and even clinically, as Gowers demonstrated many years ago, the aspect of the disc may assume at one time the characteristics of descending neuritis and at another those of papillitis.

In true papillitis, however, the swelling of the disc is very great, and while in the early stages the veins less frequently present dilatations than in neuritis from meningitis, the retinal vessels become later greatly dilated and tortuous, especially the veins. Hemorrhages and extravasations into the retina are not uncommon. In descending neuritis, on the other hand, the swelling of the papilla is never very pronounced and there is a disposition for the inflammation to spread to the adjacent retina. The changes in the disc, too, are often most intense at the periphery, the center being but slightly involved. Hemorrhages and extravasations are not uncommon, and the vessels are not kinked as they pass over the edges of the nerve, as is so often the case in intense degrees of neuritis. When the swelling of the nerve in papillitis assumes a height of 2 D. or more the arbitrary expression of choked disc is assigned to it, and the term neuroretinitis is given to those cases in which the inflammation of the nerve has extended so as to involve rather a large area of retina.

It is unnecessary to dwell here on the significance of the relation which choked disc bears to brain tumors, as that phase of the subject has already been largely discussed elsewhere, nor, indeed, need further reference be made to descending neuritis other than to remark that it is chiefly observed in children, where it is usually caused by acute and chronic meningitis, by tubercle of the brain and by hydrocephalus. Deformities of the skull also, particularly peaked skull, may sometimes give rise to this form of neuritis. Attention must, however, be called to spurious optic neuritis, for, as a consequence of a congenital peculiarity of the optic papilla, healthy nerves at times may exhibit the signs of neuritis. Vision in these cases, however, is normal, and no further change is manifested even after years of observation. Lesser degrees of swelling, though occasioned by hyperemia, are seen in hypermetropic eyes, in commencing toxic retrobulbar neuritis and in various types of chronic insanity. This appearance of the nerve is designated as simple congestion and is indicative of a stasis in its circulation. From a diagnostic standpoint both spurious optic neuritis and simple congestion are especially significant when the changes are notably greater in one eye than the other.

To the two main divisions of inflammation of the optic nerve must be added retrobulbar neuritis, which may be regarded as a mixed condition of interstitial inflammation of the nerve with atrophy. In this variety of neuritis there are at first either no ophthalmoscopic signs or merely those of simple congestion. Later, after the disease has subsided, signs of atrophy usually make their appearance. Samelsohn, in 1882, discovered that hyperplasia of the connective tissue around the papillo-macular bundle, with a consecutive atrophy of the same, constituted the principal pathologic factor of retrobulbar neuritis. Ten years later, however, Sachs disproved the participation of the connective tissue and regarded the disease as a primary atrophy of the nervous fibers. In 1896 Nuel again changed the views regarding the pathology of this condition, demonstrating that the central scotoma observed in these cases is due to atrophy of the cells of the ganglionic layer of the macula and that the affection of the optic nerve is secondary. This theory is still held by many, though others believe the disease to be dependent on nutritive disorders, due to primary alterations of the blood vessels.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

Retrobulbar neuritis may occur in either an acute or chronic form. In the former, which is induced usually by gout, syphilis or sinusitis, there is rapid loss of sight with neuralgic pain in the temple. In the latter, on the other hand, the loss of sight is very gradual and there is but little pain. Although generally the result of the abuse of alcohol and tobacco and other toxic substances, chronic retrobulbar neuritis may be caused by disseminated sclerosis, the sclerosis attacking the nerve, as it attacks other parts of the nervous system, in the form of islands, in which the nerve elements may be interfered with or altogether destroyed. Gunn suggests that the atrophy of retrobulbar neuritis is due to wasting of the centrifugal fibers of the nerve which go from the basal ganglia to the retina, and thinks this is evidenced by the loss of the ability to appreciate differences in degrees of light, which is indicative of a diminution in the conducting power of the individual nerve fibers along which the light stimuli are transmitted.

Nyctalopia is a frequent symptom in this form of neuritis, the patient declaring that he sees better in a dim illumination, exposure to an excessive light leading to a deterioration in vision which may last for some time. As has been recently said, this symptom is presumably the result of an increased physiologic degeneration, such as may occur normally, but in the case of the axis-cylinders being illy nourished the process of regeneration is imperfect and the conducting function remains impaired until recovery is completed.

ATROPHY OF THE OPTIC NERVE.

Atrophy, like inflammation of the optic nerve, may occur under a variety of forms, though it is usually much simpler, ophthalmoscopically, to differentiate the various types of wasting than to discriminate between the different forms of inflammation of the nerve. On account of the physiologic variations in the color of the nerve-head, however, it is not always easy to state with certainty that atrophy of the nerve is actually present. Thus a certain degree of pallor of the nerve is usual in blondes, and is the rule in old people, in whom it is due to vascular changes quite independent of arteriosclerosis.

In these doubtful cases resource may be had to other measures to demonstrate the deficiency in the conductivity of the nerve, as by testing the visual acuity with Snellen letters, by the study of the visual field with the perimeter, and by the determination of the light sense, even slight and incipient diseases of the nerve may be made manifest and the suspicions of atrophy aroused by the ophthalmoscopic examination confirmed.

But perimetry must be exercised with great skill to be of value in these doubtful cases; for in incipient degrees of inflammation the conducting power of the fibers of the nerve is but slightly impaired, and the test object employed to ascertain the defects must be very minute and of neutral color. Holden's cards are of value in this test, as they serve admirably not only to detect scotoma and to determine the outlines of the visual field, but also to ascertain the light sense of the retina. Thus, to detect disturbances in the intermediate and central zone of the field, Holden employs a card with a 1 mm. black point on one side and a 15 mm. quadrant of light gray, having 4/5 of the intensity of the white, on the other. With a perimeter of 30 cm. radius the black point and gray patch are each seen by the normal eye: outward 45, upward 30, inward 35, downward 35. To detect peripheral defects a second card is employed, which has a 3 mm. black point on one side, and a darker gray patch having 3/5 the intensity of white on the other. Each should be seen in the perimeter at the following points: Outward 70, upward 45, inward 55 and downward 55.

The light sense, which may be defined as the power possessed by the retina or center of vision of appreciating variations in the intensity of the source of illumination, may also be tested with Bjerrum's type, which consists of gray letters on a white ground, which are constructed on the same principle as Snellen's types.

Defects in this sense are significant as indicating involvement of a considerable extent of the nerve, being present, for example, in cases of descending neuritis and absent in choked disc. The test is of especial significance in retrobulbar inflammation of the nerve without ophthalmoscopic signs, and in conjunction with the outlining of scotoma at the fixation point is sufficient to establish the seat of the inflammation in the nerve.

The value of perimetry in the diagnosis of cerebral lesions is well known, but the neurologist should insist that actual perimetry is practiced when he requests a study of the visual fields and should be satisfied with a no less accurate and detailed method. Rough tests with the hand or fragments of paper, while often sufficient to indicate in a general way the presence of hemianopsia, are always inaccurate and fail to detect defects in the perception of objects and color, like hemiachromatopsia and the various scotoma, which are often of greatest value in serving to indicate the seat of obscure cranial lesions.

By primary atrophy is meant that form of wasting of the nerve which is unattended by signs of previous inflammation. It is usually seen in association with diseases of the spinal cord and especially with locomotor ataxia, and is sometimes called gray degeneration of the optic nerve. Secondary atrophy is also a primary atrophy in the sense that it occurs without the signs of a previous neuritis, but as its etiology is different and its ophthalmoscopic appearance somewhat dissimilar, it is best described as a separate type. Consecutive, or as it is sometimes called, post-papillitic or post-inflammatory atrophy, follows a frank inflammation of the nerve and can be diagnosed from the two preceding varieties by the marks of a previous neuritis.

In primary atrophy the disc is gray or grayish-white; the scleral ring surrounding the nerve is broadened and the stippling in the lamina cribrosa is plainly visible. In this connection, however, it must be remarked that although this form of atrophy has been described as occurring without signs of previous inflammation, in the early stages of the degeneration the nerve sometimes assumes a dull red tint, due to a superficial overcapillarity, while the deeper portion of the nerve is gray and lacking in circulation. The retinal vessels are but little altered. In secondary atrophy the disc is usually whiter than in the foregoing and the retinal vessels are more or less contracted. In consecutive atrophy the disc is not only pallid but possesses also a bluish or greenish tint, from the connective tissue overgrowth resulting from the previous inflammation of the nerve. The head of the nerve is considerably shrunken and appears as though filled in by connective tissue, the excavation being veiled. Finally, the retinal vessels are much contracted, and if, as may be the case, the neuritis originating the atrophy was dependent on an inflammation of the inner coats of the eye, atrophic areas and heaps of pigment may be seen in the retina and chorioid adjacent to the disc.

These are the classified points of differentiation between the various types of atrophy; the observer, however, will be disappointed who expects to find them clearly outlined in all cases, for frequently there is a blending of the signs of two or even of a third type, which serves to confuse and render the diagnosis difficult.

Though the occurrence and significance of optic atrophy in association with tabes have been the subject of frequent consideration by neurologists, a recent observation by Gunn may not be without interest to you. This author says:

> In the spinal cord the tabetic degeneration seems to be selective, and the reflex collaterals are first affected, while in more advanced cases the other fibers of the posterior columns also become degenerated. In the optic nerve we likewise recognize different kinds of fibers, at least two, namely, those forming part of the visual path, and those conducting the stimulus which excites the reflex contraction of the pupil. Now, loss of this light reflex (the Argyll-Robertson phenomenon) is one of the earliest and most common of the symptoms of this kind of late syphilitic poisoning, though the actual fibers degenerated, whether in the nerve itself or in some possible connection between the nerve roots and the third nerve nucleus, have not been recognized. As I have suggested elsewhere,[1] there seems to be good reason for regarding these reflex fibers as probably collaterals from the visual fibers, and it is certainly suggestive that the first fibers, it may be, in mild stationary cases, the only fibers affected, are seemingly of very similar character in the optic nerve and spinal cord, being, I believe, reflex collaterals in both instances.

Gunn then states further that:

> There are several anatomic analogies between the optic nerves and the posterior spinal roots, in the disposition of their sheaths and in their minute structure, and it is not unreasonable to regard the ganglion of the root as performing a similar function as, though not strictly homologous with, the ganglion retinæ. It has been asserted, but by no means proved, that the chief incidence of the postsyphilitic toxin is on the ganglion cells of the posterior root ganglion; should this be so, it would be reasonable to assume that the ganglion retinæ is likewise first affected in the visual path, and that the fiber degeneration is secondary.

In addition to tabes, primary atrophy also occurs in general paralysis of the insane, in disseminated sclerosis and less commonly in lateral sclerosis.

Secondary atrophy is occasioned by pressure, as may be observed, for example, in constriction of the chiasm by an aneurism, or by the distended third ventricle; it may also follow lesions in the optic centers or fibers.

In addition to the causes of primary atrophy which have already been mentioned, it may be induced, as Bull has shown, by arteriosclerosis, the thickened vessels causing wasting at first by pressure, and later by proliferation of connective tissue between the new bundles. Such pressure may be exerted where the central artery enters the optic nerve or where the rigid carotid forces the nerve against the clinoid ligaments, and at other points. Arteriosclerosis may also occasion atrophy directly, by cutting off the blood supply to the nerve, the lumen of the vessels being closed by the thickening of the walls of the arteries.

Second attacks of neuritis in a disc which is completely atrophied are rare, but do occur, usually in cases of brain tumor, in association with symptoms of increase in the intracranial pressure.

DISCUSSION.

Dr. Hugh T. Patrick, Chicago, asked Dr. Posey to amplify his paper in one or two respects. In the first place, speaking of appearances which simulate choked disc, he would like to know whether Dr. Posey has seen the so-called adolescent or pseudo-choked disc, a condition he heard of a long time ago. In that case it was discovered accidentally or casually and greatly puzzled the physician in attendance. He took this patient to a consultant, who had seen the condition two or three times. A good many years after that Dr. Patrick saw a case of adolescent or pseudo-papillitis, which had the appearance of optic neuritis, without any causative lesions; it was entirely innocuous, and was not indicative of any trouble at all. The other point on which he asked Dr. Posey to amplify, is primary optic atrophy, not connected with any of the conditions mentioned, but an optic neuritis which comes on gradually, like that in connection with tabes, looks like it, but with the absence of all the other symptoms of tabes. He has seen a few cases, but has been unable to get very much enlightenment on this condition from ophthalmologists.

Dr. H. M. Thomas, Baltimore, Md., speaking of choked disc occurring in patients who have optic atrophy, referred to the patient on whom Dr. Cushing and he reported. There had been optic atrophy for four years, but on this there developed a distinct choked disc coincident with the greatly increased intracranial pressure caused by the large extradural hemorrhage which followed the first operation. After the pressure was relieved, this condition subsided.

Dr. William G. Spiller, Philadelphia, asked Dr. Posey for his experience in regard to the shortest length of time in which he has known choked disc to disappear after the relief of intracranial pressure by operation; whether he has ever seen choked disc disappear within a few hours.

Dr. William Campbell Posey, Philadelphia, answered Dr. Patrick by saying that those cases mentioned by him may be included under those designated in the paper as cases of spurious optic neuritis, as a congenital or other condition.

Dr. Patrick stated that the condition he referred to appears about the age of adolescence, always coming on at that period and subsequently disappearing.

Dr. Posey was not familiar with that type of involvement of the nerve, because he thinks that under these circumstances it would have to be a wide involvement of the optic nerve trouble, which comes on about adolescence. That is not a normal condition, producing atrophy of the nerve, and the patient becomes blind. The pathologic condition of the nerve at adolescence attended with these without other symptoms, he is not familiar with. He thought that there is a primary atrophy, or an atrophy which is designated a primary atrophy in adults, unassociated with other signs in the nervous system, that is due probably, in the first instance, to arteriosclerosis, or later on the signs of arteriosclerosis may manifest themselves. Dr. Posey could not answer Dr. Spiller's question. He has only had an opportunity of studying two or three cases of operation on the brain for the relief of choked disc, but can not conceive of such a rapid subsidence. He believes that it would have to be some days or weeks before the swelling of the nerve lessened.

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[1] Trans. Ophth. Soc., xx, 36.

ROENTGEN RAY IN EPITHELIOMA.

REPORT OF A SERIES OF CASES TREATED MORE THAN THREE YEARS AGO.[*]

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No one doubts that epitheliomata can be healed with the *x*-rays. The statement, however, is frequently made that the results are not as permanent as when the lesions are radically destroyed by other methods of treatment. This is an important matter to settle, and we are now nearing the time when the permanency of the result can be established. I desire, therefore, to report the results in my series of epitheliomata treated with *x*-rays more than three years previous to July, 1907.

The number of cases is too large to recite each case in detail, but the results can be summarized quickly. The details of fifteen of the cases also are indicated by the photographs presented herewith, most of them in pairs, showing the original lesion and the result after three or more years. Lack of space prevents the publication of the photographs of about thirty additional cases. I have confined my consideration to epitheliomata. I have not included in my list epitheliomata which at the time of beginning treatment were complicated by demonstrable carcinoma in the neighboring glands. I have thus excluded a few hopeless cases of epithelioma of the penis with metastatic complications, and numerous cases of carcinoma of the neck following epithelioma about the face and mouth. I have, however, excluded no case in which glandular metastases developed after treatment was begun; fortunately I had no such accident. I have also not excluded any cases where the spread of the disease has been by continuity. The list, therefore, includes many hopeless cases in which there had been wide involvement of the orbit, other cases with deep destruction of the tissues of the face from the spread of lesions originally involving the nose only, and other extensive and very destructive cases. I may also say that in accepting the cases no effort was made at selection; the most hopeless cases have been treated regardless of a record whenever there was the remotest possibility of giving the patients any sort of benefit.

The total number of epitheliomata in this list which I treated with *x*-rays more than three years ago is 119. Of these cases I have been unable to obtain the subsequent histories of only eight; of these eight, five, I think, should have been successes and three failures, but, throwing the entire number out of consideration, it leaves 111 patients treated more than three years ago whose histories up to July of this year are known.

Of these 111 patients 80 either remain well to-day, have died without recurrence of epithelioma, or remained well more than three years after a healthy scar was produced, but can not now be located. As a matter of fact, 66 of these 80 patients were living with healthy scars in April last. Six were living without recurrence at least three years after they finished treatment. Eight of them are dead; two died from pneumonia, and one patient each from acute leukemia, apoplexy, nephritis, heart disease, acute bowel trouble, and carcinoma of the uterus, the last mentioned having symptoms before the treatment of the lesion on her face was begun. This patient died about a year after the lesion on her face healed, and she was the only one who died within a short time after the treatment of her epithelioma. Two other patients who are now dead lived from one and one-half to three and one-half years. Omitting these eight patients who died from other diseases, one patient has been well over six years, 11 patients are well over five years, 22 over four years, 32 over three years, and 6 were well more than three years after treatment, but whether they are now living I do not know.

The diagnosis in the cases is, I believe, beyond question. In all of my earlier cases the diagnosis was confirmed by microscopic examination. In the later cases microscopic examinations were made when there was any possible room for doubt. The unmistakable character of the lesions and the variety of the lesions treated are evident to the eye in almost all of the photographs shown. They varied from the most minute epitheliomata, about the size of a small pea, to lesions above the size of a hand. Many of the worst cases were primary as regards operation, but of the eighty successful cases forty-one were primary and thirty-nine were cases which had recurred after previous radical treatment, usually operation.

For the purpose of further analysis I have divided all of the cases into the following four groups: (1) Successful, 80 cases; (2) practically successful, 2 cases; (3) distinctly benefited, 17 cases; (4) failures, 12 cases; total, 111 cases.

PRACTICALLY SUCCESSFUL.

In the group of practically successful cases are included two cases. The first case was a large epithelioma of the shoulder.

This patient had had for twenty years a rodent ulcer, which at one time had reached an enormous extent, involving at least a square foot of the shoulder and back. Under persistent treatment, extending over years, in the hands of the most competent men, it had been reduced in size to about that of the palm of the hand, but it had never been healed. This was the first case that I treated with the *x*-rays, and the treatment was undertaken because the case was regarded as hopeless.

A symptomatic cure was obtained in May, 1901. Fifteen months after the disappearance of her epithelioma, this patient, a very old woman, received an injury from a fall from which she was compelled to go to bed, and in a few days died from pneumonia. At the time of her death there was no evidence of recurrence, except a point on her shoulder, which looked suspicious. I was able to obtain the skin from this shoulder, and it showed healthy scar tissue, except at this suspicious point, where I found an epitheliomatous mass the size of half a wheat grain. This could have been destroyed readily by *x*-rays or a caustic or other destructive agent.

The second case was epithelioma involving the entire concha and the outer half of the external auditory canal. A superficial ulceration, the size of a dime, has never disappeared in this case, and it is, I believe, an *x*-ray burn and not an epithelioma. It showed no tendency to grow when I last saw the patient a year ago. In this case the lesion had been converted into a trivial ulcer with no tendency to spread, and the improvement had persisted for over four years. This case also was an epithelioma recurrent after operation.

DISTINCTLY BENEFITED.

Seventeen cases are classed as having been distinctly benefited. The improvement in each of these cases consisted in checking the course of the disease for a year or more, except in the case of a man over 80, who died within the year, and in prolonging the patient's life, in comfort, for at least that length of time. Every one of the cases was an epithelioma which had recurred after previous operation, and practically all were hopeless of other relief. Seven of these cases (Figs. 22 to 25) were epitheliomata which had begun at the inner canthus and had spread into the orbit and on to the nose. In four of these the disease had extended so far into the orbit that the eye had been destroyed; in two the bones of the ridge of the nose were deeply involved, and the orbit infiltrated to the point where operation was regarded by surgeons who referred the cases as impractical; in one the disease had involved the orbit and the adjacent bone to the point where the eye was fixed in the carcinomatous tissue. In this case the patient had only the one eye, the other having been lost in childhood, so that checking the course of the disease was of al benefit. This patient came under treatment in June, 1903; the disease was held in check sufficiently for his eye to remain useful up to December, 1906, over three years; since that time the eye had been destroyed.

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[*] Read before the Sixth International Dermatological Congress, New York, Sept. 9-14, 1907.

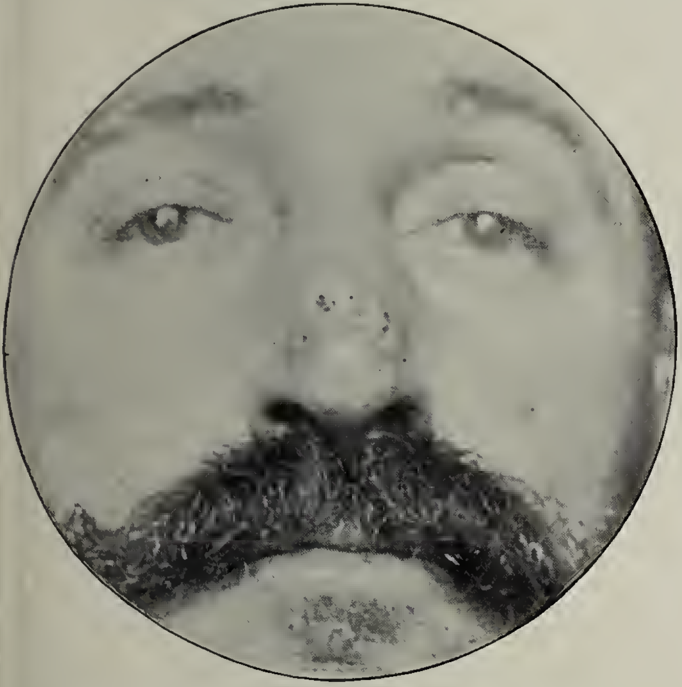
Fig. 1.—Epithelioma of tip of nose, May, 1901.

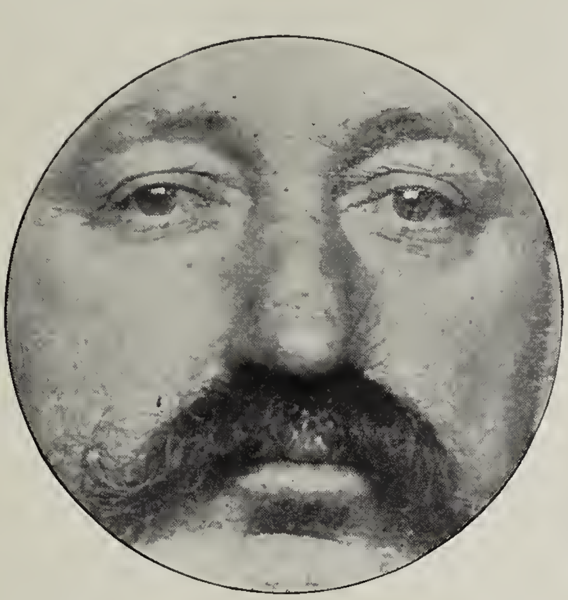
Fig. 3.—Photograph of patient shown in Figs. 1 and 2 with healthy scar, July, 1907

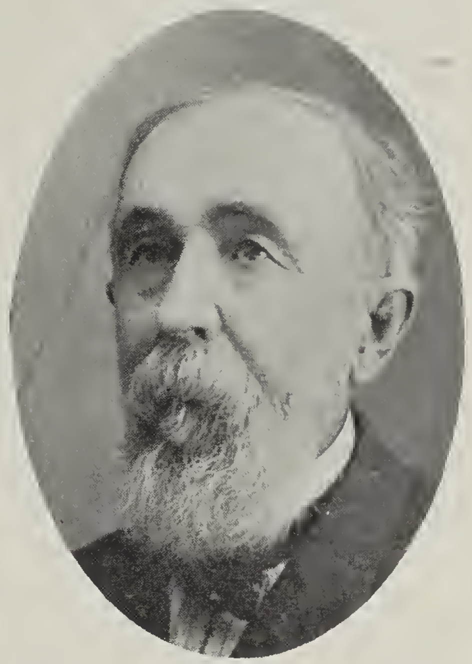
Fig. 5.—Photograph of patient shown in Fig. 4, May 27, 1907, showing condition after five and a half years.

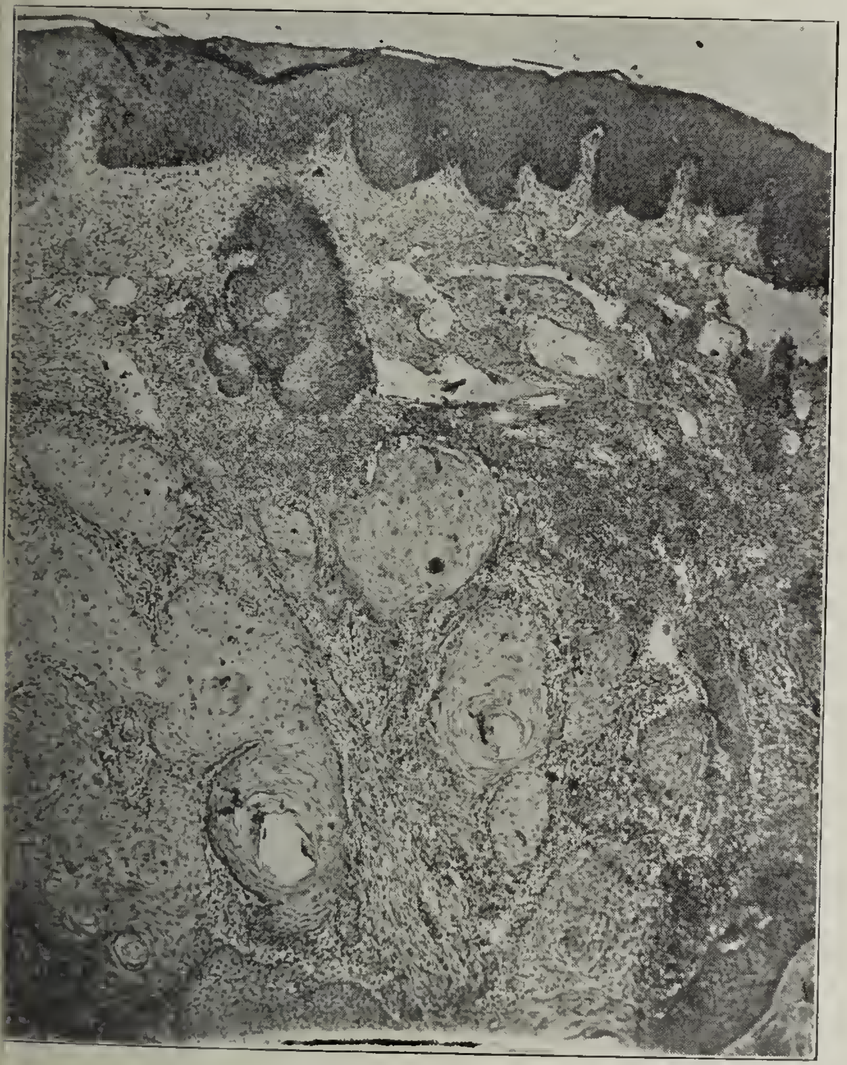
Fig. 2.—Microphotograph of tissue from patient shown in Fig. 1.

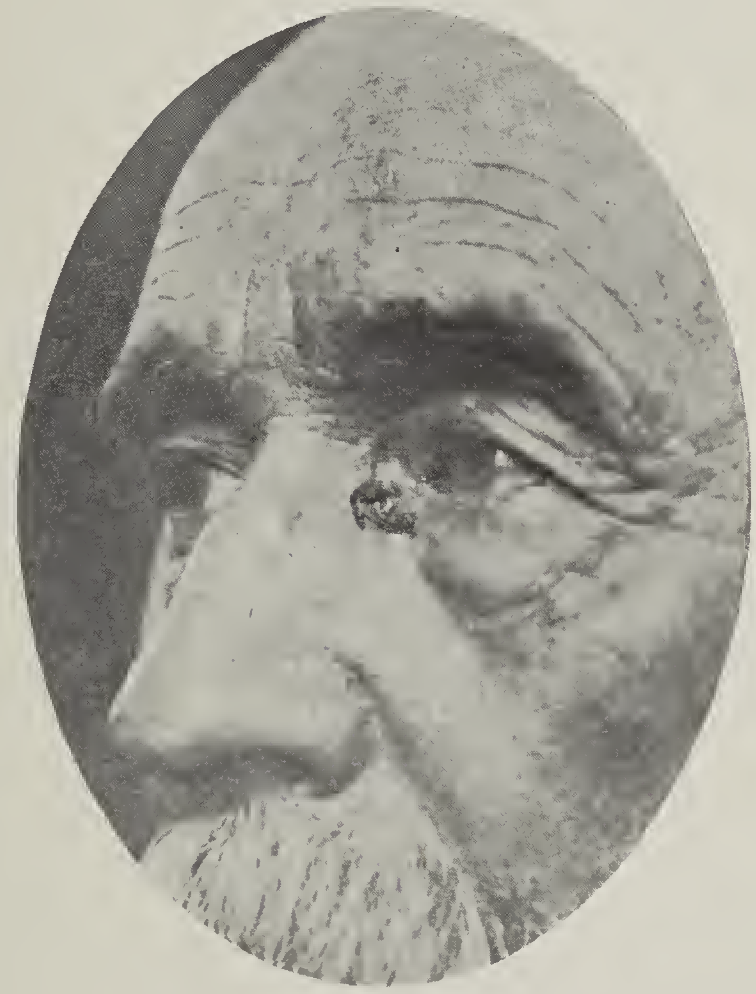
Fig. 4.—Epithelioma, March, 1902.

Four of the seventeen cases were epitheliomata, the size of a large coin, involving the temple and the outer canthus of the eye and spreading into the orbital tissue. In each of these cases the external lesion was healed. In one case the disease recurred on the temple within a year. A radical operation was attempted by a surgeon and the patient died in a few days from aspiration pneumonia. In the second case a large external epithelioma was made to disappear almost completely, and extension was checked for a year and a half, until the patient's death from chronic spinal disease. The two other patients are still living. One is a very feeble old man whose external lesion was healed in August, 1903. Two

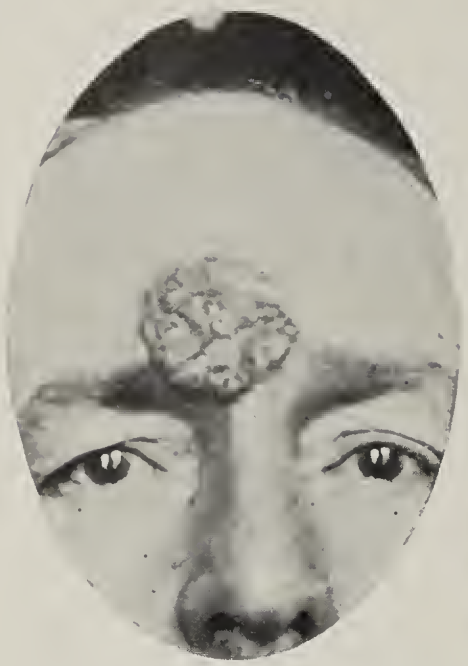

Fig. 6.—Epithelioma in glabella, June, 1902.

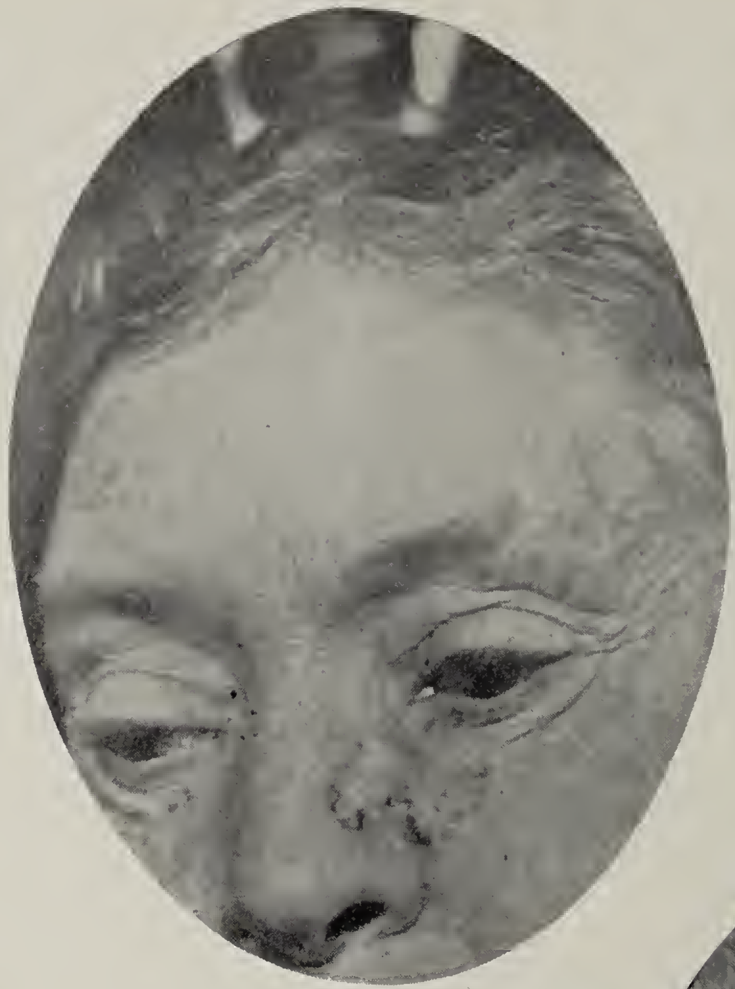

Fig. 8.—Rodent ulcer on cheeks, large exuberant epithelioma on scalp (just visible in photograph), July, 1902.

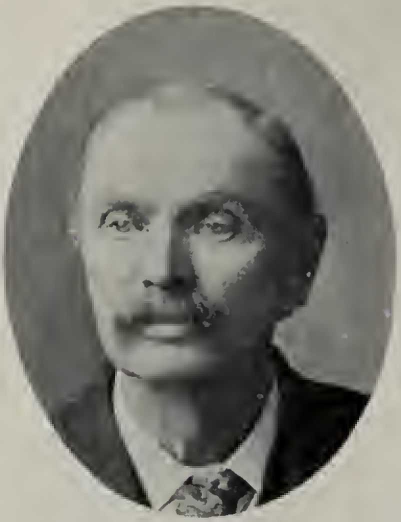

Fig. 11.—Photograph of patient shown in Fig. 10, August, 1907, after five years.

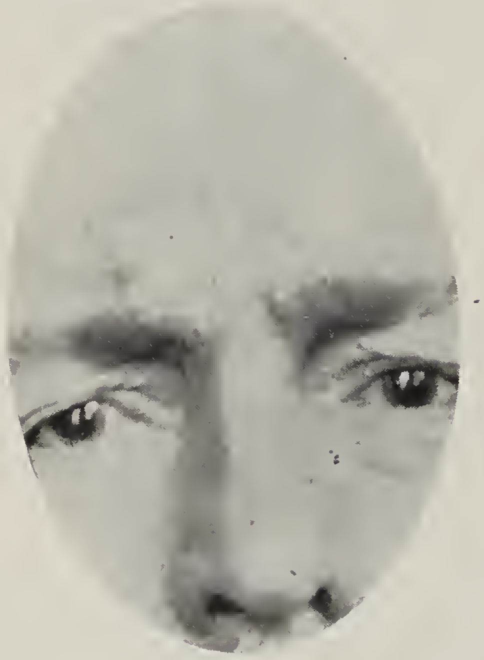

Fig. 7.—Result in July, 1902, which was maintained without recurrence until patient's death from nephritis three years later.

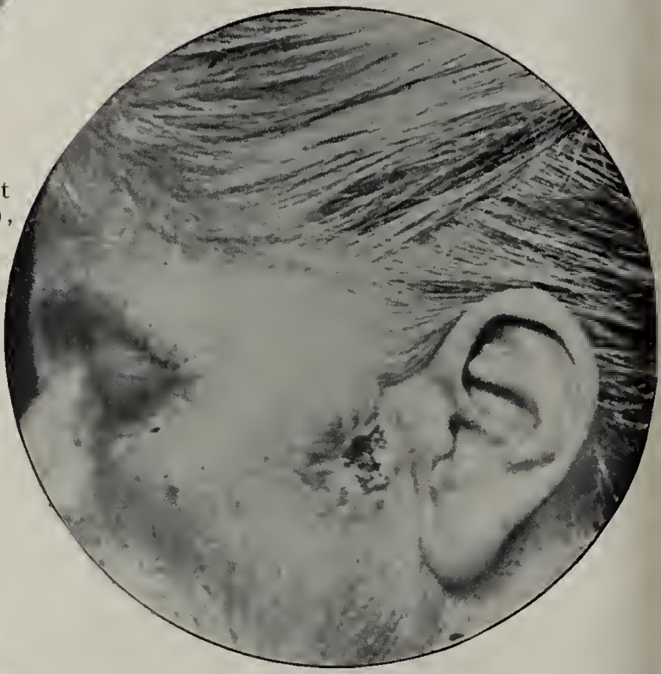

Fig. 12.—Epithelioma, November, 1902.

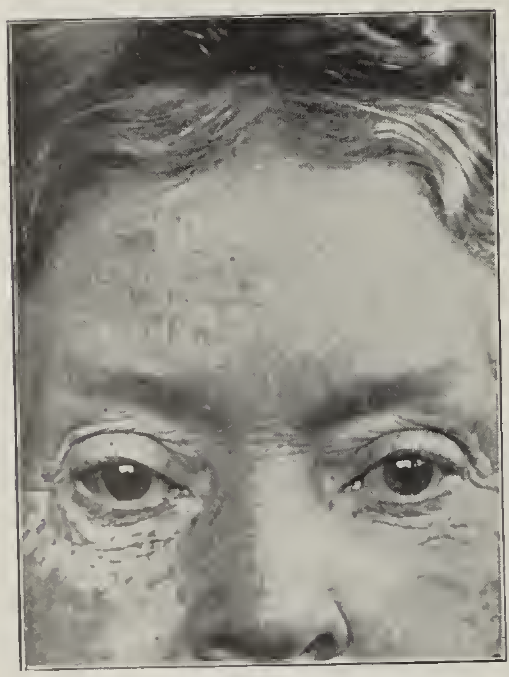

Fig. 9.—Photograph of patient in Fig. 8, July, 1907, five years later.

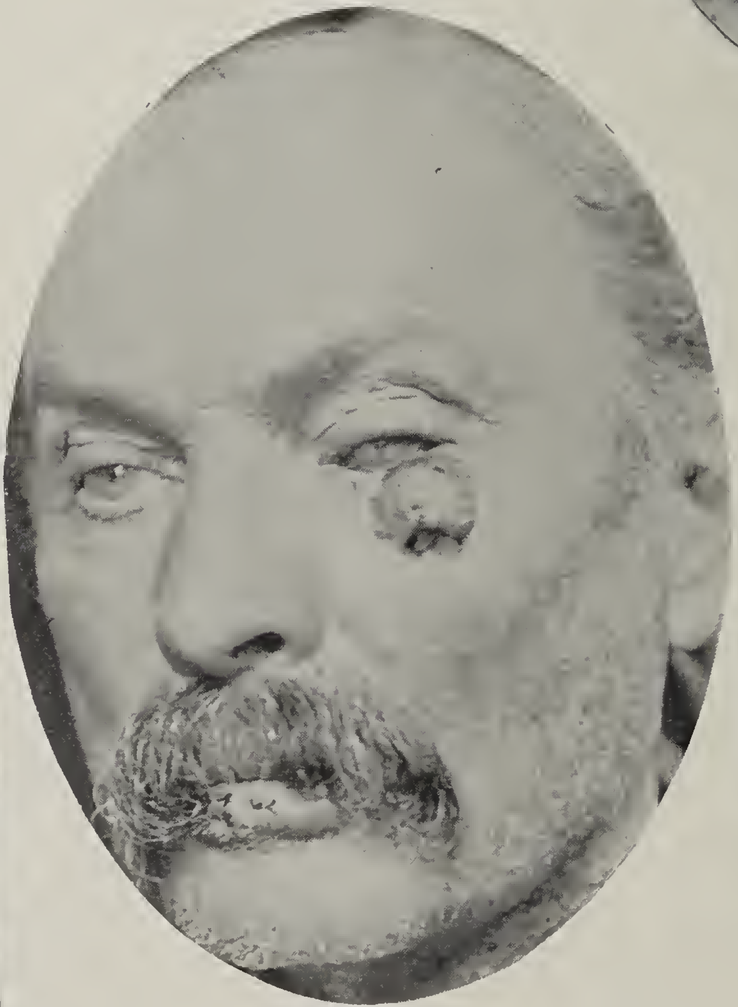

Fig. 10.—Epitheliomata, lower lip and lower eyelid, treated August, 1902.

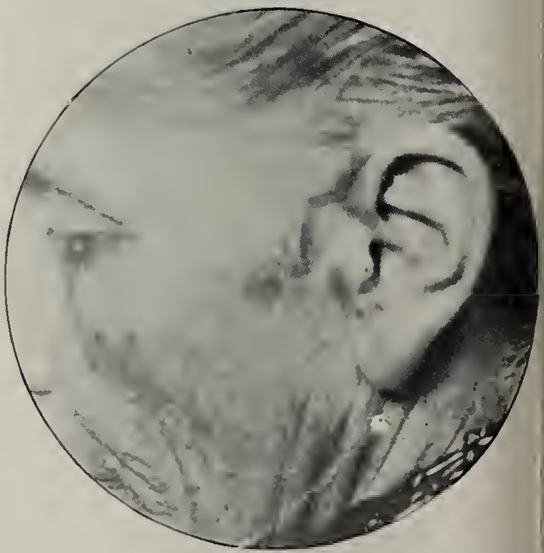

Fig. 13.—Photograph of patient show in Fig. 12, with healthy scar, June, 190 after four and a half years.

years later this had not again ulcerated, but I learn that it has since broken down. The other patient was treated in July, 1903. The lesion on the temple was converted into a healthy scar, but the intra-orbital mass did not disappear. The patient is still living, but he has become an Eddyite and I cannot learn the present condition.

Case 12 of this group is an epithelioma of twenty years' duration, recurrent after numerous operations, and involving both alæ nasi and the adjacent portions of the cheeks (Figs. 26 and 27). This patient came under treatment in April, 1901. She was symptomatically cured within a few months, except for two minute suspicious nodules near the nose, one on the right side of the face, the other on the left. The one on the right side of the face was excised one year later, and the disease has not recurred on that side. The suspicious nodule on the left side of the face remained quiet for five years; within the last year, however, it has grown somewhat, and in July, 1907, this was removed by operation. This patient was practically well for five years, but has a small lesion on the left ala nasi now.

Cases 13 and 14 in this group were very extensive epitheliomata which had entirely resisted other forms of treatment. Case 13 (Figs. 28, 29 and 30) was an epithelioma, in an old woman, involving almost the entire forehead, the upper and

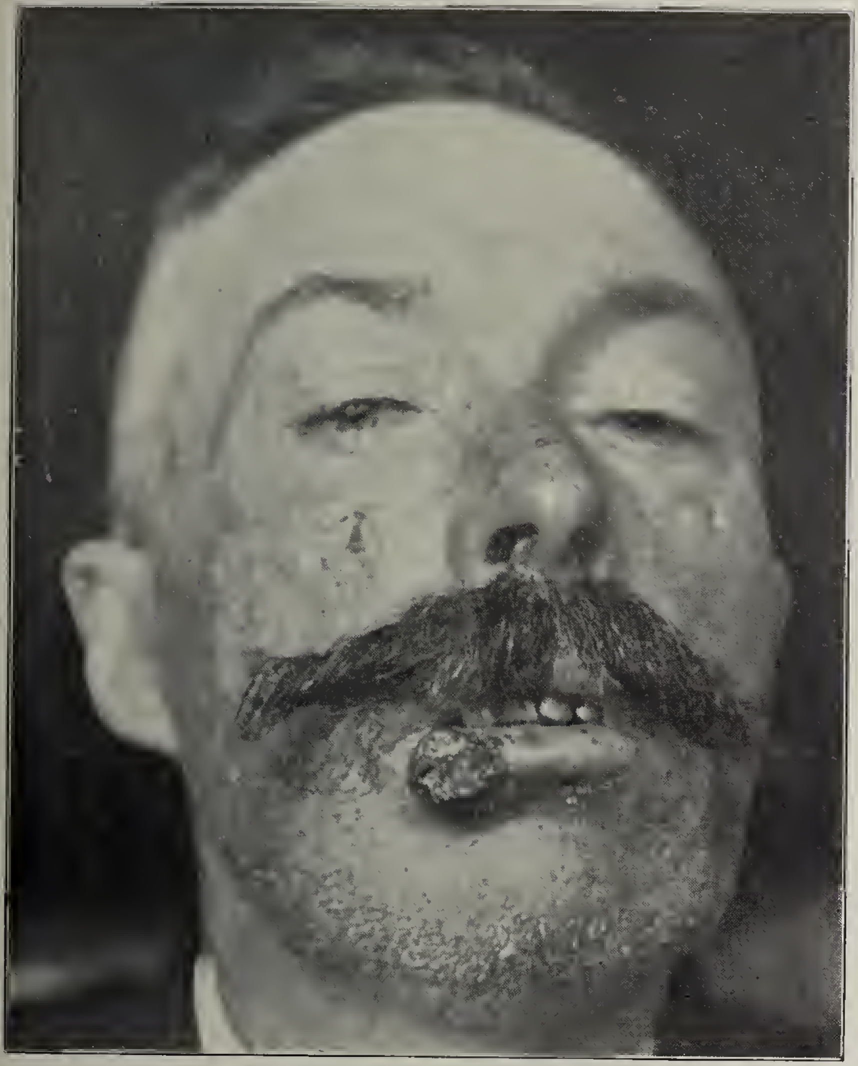

Fig. 14.—Epithelioma of lip, March, 1903.

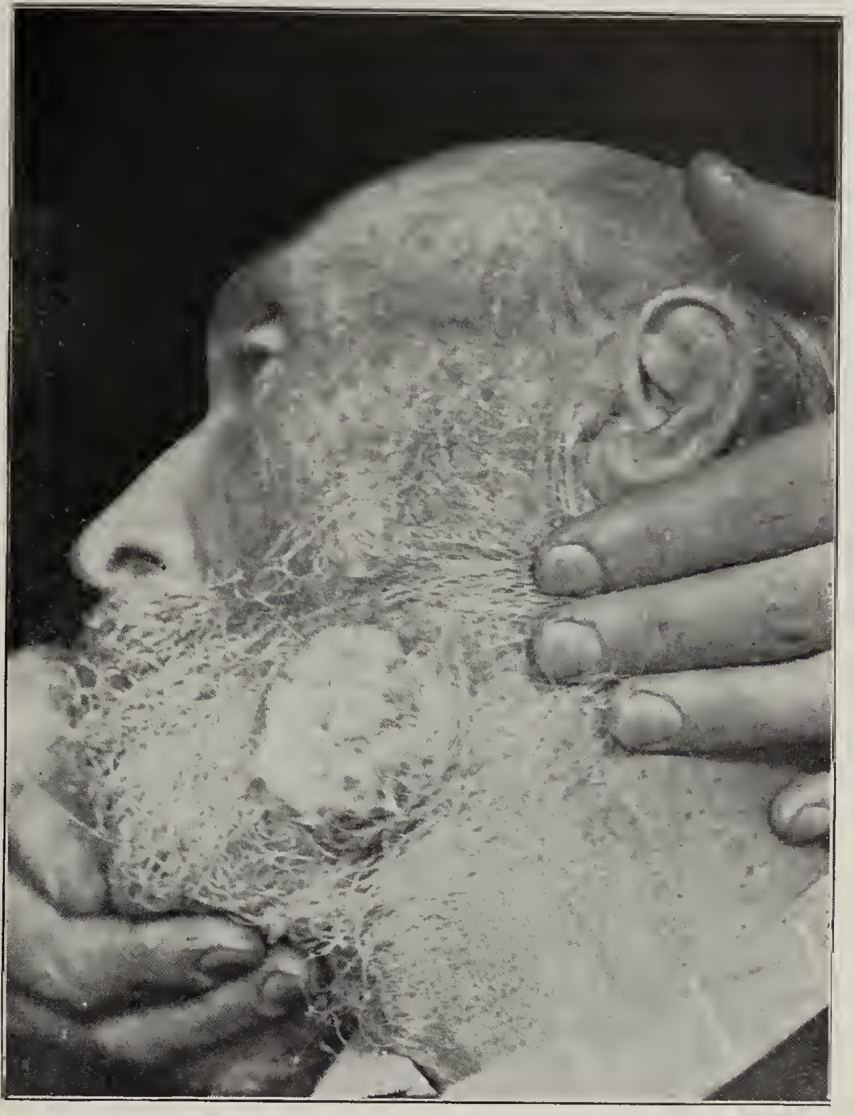

Fig. 16.—Epithelioma, April, 1903.

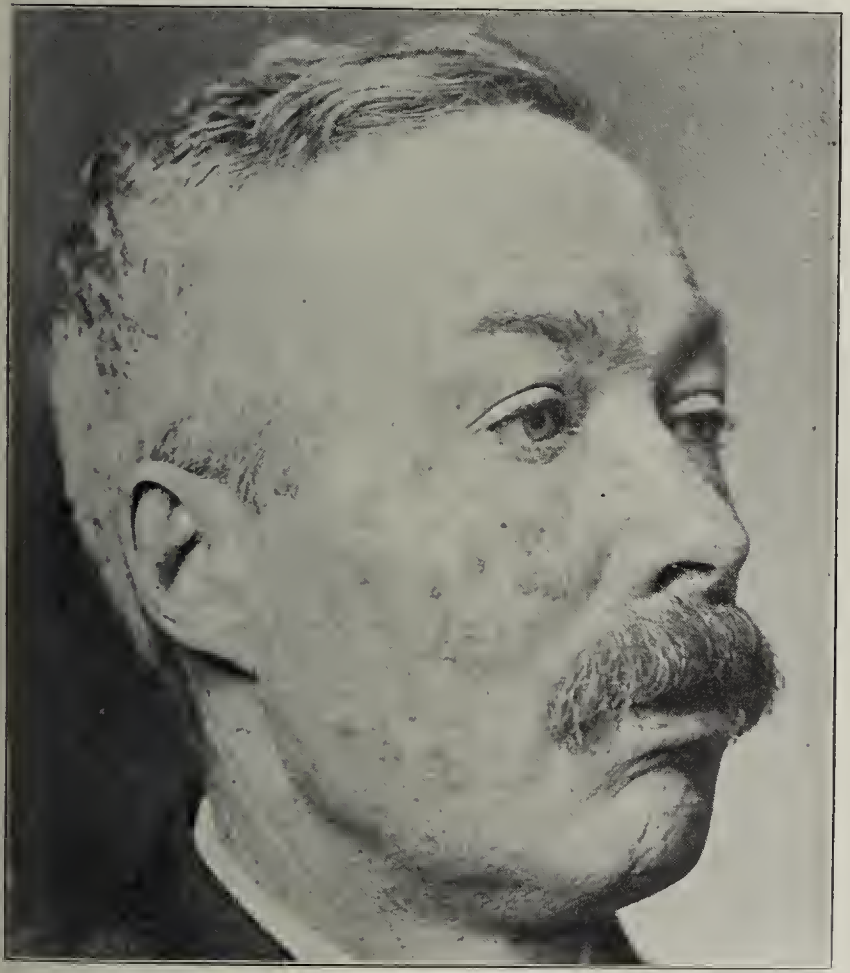

Fig. 15.—Photograph of patient shown in Fig. 14, with healthy scar, April, 1907.

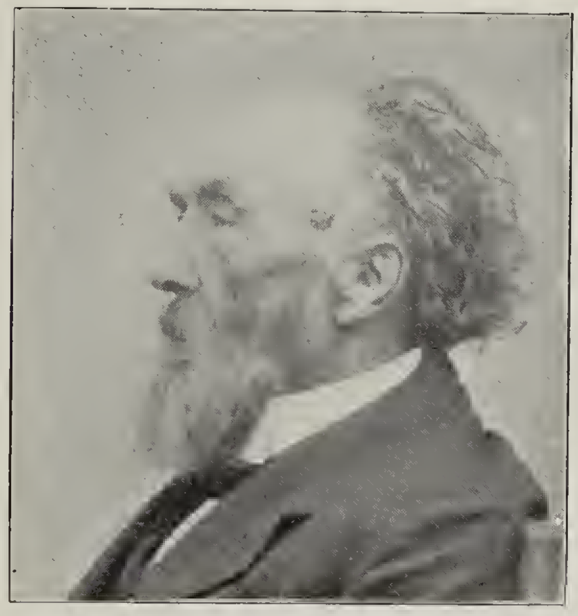

Fig. 17.—Photograph of patient shown in Fig. 16, with healthy scar, April, 1907, after four years.

lower lids and the eye on the left side, the upper lid of the other eye, and the upper half of the nose. This patient came under treatment in May, 1902. The lesions were entirely healed for over four years. In 1906, four and one-half years after the case came under treatment, an ulcer developed in the center of the forehead. This patient is still under my care with an ulcer in the center of the forehead, which has entirely destroyed the frontal bone over an area the size of a silver dollar, but under *x*-ray exposure has remained quiescent for months. In this case the patient was symptomatically relieved of a hideous epithelioma for four and one-half years, and her life has been prolonged in comparative comfort to the present time.

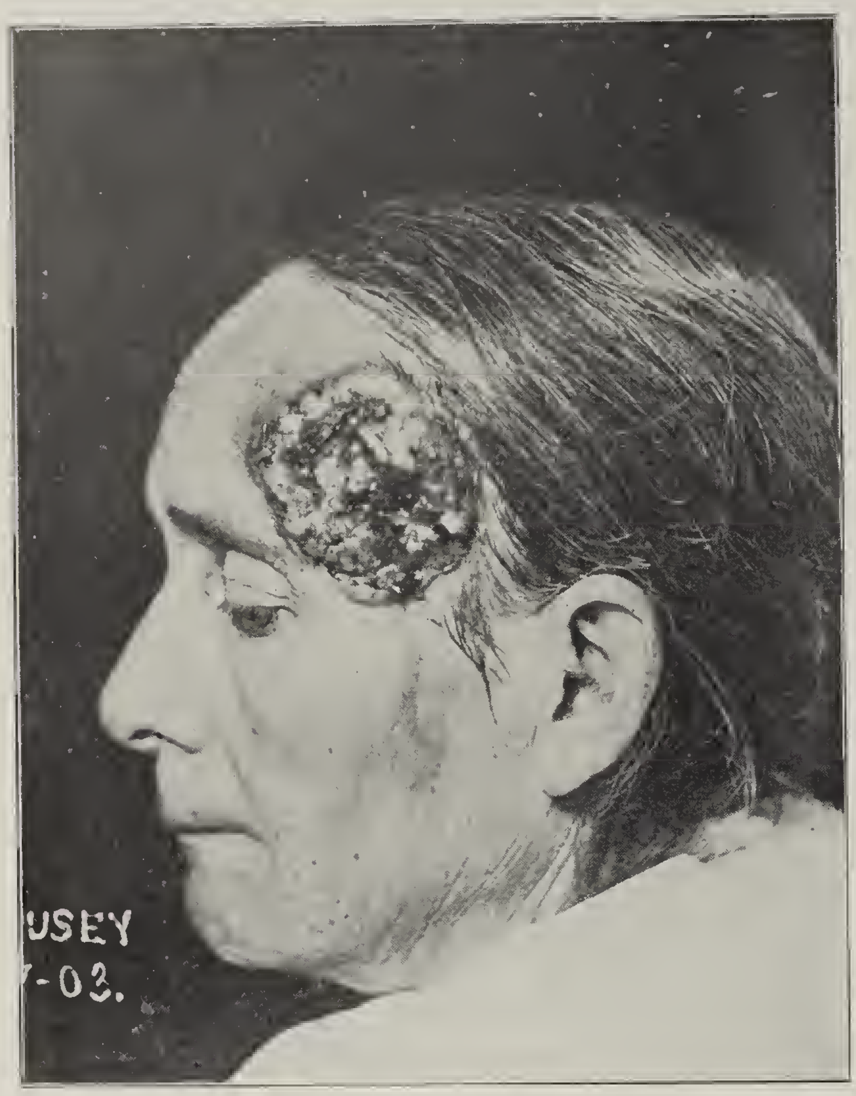

Fig. 18.—Epithelioma, April, 1903.

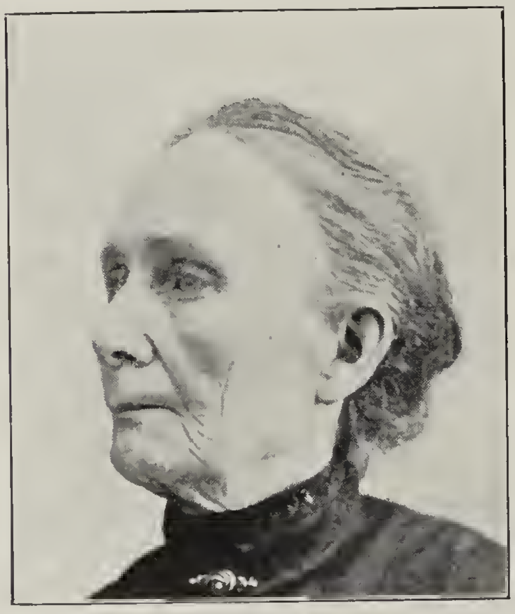

Fig. 19.—Photograph of patient shown in Fig. 18, May, 1907, healthy scar for four years.

Case 14 was an epithelioma larger than the hand and very deep, situated over the middle of the spine, in an old woman. The patient came under treatment in June, 1904, and the lesion was reduced to a painless, apparently benign, ulcer the size of three fingers. This improvement was maintained in the summer of 1906, when the last report was received.

Case 15 was an epithelioma of the upper lip, which had perforated the lip and involved the septum nasi, in a woman over 90 years old and extremely feeble. In this case complete healing was obtained, which persisted for about a year. The disease then recurred without further treatment, but under treatment was held in check until the patient's death from natural causes two years after coming under treatment.

Case 16 was one of deep-seated epithelioma, the size of a silver dollar, in the center of the cheek, in a very old woman. This patient came under treatment in April, 1904. The lesion was made to disappear, except for some subcutaneous induration. Regrowth did not begin until a year later, but when the tumor recurred it caused the patient's death.

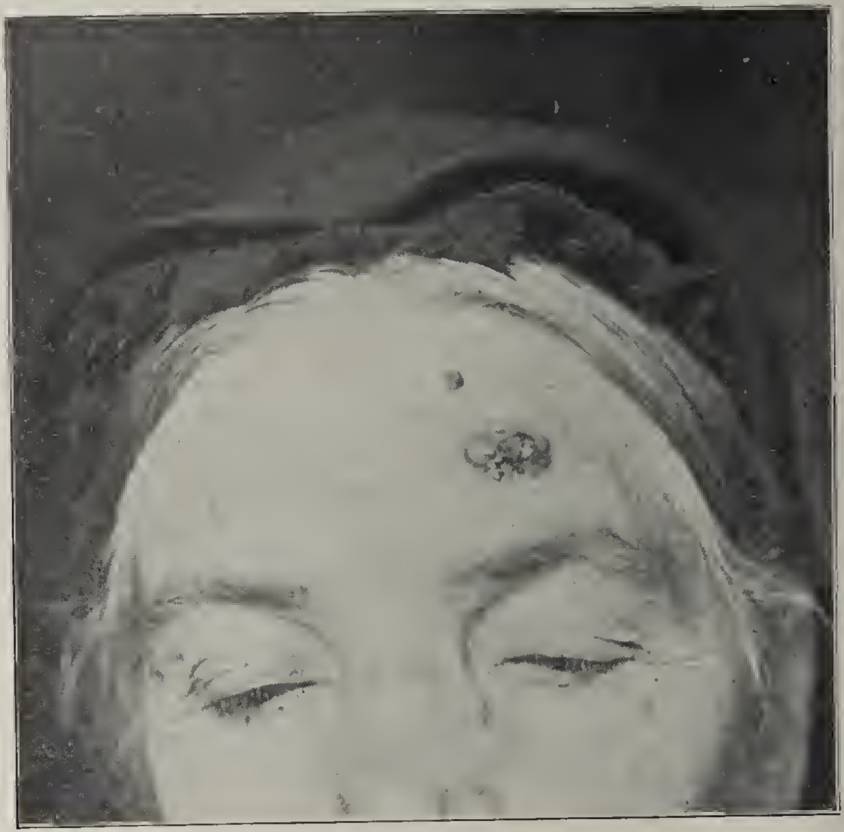

Fig. 20.—Epithelioma, April, 1903.

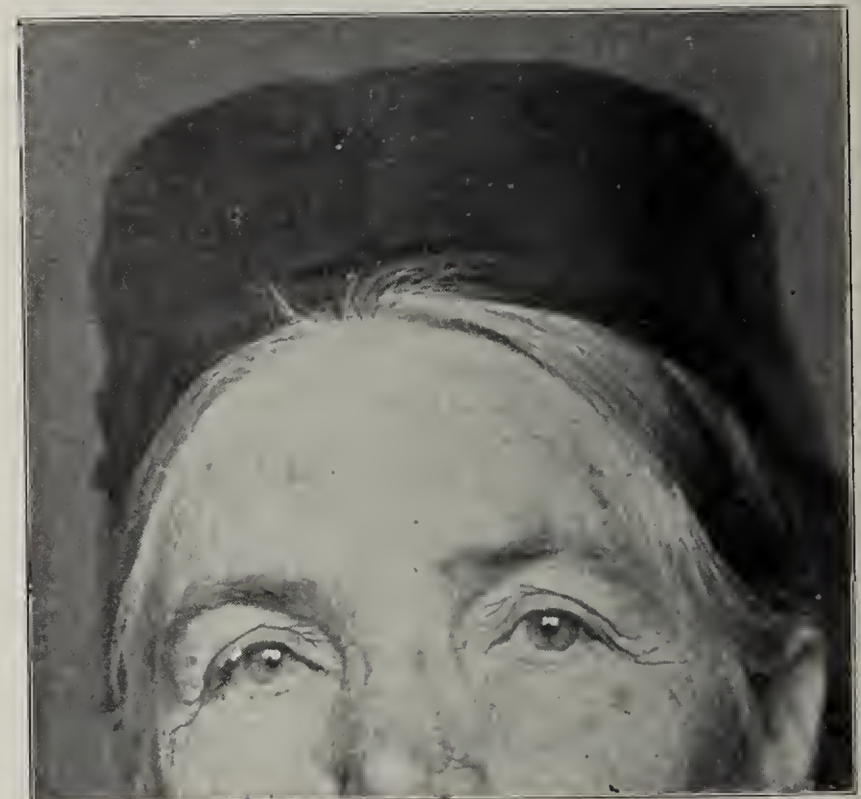

Fig. 21.—Photograph of patient shown in Fig. 20, July, 1907, after four years.

Case 17 was an epithelioma of the lower eyelid which came under treatment in December, 1903. Healing of the lesion was produced, but later a recurrence developed for which the patient was treated by another physician with the *x*-rays. At the present time he remains well, nearly four years since he came under my care. This case is actually a success, but not mine.

Although these cases can not be classed as technically successful, the improvement obtained in many of them is, I believe, one of the strongest illustrations of the usefulness of *x*-rays. The cases, as a whole, represent a class which is utterly hopeless, with extension of the disease so widespread that complete removal by surgical measures is practically impossible. To take such patients and improve their lesions to the point where life is bearable or they are symptomatically relieved, is to do what can be done in no other way.

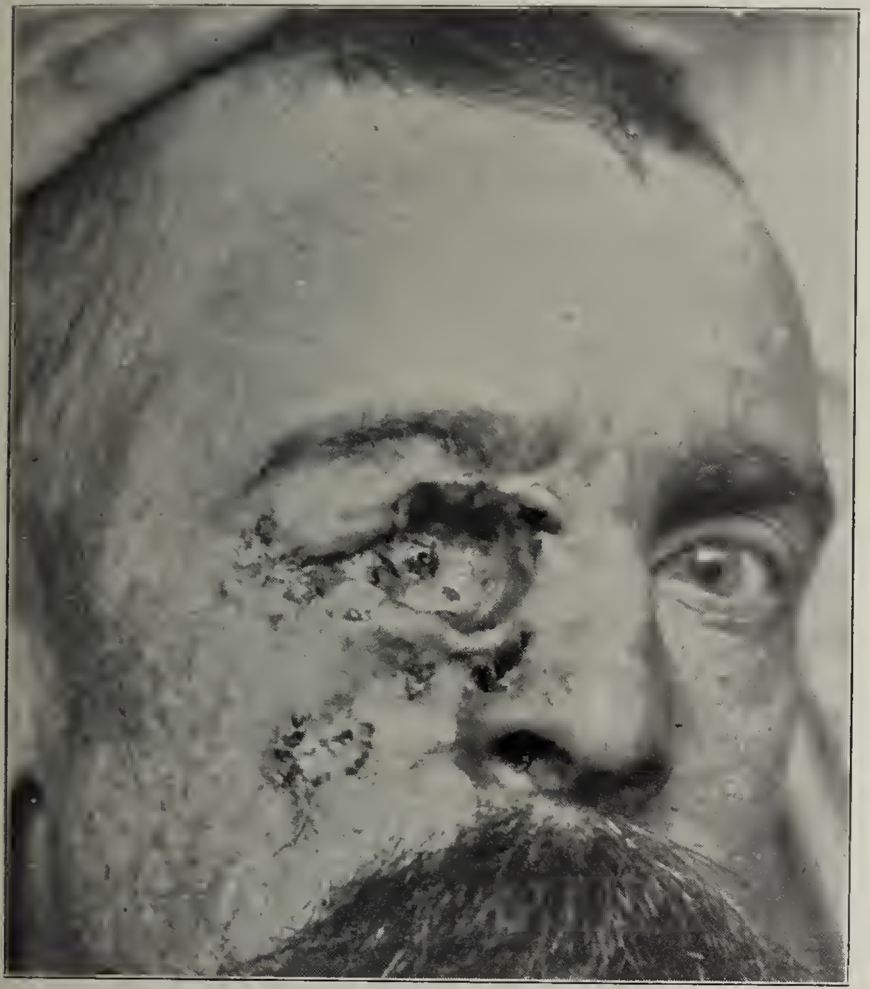

Fig. 22.—Epithelioma, December, 1901.

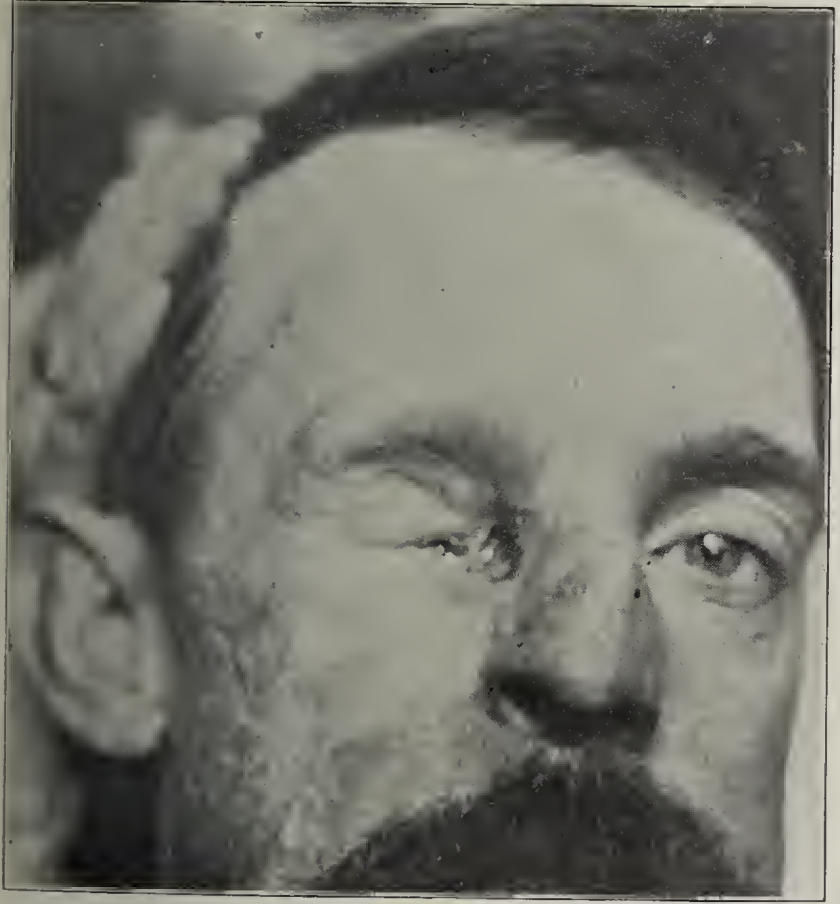

Fig. 23.—Same patient as in Fig. 22. Result, March, 1902. This improvement was maintained without treatment for about one year. Patient classed as distinctly benefited.

FAILURES.

Twelve cases are classed as failures. Nine of these were recurrent after previous operation and three were primary. Eight of the twelve cases were hopeless from the standpoint of surgical interference. Five of these eight were epitheliomata which had spread deeply into the orbit. Two were epitheliomata which had completely destroyed the nose and had extended deeply into the bones of the face. One case was an epithelioma which had destroyed the lower half of the ear and had invaded the neck. Seven of these eight patients were treated for

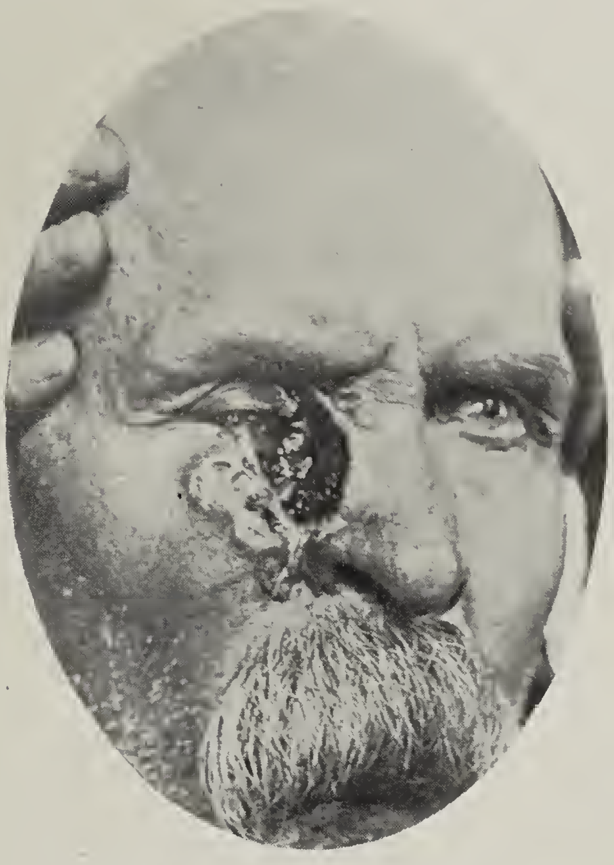

Fig. 24.—Epithelioma, July, 1902.

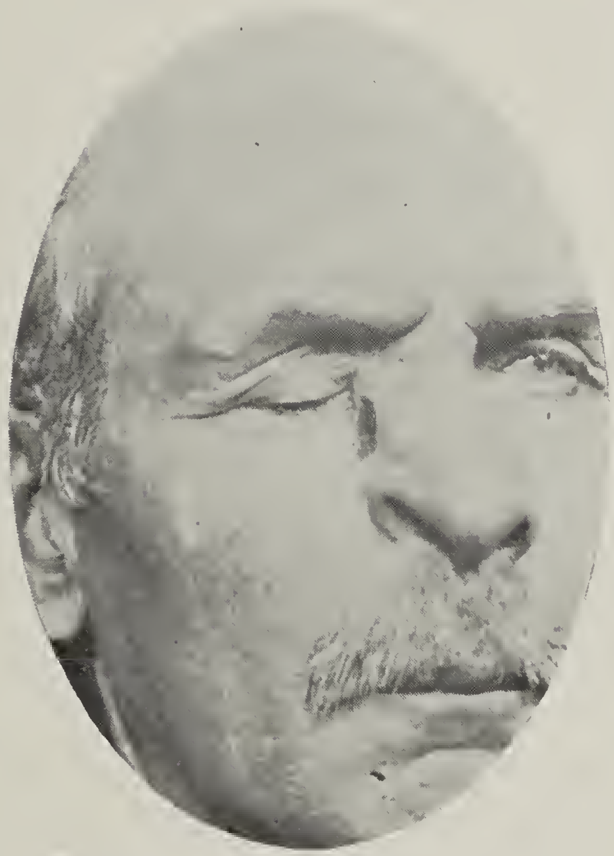

Fig. 25.—Condition, March, 1903, when patient shown in Fig. 24 disappeared. Classed as distinctly benefited.

but a short time and really should not be considered. The eighth case, a very extensive epithelioma which had destroyed the nose, was kept under treatment until the patient's death without appreciable improvement from the use of *x*-rays. The ninth case of the twelve failures was an epithelioma in a man, age 60, which had destroyed the lower eyelid but did not show palpable evidences of involvement of the orbit; healing was produced in this case and the patient then abandoned treatment. Two years later I was informed that there was evidence of recurrence. The tenth case was a large epithelioma of the back of the hand in a man aged 68, referred to me by a surgeon. Temporary healing was produced, recurrence took place in the course of eighteen months, and without further treatment at my hands the carcinoma progressed and finally caused his death. Case 11 was a recurrent, superficial epithelioma of the forehead which was healed, but later there was a recurrence, for which the patient was treated by another physician and she is, I believe, now well, five years after I treated her. Case 12 was a recurrent epithelioma of the side of the nose and inner canthus, which I healed six years ago. In the last few months she appeared with a small epithelioma on the bridge of the nose near the site of the original lesion. The new lesion has promptly yielded to *x*-rays.

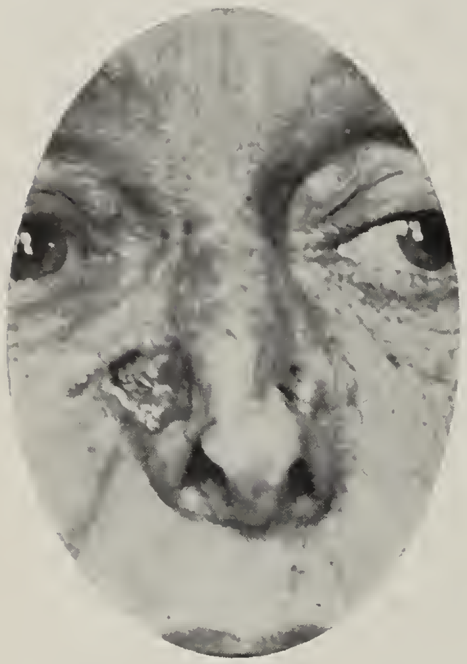
Figure 26.

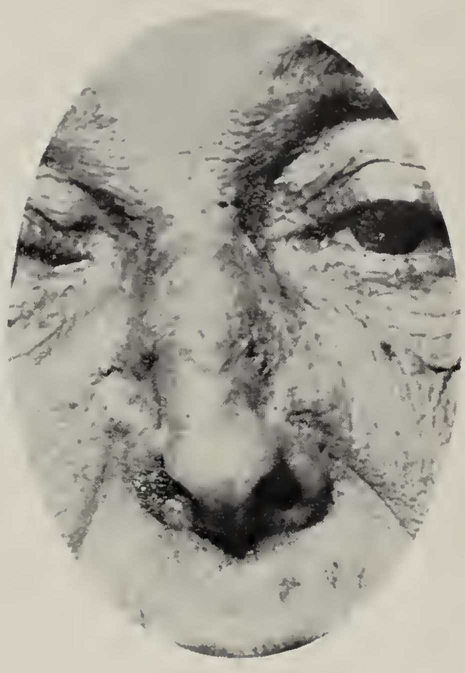
Figure 27.

Fig. 26.—Epithelioma, April, 1901.
Fig. 27.—Patient shown in Fig. 26. Result, September, 1901, which was maintained until one year ago. Now has a small recurrence on left side of nose. Classed as distinctly benefited.

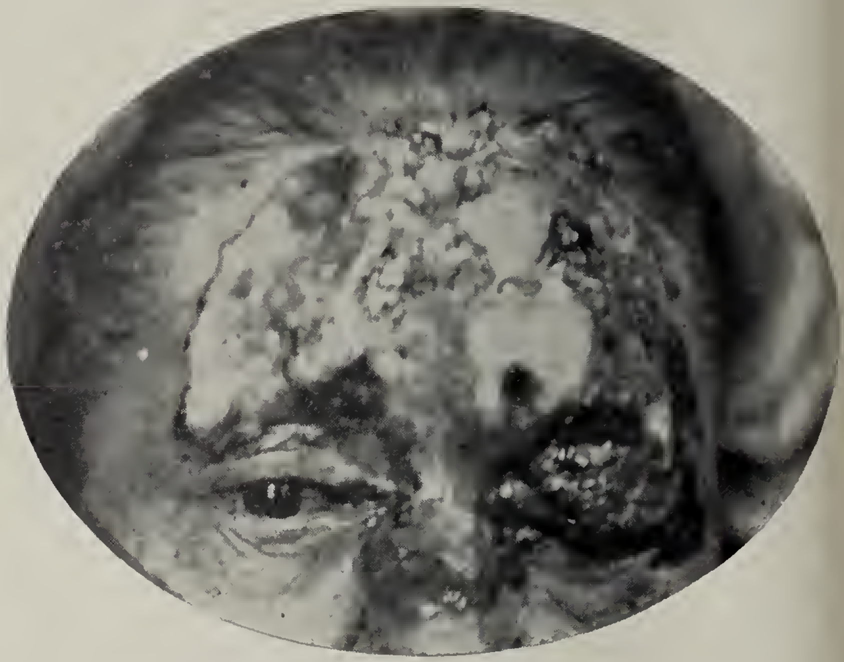
Fig. 28.—Rodent ulcer, May, 1902.

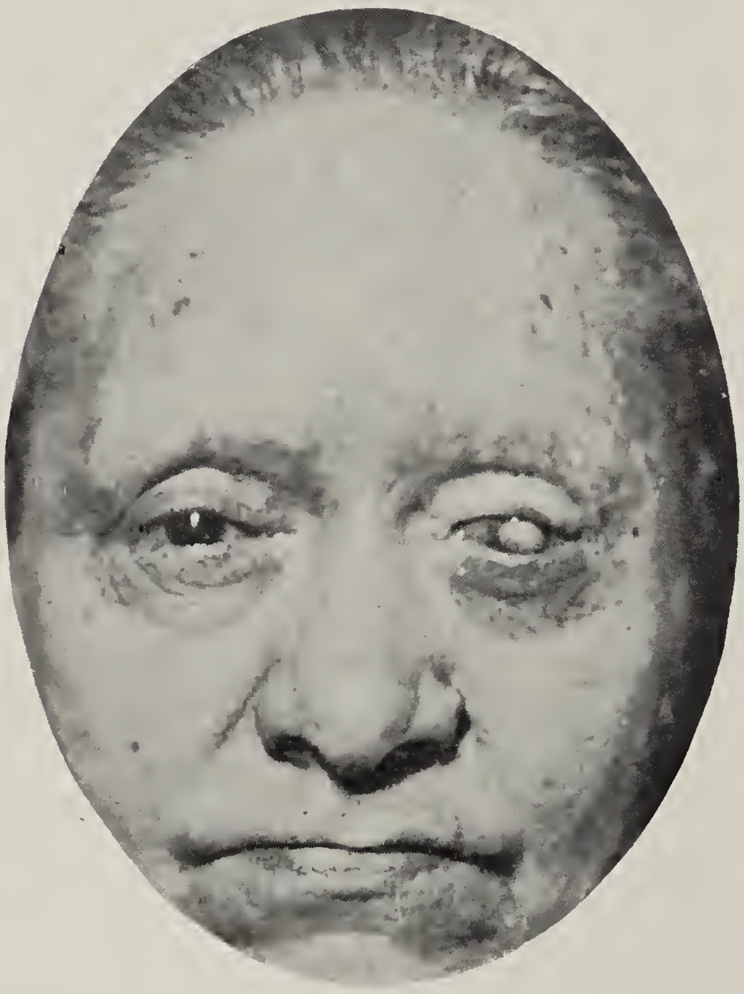
Fig. 29.—Patient shown in Fig. 28; condition November, 1902, four years thereafter.

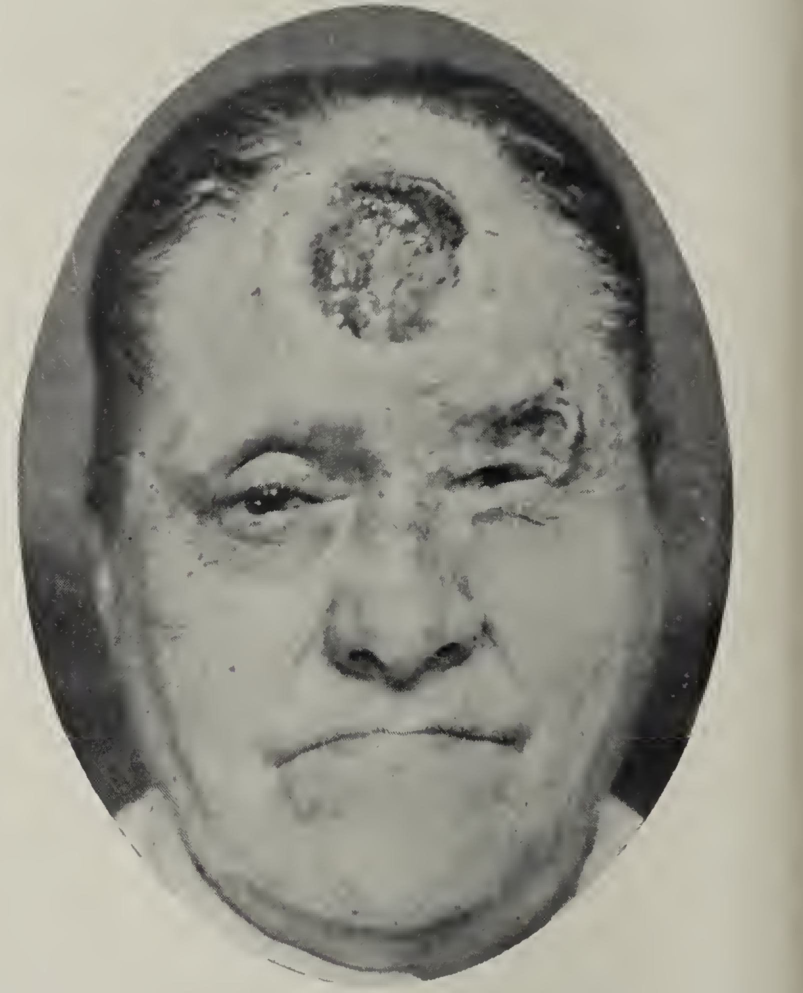
Fig. 30.—Patient shown in Figs. 28 and 29, as she appeared in August, 1907, over five years later. Classed as distinctly benefited.

Cases 9, 10, 11 and 12 in this group might be classed as distinctly benefited, but in view of the fact that they were cases which might have been cured, they are classed as failures. Amputation of the hand, I believe, would have saved Case 10. Case 9 would, I believe, judging from my experience in orbital carcinoma, have been a surgical failure. It had recurred already after operation. Case 11, I believe, and Case 12 are at present well and are not actually failures.

SUMMARY.

Of the thirty-one cases which are classed as not entirely successful, twenty-eight were cases which had failed of relief under other forms of treatment; only three were primary cases. These three cases were all in the group of failures; they were all carcinomata involving the orbit and were inoperable. There are in this entire list of thirty-one cases not successful only five cases in which, in my opinion, there was any hope of cure by other methods of treatment. All of these five cases had previously been treated surgically and all were referred to me by surgeons. One of these five cases, Case 2, in the practically successful group was an epithelioma involving the external auditory canal. The other four were Cases 9, 10, 11 and 12 among the failures which have been considered in the preceding paragraph.

There is, however, room for quibbling about all of the cases which are not radically successful. Counting then the 31 cases which were not radically cured as failures, there remain eighty successful cases in a list of 111 successive cases of epithelioma treated more than three years ago, a showing of 72 per cent. of successful results. This record will, I believe, bear comparison with that of any similar group of cases treated by any other method.

ADENOMYOMA OF THE UTERUS.*

THOMAS S. CULLEN, M.B.

BALTIMORE.

With the employment of the more exact clinical methods of examination and with the systematic study of all uteri removed at operation we have gradually gained an insight into the various diseases of the uterus.

Hemorrhage is one of the cardinal signs of carcinoma of the uterus, whether the disease be situated in the cervix or body. In the early stages of the disease an examination of a portion of the cervix or of scrapings from he body will as a rule enable the pathologist to say positively that a malignant growth is present.

Where uterine myomata exist hemorrhage may or may not be present, this phenomenon depending entirely on whether one or more of the myomata are partially or ompletely submucous.

Uterine hemorrhage also occurs where tubal pregnancy xists and is a frequent accompaniment of an acute tubal infection and is often noted where an ovarian cyst s present. In each of these cases the attending physician may gain a satisfactory clue as to the existing condition from the history.

Hemorrhage may be due to a constitutional tendency. Here also the family history will materially help the urgeon to make a satisfactory diagnosis.

In my experience there are three other conditions that re frequently responsible for uterine bleeding.[1] In the rst group the patients are usually from 18 to 25 years f age. Much hemorrhage occurs at the menstrual period. On curettage the surface epithelium is found intact and the glands are normal, but there is a great increase in the stroma cells, and in their nuclei many nuclear figures are found. In such cases curettage every three or four months for a period of several years is often necessary. The hemorrhage then usually ceases. I reported two such cases on page 479 of my book on Cancer of the Uterus.

In the second group of cases the patients have excessive menstrual bleeding and occasionally an intermenstrual flow. The histologic picture of the scrapings is characteristic, and I am at a loss to give the composite picture a name. The surface epithelium is intact, the glands are large and some of them are round and cystic, but the cystic change is not due to occlusion and pressure, as the epithelium instead of being atrophic is much thickened. The stroma is very rich in cell elements and the veins are often much dilated. In all cases where such conditions exist hemorrhage is present.

It is with the next group, namely, adenomyomata, that we are here chiefly interested. To the pathologist we are indebted for giving us the first clear and succinct account of this disease, and yet he can not aid the clinician in its diagnosis, as his examination of the uterine mucosa will yield nothing but perfectly normal mucous membrane.

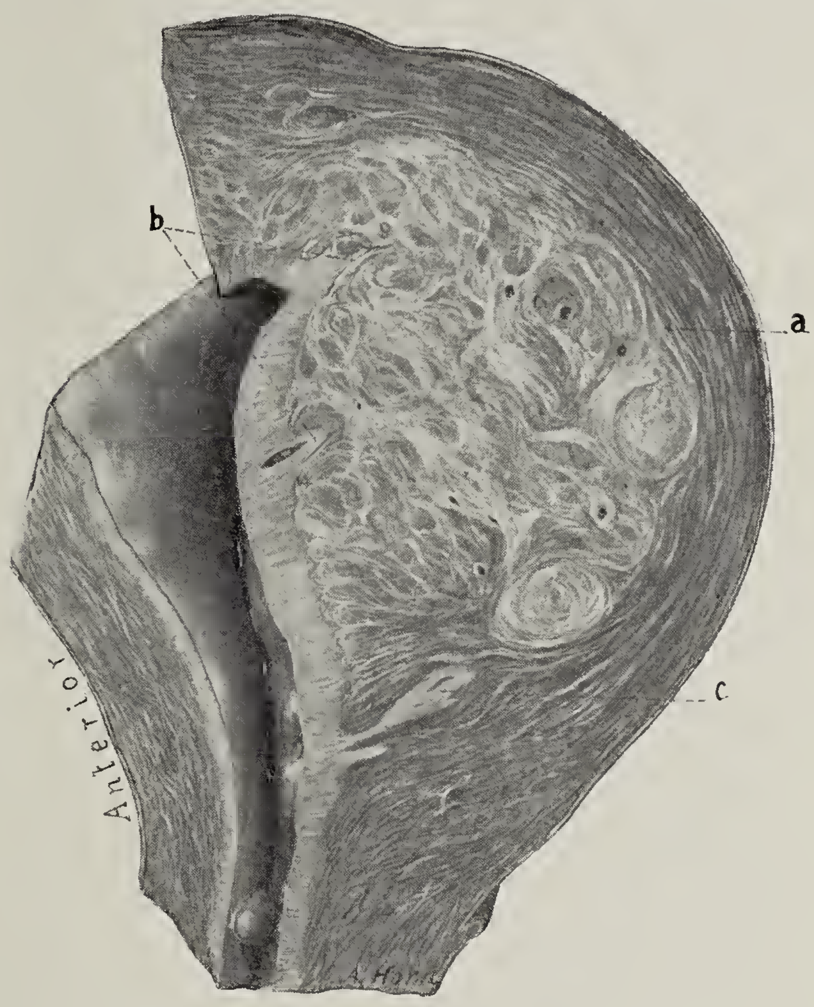

Fig. 1.—Diffuse adenomyoma of the posterior wall of the uterus, Gyn.-Path. No. 661. The uterus has been amputated through the cervix. The anterior uterine wall is unaltered. The posterior wall from cervix to fundus is greatly thickened, owing to the presence of a diffuse myomatous growth lying between the mucosa and the outer covering of normal muscle. This diffuse growth consists of fibers forming whirls, but also passing in all conceivable directions. It encroaches to a slight extent on the uterine cavity. At *a* we see the junction between the diffuse myoma and the normal muscle. The fibers of the one, however, blend imperceptibly with the other, and it would be impossible to shell this growth out, as can be done with discrete myomata. Near the internal os is a small polyp. The uterine cavity is somewhat lengthened. The mucosa lining the anterior wall is of the normal depth, but that covering the posterior wall is considerably thickened and at two points indicated by *b*, it can be traced for a considerable distance into the myoma. At *c*, just along the lower margin of the growth, the mucosa can be seen penetrating the uterine wall for fully 1.5 cm.

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* Read in the Section on Pathology and Physiology of the merican Medical Association, at the Fifty-eighth Annual Session, eld at Atlantic City, June, 1907. The article is here abbreviated, ut the complete article appears in the Transactions of the Section nd in the author's reprints.

[1] Uterine polypi are purposely omitted.

In 1903 I[2] reviewed the literature on the subject in a supplement to Orth's Festschrift and reported twenty-two cases of adenomyoma examined by me up to that date. Since then I have paid especial attention to these growths and have been astonished at their remarkable frequency. In the examination of between 1,300 and 1,400 cases of myoma I have found seventy-three adenomyomata, in short in over 5 per cent. I have included only interstitial, subperitoneal and submucous adenomyomata and large ademyomata of the uterine horns.

Glandular elements have from time to time been noted in myomata and, according to Brens,[3] Schroeder, Herr and Grosskopf were able to collect a total of 100 cases up to 1884. Not until the masterly work of von Recklinghausen[4] published in 1896 has this subject received much attention. These growths, as their name implies, consist of gland elements and myomatous tissue. They form a distinct class of their own, and on microscopic examination their recognition is easy. Even in the gross specimen it is often possible to render a positive diagnosis. For the use of clinicians I have divided these growths into three classes, although it will be readily seen that one class may merge imperceptibly into the other. The divisions are: 1. Adenomyomata where the

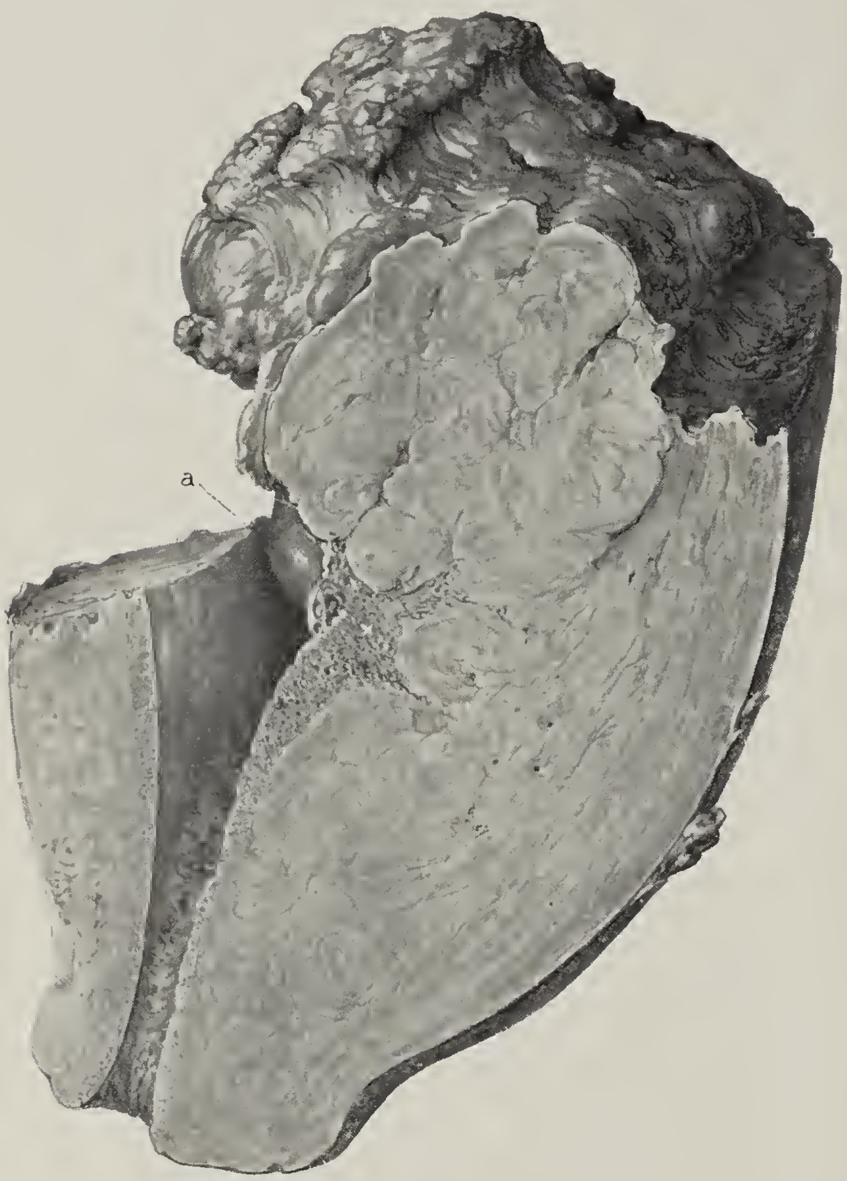

Fig. 2.—Diffuse myomatous thickening in the fundus and posterior uterine wall with extension en masse of the mucosa into a large crevice between myomatous masses. Gyn.-Path. No. 788. The myoma is welling into the uterine cavity and into the space between myomatous masses a large area of mucosa is flowing. With the continued growth of the myomatous tissue this mucosa would in all probability be nipped off and carried outward, thus forming a large island of mucosa surrounded by myomatous tissue.

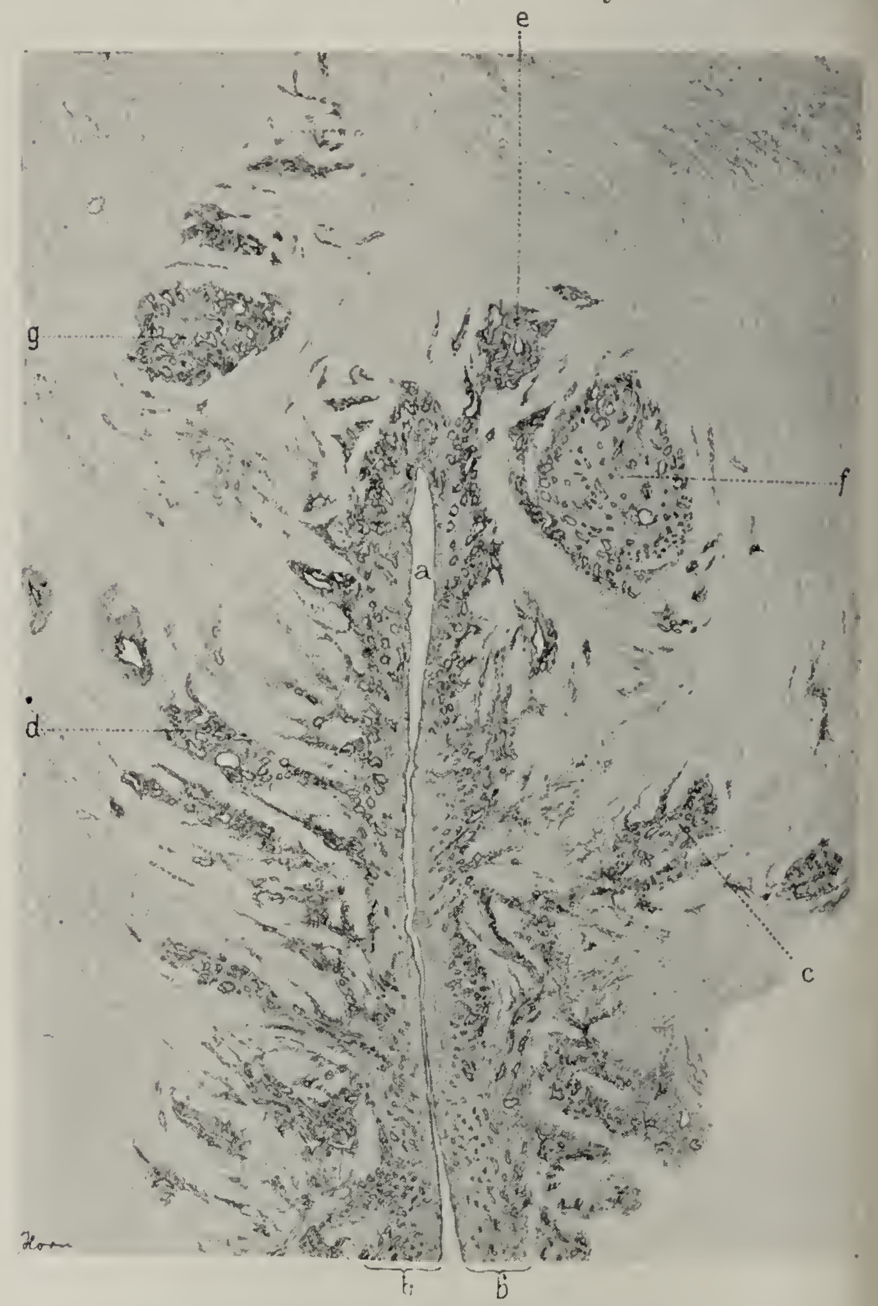

Fig. 3.—Diffuse adenomyoma in the body of the uterus. Gyn.-Path. No. 9841. The section is from the upper part of the uterus. *a* indicates the uterine cavity and *b* and *b'* the normal thickness of the mucosa. The surface epithelium is intact, and the glands are of the normal appearance, but the mucosa is everywhere flowing into the underlying myomatous tissue, as is particularly well seen at *c*, *d* and *e*. Sections at another level show that the apparently isolated islands *f* and *g* are also continuous with the mucosa lining the uterine cavity.

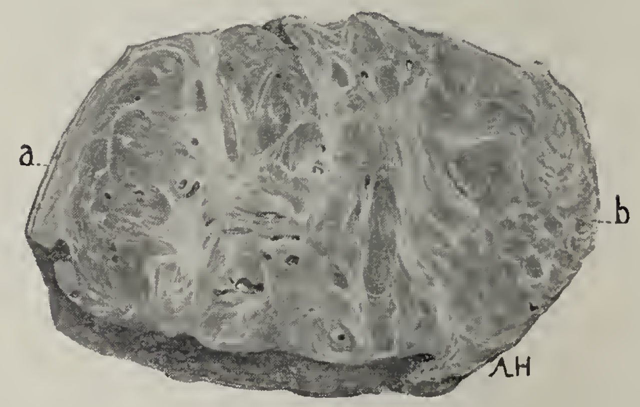

Fig. 4.—A portion of a diffuse adenomyoma in the posterior wall of the uterus. Gyn.-Path. 777. At operation the posterior uterine wall was found much thickened. A wedge was cut out and the surfaces brought together as in an ordinary myomectomy. *a* is the peritoneal surface, just beneath which is a zone of normal muscle. The growth presents the typical appearance of diffuse myoma. Along the outer margin it gradually merges into normal muscle. *b* corresponds to the point nearest the uterine cavity. The uterine cavity posteriorly was not opened. Scattered throughout the myoma are small round, oval or oblong spaces. Some are dilated glands, others cross sections of small blood vessels. At the time the operation was performed we were not familiar with these adenomyomatous growths.

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[2] Adeno-Myome des Uterus, Verlag von August Hirschwald, Berlin, 1903, 91 pages.

[3] Ueber wahres Epithel Führende Cystenbildung in Uterus Myomen, Leipzig und Wien, 1894.

[4] Die Adenomyome und Cystadenome der Uterus und Tubenwandung; ihre Abkunft von Resten des Wolff'schen Körpers, Berlin, 1896.

uterus preserves a relatively[5] normal contour; 2, subperitoneal or intraligamentary adenomyomata; 3, submucous adenomyomata.

ADENOMYOMATA IN WHICH THE UTERUS PRESERVES A RELATIVELY NORMAL CONTOUR.

The uterus may be normal in size or it may be found to be two or three times the natural size, Where the organ is considerably enlarged it is frequently partially covered by adhesions. In these uteri there is myomatous transformation of the muscle, the thickening extends from the mucosa outward and may involve half the thickness of the wall or reach even as far as the peritoneum. Sometimes it is limited to the anterior or posterior wall, but may involve both. Where such is the case we have a uterine cavity lined by a mucosa, which is surrounded by a thick zone of myomatous muscle covered externally by a mantle of normal muscle of variable thickness (Fig. 1). The myomatous thickening is diffuse in character, consists of bundles of muscle fibers running in all directions and along the advancing margins, gradually merging into the normal muscle in contra-distinction to simple myomata which are sharply circumscribed. Given such thickenings of the uterine wall, we may always suspect the presence of gland elements.

On examining the uterine cavity it is usually found that the mucosa at one or more points extends into the diffuse myomatous tissue beneath. This is more readily discovered by examining with a loup, and on careful scrutiny of the diffuse myomatous growth small, round, irregularly triangular or oblong areas composed of a waxy, fairly homogeneous tissue are found lying between myomatous bundles. These areas correspond closely in appearance with the uterine mucosa, and with the lens one can make out punctiform openings—cross sections of glands. Frequently such areas contain cyst-like spaces varying from 0.5 to 5 mm. or more in diameter. Other and larger cyst-like spaces are occasionally found. These have a smooth inner surface and a lining of mucosa often 1 mm. in thickness. They are in reality miniature uterine cavities. Many of these cyst-like spaces contain fresh blood or yellowish-brown pigment, the remains of old hemorrhages. Small cyst-like spaces may readily be mistaken for blood vessels, but the larger ones are easily recognized. Among the most instructive cases reported are those of Lockstaedt.

In Figure 2 we see just the earliest stage of such a ondition as Lockstaedt[6] found. Here we find in the undus coarse myomatous masses welling into the cavity nd a large area of mucosa passing down into the crevice etween. With the continued growth of the myoma a ortion of the uterine cavity would soon be drawn into he depth and in all probability would eventually lose its ontinuity with the parent uterine cavity.

Rarely if ever do we find the slightest trace of glands n the outer covering of normal muscle. In the majority f these cases, besides the diffuse myomatous growth, a ew circumscribed myomata are present. These are iregularly scattered, being submucous, interstitial or subperitoneal. They are usually several centimeters in diameter, but may reach 15 cm. (6 in.) or more before he uterus is removed. When the uterus is not enlarged the uterine cavity generally presents the usual appearance and is in no way altered, as the diffuse myoma does not usually press inward as a submucous myoma invariably does.

The uterine mucosa is usually smooth save for the occasional depressions as noted in Lockstaedt's case, is of the usual breadth or may reach a thickness of from 7 to 8 mm. Polypi, so common in cases of discrete myomata, are usually wanting.

HISTOLOGIC EXAMINATION.

The surface of the mucosa is usually smooth and has an intact epithelium. The glands present the normal appearance. The stroma of the mucosa just beneath the surface epithelium is often slightly edematous or rarefied. The diffuse thickening in the uterine walls consists of the characteristic myomatous tissue, but the muscle bundles show much more interlacing than is found in the ordinary discrete myomata, and then along the outer or advancing margin of the growth the myomatous cells gradually and imperceptibly merge into the normal muscle cells. The myomatous tissue, as was noted macroscopically, extends up to, but does not encroach on, the mucosa. In most cases the mucosa can be seen dipping down into the diffuse myomatous growth, and it will be noted that at such points the muscle bundles run at right angles to the mucosa, thus allowing the mucosa to dip down between them. Sometimes a single gland penetrates the myoma. Such a gland presents a perfectly normal appearance and is usually accompanied by the stroma of the mucosa which separates it from the muscle. In a favorable section such a gland can be traced far into the myomatous tissue. If it meets a barrier in the form of a muscle bundle running parallel to the uterine mucosa, instead of at right angles, it is deflected along the surface of this until other muscular bundles are encountered that are again at right angles to the uterine cavity. It then passes still further outward between them.

In other words, the gland follows the path of least resistance, winding in and out in all directions like a rivulet, but always penetrating toward the peritoneal surface. While single glands penetrate occasionally, larger portions of the mucosa, as a rule, find their way into the muscle (Fig. 3). These glands retain their normal appearance and, as has been noted, are invariably surrounded by normal stroma of the mucosa. These extensions of the normal mucosa can be traced by direct continuity for at least 1 cm. in many cases. In one of our cases they could be followed for over 1.5 cm. Of course, with the winding in and out of the down-growths of the mucosa the continuity will then be lost in the depths. Nevertheless serial sections and injections in favorable cases, as carried out by Lockstaedt, show that the bunches of glands found in the depths are direct extensions from the mucosa. In the outlying portions of the diffuse myoma round, oval triangular or irregular islands of glandular tissue are encountered. These consist, as a rule, of essentially normal uterine glands lined by one layer of cylindrical ciliated epithelium and surrounded by the normal stroma of the mucosa. Some of these glands become cystic, the dilation varying from 1 to 9 mm. or more in diameter. Such dilations are easily explained by the kinking and bending to which the glands are subjected by the surrounding and ever growing myomatous tissue.

The epithelium of the dilated glands is usually pale staining and somewhat flattened. The cyst spaces frequently contain desquamated epithelium, sometimes are partially filled with blood pigment and also contain a varying quantity of blood. In several instances we have noted round giant cells containing from four to eight nuclei in their centers and probably originating from the coalescence of degenerated epithelial cells. Some of the large spaces are not dilated glands, but represent cross sections of the deep depressions from the mucosa as noted in Lockstaedt's cases. Here the entire mucosa is carried into the myoma, and on cross section we have a space lined by one layer of surface epithelium surrounded by typical uterine mucosa. Of course the mucosa on one side may be thinned out on account of the irregular stretching of the myomatous tissue and then we have a picture suggesting the "Hauptkanal" of von Recklinghausen. In one of my cases a miniature uterine cavity was situated within 1 mm. of the peritoneal surface of the uterus.

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[5] I use the word "relatively" because if operative interference long delayed some of the discrete myomata so frequently found ay assume large proportions and almost completely overshadow ie adenomyoma and likewise alter the contour of the uterus.

[6] Ueber Vorkommen und Bedeutung von Drüsenschläuchen in n Myomen des Uterus, Monatsch. f. Geb. und Gyn., 1898, vii, 188.

From the pathologic description it is seen that the glands are naturally more abundant in the vicinity of the uterine mucosa, that they gradually diminish in number in the outer myomatous zone and are wanting in the normal outer muscular capsule. In short, where the myoma ends they cease. In some cases, although the glands in the diffuse myoma are identical with the uterine glands, their origin from the mucosa can not be clearly proven. In the majority of these cases very careful examination of serial sections will show that at some points at least the glands of the mucosa are continuous with those in the depth.

SUBPERITONEAL AND INTRA-LIGAMENTARY ADENOMYOMATA.

These are considered together inasmuch as the process is similar in both instances, namely, the extension to the outer surface of the uterus. If situated above the middle of the uterus the adenomyomata tend to become subperitoneal; below this point and lateral to the uterus they are likely to spread out between the folds of the broad ligament. Subperitoneal adenomyomata may be very small and completely isolated. I have examined subperitoneal nodules not over 1 cm. in diameter and have had others 13 by 10 by 8 cm. (5 by 4 by 3 in.). In a large nodule there is usually a large irregular cavity filled with chocolate-colored contents. Smaller ones also contain remnants of old blood.

On histologic examination the cyst walls are found to be composed of myomatous tissue. The cavities are lined by one layer of cylindrical ciliated epithelium, and in some places there is a moderate amount of underlying stroma separating the epithelium from the muscle.

Probably one of the most remarkable subperitoneal adenomyomata of the uterus ever reported was the "voluminous" one of Pick,[8] which occurred in a woman 41 years old, sprang from the posterior surface of the uterus and was adherent to the anterior abdominal wall and to the intestinal loops. It consisted of many large blunt papillary masses, and in the vicinity of the median line the mass contained a glistening slimy cystic tumor about the size of a man's head. It was everywhere adherent. The cyst cavity contained clear muco-colloid material. On the surface of the growth were many isolated nodules consisting of myomatous tissue and containing large and small spaces. Pick found that the solid portions of the tumor consisted of a fibromyomatous substance surrounding a well-formed glandular tissue. This glandular tissue consisted of cylindrical glands lined by a single layer of cylindrical epithelium. Sometimes the glands occurred in groups and were surrounded by a definite stroma. Others showed cystic dilatation. From the description it is seen that this tumor was a subperitoneal and adherent adenomyoma.

SUBMUCOUS ADENOMYOMATA.

Submucous adenomyomata are certainly not very common. In one of my cases in which a myoma extended out into the broad ligament a large portion of it also projected into the uterine cavity. The growth at operation was thought to be a sarcoma, and consequently the entire organ was removed. Scattered throughout the submucous portion of the myoma were large and small cystic spaces filled with chocolate-colored contents and lined by a definite mucosa. Sections from some portions of these cavities showed mucosa that could not in any way be distinguished from normal uterine mucosa.

In Case 6855 there was a submucous nodule containing a few small uterine glands, and in Case 10872 a myoma containing three cystic spaces each 1 cm. in diameter and having a smooth lining, which consisted of one layer of columnar epithelium.

In Case 10314 we had a most beautiful example of a submucous myoma containing collapsed and dilated spaces lined by a definite mucosa. These were here and there filled with chocolate-colored contents, and on histologic examination they were found to be miniature uterine cavities.

It would appear that in these cases there had been a diffuse adenomyoma and that the uterus was trying to free itself of the new growth in the same manner in which it extruded ordinary myomata. Accordingly, the polypoid condition had naturally resulted.

Remembering the diffuse adenomyomata of the uterus and subsequent extension of the growth to the outer surfaces with the formation of subperitoneal or intra-ligamentary cystic adenomyomata, it is easily understood that portions of the growth, at least, are forced inward and become submucous. In the submucous polyp we do not generally expect much cystic dilatation of the glands, since the growth is continually subjected to the uterine pressure on all sides.

CERVICAL ADENOMYOMATA.

From the study of adenomyomata of the body of the uterus we have seen that, in the first place, there is diffuse myomatous thickening of the inner muscular walls accompanied by a down-growth of the normal mucosa into this diffuse growth. Portions of this adenomyoma may become subperitoneal or intra-ligamentary and may form a large cystic adenomyoma. Portions of the diffuse growth were also found to project into the uterine cavity, forming submucous adenomyomata. Should an adenomyoma develop in the cervix we would expect it, judging from analogy, to consist of cervical glands enclosed in a tissue made up of myomatous muscle and the dense stroma characteristic of the cervical stroma. In Case 3898 there was found a small myomatous uterus in which remnants of an adenomyoma were present along the outer border of the cervix, that is, near the broa ligament or vaginal attachment. The glands in thi small growth correspond to those of the body of th uterus and, in addition, they are surrounded by the usua stroma found in the mucosa above the internal os. Landau and Pick[12] reported a case in which the cervica canal was entirely obliterated by an adenomyomatous nodule which completely shut off the uterine cavity from the vagina. In this case also typical uterine glands with their accompanying stroma were the epithelial elements present.

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[8] Ein neuer Typus des voluminösen paroophoralen adenomyoms, Arch. f. Gynaek. liv, 117.

[12] Ueber die mesonephrische Atresie der Muller'schen Gänge zugleich ein Beitrag zur Lehre von den mesonephrischen Aden myomen des Weibes und zur Klinik der Gynatresien, Arch. Gynaek., 1901, lxiv, 98.

In 1896, when reporting two typical cases of diffuse adenomyoma of the body of the uterus,[13] I described an adenomyoma of the cervix consisting of cervical glands, muscle and a moderate amount of fibrous tissue. This finding is very rare, as from the literature we have been unable to glean a single similar case. In this case a round submucous nodule 2.5 cm. (1 in.) in diameter projected from the cervix.

On histologic examination the outer surface of the nodule is found to be in places covered by cylindrical epithelium. Scattered everywhere throughout the muscle are gland-like spaces varying from a pinhead to 3 mm. in diameter. These are lined by a single layer of epithelium, which in the smaller glands is of the high cylindrical variety. In the dilated glands, however, it is cuboidal or has become almost flat. The cell protoplasm takes the hematoxylin stain, as is so characteristic of the cervical epithelium. The nuclei are oval and vesicular and in many places it is possible to make out cilia. The gland cavities are empty or contain granular material that takes the hematoxylin stain. The glands tally in every particular with the cervical glands. This nodule is undoubtedly a cerveal myoma and appears to be the only one of its character on record. It has evidently started near the internal os. Otherwise we would not have had so much muscular tissue.

ADENOMYOMA IN ONE HORN OF A BICORNATE UTERUS.

It is rather interesting to find one horn of a bicornate uterus the seat of an adenomyoma. Whether the opposite horn was likewise involved I can not say, as the uterus was not removed. From a clinical standpoint it is also instructive, as in this case there was absolutely no connection between the vagina and the uterine cavity, there being practically no cervix. The condition in this case absolutely excluded the possibility of pregnancy having had any causal relation to the development of the adenomyoma.

HYPERTROPHY OF THE CERVIX AND DIFFUSE ADENOMYOMA OF THE BODY OF THE UTERUS.

In the examination of thousands of specimens this is the most unusual one which I have ever seen. There is such a marked increase in the size of the cervix due to simple hypertrophy, while the fundus has kept pace by the development of an adenomyoma. We accordingly have a uterus which, although greatly enlarged, still has retained its relatively normal proportions.

CONDITION OF THE TUBES AND OVARIES WHERE ADENOMYOMA OF THE UTERUS EXISTS.

In forty-five careful examinations of the tubes and ovaries to find a causal relation between them and the development of adenomyoma in the uterus, I have failed to find any proofs of such relation. In fifteen cases I found the appendages on both sides normal. In the remaining thirty cases the appendages on one or both sides were covered by adhesions, there being a mild degree of pelvic peritonitis, in part probably due to the discrete myomatous growth, but to a greater extent undoubtedly caused by the diffuse myoma. In these cases the uterus showed a peculiar tendency to become adherent to adjoining structures.

Where pelvic adhesions are present the normal maturing of the follicle is often interfered with, and we consequently find small Graafian follicle or corpus luteum cysts. These pathologic changes in the ovaries are not in excess of those usually found in a corresponding number of abnormal adnexa examined in the laboratory. Adenomyoma of the uterus does not seem to increase materially the pathologic changes in either the tubes or ovaries.

In forty-nine cases where I examined the uterus for adhesions twenty-five were perfectly smooth and twenty-four were more or less adherent. The adhesions were, as a rule, confined to the posterior surface of the organ, rarely was the anterior surface involved.

THE CLINICAL PICTURE IN CASES OF ADENOMYOMA OF THE UTERUS.

This will, of course, depend on the situation of the growth, also on the size and situation of the discrete myomata so often associated with adenomyoma. Where the diffuse growth is the chief factor the patient usually gives a history of lengthened menstrual periods accompanied by a great deal of pain, sometimes limited to the uterus but often also referable to the back and extending to the legs. This pain may be dull, aching or grinding in character. As the disease progresses the menorrhagia may be replaced by a continuous hemorrhagic discharge, as was observed in several cases, or alarming bleeding may occur. This hemorrhage is readily accounted for when we take into consideration the greatly increased amount of uterine mucosa existing under such circumstances, comprising that lining the uterine cavity and also that liberally distributed throughout the diffuse myomatous growth. The pain is also easily explained when we remember that the myomatous tissue is treated as a foreign body.

In some cases of discrete myomata there is also pain, but the uterus readily forces the nodule toward the peritoneal or submucous surface. In the diffuse growth while this is also possible, the difficulties in its accomplishment are much greater, as the mass is so intimately interwoven with the normal muscle. At each menstrual period the uterine mucosa is congested and thickened. In adenomyoma with an increased amount of blood in the islands of the mucosa scattered through the diffuse growth we should naturally have increased tension, producing a tenderness or sharp pain in the uterus.

In analyzing the clinical histories of thirty-seven cases for uterine discharge we find that twenty-six were free from any flow between menstrual periods or between hemorrhages. In eleven there was a distinct flow, chiefly leucorrheal in character and usually non-irritating. In a few instances it was greenish or yellowish in color and offensive. In Case 3192 there was a frequent white discharge, and in Case 1944 a watery discharge was present. This might readily be accounted for, as the patient had a hemoglobin estimate of only 40 per cent. One is naturally surprised to see that so few of the patients gave a distinct history of vaginal discharge. When we remember, however, that the uterine mucosa and that situated deep down in the muscle is practically normal, this relative absence of the vaginal discharge is readily explained. In those cases in which the adenomyoma becomes subperitoneal or intra-ligamentary and forms large cysts pressure symptoms may occur, and such cysts are usually firmly fixed in the pelvis. This is especially true in the intra-ligamentary variety, where the tumor is prevented from arising into the abdomen by the broad ligament.

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[13] Adenomyoma Uteri Diffusum Benignum, Johns Hopkins Hospital Reports, 1896, xi.

AGE.

I have found this disease in women as young as 19 and as old as 60. In sixty-six patients in whose cases the age was obtained the following result was noted:

One was 19.
Three were between 20 and 30.
Twenty-one were between 30 and 40.
Nineteen were between 40 and 50.
Twenty-one were between 50 and 60.
One was 60.

Showing that the period between the ages of 30 and 60 is the most frequent for this disease. The process seems to be a slow one, as is evidenced by the clinical history. Some patients date their trouble back five to ten years, while others have been complaining for only a few months. I have found this disease equally prevalent in the colored and white race.

RELATION TO PREGNANCY.

I have examined the clinical histories in forty-nine of the cases to determine the relative frequency of pregnancy, with the following results:

Nine were single.
Six were sterile.
Two had had miscarriages.
Thirty-two nad had children.

One of the sterile patients had not married until over 40 years of age and might accordingly be equally well classed with tne single patients from that standpoint. In thirty-one of the thirty-four patients that had had either children or miscarriages I have accurate records of the number of children. In all 141 children were born, approximately four children to each woman. In a few instances a woman had but one child, while in one case the patient was the mother of thirteen, in another of eleven, in a third case of ten. These figures show that the disease is found in the single as well as in the married women and, furthermore, that it does not seem to in any way militate against normal pregnancy.

PHYSICAL EXAMINATION.

On making a vaginal examination, where the growth is confined to the uterus, we find the cervix practically normal, the body of the uterus considerably enlarged and very hard. In the majority of cases we also feel definite small round bosses due to discrete myomata. In the early cases the organ may be free, but very often it is enveloped in adhesions and firmly fixed. In some cases the organ will be symmetrical and the size of that of a two or three months' pregnancy and very firm. Where the growth is large and cystic and lies in the abdominal cavity it is impossible to differentiate it from an ordinary myomatous uterus pure and simple or associated with an ovarian cyst. If the growth be intra-ligamentary it is more firmly fixed in the pelvis and is then comparable to a broad ligament myoma or to an intra-ligamentary cyst, although it may simulate a large pelvic abscess. The clinical history of pus will, however, be wanting.

From the foregoing it will be seen that the diagnosis of adenomyoma of the uterus is difficult. If we are dealing with a diffuse form the frequent and ever-increasing hemorrhages associated with a hard, slightly enlarged uterus containing a few small discrete myomata and yielding on curettage normal, although moderately thickened, mucosa, we may reasonably suspect an adenomyoma, although the hemorrhages may be due entirely to the discrete myoma. Where carcinoma of the body of the uterus is present the organ is likely to be somewhat soft; it rarely has small and isolated myomata on its surface, and yields adenocarcinoma instead of normal mucosa on curettage. Where the growth is subperitoneal or intra-ligamentary the diagnosis is impossible until the abdomen is opened, but then given a myomatous uterus containing large cystic areas with smooth velvety linings and chocolate-colored contents adenomyoma will usually be found.

TREATMENT OF ADENOMYOMATA OF THE UTERUS.

In the majority of these the case will be looked on as one of simple myoma and its true character only determined after operation. Should a diagnosis be made, abdominal hysterectomy is indicated. Myomectomy is inapplicable, as the growth is so interwoven with the normal muscle that it can not be shelled out. In cases of intra-ligamentary and cystic adenomyomata, evacuation of the cyst contents will often be found necessary before it is possible to shell the tumor and the uterus out from the pelvic floor. As these growths will lift up the peritoneum of Douglas' sac, it will be advisable to dissect the peritoneum back so that it can be replaced after removal of the tumor, thus avoiding a raw area on the pelvic floor. If this precaution be not taken, intestinal loops are apt to drop down and become adherent.

THE BENIGN CHARACTER OF ADENOMYOMA OF THE UTERUS.

When considering these growths in 1896, I agreed with von Recklinghausen that they are benign. The glands are perfectly normal uterine glands and are surrounded by the normal stroma of the mucosa. They are confined entirely to the new growth and do not show the slightest tendency to invade the normal muscle. Wherever possible, it is always well to back up the impressions gained from histologic study by the clinical sequence. And in two of our cases this has been unconsciously and yet admirably done. In Case 3600 (Fig. 4), on opening the abdomen, a diffuse myomatous thickening was found in the posterior uterine wall. It was considered to be only a myomatous thickening and a wedge-shaped piece of growth was removed; in other words, a partial myomectomy was performed.

The histologic picture showed the growth to be adenomyoma of the uterus. The patient remained perfectly well for years. A similar wedge was removed in Case 4415. The patient also remained perfectly well.

SQUAMOUS CELL CARCINOMA OF THE CERVIX AND ADENOMYOMA OF THE BODY.

In a previous communication[2] I reported one case of squamous-cell carcinoma of the cervix associated with diffuse adenomyoma of the body of the uterus. Since then I have examined five similar cases. The simultaneous occurrence of both these processes in six cases in the records of one laboratory certainly indicates that the coexistence of these two diseases is no rarity. Wher we see what a large number of adenomyomata have been detected where the uteri are carefully and systematically examined, and knowing how widespread squamous-cell carcinoma of the cervix is, it is little wonder that these two processes are frequently found in the same uterus. The symptoms of the carcinoma o the cervix would naturally completely overshadow those of the adenomyoma. Consequently the marked extension of the uterine glands into the depth would not be suspected until after removal of the uterus.

ADENOCARCINOMA OF THE BODY OF THE UTERUS DEVELOPING FROM AN ADENOMYOMA.

From the consideration of adenomyomata of the uterus, it is seen that the gland elements are practically normal uterine glands, both in their histologic and physiologic peculiarities. From normal uterine mucosa we often have developing an adenocarcinoma. Consequently we should not be surprised if an adenocarcinoma were sometimes detected in an adenomyoma. Von Recklinghausen, in his entire series of adenomyomata, found only two cases where he thought there was a carcinomatous change. Meyer also had a suspicious case, but from his description I would hardly venture a positive diagnosis of malignancy. In Case 4656, where carcinoma of the body of the uterus was present, I noted several dark areas deep in the muscle and surrounded by definite zones of stroma. They consisted of typical islands of uterine glands surrounded by the stroma of the mucosa. Some of the glands were dilated, forming cyst-like cavities. In one of these cavities lined by a single layer of cylindrical epithelium and separated from the muscle by a definite stroma, the epithelium had proliferated, forming new glands and papillary outgrowths consisting almost entirely of solid masses of cancer cells. This case is undoubtedly one of adenocarcinoma developing in part from a cystic gland situated in the adenomyoma.

In Case 1852 I also found a similar condition. The body of the uterus was the seat of a typical adenocarcinoma and deep in the muscle areas of adenomyoma were found. At one point the carcinoma was seen developing from one of the glands in the adenomyoma. In this case the histologic picture also strongly suggested the independent development of sarcoma of the body.

ORIGIN OF ADENOMYOMATA OF THE UTERUS.

In 1896 von Recklinghausen reviewed the literature of adenomyomata and added many new cases. After a careful consideration of all, he concluded that in the vast majority of instances the glandular elements were derivatives of the Wolffian duct. This opinion was based on the supposed close analogy between the elements of the Wolffian duct and the glandular structures present in adenomyomata of the uterus. In only one case was he certain that the glands were due to downgrowths of the uterine mucosa. This case of von Recklinghausen's was included in the appendix to his most instructive treatise. Since his publication appeared, widespread attention has been directed to this subject and quite a number of new cases have been reported. Many writers have espoused von Recklinghausen's theory, but not a few have claimed that nearly all, if not all, of these cases owe their origin to the uterine mucosa or to a portion of Müller's duct. It would be unnecessary for me to review at length this lively controversy, but to those wishing the full details I would recommend the careful presentation of the subject as given by von Recklinghausen, Meyer, Pick and Kossman.

In my previous publication,[2] I reported 19 cases of diffuse adenomyoma and pointed out that in the majority of these cases the process was still limited to the uterus, thus enabling us to determine definitely the origin of the glands in most of the cases. Since then I have subjected each myomatous uterus to the most careful scrutiny, and wherever adenomyoma was suspected I have had very large sections made from many parts of the uterine cavity. If adenomyoma was present and no connection between the glands in the depth and the uterine mucosa could be detected, then I kept on cutting more tissue until finally in the vast majority of the cases I found that the gland elements were derivatives of the uterine mucosa. I have been greatly helped in this work by Mr. Benjamin O. McCleary, my laboratory assistant.

I have examined fifty uncomplicated cases of diffuse adenomyoma of the uterus, some very extensive, others in their early stages. In every one of these cases I have been able by persistent search to trace the uterine mucosa into the myomatous tissue. In other words, islands of mucosa in the diffuse myomata originated from the mucosa lining the uterine cavity in every case. The reader can verify this statement for himself by scanning the pathologic description of the cases which will later be reported in detail.

In six other cases there was squamous-cell carcinoma of the cervix and diffuse adenomyoma of the body. In five of the six cases the origin of the gland elements in the myoma could be traced to the mucosa. In the remaining case (Gyn. 9971), where the process was a rather indefinite one, it was impossible to show the origin of the glands from the mucosa.

We thus see that in 55 out of 56 cases of diffuse adenomyoma of the body of the uterus the gland elements were, in part at least, derivatives of the uterine mucosa.

Where the uterine glands are seen penetrating the myomatous muscle there is no question as to their being derivatives of the uterine mucosa, and, as will be seen from a study of these cases, in the majority in which the uterus was removed the mucous membrane origin was established. This fact is very significant when compared with the figures of those claiming the Wolffian duct origin. With the increase in thickness and the irregular growth of the diffuse myoma, it is very natural that the continuity of the uterine glands into the depth is after a time lost, as is evidenced by the formation of cysts.

It is not necessary that the uterine glands be traced by continuity to establish the mucous membrane origin. The islands of glands lying deep down in the myomatous muscle correspond identically with those seen in cases in which the continuity is traceable and also, moreover, they are precisely the same as in normal uterine mucosa. Furthermore, they are surrounded by a stroma identical with that surrounding the uterine glands. In some cases miniature uterine cavities are scattered throughout the myoma. From the uterine mucosa there is a periodic hemorrhage every month.

According to Hartz, Sanger, when speaking to his students of the uterine mucosa, said: "This is no simple mucous membrane, but it is an organ which has an important function to fulfill." With Sanger's view I am in thorough accord. In no other part of the body do we find a mucosa with a similar function and nowhere do we meet with such histologic peculiarities. Now, if portions of this uterine mucosa be far removed from the parent mucosa, we should still expect them to retain their function, and this they do. In nearly every instance in which cyst spaces are present the cavities are, in part or almost completely filled with blood; and even in the small and undilated glands blood is frequently present, or the epithelial cells contain blood pigment, the remnants of old hemorrhages.

It is natural that the cysts in the uterine walls should remain small, as they are compressed by the muscle; on the other hand, when they have once become subperitoneal they may dilate until they contain several liters (quarts) of blood, although even in these cases they still show the evidence of the menstrual phenomenon as seen in their chocolate-colored contents. In the solid portions of these growths, islands of typical uterine mucosa are still demonstrable. It is so easy to understand how interstitial myomata become subperitoneal or submucous, and yet in considering the subsequent history of adenomyomata the majority of authors have forgotten to apply the same principle.

When the growth becomes subperitoneal we should expect its glandular elements to gradually lose their continuity with those of the mucosa, and such is the case. Hence the confusion as to their origin. Case 2 of Breus[14] illustrates very well the intra-ligamentary variety. In Krönig's[15] case we have all the elements of normal uterine mucosa and also large cysts. In Breus' case we find the same, but fortunately the communication between the uterine mucosa and the cystic tumor still persists, showing beyond a doubt that the gland elements in this case were from the uterine mucosa.

A definite example of a portion of a diffuse adenomyoma becoming subperitoneal is furnished by Lockstaedt.[6] The adenomyoma occupied the posterior wall and right side, and in the gross specimen it was possible, in at least five places, to see the mucosa extending deeply into the myoma. In this case there was a subperitoneal adenomyoma the size of a cherry that by its pedicle was in direct communication with the diffuse growth so that its glands were undoubtedly derivatives of those of the uterine mucosa.

Were we in need of still further proof that these islands of mucosa are identical with normal uterine mucosa, the case reported by Williams would certainly tend to convince the most skeptical. In examining the uterus of a patient dying a few days after labor, he found that it was the seat of a diffuse adenomyoma and that the stroma of these islands had been converted into typical decidua.

SUMMARY.

In the examination of fifty uncomplicated diffuse adenomyomata of the uterus the mucous membrane origin of the glands could be traced in every case. In 6 additional cases where squamous-cell carcinoma of the cervix complicated adenomyoma of the body the continuity was established in 5 cases. In the 2 remaining cases of diffuse adenomyoma of the body, the clue as to the origin of the glands was destroyed by adenocarcinoma of the body. Thus in only one case out of 56 where I expected to find the glands originating from the mucosa, if my view as expressed in 1896 was correct, did I fail to find it substantiated. In the remaining 15 cases of subperitoneal or submucous adenomyomata we would naturally not expect to trace the relationship between the mucosa and the glands in the myoma; nevertheless in one case (Gyn. 10314) the mucosa literally flowed into the myoma. It will thus be seen that when we include adenomyomata of every kind, whether subperitoneal, submucous or diffuse, I have been able in 56 out of 73 cases to trace the origin of the gland element to the uterine mucosa.[16]

All adenomyomata of the uterus in which the gland elements are similar to those of the uterine mucosa, and are surrounded by stroma characteristic of that surrounding the normal uterine glands, owe their glandular origin to the uterine mucosa or to Müller's duct, no matter whether they be interstitial, subperitoneal or intra-ligamentary, solid or cystic.[17]

DISCUSSION.

Dr. Stanley P. Black, Los Angeles, Cal., thought that those who examine uteri taken from operation very frequently find the adenomyoma such as Dr. Cullen described. He has seen them in a number of instances. One patient, a doctor's sister, presented symptoms identical with those Dr. Cullen mentioned. Her brother thought it was myoma. The uterus became much enlarged at the menstrual period. No tumor was shown, but simply an enlarged uterus. This was removed, and on the mucous surface was a smooth adenomyoma, a brownish-gray tumor, identical in all respects with the mucosa. The uterine wall was very thick, and at the operation the question arose what to do with it, whether to remove the cervix with the uterus, or to amputate the cervix. It was decided to amputate the cervix and remove the uterine body. On examining macroscopically nothing could be seen, but microscopically the uterine wall was deeply infiltrated with apparently normal mucosa, absolutely typical in all respects. When Dr. Black found that, on examining down close to the cervix, he advised a second operation to remove the cervix itself. This was done, but nothing was found in the cervix. This was done six or seven years ago and the patient has been entirely well since. He has never had the opportunity to study as carefully as Dr. Cullen has the method of growth of the tumor into the wall, but he has always considered them as being adenomas, possibly of more or less malignant character, and yet in these cases the mucosa is so typical that there is no idea of malignancy.

Dr. J. G. Adami, Montreal, Can., congratulated Dr. Cullen on giving the death blow to the old ideas concerning these cystic formations in the myometrium, which pathologists conclude are purely derivatives of the surface mucous membrane. Dr. Adami asked Dr. Cullen for his views as to the correctness of terming these adenomyomata. The same condition is present in prostate tumors. The epithelial in growth are not of the nature of true tumor formations. They have grown there purely in harmony with the rest of the structure, and the growth is of regular type. To use the term adenomyoma is to indicate that the epithelial moiety is neoplastic. Dr. Adami holds that we are not dealing with tumors proper, and that the use of the term is, at least, misleading.

Dr. Thomas S. Cullen, Baltimore, said that the uterine mucosa in these cases differs entirely from the mucosa covering submucous myomata. In adenomyomata the mucosa is usually thickened, while over a simple submucous myoma it is atrophic. Answering Dr. Black as to the advisability of removal of the cervix, he said that he has had in all 73 adenomyomata. Six of these were associated with carcinoma of the cervix. In each of these cases, however, the carcinoma was the dominant lesion and a radical operation was performed in the hope of eradicating the carcinoma. The adenomyomata was only detected in the laboratory. As a rule, where adenomyomata is present, it is only necessary to do a supravaginal hysterectomy. Carcinoma of the body of the uterus, Dr. Cullen said, develops from the epithelium lining the uterine cavity or from the gland epithelium. The glands of the adenomyoma consist of essentially normal uterine glands, consequently one should not be surprised to find carcinoma occasionally developing from the glands of an adenomyoma. Dr. Cullen has had two cases showing such malignant change. Adenomyomata, he continued, are in no sense malignant. Before they were aware of such growths, Dr. Kelly removed wedges from two uteri showing marked thickening in their posterior walls. Subsequent examination showed that they were adenomyomata. Neither of them, however, showed signs of malignancy, and one of the patients is alive and well eleven years later. Dr. Cullen agreed entirely with Dr. Adami about the use of the term adenomyoma. They make it a point in their work in the hospital never to use the term adenoma in any connection, except when speaking of a malignant growth such as an adenocarcinoma. He further agreed thoroughly with Dr. Adami that this term, adenoma, is used too loosely, and in his work on cancer he emphasized particularly the advisability of never using the name adenoma, except for a malignant growth. This point is well taken. The only exception ever made to this rule is in the case of adenomyoma. When reporting his first cases before the Hopkins Medical Society, in 1895, Dr. Cullen referred the matter to Dr. Welch, and he suggested the term "adenomyoma diffusum benignum" for those growths limited to the uterine wall. While the term adenomyoma is not absolutely correct, it is difficult to find a more suitable term, and by common usage it has become firmly fixed.

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[14] Ueber wahre Epithel-führende Cystenbildung in Uterus-Myomen, Leipzig und Wien, 1894.

[15] Ein retroperitoneal gelegenes voluminöses Polycystom. entstanden aus Resten des Wolffschen Körpers, Beitr. zur Geb. u. Gyn., iv, 61.

[16] Owing to lack of space it is impossible for me to give a detailed report of these cases. They will be reported with illustrations in a book on "Adenomyoma" I hope to publish later.

[17] Frequently there are small cyst-like spaces apparently just beneath the peritoneal surface of the uterus. These are lined by a single layer of cuboidal cells and rest directly on the muscle. They are due to depressions from the peritoneal surface cut at another level. In favorable sections their continuity with the peritoneal cavity can be traced. Meyer has recently pointed them out. I thoroughly agree with his findings and have also often met with them on the under or protected side of tubal adhesions or lining the small depressions occurring on the surface of the ovary. The peritoneal cells, where protected, tend to become cuboidal.

THE OPSONIC INDEX IN ORTHOPEDIC SURGERY.*

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AND

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It is not the object of this paper to discuss the technic of obtaining the opsonic index, for full descriptions of this will be found in the literature. Neither will any attempt be made even to summarize the work of Metchnikoff, Mennes, Wright and Douglas, Neufeld, Rimpau and others whose researches have demonstrated the phagocytic activity of leucocytes and the factors influencing this activity.

Successful treatment of bacterial infections has been shown to be most marked when the process is localized. Wright treated a number of patients having localized tubercular infections with inoculations of Koch's new tuberculin with such good results that this substance has been used by many others as a therapeutic measure.

The tuberculo-opsonic index has been shown to be below normal in most cases of localized tuberculosis, though it may fluctuate if the tuberculous process is active and there is autoinoculation. In 150 cases of localized tuberculosis Bulloch found that the average index was 0.75, and Potter, Ditman and Bradley, in 22 cases of tubercular bone and joint disease, found that in 14 the index was below normal, in 3 cases normal and in 5 above normal.

Bearing these facts in mind, the work discussed in this paper has been undertaken with the following objects in view: 1. To determine the opsonic index in cases of tuberculous bone and joint infections. 2. To determine the effect of tuberculin on the opsonic index in these tuberculous cases. 3. To determine the relation between the opsonic index and the general and local conditions. 4. To compare the opsonic indices of patients living under the best hygienic conditions, but without the use of tuberculin.

To Koch has fallen the greater honors in the pioneer work of tuberculosis and treatment with tuberculin. To Wright is due the credit of proving the efficiency of very small doses of tuberculin and the definite estimation of its influence on what he has termed the opsonic index. Wright considers that rest in bed should be regarded as a therapeutic measure in general tuberculosis to end the autoinoculation which follows exertion, and that if to this could be added the belief that the cure of bacterial infections depends neither on the storage of fats nor on the bronzing of the skin, nor yet on the breathing of pure air, but on the destruction of the invading bacteria by the antibacterial substances in the blood, we should have come close to the truth.

The principles underlying the treatment of localized tuberculous infection Wright enumerates as follows: 1. The tuberculo-opsonic index of the blood in these cases appears to be uniformly inferior to that of normal blood. 2. The immunizing stimuli which are required for raising the opsonic power of the blood and for maintaining it at a high level here make default. 3. The tubercle bacilli are circulating themselves in the focus of infection under conditions which are more favorable to their growth than those which obtain in the cases of the circulating blood. 4. An increase in the opsonic power of the blood can be achieved and maintained by the inoculation of a series of appropriately adjusted and interspersed doses of tubercle bacilli.

It is too often forgotten, however, that the localized infection has been inoculated previously from the blood stream of the general circulation, which, therefore, has at some time been the host of tubercle bacilli.

It is true that such may not be the case at the time of treatment of the local infection, nevertheless it must be remembered that the local infection is in the large majority of cases a secondary infection, the primary being in the lungs, bronchial glands, the mesentery or kidney. The primary focus remaining dormant, may be recognized only at autopsy. Sometimes the primary focus may disappear altogether. These are important factors to be considered in the treatment of this subject, for any individual focus of disease can not be completely isolated without due regard to its close relationship to the existing general systemic condition, by reason of which we have the effect of the treatment reflecting directly and indirectly on the diseased area in evidence.

The cases under observation have been those of tuberculosis of the hip and spine. Here a brief outline only of the histories is given.

The first group of these cases has been under observation during the past six months.

Case 1.—J. G., female, aged 2 years, has Pott's disease of the spine, involving the second and third dorsal vertebræ. The disease was first diagnosed fourteen months ago, since which time the patient has been treated in the hospital. The mechanical treatment has been hyperextension of the spine in bed. When this patient first came under observation she was in very poor general condition with secondary anemia. Acute symptoms marked the lesion in the spine. The opsonic index at this time was 0.6. A marked improvement has been noted both in the general and local conditions, especially during the past two months. The opsonic index has steadily risen until at the present time it is 1.6. She has received tuberculin in 1/1000 mg. infections at intervals of from seven to ten days.

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* Read before the General Meeting of the New York Academy of Medicine, Oct. 3, 1907. This work has been carried on in the Pathologic Laboratory of the New York Post-Graduate Hospital.

Case 2.—J. C., female, aged 9, has Pott's disease of the spine involving the eighth and ninth vertebræ. Seven years ago a small kyphosis was noticed. Three years ago an abscess developed which opened in the left groin. Since this time the discharge has continued from this sinus. In May, 1907, the left thigh became swollen and inflamed. Deep fluctuation was distinctly palpable. An incision was made over this area and an ounce of creamy pus was evacuated. The incision was then sewed up. At this time she suffered severe pain in the thigh and was unable to walk. Mechanical treatment has been a plaster-of-Paris jacket. When she first came under observation she had a fluctuating opsonic index averaging 0.7. The fluctuation suggested an active tuberculous process, and there was a secondary infection of staphylococcus. The condition of this patient began to improve markedly after the second injection of tuberculin. To-day both general and local conditions are better than at any time during the past three years. The opsonic index has risen to 1.8.

Case 3.—T. S., male, aged 3, has left hip disease which dates back to an injury one and a half years ago. An abscess developed in January, 1907, which was opened and drained on Feb. 22, 1907. The discharge continued profusely after operation. In May, a second operation for more thorough drainage was deemed advisable. The mechanical treatment has been fixation and extension by the Phelps hip brace. This was another case in which there was secondary infection and discharging sinuses. When first seen his general condition was very poor, the opsonic index being .46 and non-fluctuating. A very gradual rise in the index has followed the injection of tuberculin. To-day his local and general conditions are decidedly improved, notwithstanding the secondary infection. Though the improvement has not been so strikingly in evidence as that of Cases 1 and 2. The present opsonic index is 1.20.

The second group of three cases has been under observation during the past two months.

Case 1.—W. D., female, aged 14, has right hip disease with profusely discharging sinuses. The treatment by immobilization and extension was carried out until the last month. She has been confined to bed for the past two months and is being dressed daily. The condition of this patient was very bad when she was first seen; marked anemia was present. Treatment with tuberculin was begun to test its efficiency in severe cases. Her opsonic index at this time was 0.99, suggesting autoinoculation. Her opsonic index is .91 and her condition is not perceptibly improved.

Case 2.—A. G., female, aged 4, has left hip disease, which began when she was one year old and has been treated with spica and hip splint. In April, 1907, an abscess developed and about one ounce of creamy pus was evacuated. The abscess sac was excised, the incision sewed up and the leg put in a plaster-of-Paris spica with extension. The condition of this patient has markedly improved since she came under observation. Her opsonic index before tuberculin treatment was begun was 0.94 and is now 1.17.

Case 3.—E. G., female, aged 4, has left hip disease, and is being treated with plaster-of-Paris spica to the ankle and extension. Her opsonic index before the injections of tuberculin was .84. This has been raised to 1.2.

Each of these three patients had but four injections of tuberculin, 1/1000 mg. being given at each time at intervals of about ten days. This rise in the index has been accompanied by a noticeable improvement in Cases 2 and 3, much more decided than had been noted at any previous time.

The third group of six cases selected indiscriminately has been taken as a fair representation of those patients who have had the advantages of country air and the best of hygienic and dietetic care. These include four cases of hip-joint disease, one of the knee joint and one of Pott's disease (9th dorsal). One of these patients, J. K., female, aged 14, with left hip disease, has two discharging sinuses. These patients have been cared for in the country (Southampton, L. I.) for the past four months. The general appearance of each patient demonstrates the beneficial results derived from the sojourn in the country, and with but one exception their opsonic indices are comparatively high, ranging from 0.7 to 1.40 as follows: .74, .86, .94, 1, 1.2, 1.40. This exception is the patient cited above having two discharging sinuses, her opsonic index remaining as low as .74, the same as it was three months ago. This case demonstrates the fact already referred to, that patients with secondary infections do not respond to treatment as do those with only the tubercular infections, nor is their opsonic index as high.

Though the work outlined in this paper has not extended over a sufficient length of time to prove some points which still remain unanswered in regard to the value of the opsonic index and tuberculin in relation to orthopedics, nevertheless the following conclusions may be drawn:

1. Tuberculin in small doses at proper intervals is of undoubted value in the treatment of selected cases of tuberculous bone and joint infections.
2. The rise of the opsonic index is accompanied by an improvement in the local and general conditions of the patient, if no secondary infection exists.
3. The opsonic index will prove of value in determining the advisability of discontinuing mechanical treatment.
4. The opsonic index is of value in determining the prognosis in tuberculous bone and joint disease.
5. While there are discharging sinuses and mixed infections the opsonic index may be raised by the use of tuberculin, without an accompanying improvement of the general or local conditions (specificity).

We wish to express our thanks to Dr. H. L. Taylor and to Drs. V. P. Gibney and Royal Whitman, from whose hospital services these cases have been taken. We also thank Dr. C. E. Preston, house surgeon to the Hospital for Ruptured and Crippled for his cooperation in the work.

Special Article

TRAVEL NOTES FROM SOUTH AMERICA.

NICHOLAS SENN, M.D.
CHICAGO.

(*Continued from page 38.*)

X. MEDICINE IN LA PAZ.

La Paz is on the very frontier of civilization. and is so much isolated from the outside world that we naturally would expect the practice of medicine in this city to be in a somewhat crude state, and far behind the wonderful progress made by the medical profession in more favored parts of the world during the last fifty years. The progress of the science and art of medicine and surgery, which has had its origin in the great medical centers of the world during the last half century, has spread like an irresistible wave over the entire civilized world where it has uprooted old theories and planted the seed o modern rational medicine. This wave has reached the hermit republic, but for obvious reasons has not wrought the changes which are so apparent in countries in closer touch with the men who have replaced empiricism by reason and have substituted scientific research and facts for blind faith and superstition in the study, teaching and practice of medicine. We wh have been in the habit of visiting from time to time the well equipped laboratories and palatial hospitals of Europe and o our own country, are prone to forget the difficulties unde which our colleagues labor who are practicing their professio under less propitious circumstances.

Having seen hospitals the world over, large and small, good and bad, I am more interested in the hospitals in far out-of-the-way places than in the model hospitals in our own medical centers, because in the former case our colleagues have to battle with difficulties the nature and extent of which he only can appreciate who has seen them at work. The surgeon who does his work in a modern well-equipped hospital provided with every possible means for carrying out aseptic precautions, with trained nurses at his disposal, who prepare his patients, and hand him instruments, ligature and suture material, on the asepticity of which he can rely, and who is assisted in his operations by young, competent physicians who at any time could step in and take his place at the operating table, has an easy berth compared with the one who must perform his operations surrounded by the most primitive conditions, and who has no one with whom to share his responsibilities, and no one to render him intelligent, reliable assistance. It is in poor communities on the outskirts of civilization, where the surgeon's ability and self-reliance are put to the severest test. In the former case fully one-half of the battle is fought by the well trained, wide awake, conscientious female nurses, one-fourth by the well-educated competent assistants, and the balance by the much-favored operator who, however, is only too often inclined to place the whole victory to his own credit.

It would do these self-confident surgeons who have seen nothing but the best phases of surgery, good to look into some of the most primitive hospitals of South America, as I have seen them, and then they would be in a better mental attitude to appreciate the value of their own work, the advantages they enjoy, and the excellence of the service rendered them by their nurses and assistants. Such an experience would be well calculated to teach them how much surgery is indebted to modern hospital construction, trained female nurses and competent assistants, and estimate at its true worth the merit of their own work. I have often admired the courage, self-reliance and ability of surgeons who have to perform the most difficult operations under circumstances well calculated to make the most experienced surgeon from medical centers, feel and realize his utter helplessness. We often learn more from shadows than the light, and I have seldom left a hospital, no matter how simple and poor it may have been, without having learned something. The poorer the hospital, the greater are the demands on the limited means and resources of the staff, and under such conditions the visitor often receives valuable hints in the simplification of aseptic technic, and the proper use of very few instruments in performing the most difficult operations.

The present population of La Paz is 90,000. It is safe to make the statement that of the inhabitants at least 75 per cent. are Indians, who never expect to pay for medical services. The income of the physicians of the city is derived, therefore, from about 25 per cent. of the population, which would be about equal to one of our cities with a population of 22,500. The sick and injured are cared for by twenty-eight practicing physicians, all South Americans with the exception of Dr. Adolf Stoecker, a German, and graduate of a German university. Besides these there are five dentists and ten midwives, the obstetric practice being largely in the hands of the latter. The professional tone among the physicians appears to be good, and clique combinations are unknown. Three bolivars ($1.20) is the usual fee for an office consultation or visit in the city. The fee for operations is correspondingly low. Dr. Stoecker has practiced in this city for the last ten years, has a large practice, and his clientele includes some of the best families, but his yearly income does not exceed 12,000 bolivars ($4,800), and he has next to the largest income of any medical man in the city.

La Paz has a national university, of which the medical college is the medical department. Another medical school of Bolivia is connected with the University of Sucre, the real capital of Bolivia. The La Paz Medical College has an attendance of less than fifty. The students must show evidence of a good preliminary education before they are permitted to matriculate in the medical school, and must study medicine seven years before they can come up for the final examinations. The plan of teaching is based on the French method. The equipments of the school are of the most primitive and plainest kind, and laboratory teaching, such a prominent feature in the modern medical schools, is almost entirely ignored. The greatest stress is laid on bedside clinical instruction. No regular surgical clinics are given. After an attendance of two years, the students must serve six hours a day in a hospital where they follow the service of their clinical teachers; make preparations for and assist in operations, and perform such other duties as are assigned to the internes of our hospitals. This form of clinical instruction is made obligatory for the balance of the course of study. One of the requirements for graduation is the preparation of a thesis which, if found satisfactory, is printed at the student's expense, and is usually given extensive notice in the South American medical press.

MEDICAL SOCIETY.

Bolivia has no national medical society. The defective means of transportation, the great distances and the low fees received for medical services may account for this. The only medical society in the country is in La Paz. The Sociedad Medica de La Paz has an active membership of 21, and 26 corresponding members. Of the active members, all reside in the city of La Paz; of the corresponding members, 18 reside in Bolivia and the remainder in the other South American republics, Italy, Mexico and Cuba. The meetings are held monthly or semi-monthly according as the scientific spirit moves the members. Short papers, presentation of patients, discussion of cases and presentation of pathologic specimens take up the time of the meetings.

MEDICAL JOURNAL.

The *Revista Médica* is the official organ of the La Paz Medical Society, and the only medical journal published in Bolivia. It appears monthly or bi-monthly and has reached the age of seven years. It is published in La Paz and is edited by Dr. Elias Sagarnaga, surgeon major of the Bolivian army, president of the Medical Society of La Paz, professor of the faculty of medicine, surgeon to the Hospital Landaeta, and Dr. Nestor Duran, secretary of the Medical Society of La Paz, attending physician to the Hospital Laaysa, and surgeon in the army. The number for May and June, which made its appearance while I was in La Paz, contains a lengthy report of the surgical operations performed by Drs. Sanjines and Sagarnaga during the year 1906, and a very valuable and extremely practical paper entitled "Practical Notes on Obstetric Therapeutics," by Dr. J. Pon Orfila. These contributions to surgery and obstetrics deserve the attention of a wider circle of readers than can be reached by the local medical journal.

HOSPITALS OF LA PAZ.

La Paz has two general hospitals and a private hospital recently built and owned by Dr. Orfila. In a city founded as early as 1548, and for more than 300 years under Spanish rule, and so completely under the influence of the Roman Catholic church and so much isolated from the outside world, we would naturally expect to find the hospitals not what they should be now, but what they were when they were founded. This is true of the hospitals of La Paz. Through the courtesy of Dr. Stoecker I was given an opportunity to make a very satisfactory inspection of the oldest and largest hospital of La Paz.

LANDAETA HOSPITAL.

This immense structure, built by the Spaniards in the old Spanish style of architecture, was first a monastery in which monks lived and performed their pious functions. When the necessity for a hospital arose, the monks took in the patients as they applied for treatment and cared for them. The number soon increased to such an extent that the space for the monks became inadequate, when the institution was turned over to an order of Catholic sisters, and they have managed it as a hospital ever since. The many adobe tile-roofed, one-story buildings are connected by arched inner porticos arranged around many inner square courts or patios. The central building, constructed in the form of a cross, with high arched ceilings, and the many smaller rooms, resembling chapels, indicate clearly the original purpose of the institution, and that very few changes have been made since the monastery was transformed into a hospital. The many wide doors and open courtyards take largely the place of windows in admitting light and air. The iron cots, plain bedding, tin pails and wash dishes, crude stands, and here and there a rocking chair, make up the furnishings of the hospital. The floors of large red tile are well worn, but are kept clean by the twenty-one Italian sisters who now manage the institution and take care of the sick. There is not a trained nurse in the city of La Paz, and the nursing in the hospitals leaves much to be desired. Separated from the complicated mass of building, of the original monastery by the river which bisects the city, are a number of one-story mud pavilions which are used as an isolation hospital. The hospital has recently made a great improvement by building a small but well-constructed operating room with sky and side light, smooth, painted walls and tile floor, a refreshing sight after a long walk through dim wards and arched galleries. The hospital also has a few private wards with three beds, which are for the convenience of patients who can pay 3 bolivars ($1.20) a day for treatment and care. In one of the two-story buildings the upper floor is occupied by sick soldiers, and comprises the military section, which is in charge of a military surgeon.

In the surgical statistics of Drs. Elias Sagarnaga and Sanjines, referred to earlier in this letter, somewhat detailed accounts are given of 350 cases which came under their observation and treatment during the last year. Incision of abscesses, enucleating of suppurating inguinal glands, contusions, wounds, phimosis, phelegmonous inflammation and fractures and dislocations form the major part of the clinical material. Of the 350 cases, 81 are classified under the head of wounds. Three cases of espandia were operated on by curettement and the Paquelin cautery, and two of these patients were reported as cured. Hernia is operated on by the Bassini method, deep catgut sutures and superficial silkworm gut. The average duration of the operation is said to be twenty minutes, with healing by primary intention. Five cases of lupus were operated on by the Paquelin cautery, and in three of the cases cure was noted as the result. Eight patients with osteomyelitis were subjected to operative treatment, and of these one died from septicemia seven months after the first operation. Sixteen cases of ulcers of the legs are included in the statistics, and the treatment employed consisted largely in scraping and the Paquelin cautery. Chloroform is the anesthetic in general use.

This hospital is old and has all the defects and disadvantages of old age, and yet it has been a great blessing to the community. Its patients have good care, good food, and the best treatment possible under existing circumstances. The sisters, with no knowledge of scientific nursing, have labored faithfully and unselfishly for the benefit of the sick poor with no other reward than the blessed consciousness of having done their duty.

AN UNKNOWN DISEASE.

In this hospital I examined at least thirty cases of a disease hitherto unknown, which is known to the natives as *Espandia*, and which prevails to a considerable extent in Bolivia. The patients were all Indians or half-castes from 12 to 50 years of age. The disease is found in the high altitudes of Bolivia, and attacks natives and mestizos of both sexes. As this hospital, however, is only for men, I saw none of the female patients. Dr. Stoecker, who has had a very extensive experience with patients thus afflicted, and who has studied the disease with great care, says that, so far, its cause and nature remain unknown, as no careful bacteriologic examinations have been made.

The gross pathologic condition consists in a granulomatous process which begins at the mucous or cutaneous margin of the lip—in preference the upper lip. The granulations are pale and glossy, and their breaking down gives rise to ulceration which soon involves the alæ of the nose and the septum, and finally red spots appear on the hard and soft palates, which ulcerate and become perforated. The lymphatic glands are not involved. The destructive process remains limited to the parts mentioned, but causes frightful mutilation of the face, while for a long time the general health of the patient remains apparently unimpaired. The disease is contagious, very chronic and incurable, the patients usually dying after ten to thirty years from some intercurrent disease. The local conditions bear some resemblance to syphilis and lepra, or a combination of these two diseases. In one of the cases the patient had a saddle-nose which hardly could have been caused by anything but tertiary syphilis. Dr. Stoecker gave potassium iodid a long and thorough trial in many of these cases, but the treatment made no impression.

Here is a good opportunity for some competent bacteriologist to search for and discover the microbe of this strange disease, and by so doing to formulate rules for its prevention and a means of cure.

HOSPITAL LAAYZA.

This hospital is devoted to the care of sick women. It is smaller than the Landaeta Hospital, but of similar construction.

NEW GENERAL HOSPITAL.

The building of a new general hospital is now under consideration and Dr. Adan Sanchez has written a series of articles in the *Revista Médica* describing the plans which are proposed for its construction. It promises to be a modern building, and will fill a wide gap in the care and treatment of the sick in La Paz.

CLINICA PRIVADA.

Dr. Sanjines, who spent several years in Germany in completing his medical education, has recently built a private hospital (Clinica Privada) in one of the most desirable parts of the city. The building is modern in every respect, and is well supplied with everything necessary for aseptic surgery and the best care of the sick. The doors of this institution are open to the private patients of other physicians, and the hospital is destined to become the center of scientific surgery in Bolivia.

PREVALENT DISEASES.

The disease which is feared more than any other in this altitude (12,226 feet above sea level) is pneumonia, which is very fatal and is the most common cause of death in people advanced in years. I noticed that the natives wear under their llama wool hats, knit, closely fitting, long-tailed woolen caps, which they draw carefully down over their ears. The reason for this I could not appreciate until Dr. Stoecker informed me that one of the most common acute diseases of Bolivia is a hemorrhagic form of otitis media and bronchitis, which he considers a form of influenza as it appears in this high altitude. Not infrequently this disease proves fatal and in other cases the hearing is permanently impaired. Heart disease is another common affection attributable to the high altitude, and individuals with weak hearts run grave risks in going to La Paz. Strangers who come here with sound hearts find it difficult to breathe on taking the slightest exertion, and it takes at least four weeks before they become sufficiently acclimated to walk up the steep incline of the streets for a block or two without suffering from shortness of breath. Blue lips and bulging eyeballs are common sights on the streets of La Paz. Tuberculosis is very rare in this altitude. Rheumatism and intestinal disorders are common. There are no tropical diseases in La Paz, but typhoid fever and dysentery figure more or less throughout the year in the sick and mortality reports.

Difference in Action of Various Heart Tonics.—R. Friedländer discusses the action of the various heart tonics and gives a tabulated oversight of the indications for their use in the *Therapeutische Monatshefte* for April, 1907. He thus defines the indications for digitalis as, "cardiac defects, heart weakness in young persons;" for digitalis plus caffein, as, "heart defects in older persons, extensive congestions;" for strophanthus as, "heart defects in the aged, heart defects with asthma, dyspnea, agitation, degeneration of the myocardium, fatty degeneration, and coronary sclerosis;" for camphor as, "myodegeneration, heart weakness in case of pulmonary affections, poverty of the blood, dilatation, incipient heart defect, collapse;" for caffein as, "stenosis of the aorta, coronary sclerosis, congestions, heart weakness with pulmonary affections, collapse," and for alcohol as, "spasmodic contraction of the vessels, slight collapse."

Clinical Notes

CAR CONDUCTORS AS DISSEMINATORS OF TUBERCULOSIS.

ALFRED F. HESS, M.D.
NEW YORK.

When riding in the surface cars most of us, no doubt, have inwardly rebelled against touching the transfer tickets handed us by a conductor, who either has just held the entire pad of tickets between his teeth or has smeared the proffered one with his freshly licked fingers. For years I also had regarded this merely as a disgusting trick, but when about two months ago a conductor of markedly phthisical habitus handed me a transfer ticket treated in this manner I thought it worth while to find out whether this nasty practice might not likewise be a dangerous one. Accordingly I at once made a smear from the ticket on a slide which I had with me. On staining this specimen little was to be seen. However, a few mornings later I rode in a car with the same conductor, who, as I now noticed, coughed slightly. The car was an open one, so that he used his hands for support and held his pad in his mouth. A smear made from a ticket this time, when stained with carbol fuchsin and decolorized, showed a few definite tubercle bacilli.

Comment on this condition of affairs seems unnecessary. The deduction is simple. This man, day after day, was distributing tubercle bacilli broadcast among passengers. The remedies for this evil which suggest themselves to me are: (a) Medical supervision of the conductors. There is some such provision on the subway and elevated roads but not on the surface lines (b) A rule forbidding the conductors to contaminate the tickets with their saliva. (c) The employment by each conductor of a chain by which to hang his pad.

154 West Seventy-second Street.

CASES OF GASTRIC AND DUODENAL ULCER WITH PERFORATION.

W. D. HAMILTON, M.D.
COLUMBUS, OHIO.

These patients were in the service of my brother, Dr. Charles S. Hamilton, and myself at Mt. Carmel Hospital this year:

CASE 1.—*History.*—Mr. C. W., aged 49, was admitted to the hospital, May 10, 1907, at 2 p. m.; he walked to the elevator with his physician, Dr. Stanley, who had made a diagnosis of intestinal obstruction. The man, who had little or no fat, had an unusually fine physique. For several days he had been having pain in the pit of the stomach. There was a history of chronic dyspepsia and pain used to come on from one to three hours after food. When the accident occurred, at noon of the day preceding that of admission, he was pitching sheep into a stream. During such a physical effort, he was seized with sudden, severe pain in the abdomen. At first it was general, then under the sternum, later referred to the right shoulder. Dr. Stanley gave him morphin and was at once impressed with the gravity of his case. The pulse was 72, temperature subnormal. His bowels had acted on that day. A cathartic had been given prior to entry but seemed to aggravate his vomiting, which became more frequent and profuse. There had been no result from numerous large enemas which Dr. Stanley had ordered for him.

Examination.—On admission his temperature was 99.4 F., pulse 120 and quick in character; respiration 35. Expression somewhat anxious. A splash sound was in evidence on palpation of the left inguinal area. Rectal digital examination yielded negative results. There was moderate distension and his muscles were generally rigid, though not extremely so. The percussion note, inclined to dulness in the lower abdomen, was resonant toward the epigastrium, while a tympanic note was observed in both epigastric and cardiac areas. The chest was normal and the abdomen generally somewhat tender. A diagnosis, inclined to gastric perforation was given.

Operation.—Twenty-seven and one-half hours following perforation an exploratory median incision below the navel was made. Odorless gas escaped, while turbid fluid, was found, especially in the pelvis in considerable quantity. A median epigastric incision showed gas in bubbles and some fluid, but less in quantity. Everywhere, both above and below, flakes of fibrin were to be seen, while discoloration, due to peritonitis, was seen on the anterior gastric wall and lesser curvature. A perforation, valvular in character, was found in a rather inaccessible position near the lesser curvature. That part of the gastric wall was so indurated that sutures were not easy of application. Two rows were employed in the contiguous gastric tissues, however, in such a way as to minimize tension. A portion of an onion-top was picked up on a sponge used for cleansing the affected parts. The cavity was washed out as thoroughly as possible with physiologic salt solution. Blake's tube served a useful purpose in the undertaking. Drains were inserted, one in each wound.

Postoperative History.—Nutrient enemas were alone employed at first. In a few days, feeding by the mouth was guardedly permitted. This was not well borne. The abdomen became a good deal distended, and the patient's condition gave us considerable anxiety. He was soon relieved, however, by lavage and rectal feeding until the distension had subsided. Within ten days after operation, he was convalescent, took some food by mouth and his subsequent convalescence was uneventful and satisfactory. He is now quite well.

CASE 2.—*Patient.*—Mr. J. M. B., aged 28, of Chillicothe, Ohio, was brought by his physician, Dr. Brown, to the hospital, June 27, 1907.

History.—He had had for some years, indigestion so annoying as to compel him to live on a rather rigid diet. He looked as though he had been fairly well nourished, notwithstanding. He had for a long time been subject to pain after eating, and at times his seizures were more pronounced during the night. On the evening before admission, he was seized with sudden, severe pain in the abdomen, as though things had "broken loose." When admitted, eleven hours later, pulse was 100, abdomen somewhat distended. The parietes were board-like. The left flank was resonant, the right was somewhat dull on percussion. Respiration was hurried and shallow. A perforated gastric or duodenal ulcer had been suspected.

Operation.—This was performed without delay and a median celiotomy below the navel was first done. The abdominal cavity contained free gas and turbid fluid in abundance. The appendix was normal. An incision was then made in the epigastrium. On the anterior surface of the first portion of the duodenum, was a perforation, circular in shape, punched out in appearance, and perhaps 1/6 inch in diameter, through which fluid could be seen flowing. The intestine was indurated for some distance about the opening. For its closure, two rows of stitches were inserted. The cavity was thoroughly irrigated with physiologic salt solution, by means of Blake's tube. No drain was used in the upper wound, lest it might jeopardize the line of suture, but in the lower one a rubber tube was carried merely through the parietes.

Postoperative History.—He was fed by the rectum for a time but his progress was not satisfactory. He had mild sepsis for some weeks. He developed infective parotitis, which, fortunately perhaps, did not suppurate. Later dulness having appeared in the right chest, three ounces of pus were aspirated from the seventh intercostal space. In a few days pleurotomy was done with removal of a portion of rib. The drainage proving inadequate, pleurotomy was again done with excision of rib at two other places in the right chest. His convalescence, while slow, was interrupted from this last procedure. He is now greatly improved in every way and is about free from his former physical annoyances. He has gained greatly in weight and strength.

Prompt action on the part of the physicians in attendance made it possible for operative interference to be successfully practiced in both of these cases. The cases show that perforation of a chronic gastric or duodenal ulcer may occur even in those who are, apparently, in fair physical condition.

These chronic ulcers are, no doubt, often present when not suspected. Prolonged symptoms of indigestion should invite careful inquiry, lest some condition relievable by timely surgery be overlooked. Not only should perforation be thought of as a possibility, but the incidence of cancer after gastric ulcer. It is hoped that before long patients with carcinoma of the stomach will be sent to the surgeon before a tumor can be proven by palpation. When a middle-aged or old patient has had sour stomach for some weeks, with great loss of flesh and strength, for reasons not apparent, it is wise to have the anemias excluded and gastric findings scrutinized without delay by an able surgeon so that should an exploratory incision be necessary to complete the diagnosis it can be done; for then it is that partial gastrectomy offers a fair chance of cure.

It is better to insist on an early diagnosis, even though some less formidable condition be discovered, than to have been medically asleep while a savable life was ebbing away. Too often waiting for the tumor means hopeless visceral and glandular involvement when explored.

1 North Fourth Street.

SEPTIC PYEMIA.

LEWIS M. GAINES, M.D.
WAKE FOREST, N. C.

Since the introduction of antisepsis septicopyemia has become a rather rare affection. But cases occur occasionally which are beyond the power of the surgeon to forestall, or the patient may present himself after the disease has made considerable headway. The report of a case therefore is attended with some interest, first, from the comparative rarity of the disease; second, from its very logical pathology, and third, from certain errors in diagnosis which may occur, an example of which appears in the present case.

History.—J. B., male, aged 13, gave an excellent family and past history. Twenty-eight days previously, in playing basket ball, he received an abrasion on his right heel just over the tendo Achillis from having a player step against his foot. An ulcer formed and more or less soreness developed. Improvement however was noted and the wound showed signs of healing, when one night three weeks after the reception of the wound, the boy was seized with a chill followed by a marked rise of temperature with the attending subjective symptoms of fever. He also complained a few hours later of pain in the right ankle joint. At this juncture a physician was summoned and the case was pronounced one of acute articular rheumatism. For six days this diagnosis held sway. At the end of this period the boy was removed to his home a number of miles distant. On the eighth day of the disease I was called in consultation by the attending physician. The boy lay in a semi-stupor interrupted by both delirious and lucid intervals.

Examination.—The patient's right foot and leg presented a high degree of edema. Over the tendo Achillis was a rather superficial ulcerated area the size of a quarter of a dollar. Over the dorsum of the foot the cuticle was raised into one huge bleb filled with slightly turbid serous fluid. Along the edge of the bleb a little fluid oozed through the ruptured cuticle. The leg showed edema as far up as the knee. The surface of the skin was uniformly red. The slightest movement of the ankle was extremely painful. The thigh was not swollen nor was the saphenous vein palpable or tender. Marked tenderness, however, was noted in the popliteal space and along the base of Scarpa's triangle. The inguinal lymph glands were enlarged. The left wrist joint was swollen, red and excessively tender as was also the left shoulder joint. The abdomen was hard and board-like and very tender, making positive determination of the spleen problematical. The heart sounds were replaced by loud blowing murmurs heard over the precordial area and well outside of it. There was a pleural friction rub on the left. Pulse 132, and of fair quality; respiration 26, and rather shallow. The facial expression indicated distress. The tongue was moderately coated.

Subsequent History.—The treatment was solely expectant. Under general stimulation and local antiseptics there was no marked improvement.

On the ninth day examination of the serous fluid in the bleb revealed streptococci. Cocci was present in the urine in such numbers that casts made entirely of them were noted. Cultures of the streptococcus and staphylococcus were obtained from the bleb and the urine. The patient died at midnight of the eleventh day.

As the case stands, complete error in diagnosis would seem unlikely. The focus of infection, and its local extension; the appearance of multiple arthritis; the enlarged inguinal glands; the appearance of acute endocarditis and pleurisy, and the symptoms of grave general intoxication make a picture of dreadful certainty. Added to this is the result of bacteriologic examination. In the beginning of the disease, however, a number of the symptoms might be confused with those of acute articular rheumatism, and it is well to bear in mind such similarity and apply all possible discriminating tests.

GORDON'S PARADOXIC FLEXOR REFLEX AND ITS DIAGNOSTIC SIGNIFICANCE.*

GEORGE E. PRICE, M.D.
Instructor in Neurology in the Jefferson Medical College; Assistant Neurologist to the Philadelphia General Hospital.
PHILADELPHIA.

HISTORY.

On Oct. 24, 1904, Dr. Alfred Gordon demonstrated before the Philadelphia Neurological Society a new reflex,[1] namely, extension of the great toe on pressure or irritation of the deep flexor muscles of the calf of the leg. This he claimed was indicative of the motor tract disturbance, and was called by him the "paradoxic flexor reflex." At this time he remarked on an apparent antagonism between the paradoxic reflex and Babinski's sign. In December of the same year a further contribution on the subject by Dr. Gordon followed, in the form of a paper, with presentation of cases, before the same society.[2] At this time he emphasized the importance of the reflex as a sign of diagnostic value, particularly in irritation or early stage of a motor tract lesion.

Gordon's next paper,[3] read before the same society, cited two cases as anatomic proof of the value of his reflex. In one of these cases (localized hemorrhagic pachymeningitis) the clinical findings were verified by operation and autopsy, and in the other case (localized cerebral trauma) by operation. In a fourth paper,[4] read at the meeting of the American Neurological Association, May, 1907, Gordon called attention to the frequency of the paradoxic reflex in paresis, which fact is of interest when we consider the infrequency with which Babinski's sign and Oppenheim's reflex are found in this disease and the frequency of motor tract lesions in paresis as revealed by necropsy.

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* Read before the Philadelphia County Medical Society (Central), Oct. 23, 1907.

[1] Amer. Med., viii, 23, p. 971; and Jour. of Nerv. and Mental Dis., February, 1905, 123.

[2] Jour. of Nerv. and Mental Dis., June, 1906, 415.

[3] Amer. Jour. of the Med. Sciences, August, 1907.

[4] Jour. of Nerv. and Mental Dis., July, 1907, 430.

TECHNIC.

For the benefit of those who may not be familiar with the method, I will quote verbatim from Dr. Gordon's first paper:

> The patient may either lie on his back or sit on a chair with the feet (not the legs) on a stool. The feet must be slightly rotated externally; in this position complete relaxation of the muscles of the leg is obtained. The examiner must always place himself to the outer side of the leg; the thenar and hypothenar muscles of his right hand must be placed on the inner surface of the tibia of the patient and the fingers press deeply on the middle or the lower portion of the calf muscles. Sometimes pressure must be combined with lateral movements of the superficial muscles. If the reflex is present, extension of the great toe, or of all the toes, will be noticed.

Extension of the great toe is common to the Babinski, Oppenheim and Shaeffer's antagonistic reflex, as well as to the Gordon reflex, the difference being in the manner of eliciting the symptom. Babinski strokes the sole of the foot, Oppenheim draws a hammer handle along the inner border of the tibia, Shaeffer pinches the tendo achillis, while Gordon irritates the deep flexor muscles of the calf of the leg. Lasarew[5] has also demonstrated that in some instances stroking or pinching the skin over the calf muscles will produce the same phenomena.

CAUSE.

Dr. Gordon offers no explanation for the paradoxic reflex, remarking that it is as difficult to explain as the Babinski reflex. It is probable, indeed, that the explanation of the Babinski sign would be the explanation of any of the so-called paradoxic reflexes.

Various theories have been advanced from time to time to explain the Babinski and Oppenheim reflexes. Pfeifer[6] believes that reflex extension of the toes when the plantar surface is stimulated depends on the presence of an embryonal tract with a cortical center, to which function reverts when the pathway through the pyramidal tracts is impaired. Goldflam[7] bases his theory on the existence of two centers for skin reflexes, one cortical, active normally, the other spinal, acting only when the cortical center is cut off by a motor tract lesion.

CLINICAL VALUE.

To the classical syndrome of motor tract involvement, exaggerated reflexes, muscular rigidity and ankle clonus, various reflexes of the lower extremities have from time to time been added. Of these the Babinski and Oppenheim signs are in most general use. Among others may be mentioned the Bechterew tarsophalangeal reflex,[8] the Bechterew-Mendel dorsal foot reflex[9] and the Shaeffer antagonistic reflex. To add another reflex having the same clinical significance would be useless, did two or more of those mentioned occur in every case. Every clinician knows, however, that the symptoms most constant in motor tract disturbance, increased reflexes and muscular rigidity, are not infrequently found in functional disorders, and that ankle clonus, Babinski's and Oppenheim's signs may be absent with a true organic, motor tract lesion. Each additional reflex, therefore, which indicates motor tract disturbance and may be present to the exclusion of other positive signs, becomes of undoubted semiologic value.

Besides its importance as a sign of disturbance of the upper motor segment, the Gordon reflex is of value as a delicate sign, being commonly found early in the history of the lesion or when the involvement is slight. That the reflex may be present in association with the exaggerated reflexes, but without ankle clonus, Babinski's or Oppenheim's signs, has been demonstrated, four such cases, all with cerebral lesions having been reported before the Philadelphia Neurological Society.[10] To these I take pleasure in adding a fifth case, one of spinal trauma:

CASE REPORT.

History.—P. B., male, aged 30. On May 17, 1907, patient received an injury to his back through the derailing of a train. The car in which he was riding overturned, throwing him against one of the chairs, the top striking him in the lumbar region to the left of the spine. He did not lose consciousness, was able to crawl out of the car, and during the journey home, walked a distance of about 40 yards, which was accomplished with difficulty, not on account of muscular weakness, but because of severe pain in his back. When seen the same evening, six hours after the accident, he complained of severe pain in the lumbar region and inability to move without suffering. No external signs of traumatism were observed.

Examination.—On examination there was found marked tenderness in the lumbar region, especially in the muscles to the left of the spine. The patient could move both lower extremities at hips, knees and ankle. The knee jerks were much exaggerated. There was no ankle clonus, Babinski or Oppenheim reflex on either side. The Gordon reflex, however, was present on both sides, being especially pronounced on the left side. The right lower extremity was hyperalgesic, while over the left extremity, pain sense was entirely lost anteriorly and posteriorly to the junction of the middle and lower thirds of the thigh, externally and internally to the junction of the upper and middle thirds of the thigh; tactile sensation was present over both lower extremities, but somewhat blunted on the left over an area which could not be definitely determined, but which appeared to correspond to the analgesia. There was no sphincter disturbance and no girdle sensation. No hysterical stigmata were present. When seen the following day, in addition to the symptoms already noted, the patient complained of a sense of constriction about his body, and there was loss of pain sense over the right lower extremity, anteriorly to the junction of the middle and lower thirds of the thigh, posteriorly to the lower border of the popliteal space, externally to the junction of the upper and middle thirds of the thigh and internally to the knee. On the third day after the injury disappearing ankle clonus and Babinski's sign were present on the left side. On the fourth day sphincter weakness had developed, both of bladder and rectum, and weakness of the flexors of the left ankle. After remaining stationary for a few days the symptoms gradually disappeared, the Gordon sign being the last to leave.

I also wish to place on record the following observation: On May 19, 1907, I found the Gordon reflex (on one side only) in a typical case of paralysis agitans, seen in consultation with Dr. Charles Manning. I have since observed the Gordon sign in three of six cases of paralysis agitans examined at the Philadelphia General Hospital. The Babinski reflex was present in three of these cases, in one instance in association with the Gordon sign and in the other instances occurring alone.

1810 Tioga Street.

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[5] Neurol. Centrbl., April 1, 1906, 291.

[6] Monatssch. f. Psych. u. Neurol., December, 1904, xvi, 6.

[7] Neurol. Centrbl., Dec. 16, 1903, xxii, 24.

[8] Neurol. Centrbl., July, 1904, xxiii, 13.

[9] Neurol. Centrbl., April 1, 1906, 293.

[10] Jour. of Nerv. and Mental Dis., March, 1907, 205.

AN AIR-TIGHT TROCAR FOR THORACENTESIS.*

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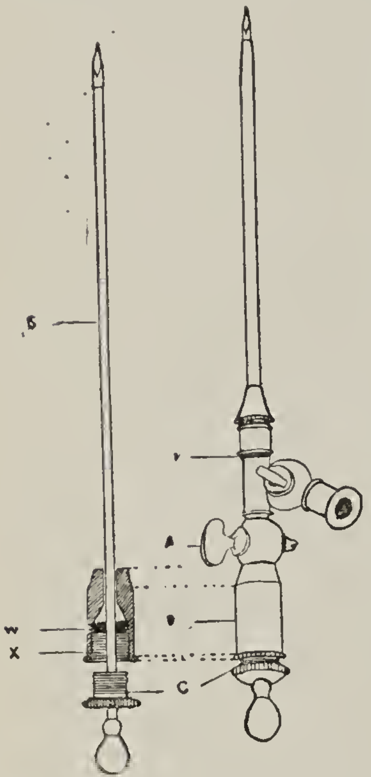
BOSTON.

For the evacuation of pleural fluid by aspiration or siphonage a trocar, with lateral outlet, presents certain advantages over an ordinary needle. The needle may become plugged during its introduction into the chest or during the withdrawal of fluid, and must then be removed to dislodge the obstruction if the danger of artificial pneumothorax and possible infection of the pleura are to be avoided. Its unprotected point, moreover, may wound the expanding lung or the diaphragm. A trocar so constructed that air can not enter the chest on the withdrawal of the stilet not only guards against artificial pneumothorax and possible infection of the pleura, but also prevents the exit of pleural fluid from the body of the instrument before a stopcock can be turned.

Of the different trocars now in use Fraentzel's[1] and Potain's[2] are the most satisfactory. Potain's instrument is less cumbersome and more easily cleaned. In Fraentzel's trocar the lateral outlet is protected by a stopcock. In Potain's instrument the stilet passes through a conical tube and an air-tight connection is maintained by contact. Such a joint is insecure and the conical tube may be disconnected accidentally during the withdrawal of the stilet or other manipulation of the instrument.



Air-tight trocar for thoracentesis, one-half actual size.

To combine the advantage of a stopcock on the lateral outlet, as in Fraentzel's trocar, and to obviate the insecurity of a joint by contact of the conical tube with the body of Potain's trocar I devised the trocar here shown.

The addition of a stop-cock to the lateral outlet permits the introduction of the trocar into the chest before it is connected to rubber tubing for aspiration or siphonage. It also allows a change to be made from one apparatus to another during the evacuation, if this is desired.

A small cap C, through which the stilet S passes, can be securely screwed to the base B of the instrument. The accidental detachment of the stilet and its holder is thus avoided. Although the stilet and cap can be removed from the base after the puncture is made and the stop-cock A turned it is an advantage to allow the stilet, withdrawn to its full extent, to remain. The stilet is then less likely to be misplaced or contaminated and can more readily be reinserted to dislodge fibrin or other material which may plug the cannula.

The entrance of air and the exit of fluid are prevented by a rubber washer W. This may be made by cutting a section from a piece of rubber tubing of an appropriate diameter to fit the compartment X and the lumen of which is of approximately the same caliber as the stilet. Owing to the shape of the compartment, the degree of approximation of the washer can be varied at will by the tightening or release of the screw of the cap.

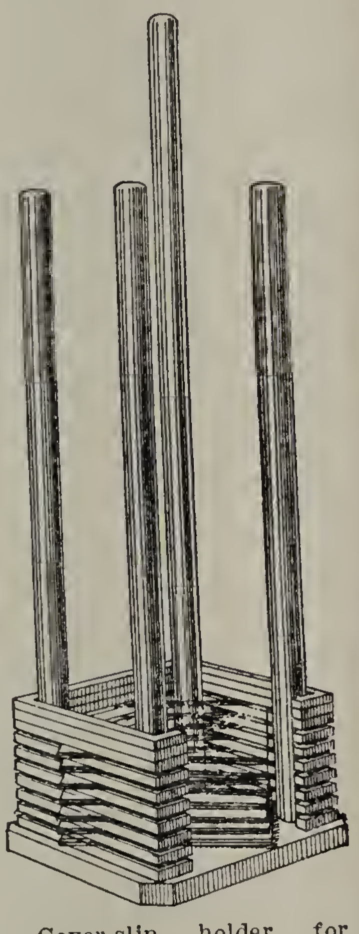
For the cannula an internal diameter of 2 millimeters and a length of 7 centimeters are most convenient. The cannula can be unscrewed (at y) from the body of the instrument and replaced by another of different size. If cannulas of different size are used, to each a separate stilet and cap must be fitted.

A COVER-SLIP HOLDER.

WILLIAM PEPPER, M.D.
Assistant Professor of Clinical Pathology, University of Pennsylvania.
PHILADELPHIA.

This holder was devised and made to fill the want of a suitable piece of apparatus to hold a large number of cover-slips while staining. It consists of four upright brass posts rising from a flat, square base, each post being securely fastened in a corner of the base, and of some twenty or thirty square bands or hoops of brass fitting snugly around the four posts, part of one side of each band having been cut away. The base should project slightly beyond the four posts, so that the bands when placed over and around the posts will rest on it. Cover-slips, either singly or in pairs, with back to back, can be placed between each band, the corners of the cover-slips projecting between the posts. When in position the cover-slips are a sufficient distance apart to allow the stain to run in between them.

The various stains can be kept in glass cylinders just large enough to receive the apparatus and the loaded holder can be lowered into one of these glasses, tilting the glass as far as posible to one side to let the air bubbles run out through the openings in the bands; these opening should preferably be superimposed one above the other. Cover-slips can not fall out after being placed in position, and there is not the slightest tendency for them to get broken.



Cover-slip holder for staining a large number of cover-slips simultaneously.

The holder shown in the cut is for use with ¾ inch square cover-slips; for larger sizes a larger apparatus would be necessary. It would, perhaps, be possible to construct a triangular holder with three posts for staining round cover-slips, but these are seldom used in blood work, the squares being much better for making spreads.

I have stained spreads in this holder with hematoxylin and eosin very successfully, and even Wright's stain can be used with good results and with a considerable saving of stain. I have put in one glass, pure undiluted Wright's stain, and in another glass the properly diluted stain, and then have transferred the holder from the first into the second. The stain in these two glasses can be used again several times, so that it is possible, with but very little stain, to prepare a great many cover-slips. With this apparatus 35 c.c. of solution is sufficient for staining fifty cover-slips simultaneously.

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* Read at the Clinical Meeting of the Medical Board of the Massachusetts General Hospital, Nov. 22, 1907.

[1] Fraentzel: Berl. Klin. Wochschr., 1874, No. xii.

[2] The instrument generally known as Potain's trocar is figured and described by Fraenkel (Handb. d. phys. Therap., Part II, vol. i, 1902, p. 438).

New and Non-Official Remedies

The following articles have been tentatively accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in the proposed annual, "New and Non-official Remedies." Their acceptance has been based largely on evidence supplied by the manufacturer or his agent, but to some extent on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before final acceptance and publication in book form.

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known it complies with the rules adopted by the Council.

W. A. PUCKNER, Secretary.

(A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.)

(Continued from Vol. XLIX, page 1921.)

COLALIN LAXATIVE.

TABELLA COLALINÆ CUM EXTRACTO RHAMNI PURSHIANÆ, CROWELL.

Each tablet is said to contain colalin, 0.015 Gm. (¼ grain), powdered extract of cascara, 0.12 Gm. (2 grains), podophyllin, 0.01 Gm. (1/6 grain).

Dosage.—One to three tablets on retiring or one after each meal.

Manufactured by Rufus Crowell & Co., Somerville, Mass. (Schieffelin & Co., New York).

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Guaiacol Carbonate Comp. is the word-mark for the Mulford Co. brand of

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Soft, elastic, soluble capsules, each of which is said to contain: Guaiacol carbonate, 0.09 Gm. (1½ grains); calcium hypophosphite, 0.03 Gm. (½ grain); ichthyol, 0.03 Gm. (½ grain), strontium arsenite, 0.00055 Gm. (1/120 grain), and olive oil sufficient to make 0.3 Cc. (5 minims). The odor of guaiacol that is noticeable in some samples is due to a partial decomposition of the guaiacol carbonate.

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MALTZYME.

A preparation essentially equivalent to Extractum Malti U. S. P. and containing 7 per cent. of alcohol.

Maltzyme is a translucent, limpid liquid. One Gm. maltzyme is claimed to have the power to produce from starch, in 30 minutes at 37.8° C., 6 gm. of maltose.

The diastasic power of the preparation may be tested by converting 7.5 Gm. of arrowroot starch, in the usual way into a starch paste measuring 250 Cc., adding sufficient of a 2 per cent. maltzyme solution to produce when finished a liquid containing about 1 per cent. of maltose (about 22 Cc.), and digesting the starch for one-half hour at 37.8 C. The digestion is stopped by adding 3 Cc. of a 10 per cent. solution of sodium hydroxide and the amount of maltose contained in the liquid determined by titration with Fehling's solution. From the amount of maltose found is substracted the amount originally found in the maltzyme added, the difference gives the amount formed in the digestion.

Dosage.—Similar to that of Extractum Malti U. S. P.

Prepared by the Malt-Diastase Co., Brooklyn, N. Y. U. S. trademark No. 46,459.

There are on the market the following preparations containing maltzyme mixed with other remedies:

Maltzyme with Cod Liver Oil is said to consist of maltzyme concentrated and brought back to its original volume by the addition of 25 per cent. of Lofoten cod liver oil. It is said to have the power to produce from starch from 4½ to 5 times its weight of maltose, when tested as described above.

Maltzyme with Cascara Sagrada. Each 30 Cc. (one fluidounce) is said to contain the virtues of 3 Gm. (45 grains) of cascara bark.

Maltzyme with Hypophosphite. Each 30 Cc. (one fluidounce) is said to contain 0.12 Gm. (2 grains) each of calcium sodium, and potassium hypophosphites, and 0.015 Gm. (¼ grain) each of iron and manganese hypophosphites.

Maltzyme with Phosphate of Iron, Quinine and Strychnine. Each 30 Cc. (one fluidounce) is said to contain iron pyrophosphate, 0.24 Gm. (4 grains), quinine 0.06 (1 grain), strychnine, 0.002 Gm. (2/75 grain).

Maltzyme, Ferrated. Each 30 Cc. (one fluidounce) is said to contain 0.5 Gm. (8 grains) of iron pyrophosphate.

Maltzyme with Yerba Santa. Each 30 Cc. (one fluidounce) is said to contain the virtues of 2 Gm. (30 grains) of Yerba Santa leaves.

TAKA-DIASTASE.

A ferment of high diastatic power obtained from a fungus used in Japan for the malting of grain.

Taka-Diastase is prepared substantially as follows: The spores of the fungus in a pure and vigorous condition are sown on sterilized, moist grain or bran. This material is kept under proper conditions of heat and moisture until it is thoroughly permeated by the growth of the fungus. In due course of time the diastase is extracted, precipitated, purified and dried. It is then very finely ground, assayed to determine its digestive power on starch, and adjusted by dilution with milk sugar to a uniform strength.

Taka-Diastase is a white or yellowish white powder having a peculiar taste, which might be denominated a "nutty" flavor. It is almost entirely soluble in cold water and in alcoholic solutions containing less than 25 per cent. of alcohol, but it is precipitated by strong alcohol. It is wholly insoluble in chloroform and other immiscible solvents.

It is incompatible with strong alcohol, alkalies and strong acids. Its activity is destroyed in solution in contact with pepsin or pancreatin after the lapse of three or four weeks.

It is claimed that Taka-Diastase will hydrolize 150 times its weight of starch into dextrins, maltose and dextrose in ten minutes.

For the determination of its diastasic power, the manufacturer uses the following method:

A solution of taka-diastase is prepared by triturating exactly 0.133 Gm. in a small mortar with a little water and transferring to a 100 Cc. measuring flask, washing out the mortar very carefully and adding the washings to the liquid in the flask until it measures 100 Cc.

A standard iodine solution is prepared by dissolving pure iodine, 2 Gm. and potassium iodide, 4 Gm., in sufficient distilled water to make 250 Cc. For the test 1.5 Cc. of the iodin solution is diluted to 1,000 Cc. distilled water.

The starch paste is prepared by bringing to vigorous boiling about 900 Cc. distilled water contained in a tarred vessel. Into this a mixture of neutral potato starch 20 Gm., and cold distilled water, 30 Cc., is poured under agitation. The mixture is boiled with constant stirring for ten minutes, sufficient distilled water is added until it weighs 1,000 Gm. Into a sufficient number of cylindrical flat-bottomed glass tubes, or wide-mouthed bottles, are measured portions, 1,100 Gm. each, of the starch paste cooled to 40 degrees C., the containers closed with the rubber stopper and nearly immersed in water kept at 40 degrees C. When the starch solution has attained the temperature of the bath, 10 Cc. of Taka-Diastase solution, as prepared above, is measured into one of the vessels containing the starch solution, the container closed and shaken vigorously. The container is returned to the water bath and the digestion allowed to proceed, the container being shaken occasionally. When, at the end of ten minutes digestion, one or two drops of the digested solution is transferred to one of the vials containing the dilute iodin solution. No blue color indicative of starch should be produced (a faint reddish or violet tint is taken to indicate that starch is present).

Actions and Uses.—Taka-Diastase is recommended by the manufacturers as a digestant of starchy food in amylaceous dyspepsia and derived complaints.

Dosage.—0.16 Gm. (2½ grains) to 0.3 Gm. (5 grains) or more, according to indications, during or immediately after meals.

Manufactured and sold by Parke, Davis & Co., Detroit, Mich., through contract with the Takamine Ferment Co. U. S. patents Nos. 525,820, 525,822, 525,823, 525,824, 826,699, issued to Takamini Ferment Co. The word "Taka" has been registered as a trademark in the United States for taka-diastase and diastasic substances by the Takamine Ferment Co.

(To be continued.)

Metabolism in Gout.—T. Brugsch and A. Schittenhelm sum up the final results of their extensive researches on gout (*Zeitschrift f. ex. Path. u. Ther.*, vol. iv, p. 557), as follows: The gouty individual shows an anomaly of the metabolism of nuclein. This consists in: 1. An increase in the amount of endogenous uric acid in the blood. 2. A diminution in most cases below normal in the amount of uric acid in the urine. 3. The metabolism of exogenous uric acid is deranged. The excretion of uric acid is diminished and delayed with relative increase of excretion of the purin bases. These derangements are not to be referred to imperfect renal function, but to a disturbance of the whole metabolism of the purins which is to be characterized as a diminution of the formation of both endogenous and exogenous uric acid combined with diminished destruction of uric acid. Finally the authors show that by sparing the powers of the system for forming and destroying uric acid these powers may, as in the similar case of diabetes, be favored and increased. These investigations show the fallacy of all those theories of gout which make derangement of the function of the kidneys a cause of gout.

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THE TOXEMIAS OF PREGNANCY.

Especially through the establishment of the pathologic anatomy of the condition, a general agreement has been reached that puerperal eclampsia must be included among the diseases caused by toxic materials of unknown origin and nature, and that it is not so closely related to ordinary uremia as it is to such a distinctly toxemic condition as acute yellow atrophy. More recently it has become recognized that certain of the cases of pernicious vomiting of pregnancy are of similar nature, this fact having been established through the valuable studies of Williams.

In acute yellow atrophy, which is so frequently to be considered as a toxemic result of pregnancy, we have, as is well known, extensive necrosis in the liver, beginning in the centers of the lobules and spreading outward, while the clinical manifestations are those of a profound toxemia. Puerperal eclampsia is also accompanied by extensive degenerative changes in the liver, but here the necrosis begins in the periphery of the lobules, is associated with fibrinous capillary thrombi, and the well-known extensive renal changes are also a striking feature. In fatal cases of pernicious vomiting of pregnancy of toxemic origin, in distinction from those of reflex or neurotic origin, profound necrosis of the liver cells, beginning in the center of the lobule as in acute yellow atrophy, is a conspicuous feature.

Thus we see that there exists a close relationship between these three varieties of toxemic complications of pregnancy, which suggests that their causes are similar if not identical, however much they may differ in clinical features.[1]

We are still entirely in the dark as to the nature of the poisonous substance or substances that cause these toxemic conditions, although several hypotheses have been advanced during the past few years. There seems to be a fair agreement that the placenta must be the source of the toxic material, especially as typical cases of eclampsia and of pernicious vomiting have been observed in patients with hydatid mole, in which cases, of course, toxic matter of fetal origin could be eliminated; furthermore, eclampsia may appear after the fetus has been removed. Much attention was, therefore, given to the hypothesis elaborated about four years ago by Veit, Weichardt and others, that through the entrance of placental cells into the circulation of the mother an intoxication was caused, either by the disintegration of the cells and formation of toxic substances, or in the development of anti-substances by the maternal organism. In spite of much experimentation and discussion, however, no satisfactory conclusions have yet been reached concerning the validity of this hypothesis, and Martin[2] has secured some very valuable evidence that, at least in rabbits, entrance of their own placental elements into the circulation in large amounts does not cause any serious disturbance. Although there are numerous features suggesting the action of a hemolytic poison in eclampsia, and Liepmann claims that the placentas of eclamptics possess peculiar toxic properties, Ewing[3] could find no evidence that such placentas contain hemolytic substances, or that hemolysis occurs in eclampsia.

Zweifel has enthusiastically advocated the theory that eclampsia is due to poisoning with sarcolactic acid, which he found in the blood and cerebrospinal fluid of eclamptics, but this idea is undoubtedly erroneous. Lactic acid possesses no toxicity beyond that due to its acidity, and the minute amounts present in the blood and secretions of these patients could by no means cause the symptoms observed in eclampsia, which are, furthermore, essentially different in character from those of acid intoxication. There is, however, always present in any condition associated with convulsions or other forms of violent muscular exertion an excessive formation of sarcolactic acid in the muscles, and this may appear in the urine, especially when the oxidizing power of the liver is impaired by destructive lesions; but this urinary lactic acid is the result, not the cause of the convulsions. It can safely be considered to be the result of a combination of increased muscular and decreased hepatic activity, the impaired function of the liver in these conditions being also shown by the production of alimentary levulosuria,[4] and by the appearance of glyoxylic acid in the urine (Hofbauer[5]). Consequently a certain degree of acidosis is present in these toxemias of pregnancy, but it is not to be considered as the causation of the intoxication.

Williams has called attention to the value of this acidosis in distinguishing between the pernicious vomiting due to toxemia and that due to neurotic or reflex causes. In acidosis the organic acids are eliminated in the urine combined with ammonia; consequently the proportion of the urinary nitrogen that exists as ammonia is a guide to the degree of acidosis. Normally, from 3 to 5 per cent. of the urinary nitrogen is in ammonia compounds, and Williams considers that when in a patient with pernicious vomiting of pregnancy the ammonia nitrogen exceeds 10 per cent. it may be assumed that the condition is of toxemic origin and that the prognosis is bad unless the uterus is emptied at once. These studies indicate the necessity of careful examination of the urine in all cases of severe vomiting in pregnancy for the proportion of ammonia nitrogen, an operation that has been much facilitated by the introduction of Folin's simplified methods of quantitative study of the urine.

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[1] Much of the best work on these topics has been done in this country; take, for example, the important papers of Williams in Johns Hopkins Hosp. Bull., 1906, xvii, 71., and in Amer. Jour. Med. Sci., 1906, cxxxii, 343, and those of Ewing in the Amer. Jour. Obstet., 1905, li, 145, and 1907, lv.

[2] Monatsschr. f. Geb. u. Gyn., 1906, xxiv, No. 5.

[3] Trans. Soc. Exp. Med. and Biol., 1907, iv, 113.

[4] Schröder, Zeit. f. Geb. u. Gyn., 1906, lvi, 134.

[5] Zeit. f. physiol. Chem., 1907, lii, 425.

THE DEATH OF NICHOLAS SENN.

With the death of Nicholas Senn on January 2 there passed away a grand and leading figure in contemporary American surgery. The story of his remarkable rise by virtue of exceptional native ability, industry and tireless labor from country practitioner in Wisconsin to professor of surgery in Chicago and metropolitan surgeon of world-wide reputation, loaded with honors and distinctions of all kinds at home and abroad, is told elsewhere in this number.

Here we shall attempt to outline briefly his principal services to surgery and the medical profession and thus to humanity. Of the prodigious amount of surgery done by Senn in hospital and private practice he left no adequate record in the form of analytical studies of series of cases or of reports of interesting isolated observations. Suffice it to say that during the zenith of his surgical activity—about 1888-1902—his public surgical clinic was one of the very largest and richest in the whole world, and that he used the enormous material thus available for the teaching of surgery by amphitheatrical methods to students and practitioners, the latter flocking to hear and to see him in large numbers from all sections of the northwest as well as from more remote parts. No teacher of clinical surgery by this method, now considerably curtailed, ever enjoyed greater popularity, and it is probably safe to say that he had the opportunity to influence by direct, personal example the surgical standards of a larger number than any of his American contemporaries. The physical and mental endurance displayed by Senn in his public clinics, which often lasted far into the evening, always excited the wonder of his hearers. Although prevented by his clinical responsibilities, of which he assumed a larger share than perhaps was necessary, from giving as much personal attention as he wished to the anatomic and bacteriologic study of the materials from his clinics, he was one of the first to make the laboratory an essential part of the surgical clinic. As a clinical teacher he was clear, forceful, dramatic; as an operator he was highly skilled, unexcelled in plastic work. While his services as a great teacher of clinical surgery and as a great surgeon will not soon be forgotten in the northwest, especial emphasis must be given to his real pioneer work in teaching modern surgical pathology. The lectures which he gave in Chicago each winter during the years 1886-1890 on inflammations, surgical infections and similar topics, giving as they did the latest advances in bacteriology and pathology, exercised a stimulating influence to a degree that it is now difficult to understand. The lectures were, however, the first systematic presentation of the subjects in question in the light of recent discoveries, and consequently they gave to the hearers a vivid insight and a keen interest in the stirring events in the larger scientific world with which the ordinary teaching of that day in Chicago, as elsewhere in this country, as yet had but little in common. Subsequently the lectures were given to the public in modified and enlarged form in various books published by Dr. Senn, two of which, his "Principles of Surgery" and "Surgical Bacteriology," though largely compilations, nevertheless coming at the time they did, proved very useful indeed in interesting the rank and file of the profession in the newer developments. It is doubtful if any of his numerous subsequent books really did as much good as these two. Senn's watchword was: *"Work, uninterrupted, hard, faithful, honest work,"* and now at the close we realize in looking back at what he did during the most active period of his career how perfectly he must have followed this strenuous injunction even long before he sprang into notice as a teacher in Chicago. His services to military surgery are recounted elsewhere in this number.

From the beginning of his professional career Senn manifested an unusual and remarkable interest in experimental investigations, which culminated in a series of most important contributions to experimental surgery, especially abdominal, during the decade of 1880-1890. It will be recalled that he introduced decalcified bone plates for intestinal anastomosis and developed many other clever devices; that he used hydrogen gas to test the intactness of the digestive tract after gunshot injuries of the abdomen; that his experiments on the pancreas demonstrated the feasibility of surgical interference in a number of well-defined lesions of that organ, and that he made valuable experiments on the closure of vessels after ligation, on the treatment of fractures of the neck, of the femur and of other bone lesions. While the new facts discovered by these experiments may not have been of revolutionary importance, yet these investigations proved of the greatest value to surgery. They gave a lasting impetus to the progress of abdominal surgery because they taught the great lesson that proficiency in abdominal surgery can only be acquired by operating on living tissues. "Another great advantage," says Senn in an address in 1887, "only to be acquired by operations on animals is dexterity in the use of instruments and delicacy of manipulation in the performance of difficult operations. Visceral surgery can be learned only in this manner. Operations on the gastrointestinal canal should invariably be practiced on animals before attempting them on man. A course in operative surgery on the cadaver is utterly inadequate to prepare a student sufficiently to perform gastrotomy, intestinal resection, or even to apply intestinal sutures with requisite speed and accuracy. . . . Ligation of the arteries in continuity, again, is another operation in the technic of which you can only perfect yourselves by practicing on animals." Because of the emphasis thus placed at that time on the value of operations on animals in teaching human operative surgery it is not too much to say in the light of subsequent developments that Senn's experimental work has proved to be of fundamental importance.

Having spoken of Senn's great services as surgeon, as clinical teacher, as pioneer in the teaching of modern surgical pathology and in experimental surgery, there remains to make some reference to his deeds as a public benefactor. To the medical profession of Chicago he gave the magnificent collection of books known as the "Senn collection" and now part of the medical department of the John Crerar Library; to Rush Medical College he gave as his largest single donation $65,000 toward the new clinical building. As an encouragement to surgical literature he offered a gold medal for the best essay on a surgical subject, to be awarded annually under the direction of the Section on Surgery and Anatomy of the American Medical Association. These are evidences of a noble generosity for which coming generations will be thankful. Senn often publicly expressed the desire that he might be able to contribute something to the upbuilding of medical science. This most worthy object of a high ambition he realized and his name will live in medical history.

SCHOOL LIGHTING.

The importance of the proper lighting of schoolrooms is so apparent that the problem has engaged the attention of architects and teachers as well as of physicians. If the lighting be artificial, as must of necessity be the case for much of the school work done in large cities, the problem becomes more complex. The work of the pupil requires conditions of illumination somewhat different from those suitable in a large hall for lectures, etc. The lighting must be so arranged as to avoid brilliant points of light, not to produce too deep shadows, and to furnish illumination sufficient for near work. The best lighting appears to be a combination of the direct method with indirect reflection from the ceiling and walls. A committee of oculists and electricians appointed by the Boston School Committee, in April, 1907, to consider the artificial lighting of the public schools and their color schemes has lately presented its report.[1] This report, advance pages of which have been sent us, embodies the results of a thorough investigation of the question, including visits to various cities, both American and foreign, and a considerable amount of experimental work. It is a document that ought to be of service to those interested in the subject in other cities as well as Boston.

The committee has investigated the conditions in the Boston schools and has found the illumination to be insufficient for good work. The prevailing system is one of indirect illumination by means of electric light. The committee finds certain defects inherent in the indirect method of illumination, of which the principal are that it secures too uniform illumination of near and distant objects. While too great contrasts are undesirable, a slight preponderance of illumination as regards nearer objects is favorable to good work. Indirect illumination does away with shadows, which enable us to judge of distance and relief, and produces the psychologic effect of insufficient light. Experiments have shown that with indirect illumination the amount of light necessary for comfort in reading must be 65 per cent. greater than that necessary with direct.

While the system in vogue gave a good amount of light when recently put in, it was found that the fixtures were with difficulty kept clean; consequently the amount of light thrown on the ceiling and walls was much diminished, and the lamps deteriorated rapidly so that they gave much less light than at first. It was also found that the tint of the walls and woodwork was in many instances too dark, and that, although shades were provided for the windows, they were often not in use, thus rendering a large part of the reflecting surface unavailable. According to the opinion of the committee, blackboards constitute an anachronism in the schoolroom and affect the lighting problem by absorbing a considerable amount of light, though not so much as might be supposed, since they are generally covered with a grayish layer of chalk dust. No substitute has yet been found for them and no recommendation is made.

As the result of its investigations the committee recommends a tungsten lamp arranged in clusters so as to distribute the light over the room with the desired uniformity. The minimum illumination at each desk should be two candle feet. The colors of the walls should be adapted to the daylight illumination of the room; for sunny rooms a light green should be chosen, for darker rooms a light buff is more suitable. The woodwork and desks, in all cases, should be of a light color. Suitable window shades should be installed and used in all rooms where artificial light is necessary. Janitors should be required to pay closer attention to the cleaning of lighting fixtures and the dusting of the window shades.

The investigation and report of the committee will go far toward furnishing a solution of this important question, and its work should receive widespread attention from physicians and school officers.

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[1] School Document No. 14, 1907, Boston: Municipal Printing Office. The medical men on the committee were Drs. George S. Derby, F. J. Proctor and Myles Standish.

THE COMBATING OF PLAGUE.

The valuable observations of the India Plague Commission were recently referred to as demonstrating that the flea is an important factor in the transmission of plague from rat to man,[1] and in all probability the only essential one in the propagation of the disease in epidemic form. The belief in this method of transmission had previously been confirmed by numerous epidemiologic observations in different parts of the world, and has had an important influence in the adoption of measures for the prevention and suppression of the disease.

It is evidently becoming more and more recognized that man plays a relatively unimportant part in the propagation of plague, and that measures taken with respect to him and his personal effects can influence the spread of the disease only to the same proportionately limited extent. Scientific experiments and practical observation have also shown that ordinary disinfection alone of infected areas and houses (cleansing and use of disinfecting solutions) is in itself not efficient in preventing the disease, as cases have continued to occur in houses after the careful enforcement of such procedures.

In view of our present knowledge, it is believed that measures directed toward the destruction of rats are the most rational, and if successful would result in the prevention of plague in man. Experience, however, has shown that this is an extremely difficult undertaking, and that it must be supplemented by other measures, including the abatement of conditions which attract vermin. It is known that such conditions are more prevalent in the overcrowded and unhygienic sections of cities, and, because of their influence on the rat population, in all probability account for the undue prevalence of plague in such areas.

The suppression of other insect-borne diseases involves the exclusion of the carrying agents from human habitations as well as their destruction. This appears to be true also of plague, as the rendering of houses rat-proof has been found to be of the greatest value in combating the disease both in this country and abroad.[2] In the previous outbreak of plague in San Francisco this measure, while expensive and slow of accomplishment, was recognized as the most important taken as a means of protection against infection, and it is understood that it is now being actively carried out by the United States Public Health and Marine-Hospital Service on the Pacific Coast. Thompson, who has had long experience with the disease in Australia, also regards this measure as most valuable and the only one which may justly be regarded as preventive, other measures being of a more or less temporary character.[3]

Of no less importance is the depopulation of houses in which plague-infected rats have been discovered, and for the effective enforcement of this measure it is absolutely essential to conduct a systematic examination of all dead rats in localities where plague may occur.

Having instituted all possible measures for the detection of the disease among rodents, the destruction of vermin, and their exclusion from houses and areas, there remains the possibility of immunizing all persons in infected districts against the disease. During the past ten years antiplague inoculations have been practiced, particularly in India, and, according to Haffkine, with excellent results.[4] His experience has been that the use of these inoculations greatly reduces the liability of contracting plague, that they render an attack milder, and that the immunity thus conferred lasts a considerable time.

It thus appears that effective means are available for the eradication of plague from an infected locality, although its accomplishment is necessarily slow and attended with great difficulty. In any campaign of this character the active cooperation of the inhabitants of the infected district is absolutely essential to success. Business interests should not prevent such cooperation, and the public press and other agencies would do well to assume their responsibilities, thus insuring the publicity and interest necessary under such conditions.

SALIVARY DYSPEPSIA.

We commented recently[1] on the common failure to masticate food thoroughly, and called attention to Mr. Fletcher's remarkable powers of endurance, which he claims are due in part to his habit of thoroughly chewing his food. While advice on this subject is easy to give, in comparatively few cases is the advice followed. L. Meunier[2] goes so far as to remark that he considers such advice useless and suggests that the physician must correct the insufficiency of saliva.

He aims to accomplish this by ordering the patient to eat the starchy food of the meal first, before the meat. Starch is digested during the first phase of gastric digestion, and this digestion is checked more or less by secretion of hydrochloric acid. When the carbohydrates are eaten first the secretion of hydrochloric acid is stimulated, and this makes digestion of the starchy foods later more difficult. He also orders that in cooking starch foods they should be made slightly alkaline, as the saliva acts best in an alkaline medium. It is to this fact, he thinks, that the vegetables at Vichy, cooked in the Vichy water, owe their peculiar digestibility. The action of the saliva is also favored by warmth, and thus warm drinks promote the digestion of starch. He advises an infusion of malt for a warm beverage. The germinating barley or malt, put through a coffee mill, makes a palatable and useful infusion. A tablespoonful in a glass of cold water is infused in a double boiler for ten minutes. He adds in conclusion that chewing gum after meals might be useful to induce salivation, like the betel of the Orient and the wad of insoluble resin which veterinarians fasten in the mouth of young horses that eat too fast and have digestive disturbances.

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[1] The Journal A. M. A., Dec. 27, 1907.
[2] Annual Report, P. H. and M.-H. S., 1904, p. 228.
[3] The Lancet, Dec. 7, 1907.
[4] The Lancet, Dec. 7, 1907, p. 1610.

[1] The Journal A. M. A., Dec. 14, 1907, page 2011.
[2] Journal de Méd. de Paris, Oct. 13, 1907.

The suggestions, of course, are not new, but they should be borne in mind for use in proper cases. We sympathize with the physician who is tempted to abandon a case and to refuse to take any responsibility concerning it when the patient will not obey hygienic rules and follow the most obviously beneficial procedures. We have to take conditions as we find them, however, and if we can not benefit the patient in one way we may secure at least a part of the desired end by some other method.

LAW AND MEDICINE.

Why is it that the public is willing to entrust the making, interpretation and enforcement of laws entirely to the legal profession, yet is unwilling to entrust any authority for the regulation of public health to the medical profession? This question is an easy one to propound but a difficult one to answer. That this is actually the attitude of the public there can be but little doubt. It can not be due to any essential difference in the personnel of the two professions, since the recruits for each come from practically the same social, financial and intellectual class. It can not be due to difference in training, since the average medical course is far more exacting and protracted than the average course of instruction in law. It can not be attributed to greater confidence in the lawyer as an individual than in the physician, since the individual citizen will unhesitatingly entrust to the physician his life and the lives of those dear to him. Yet when physicians, either individually or collectively, ask for laws for the protection of the people which will give the medical profession a tithe of the power which is voluntarily given to the legal profession for the protection of property, their requests are generally disregarded and their disinterestedness and sincerity impugned. The public never objects to any regulations which the legal profession may make regarding the education of the lawyer, his admission to practice or the disciplining of its own members, yet the same public seems to take the position that physicians are not competent to determine whether or not an individual is worthy of admission to their own profession. In the absence of any other adequate explanation it seems highly probable that one of the principal causes is the lethargy and indifference of physicians themselves, in that they have not heretofore taken enough interest in public questions to justify the public in trusting them with larger authority.

A DEPARTMENT OF SANITATION AND CHARITIES FOR CUBA.

News comes from Cuba that the Consulting Commission, which was appointed by Governor Magoon about a year ago to revise the laws of the Cuban republic, has taken up the question of a rearrangement of the departments of the government, and its first action has been to determine by an unanimous vote that there shall be a separate department of sanitation and charities, the head of which department shall be a member of the cabinet. It will be remembered that a few months ago Governor Magoon issued a decree organizing the National Sanitary Department, which has control of sanitary matters in all the municipalities of the republic. Sanitary affairs in Cuba, before the present American intervention, were in charge of a subordinate bureau of the department of the interior, which had been hampered in its work by political and other influences, but during the period of American intervention this bureau has been operating as a separate department of the government. By another decree, dated November 23, the quarantine service of Cuba has been transferred from the treasury department to the department of sanitation, where it logically and properly belongs. The action of the Consulting Commission, if approved by Governor Magoon, will place Cuban sanitary affairs in a position of authority and independence which will enable it to carry out to the best advantage the large powers and responsibilities which are entrusted to it by the sanitary decree of last August.

PHYSICIANS AND SHORTHAND.

More than one practical yet prominent physician of modern times has insisted that physicians would be very much helped by knowing a system of shorthand and taking their notes in it. Among distinguished English-speaking physicians who have emphasized this is Sir William Gowers, who learned shorthand for his duties earlier in life as a parliamentary reporter, and whose advice, therefore, possibly bears less weight than would otherwise be the case. There is no doubt, however, that more complete notes of cases could be taken than is now possible. Physicians not infrequently find during the course of a patient's illness that more notes at the beginning of the case would not only have helped them to understand the ailment better, but would also have provided excellent material for publication with regard to many cases that now remain unpublished or are published so incompletely as to lack much of their significance. Besides, shorthand notes can be kept with much more assurance of secrecy, and patients who see a physician taking notes in shorthand are more likely to be free with their information, since, as a rule, they are themselves unable to read it and, therefore, consider their confidences more safe. This is more important than might be imagined, for patients often resent the idea of their histories being written out in full in long hand. In the light of this it is rather interesting to realize that to physicians more than to any others the development of shorthand is due. The originators in English of a practical system of stenography are Willis and Shelton. Shelton is rather well known for his contributions to medical literature. It was Shelton's system that was used by Pepys in his famous diary. It is often said that he used a cipher, and the translation of this cipher is sometimes said to be a triumph of ingenuity. The fact is that Pepys used Shelton's shorthand, with which all those who subsequently saw his diary were unfamiliar, and consequently its contents remained an unsolvable mystery. Just as soon as some one was found, however, who knew the particular shorthand system, then the solution of the supposed mystery of the diary was easy. The whole subject of shorthand in its relation to physicians is interesting as one of those side issues of literary and medical history, which contain many significant details that recent investigations have brought up and that emphasize the wisdom of our forefathers in certain phases of medical development.

A CORONER APPRECIATES HIS DUTY.

Instead of confining himself to a bald summary of the number of cases and the causes of deaths which came under his official cognizance during the year, Mr. Peter M. Hoffmann, coroner of Cook County, has introduced an innovation in his annual report. Contrary to the usual attitude of the ordinary public official, he recognizes that it is the duty of the coroner not only to hold inquests when violent deaths have occurred, but to make suggestions and recommendations which, if adopted, will diminish the number of fatal accidents. Mr. Hoffmann takes up the causes of violent deaths with special attention to the prevention of accidents. He recommends the collection of data showing the condition of the families of employés who have been killed by accident; advises that the city council pass an ordinance regulating the use of gas heaters, and so diminish the number of deaths from this source; urges careful inspection and oversight of passenger elevators—since, as he very pertinently remarks, elevators in our large cities carry more people than are transported by all of the traction systems combined. He makes some rational suggestions regarding grade crossings, gates, flagmen, cold storage plants, etc. It is hardly to be expected that all of Mr. Hoffmann's recommendations will be carried out, but it is most gratifying to see a public official earnestly endeavoring to utilize the information and authority which are placed in his hands for the safeguarding of the lives of the people.

Medical News

ILLINOIS.

Personal.—Dr. J. Clarence Webster, Chicago, has returned from Europe.——Dr. and Mrs. Ora D. Holland and son, Streator, returned December 25 from their European trip.——Dr. Samuel G. Smith, Reddick, was struck with a club, by a boy, December 23, causing concussion of the brain.——Dr. Philip F. Gillette, for two years a member of the staff of the Illinois Hospital for the Incurable Insane, South Bartonville, will return to Elgin, January 16, and resume private practice in his specialty.

Chicago.

Healer Sentenced.—Hugo Hassiepen, a "magnetic healer," charged with practicing medicine without a state license, is said to have pleaded guilty before Judge Scoville, January 3, and to have been fined $100.

December Deaths.—During December there were 2,704 deaths reported, equivalent to an annual death rate per 1,000 of 15.10. Chief among the death causes were: Pneumonia, 447; consumption, 278; heart diseases, 237; and violence (including suicide), 218.

Communicable Diseases.—During the week ended January 4, 114 cases of scarlet fever; 102 cases of diphtheria; 51 cases of measles; 25 cases of tuberculosis and 11 cases of whooping cough were reported to the Department of Health. This shows an increase in measles and typhoid fever and a decrease in scarlet fever.

Hospital Notes.—The Hospital of St. Anthony of Padua is to be enlarged at a cost of $100,000. The addition will include a five-story building 50x115 feet, with a rear wing 38x50 feet. It will be fireproof, with double tile floors.——The cornerstone of the new People's Hospital, Chicago, was laid December 29 with appropriate ceremonies. E. J. Magerstadt, city collector, was chairman, and addresses were made by representatives of the health department, Dr. Isaac C. Gary, founder of the institution, and others.

Mortality of the Week.—During the week ended January 4, 665 deaths were reported to the Bureau of Vital Statistics, 8 fewer than for the corresponding week of last year, but 96 more than were reported for the preceding week. The chief increases in deaths were in consumption, 23; diphtheria, 14; pneumonia and influenza, each 13; heart diseases, 9; nervous diseases, 9; nephritis, 8, and measles, 5. There was a decrease in the deaths from typhoid fever, scarlet fever, whooping cough and bronchitis. Chief among the causes were: Pneumonia, 116; consumption, 67; heart diseases, 56; nephritis, 44; violence (including suicide), 42; nervous diseases, 32; cancer, 30; diphtheria, 23; influenza, 19; scarlet fever, 14; measles, 6; typhoid fever, 3, and whooping cough, 1.

KENTUCKY.

Society Meetings.—At the annual meeting of the Jefferson County Medical Society, held in Louisville, December 23, the following officers were elected: President, Dr. Benjamin F. Zimmerman; vice-presidents, Drs. Charles W. Hibbitt and J. Rawlin Morrison; secretary, Dr. Virgil E. Simpson; treasurer, Dr. John J. Moran; executive committee, Drs. Sidney J. Meyers, Charles G. Lucas and George A. Hendon, and judiciary council, Drs. James M. Ray and J. Garland Sherrill. A new constitution and by-laws were adopted. The chief changes are placing the policy and internal workings of the society in the hands of the executive committee; lengthening the term of office of the secretary to two years; omitting the word "regular" from the clause defining eligibility, leaving the word "reputable"; providing for alphabetical calling for essays from members, giving each two months' notice of his turn to read a paper, a member failing to read when notified forfeiting his place and chance to read, and election of delegates to the state society so that there shall be two elected each year.——At the annual meeting of the North Kentucky Medical Association, held in Walton, December 20, Dr. B. Kniffen Menefee, Walton, was elected president; Dr. Charles W. McCullom, Erlanger, vice-president, and Dr. Otis E. Senour, Union, secretary.

MARYLAND.

Health Report.—The fatal influence of influenza is shown by the report of the Baltimore Health Department for the week ended January 4, in which there were 18 deaths from influenza and 44 deaths from pneumonia, an unprecedented number. The total number of deaths were 271, equivalent to an annual death rate of 23.23 per 1,000.

Communicable Diseases.—No change is reported in the diphtheria situation at the Marine Barracks, Annapolis, and the authorities believe that there will be no further spread of the disease.——Several cases of scarlet fever are reported from Yeoho.——Two cases of smallpox have been reported in Baltimore. Both patients were colored; these are the first cases to be reported in six months.

Personal.—Dr. James C. Matthew, Cumberland, has moved to Spokane, Wash.——Dr. Howard A. Kelly, Baltimore, left December 30 for Oaxaca, Mexico.——Dr. Arthur Wegefarth, Baltimore, has recovered from a tedious attack of typhoid fever.——Dr. Felix Jenkins, Baltimore, slipped and fell December 30, fracturing his right hip.——Dr. Ira Remsen, president of the Johns Hopkins University, read a paper this week before the Association of American Universities, at Ann Arbor, Mich., on the "Dissertation of a Doctor of Philosophy."

MASSACHUSETTS.

Influenza Epidemic.—After a rather unusually healthy summer and fall, Boston has been experiencing an epidemic of influenza and consequent death rates of 23.19, 24.22 and 25.50 per 1,000. The largest mortality has been among people over

60 years of age, and pneumonia during the last three weeks has caused 53, 60 and 58 deaths, respectively.

Naval Hospital Enlarged.—If the recommendations of Surgeon-General Rixey are adopted, the Naval Hospital on the banks of the Mystic River, Chelsea, will be enlarged at an expense of $200,000. Last year 813 patients were treated there, a large proportion of the cases occurring among the marines returned from Panama, where many contracted malaria.

Health Report.—For the ten weeks ended December 28, there were reported 2.303 deaths, as against 2,113 last year, an increase of 190. This makes an annual death rate of 19.62 per 1,000. Of diphtheria there were reported 552 cases, with 30 deaths; of scarlet fever, 412 cases, with 1 death; of ty- phoid fever, 88 cases, with 15 deaths; of measles, 200 cases, with 3 deaths; of tuberculosis, 486 cases, with 198 deaths, and of smallpox, 1 case. There were 355 deaths from pneumonia; 1 from whooping cough; 293 from heart disease; 76 from bronchitis; 35 from marasmus.

Institutions Estimate Appropriations Needed.—Nearly all the state charitable institutions ask the legislature, just assembled, for considerable increases in the amounts appropriated for the coming year. Thus: Danvers Insane Hospital asks for $270.000; Foxboro Hospital (for dipsomaniacs), $95,000; Hospital for Epileptics, $149,000; Medfield Insane Hospital, $369.200; State Colony for Insane, $105,000; Taunton Insane Hospital, $228.850; Westboro Insane Hospital, $235.880; Worcester Insane Hospital, $26,500; Worcester Insane Asylum, $211.000; School for Feeble-Minded, $246.991; State Board of Insanity, $202,400, and State Board of Health, $136,500.

Health of Boston Improving.—Advance figures regarding the health of the city during 1907 showed marked improvements. During the year there were reported 2,366 cases of diphtheria, with only 140 deaths; 2,559 cases of scarlet fever, with 49 deaths; 1.347 cases of measles, with 28 deaths, and 519 cases of typhoid fever, with 64 deaths. This is a 50 per cent. gain over the average mortality for measles and typhoid fever for the past ten years, and is the best record as to diphtheria and scarlet fever since 1878. The number of cases of scarlet fever, however, was more than double that recorded in any year in the last decade. Four cases of leprosy and seven of smallpox were discovered. None of these resulted fatally.

NEW JERSEY.

Bequest.—By the will of George Freitag, $5.000 is devised for the erection of a hospital in Egg Harbor City.

Personal.—Dr. Nelson Ingram, Atlantic City, narrowly escaped death in quicksand, near his home, December 22.——Dr. Charles M. Freeman, Metuchen, is reported to be critically ill with pneumonia in the Boston Hospital.——Dr. Henry D. McCormick, Verona, has taken the place of Dr. William H. Hicks, first assistant physician at the Overbrook Hospital, during his vacation.

Anatomic Society Incorporated.—The Essex Pathological and Anatomical Society has been organized in Newark by Drs. Theodore Teimer, Julius Levy, David A. Kraker and Mr. A. M. Basivize. The express objects of the association are "For the purpose of pathologic and anatomic study, and for the advancement of medical science by taking, removing, dissecting and examining dead human bodies."

Typhoid Situation.—Despite the precautions of the local and state boards of health, typhoid fever continues to increase in Trenton, and during December 85 cases were reported. The Delaware River is believed to be responsible for the prevalence of the disease.——Typhoid fever continues to prevail in Burlington and at present more than 20 cases are under treatment. The cause of the epidemic is said to be the water supply which is derived from the Delaware River.

Newark Medical League.—At the meeting of the Newark Medical League, December 9, Dr. Willy Meyer, New York, gave an interesting address on "Bier's Hyperemic Treatment." He first spoke on acute mastitis as representing the type of acute diseases in which the Bier treatment can be applied, and then described the use of the method in chronic diseases, choosing chronic tuberculosis of the knee; Dr. Meyer was afterward the guest of honor at a dinner tendered by the members of the league.——At the annual meeting, December 23, the following officers were elected: President, Dr. David A. Kraker; vice-president, Dr. Herbert W. Long; secretary, Dr. Louis Weiss (re-elected); treasurer, Dr. Edwin Steiner, and reporter, Dr. Julius Levy.

NEW YORK.

Hospital Notes.—Arlington Infirmary has been established at Rome, with accommodation for 50 patients. The physicians in charge are Drs. William B. and George C. Reid, and J. Orley Stranahan.

Smallpox in Kingston.—Owing to the presence of about 80 cases of smallpox in Kingston, the health board has ordered all places of amusement and public halls closed for two weeks and the public schools for four weeks.

New York City.

Harvey Lecture.—The fourth lecture in the Harvey Society course, delivered at the New York Academy of Medicine building, Saturday evening, Jan. 11, 1908, at 8:30 o'clock, by Prof. Ernest H. Starling of the University of London, is on "The Chemical Control of the Body." All interested are cordially invited to be present.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending December 23, 426 cases of scarlet fever, with 22 deaths; 347 cases of diphtheria, with 30 deaths; 346 cases of measles, with 26 deaths; 308 cases of tuberculosis, with 191 deaths; 42 cases of typhoid fever, with 18 deaths; 6 cases of cerebrospinal meningitis, with 6 deaths; 3 cases of whooping cough, with 2 deaths; 123 cases of varicella and 2 cases of smallpox, a total of 1,603 cases and 295 deaths.

New York's Births and Marriages Increase, and Deaths Decrease.—The report of the Registrar of the Department of Health for the year just closed shows that there were 120.636 births reported in 1907, as against 111,772 in 1906. The rate during 1907 was 28.15 per 1.000, a gain of 1.24. This gain is far above that of London and 40 per cent. more than that of Paris. There were 51.097 marriages, as against 48,355 for 1906. The death rate for the year was 18.48, as against 18.35 in 1906.

Death Rate Increases.—The death rate for the week ended December 28 was 20.59 per 1.000 per annum, as against 19.37 for the same week of last year. There were 1,690 deaths for the above-named week, as against 1.558 for the same week in 1906. Heart disease continues to show the principal increase, as there were 187 deaths from this cause as compared with 150 for the corresponding week of last year. Deaths from pneumonia increased to 334, as against 304 for the corresponding week of last year.

Woodbury Corporation Convicted.—The John H. Woodbury Dermatological Institute, and Robert Buggeln, its president and co-defendant in the action, were found guilty by the Court of Special Sessions of misdemeanor, because the corporation advertised to practice medicine without being duly registered as a physician. Justice Duel said that this decision would have a sweeping effect on incorporated hospitals, sanatoriums and medical institutions and allied corporations doing business on the strength of the employment of licensed physicians. Referring to corporations providing free accommodations for the poor under which licensed physicians work, but which themselves possess no license, Justice Duel said that they held out no alluring bait to catch the dollars of those willing and able to pay for the conversion of plainness or ugliness into beauty. The defendants were fined $100, and the counsel for the County Medical Society will move through the attorney-general's office for the revocation of the dermatological institute's charter.

OHIO.

Acquitted.—In the case of Dr. James L. Holden, Zanesville, charged with forgery, the jury returned a verdict of not guilty, December 20.

Accidents and Illness.—Dr. John H. Goss, Lancaster, was recently injured in a street-car accident, fracturing three ribs.——Dr. William J. Taylor, Cincinnati, is convalescing from a serious attack of osteomyelitis.——Dr. Schuyler O. Giffin, Columbus, fell on the icy pavement in front of his residence, December 13, breaking his right leg in two places.——Dr. Abner H. Andrus, Zanesville, fell on the icy sidewalk, near his house, breaking his left arm at the wrist.

Under the Ban of the Law.—Fraud orders are said to have been issued by the Postoffice Department against the following medicine offices in Cincinnati: Dow's Seven Drug Stores and the Woman's Remedy Company, 621 Main Street; Dr. H. H. McGrath, 1114 Elm Street; Mrs. West Sherman, 424 West Eighth Street; Dr. Elizabeth Francis, 625 West Seventh Street; Dr. Mary Howard, 430 Clark Street; Dr. Annie, 640 West Seventh Street, and Dr. McFeeley, 517 Carlisle Avenue.

Personal.—Dr. John S. Beck has been elected president; Dr. Frank R. Henry, secretary, and Dr. Frank Fife, treasurer, of the Tuberculosis Committee of Montgomery County Medical Society, all of Dayton.——Dr. Benjamin F. Lyle, Cincinnati, has been reappointed superintendent of the Branch Hospital.——Dr. Alexander J. Erwin, Mansfield, has gone to California for the winter.——Drs. J. Morton Howell and Joseph M. Wine have been appointed members of the board of health of Dayton.——Dr. Leroy C. Eberhard has been appointed a member of the board of health of Akron.——Dr. Paul De Courcy has been appointed workhouse physician of Cincinnati.——Dr. Arthur H. Buck, Delaware, has been appointed coroner of Delaware County, vice Dr. Perry W. Willey, Lewis Center, resigned.——Dr. Abraham H. Gorrell has been sworn in as mayor of Zanesville.——Dr. and Mrs. William B. Van Note, Lima, are spending the winter in Miami, Fla.——Dr. Ralph W. Thomas and not Dr. Rolla L. Thomas, as erroneously announced, has been appointed pathologist to the Cincinnati Hospital.——Drs. Christian R. Holmes, Louis Schwab and Asa B. Isham have been appointed medical directors to the Cincinnati Hospital.——Drs. Arch. I. Carson and Robert Stewart have been appointed trustees of the University of Cincinnati.

Society Meetings.—At the annual meeting of the First Councilor District Medical Society, held in Cincinnati, December 12 and 13, Dr. R. D. Francis, Ripley, was elected president; Dr. John P. Miller, Cincinnati, secretary, and Dr. Edwin W. Mitchell, Cincinnati, treasurer.——At the annual meeting of the Eighth District Medical Society, held in Newark, December 6, the following officers were elected: President, Dr. Jerry M. Hyde, Nelsonville, and secretary, Dr. Wright, Newark.——The Summit County Medical Society held its annual meeting in Akron and elected the following officers: President, Dr. Mark D. Stevenson, Akron; vice-president, Dr. Charles W. Millikin, Akron; secretary, Dr. John H. Weber, Akron; treasurer, Dr. Louis J. Wise, Barberton; delegate to the state society, Dr. Charles E. Held, Akron; member state committee of public policy and legislation, Dr. Judson A. Hulse, Akron; censor, Dr. Dell S. Bowman; member of library committee, Dr. John H. Seiler, and member of the committee on health and legislation, Dr. Gilman W. Stauffer, Akron.——The Columbus Academy of Medicine, at its annual session, December 16, elected the following officers: Dr. Wells Teachnor, president; Dr. Hugh A. Baldwin, vice-president; Dr. Charles J. Shepard, secretary; Dr. R. Blee Smith, treasurer, and Dr. Herbert M. Platter, censor.——At the annual meeting of the General Practitioners' Medical Society, held in Columbus, December 12, the following officers were elected: Dr. Ida M. Wilson, president; Dr. Schuyler O. Giffin, vice-president, and Dr. Albert B. Davenport, secretary-treasurer.

PENNSYLVANIA.

Tuberculosis Dispensary.—On January 3 a free dispensary was opened in Norristown under the auspices of the State Department of Health, for the treatment of persons in Montgomery County afflicted with tuberculosis. It is to be open two days each week, on Monday and Friday afternoons.

Sanatorium Needs Funds.—An appeal for more beds has been made by the Free Hospital for Poor Consumptives. The institution now has 196 beds at the White Haven Sanatorium, of which 112 are free and 84 at practically the cost of maintenance. There are now nearly 100 on the waiting list.

Filter Lowers Death Rate.—That the installation of a filter plant furnishing 11,000,000 gallons of water a day to Harrisburg has reduced the death rate from typhoid fever was shown in a statement made December 27 by the clerk of the councilmanic sanitary committee. In 1903, before the filter plant was built, there were 53 deaths from typhoid fever; in 1904, when the plant was placed in operation, the number dropped to 29; in 1905 there were 31 deaths; in 1906, 28, and in 1907, 18.

Epidemic Diseases.—Pittsburg is suffering from a severe epidemic of disease and physicians estimate that thousands of persons are prostrated by pneumonia, typhoid fever and especially influenza. The Pittsburg Railways Company is having difficulty in manning its cars on account of conductors and motormen being ill with influenza. Dr. Bradford A. Booth, the city physician, says that the present epidemic of grip exceeds in scope and severity all excepting that of 1889.——Dr. Dixon, state health commissioner, is cooperating with the local health board in an effort to stamp out an epidemic of typhoid fever in Danville. About 75 new cases have been reported and orders have been issued that all drinking water and milk be boiled.

Personal.—Dr. Orr H. Shaffer has been elected chief of staff of the Altoona Hospital, to succeed the late Dr. John Fay.——Dr. Charles G. Eicher has been elected president of the McKees Rocks board of health.——Dr. David J. McCaa has been elected president of the Ephrata board of health.——Dr. L. H. Botkin has been elected secretary of Duquesne board of health.——Dr. Israel Cleaver has resigned from the staff of Reading Hospital.——Dr. S. Banks Taylor has been appointed pathologist; Dr. William S. Bertholet, assistant pathologist; Dr. Romer J. Rhode, ophthalmologist, and Dr. Edward G. Meter, radiographer, on the staff of Reading Hospital.——Dr. Fremont W. Frankhauser has been re-elected president; Dr. Victor W. Wickert, vice-president; Dr. William W. Livingood, secretary, of the medical staff of the Reading Anti-Tuberculosis Society.

Philadelphia.

Old Publishing Firm Dissolved.—Messrs. Lea Bros. & Co. announce the dissolution of their firm on December 31, and the continuance of the business by their successors under the title of Lea & Febiger.

Personal.—Dr. William F. Morrison has been appointed a police surgeon.——Dr. Archibald G. Thomson has been appointed ophthalmic surgeon, and Dr. Burton Chance, assistant ophthalmic surgeon, to the Pennsylvania Railroad.

Milk Inspection.—The milk supply of Philadelphia is to be carefully guarded during 1908, and the board of health will take steps to stamp out the vending of adulterated milk and to enforce the sanitary regulations for wagons, depots, cans and the dispensing of pure milk.——During 1907, 85,000 inspections were made and the amount of milk supplied to the city exceeded 138,000,000 quarts. This is an average of about half a pint daily to every individual in the city. In 1906, 129,651,388 quarts were furnished.

Hospital Reports.—The report of the German Hospital for the month ended December 21 shows that nearly 4,000 patients were treated in the wards and dispensary; 260 were admitted to the wards, and 3,176 were given attention in the out-patient department.——During November 260 medical cases, 248 surgical cases, 192 cases of diseases of women and children, 60 cases of diseases of the nose and throat, 41 cases of diseases of the eye and 24 cases of diseases of the ear were treated in the Charity Hospital.

Bequests.—Five thousand dollars has been bequeathed to the University Hospital, with the endowment of a free bed, by the will of Hanson L. Withers, and the hospital was also made the reversionary legatee in certain contingencies, of an estate valued at more than $100,000.——By the will of Adeline G. Frey, $3,000 was devised to the German Dispensary and Hospital; $1,000 to the Aid Association of the Philadelphia County Medical Society; $2,000 to the Home for Consumptives, Chestnut Hill, and $8,000 to the Philadelphia Lying-in Charity Hospital.

Elections of Officers.—The following officers were elected at the last meeting of the West Branch of the Philadelphia County Medical Society: Chairman, Dr. J. Dutton Steele; clerk, Dr. Charles A. E. Codman.——The Kensington Branch of the Philadelphia County Medical Society has elected Dr. John F. Roederer, chairman, and Dr. Joseph A. Moore, clerk.——The election for officers of the West Philadelphia Medical Association resulted as follows: President, Dr. Henry D. Jump; vice-president, Dr. Arthur Bogart; recording secretary, Dr. George M. Lloyd; financial secretary, Dr. Charles E. Price, and treasurer, Dr. Edmund L. Graf.

Blockley Patients Sent to Norristown.—On December 23, 149 patients, 99 of whom were women, were removed from the insane department of the Philadelphia Hospital and transferred in special cars to the Norristown State Hospital. Of these insane persons 100 were brought to the Philadelphia Hospital six months ago, when fire destroyed a portion of the state hospital. The other 49 were removed by the order of the court, at the request of the patients' relatives, and also to make more room in the Philadelphia institution. There are at present 5,196 patients in the Philadelphia Hospital, 2,315 of that number being in the insane department.

Health Report.—The total number of deaths reported for the week ended December 29 was 601, an increase of 102 over those of the previous week and an increase of 69 over those reported in the corresponding week of 1906. The principal causes of death were: Typhoid fever, 6; whooping cough, 8; diphtheria, 14; influenza, 11; consumption, 61; cancer, 33; alcoholism, 5; apoplexy, 11; endocarditis, 11; heart disease, 66; acute respiratory diseases, 121; gastritis, 8; enteritis, 12; cirrhosis of the liver, 6; appendicitis, 5; acute nephritis, 5; Bright's disease, 39; premature birth, 15; congenital debility, 8; old age, 12; suicide, 3; accidents, 19, and marasmus, 5. There were 188 cases of contagious diseases reported, with 23 deaths, as compared with 262 cases and 20 deaths reported in the preceding week.

TENNESSEE.

Personal.—Dr. Charles M. Drake has been elected assistant chief of the staff of the Knoxville General Hospital; Dr. J. B. Johnson, visiting obstetrician; Dr. John M. Kennedy, visiting pediatrician; Dr. Albert G. Kern, visiting surgeon, and Dr. John F. Massey, visiting physician.——Dr. Jack S. Dye, Chattanooga, has been appointed local surgeon of the Chicago New Orleans & Texas Pacific, and Alabama Great Southern railways, the Belt Line and the Chattanooga Railways Company.——Dr. J. L. Kelly, interne at the City Hospital, Memphis, is reported to be seriously ill with septicemia.——Dr. E. A. Reed, Knoxville, is said to have been fined $50 by the recorder on the charge of illegal sale of cocain.

CANADA.

Smallpox.—Smallpox has appeared in St. Boniface, a suburb of Winnipeg.——From 15 to 20 cases of smallpox have been discovered among children attending one public school in Toronto, and all the patients have been removed to the Toronto Smallpox Hospital.

Ontario Pharmacists and Cocain Buying.—It having been alleged that cocain habitués from New York State are making periodical trips to Ontario for the purchasing of cocain, the Ontario College of Pharmacy will seek legislation from the Ontario legislature at its approaching session, forbidding the sale of cocain by druggists except on a physician's certificate.

Toronto Births and Deaths.—An average of 18 births a day occurred in Toronto during 1907. The total number of births registered was 6,715, two a day more than in 1906. Since 1900 the births each year have been as follows: 4,530, 4,445, 5,040, 5,283, 5,816, 5,958, 6,715.——The deaths in Toronto during the last seven years have been as follows: 3,604, 3,404, 3,730, 3,884, 3,915, 3,960, 4,563. The estimated population of Toronto is 270,000.

Violent Deaths in Montreal in 1907.—Coroner MacMahon of Montreal has issued an official statement to the effect that in 1907 there were in that city 785 deaths attributable to violence, 25 more than were reported for the previous year. Of these 83 persons were killed by railways; 53 met death by drowning; 27 committed suicide, and 44 were burned to death. There were 12 cases of homicide. Of the railway accidents, 23 were from street cars. During the year 51 persons died without medical treatment.

Decline of Illegitimacy in Ontario.—The report of the register general of Ontario for 1905 has just been issued. Its statistics show that illegitimacy in Ontario is on the decline. In the year 1899 there were 808 illegitimate births; in 1900 the number was 800; 1901, 812; 1902, 819; 1903, 782; 1904, 798; 1905, 699. The proportion of illegitimates to every 100 children born in the province in those years is as follows: 1.80; 1.73; 1.76; 1.6; 1.58; 1.34.

Physicians in Parliament.—Dr. Peter D. McLean, Woodbridge, Ontario, has been elected a member of the Canadian House of Commons. The other physicians in Canada, who are members of parliament, are: Sir Frederick Borden, Ottawa, minister of militia and defense; Dr. John Barr, Shelburne, Ont.; Dr. Henri Béland, St. Joseph de Beauce, Que.; Dr. Judson B. Black, Windsor, N. S.; Dr. Gustave Boyer, Rigaud, Que.; Dr. Edward L. Cash, Yorkton, Sask.; Dr. John W. Daniel, St. John, N. B.; Dr. Wilbert McIntyre, Strathcona, Alta.; Dr. Angus McLennan, Margaree, N. S., and Dr. Thomas S. Sproule, Markdale, Ont.

Smallpox and Neglect of Vaccination in Ontario.—According to Dr. Charles A. Hodgetts, secretary of the Ontario Board of Health, Ontario is to-day a largely unvaccinated province. During the past ten years there have been at various times considerable epidemics of smallpox of a mild character; in fact, at the present time there are several centers throughout the province for infection. Dr. Hodgetts attributes these outbreaks to the failure on the part of municipal authorities to enforce the law with regard to vaccination. He states that in the past ten years the cost of smallpox outbreaks has cost the various municipalities of the province at least $2,000,000.

Hospital News.—The four general hospitals in Toronto—Toronto General, St. Michael's, Grace and Western—have decided that after January 1 all city order patients will be charged 70 cents per diem for their care and maintenance.——Reorganization of the visiting staff of the Toronto General Hospital is proceeding apace. Drs. Alexander McPhedran, William P. Caven and Graham Chambers have been appointed heads of the three departments in medicine, and Drs. George A. Bingham, Alexander Primrose and Herbert A. Bruce, heads of the three departments in surgery. Dr. James F. W. Ross has been appointed head of the gynecologic department; Dr. Richard A. Reeve, of the ophthalmologic department; Dr. George R. McDonough, of the rhinologic, otologic and laryngologic department, and Dr. Kennedy C. McIlwraith, of the obstetric and pediatric department. Mr. Irving H. Cameron, M.B., F.R.C.S. Eng. (Hon.), professor of surgery in the University of Toronto, is ex-officio head of the department in surgery.

FOREIGN.

Serum Treatment of Botulism.—The German Institute for Infectious Diseases is now making a curative serum for meat poisoning.

Progress of the Koch Endowment.—Since October 1, when the appeal for subscriptions to endow a fund for combating tuberculosis, in the name of Robert Koch, was published, over $40,000 has been subscribed by various private parties and medical societies, and the city of Berlin has recently appropriated $12,500 for the purpose.

Memorial to Kussmaul.—Subscriptions are being collected at Freiburg to erect a memorial to Adolf Kussmaul, who was professor there from 1863 to 1876. It was during his work there that he introduced the method of treating dilatation of the stomach with the stomach tube. Contributions to the memorial should be sent to the branch of the Dresden Bank at Freiburg, Breisgau.

Prize for Popular Pamphlet on the Dangers of Venereal Diseases.—The German Society for the Repression of Venereal Diseases offers three prizes, $75, $50 and $25, for the best pamphlets written in popular style calling attention to the dangers of venereal disease, with special reference to the life of the soldier and sailor. Further details can be learned on application to the office of the society, Inselstrasse 13 a., Berlin, S., 14.

Subsidies to Vienna Research Workers.—The Vienna Academy of Sciences has given $100 to Dr. L. Braun to aid him in completing his research on the circulation of the blood; Dr. E. Brezina was given $120 to aid his work on the physiology of digestion, and Dr. W. Falta $300 so that he can continue his study of the energy in healthy and in diabetic individuals. A further sum of $80 was given to Dr. E. Ranzi to aid his research on the feces and digestive secretions.

Next German Dermatologic Congress.—The tenth annual meeting of the German Dermatologic Association is to be held at Frankfurt, June 8-10, 1908. There are to be no official addresses, the principal features of the congress being the demonstrations and discussions, as has been the plan at previous meetings. The etiology of syphilis and results of experimental research on syphilis will probably be well represented. Address Prof. K. Herxheimer, Gärtnerweg 40, Frankfurt a. M., for further information.

Abuse of Cocain as Extenuating Circumstance.—A German exchange states that a teacher involved in a criminal suit appealed for milder judgment on account of his addiction to cocain. He presented evidence to show that he had purchased $50 worth of cocain in the course of three or four months, and for several years had bought large amounts. Our exchange comments that it seems inconceivable that a layman could purchase such large quantities of such a dangerous poison merely from the drug stores.

International Journal for the Biology of the Nervous System.—The first number of the new *Folia Neuro-Biologica* has been received. It is published by Dr. E. Hemka of Groningen at the Verlag von Dr. Werner Klinkhardt, Leipsic, and contains 152 pages. There are three original articles by Marinesco, Tretjakoff and Tschermak, with critical reviews of recent literature by Bethe, Halliburton and Rynberk, and 75 pages of classified abstracts of current literature. The authors write in their mother tongue, the four "congress languages" being admitted to the pages of the new journal.

Retirement of Cornil and Election of Marie.—Professor Cornil, of Paris, having reached the age limit of 70 years, has been retired from the chair of pathologic anatomy and histology, which he may be said to have first founded in France. His successor is P. Marie, who is now in his fifty-fifth year, and has been associate professor since 1889. Marie's name is connected with acromegaly, rhizomelic spondylosis, amytrophy and cerebellar heredo-ataxia, as well as with aphasia. His revolutionary ideas in regard to the latter were discussed editorially in these columns Aug. 11, 1906.

Plague in China and Japan.—Consul-General Fowler reports the existence of bubonic plague at Tengchowfu, near Chefoo, and that information from Chefoo states that in the city of Tengchow bubonic plague was prevalent November 5, three or four persons in one family often dying within a few days of one another. The area of the infected portion of the city is constantly enlarging. Reports indicate that there have already been from 80 to 100 deaths. Sick, dying and dead are often transported to the country, and it is reported that the disease has broken out in several places in two or three counties. A further report, dated November 14, adds that in one shop a brick bed was torn out and three or four dead rats were found. The mason and one of the employés in the shop were taken ill almost at once and died within a day or two. Another man was also taken ill.——Passed Assistant-Surgeon Cumming reports from Yokohama that plague continues severe at Osaka and the whole city is said to be infected. A severe and fatal epidemic of plague is reported from the Goto Islands in Nagasaki ken, about 60 miles from the city.

Vienna Committee Appointed to Study Means for Repression of Venereal Diseases.—The Royal-Imperial Medical Society recently appointed a committee to study ways and means to check the spread of venereal diseases, and the *Wien. klin. Wochschr.* published, December 19, the report of the committee in full. Prophylaxis by education, by measures in hospitals, dispensaries, in the army, etc., and by women's organizations is discussed in detail, besides extragenital infection, dangerous customs and protection of workmen in factories, etc. It is stated that in Vienna 11 per cent. of the inmates of the hospitals are there on account of venereal disease. During 1901 there were 1,628 syphilitics and 5,120 suffering from other venereal affections among the 61,621 inmates of the hospitals. The most instructive way to determine the prevalence of venereal disease is to search for it in every person admitted to the hospitals. This has been done in late years, and signs of venereal infection were discovered in 20 per cent. at Vienna, in 21 per cent. at Paris, and in 51 per cent. at Marseilles. The report further presents the history of the movement aiming toward repression of venereal diseases, and relates what has been accomplished in various European countries, concluding with a number of practical suggestions for general prophylaxis.

Metchnikoff and Lactobacillin.—The Paris *Journal de Médecine* has a caustic article on the subject of Metchnikoff opening a shop in the Latin Quarter where is sold his "lactobacillin," for making clabbered milk, which he announced some time ago was the proper food for the aged, as it would ward off senile changes. The Journal has duly chronicled his announcements on the subject of the importance of the lactic acid bacilli in this respect, and Dunn, Fournier and others have confirmed the efficacy of the lactic ferment in combating intestinal fermentations. It seems to be the only ferment known to date, the latter says, which adapts itself to anaërobic conditions, while very resistant to external influences and acting directly on carbohydrates. The humorists in the daily papers have rung all the changes on Metchnikoff's announcement, which they quote as "Drink sour milk and you will never grow old." Our exchange states that Metchnikoff conferred on a certain Russian firm the sole rights for the sale of the lactobacillin in Russia, and that this firm is now threatened with a damage suit on account of symptoms of severe poisoning that followed the use of the lactobacillin in a certain case. The husband of the patient wrote recently to the Russky Vratch that he had sent one of the jars in which the poisonous clabbered milk was prepared to Metchnikoff at Paris, informing him of the matter and of the unhygienic methods of his Russian agents, but has received no reply. Dr. C. A. Herter's article in The Journal, Dec. 14 and 21, 1907, discusses the value of the lactic acid milk in intestinal fermentation.

Last Meeting of the German Society for Repression of Venereal Disease.—The December public meeting of this society was addressed by Professor Bumm on the "Importance of Gonorrhea for Health and Marriage." He emphasized the misery resulting from this disease which, as he remarked, often runs a mild course in man, while affecting women much more seriously. In from 20 to 25 per cent. of all cases of sterile marriages, the husband has lost the procreating power as a result of gonorrhea. Another serious property of gonorrhea is its ability to persist in a latent form for years. This is the way in which most wives become infected, and the infection runs a peculiarly severe acute course in younger women. If the disease is not effectually treated and cured while it is restricted to the accessible parts, the germs ascend and are liable to induce painful inflammatory processes, and the wife becomes a chronic sufferer and barren, or she may not develop the chronic affection until after her first child is born. The affection may heal after the organs of procreation have been injured beyond repair, but in other cases the woman is left a chronic sufferer until the inflamed organs are removed. In conclusion, he emphasized further the importance of early and thorough treatment. The next meeting is to be held in the evening and for employed women and girls only, especially servant girls. It is to be addressed by Dr. Agnes Hacker on the "Dangers of Ignorance in the Matter of Venereal Disease." The audience was urged to advertise this coming meeting among clerks, housemaids, etc., to insure a large attendance.

LONDON LETTER.

(From Our Regular Correspondent.)

London, Dec. 21, 1907.

Success of the Huddersfield Scheme to Check Infantile Mortality.

The scheme instituted by Mayor Broadbent of Huddersfield (brother of the late Sir William Broadbent), has been most successful. Its object was to secure early notification of births and systematic feeding and attention to infants. During the two years of Alderman Broadbent's mayoralty the system was tested. The mayor gave a reward for the immediate notification of births, which was followed by the calling of a health visitor, who gave the mother all necessary instructions on the careful and successful rearing of the infant. The public officials of Huddersfield were so struck with the result of the system that the matter was taken up on the expiration of Mayor Broadbent's term. The various means of prevention of illness of infants followed, and from this there emerged one definite principle: "Help the mother to nurse her infant herself in her own home." By a special act of parliament, passed in 1906, the Huddersfield corporation was the first to secure the power to order the compulsory notification of births to the health officers within forty-eight hours. No difficulty has been found in enforcing the act. The notifications within the time limit have been 94 per cent. A post card is sufficient, and in order to encourage compliance with the act stamped and addressed cards are given to midwives and the cooperation of physicians is sought. Power of entry into homes is not included in the act and is not enforced in any way. Visits are paid by members of a voluntary association of women, formed for the purpose in the town, in cooperation with women physicians. After the health officer pays his first visit the lists of babies are divided into districts. A similar experiment has been begun in the large London borough of Marylebone. With a view to reducing infant mortality the mayor, Sir Brooke-Hitching, has offered an award of $5 each to poor mothers whose children survive a year. Several hundred applications have been made for the gift and the infant mortality has been reduced from 237 to 202.

Quack Nostrums in Great Britain.

The correspondence regarding quackery and the evidence that a stand is to be made against the exploitation of secret remedies, by medical men and druggists increases every day. The *British Pharmaceutical Journal*, Nov. 23, 1907, contains the following letter from a general practitioner. "From the mere business point of view, excluding every consideration open to the charge of sentimentalism it seems evident that if the quack nostrum traffic were abolished or properly curtailed the increase in the demand for legitimate needs would far outweigh any loss arising from the altered scale of the retail pharmaceutical trade. On selfish not less than on moral grounds it seems evidently the duty of the Pharmaceutical Society to take part energetically in the campaign against quackery now so succesfully inaugurated. The ball has been set rolling in Great Britain and there is no doubt that great reforms will be introduced into the manner in which the nostrum trade is conducted."

Libel Suit Against the Lancet.

Our respected contemporary, the *Lancet*, has always played a prominent part in the denunciation of quackery. An action has been brought against it under the following circumstances: An inquest was held on the body of a laborer who died of consumption, and it was stated that during his illness he purchased one of "Dr. Tucker's specific inhalers and atomizers" at a cost of $15. For liquid to be used as a spray he purchased an ounce, for which he paid $2. The coroner made strong remarks on this which were reported in the *Lancet*, with comments to the effect that the prices were excessive. The defendants pleaded fair commentary and sought by interrogatory to ascertain the contents of the liquid which, it was said, could be purchased for 25 cents an ounce. The judge, however, refused to order the plaintiff to answer the interrogatory on the ground that he would be directing the disclosure of a secret process.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are **NOT** exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Acute Frontal Sinusitis.

The cause of this frontal headache or pain in the supraorbital region is often overlooked. It follows acute nasal inflammations, and especially after influenza. It may be no more than a congestion of the mucous membrane of the frontal sinus and an increased secretion which, with hypertrophy at the orifice of the duct in the upper part of the nose may cause pain from pressure, or actual purulent inflammation in the sinuses may occur. The occurrence of one attack predisposes to other attacks.

The pain centers in the supraorbital region, but is often referred to the temple. Pressure in the inner angle of the eye against the nose will cause pain on the side on which the inflammation is located. These paroxysms of pain generally occur in the morning hours, and after the pressure from the secretion in the sinus has become sufficient it may force its way through the narrowed duct, and the pain is relieved.

The general treatment of the condition is that called for in any acute cold, i. e., to remain in the house, at rest if there is temperature, on a lowered diet, saline and mercurial purgatives, and such treatment of grip, sore throat, or cough as would be given were the frontal sinusitis not present. Quinin should not be given, as it tends to congest the blood vessels of all parts of the head, and will make the condition worse, as well as increase the tendency for trouble to occur in the middle ear. Neither local heat nor local cold will ease the pain, nor will any of the ordinary sedatives, neither will small doses of morphin be of value, as the pain is due to pressure which no drug can stop.

The local treatment is the only treatment of any avail. Mild, warm saline sprays as represented by physiologic saline solution (one-fourth teaspoonful of salt to a half glass of warm water) or by Seiler's tablet solution (each tablet dissolved in two or three ounces of warm water), or by any other mild alkaline solution. After the secretion of the nose is thoroughly cleansed off and the openings of the frontal sinus ducts are made free, a spray of a weak suprarenal solution, or a 1 to 10,000 adrenalin or suprarenalin solution directed high up into the nose is of benefit in contracting the mucous membranes so that the secretion from the frontal sinuses may flow freely down. This treatment should be repeated several times a day, but if there is not quick and immediate relief from the frontal pain and pressure, the patient should be sent to a specialist for proper probing of the canal and possibly the destruction or removal of granulations or hypertrophied mucous membrane. Prolonged pressure from secretions in the frontal sinus or the formation of pus that can not be evacuated can produce serious abscesses and destruction of tissue, and may call for later operation for evacuation.

Albuminous Drinks.

The following suggestions are from "Practical Dietetics," by Alida Pattee:

EGG BROTH.

Yolk of one egg.
Sugar, a tablespoonful.
Salt, a speck.
Hot milk, one cup.

"After beating the egg, add the sugar and salt, and then pour on the hot milk. If desired this may be flavored with brandy or wine."

EGGNOG.

Egg, one.
Salt, a speck.
Sugar, a tablespoonful.
Milk, two-thirds of a cup.
Sherry wine, one and one-half tablespoonfuls, or
Brandy, one tablespoonful, or less.

"The beaten egg, with the added sugar and salt, should be chilled and the milk chilled before the whole is mixed with the liquor. A little nutmeg may be added if desired."

JUNKET EGGNOG.

Egg, one.
Milk, one cup.
Sugar, one tablespoonful.
Rum, brandy or wine, two teaspoonfuls.
Hansen's junket tablet, one-fourth.

"Beat the white and yolk of the egg separately very light, then blend the two and add the sugar dissolved in the rum. Heat the milk lukewarm, stir into the egg mixture and add quickly the tablet which has been dissolved in cold water. Pour into small warm glasses and sprinkle grated nutmeg over the top. Stand in a warm room undisturbed until firm, and then put on ice to cool. This can be retained by the most delicate stomach."

BEEF EGGNOG.

Egg, one.
Salt, a speck.
Sugar, a tablespoonful.
Hot beef broth, one-half cup.
Brandy, a tablespoonful.

"Beat the egg slightly, add the salt and sugar, then gradually add the hot broth, then the brandy, and strain. The sugar and brandy may be omitted, if preferred."

EGG AND BRANDY.

Eggs, three.
Cold water, four tablespoonfuls.
Nutmeg, a little.
Brandy, four tablespoonfuls.
Sugar, enough.

"Beat the eggs, add the cold water and brandy, and sweeten to the taste. Administer a tablespconful at a time."

ALBUMINIZED MILK.

Milk, one cup.
White of one egg.
Salt.
Flavoring.

"Place the milk and egg in a covered glass fruit jar, shake until thoroughly blended, salt and flavor as desired. Strain and serve immediately."

ALBUMINIZED WATER.

Water, one cup (cold water boiled, and then cooled).
White of one egg.
Lemon juice.
Sugar to taste.

"Put all the ingredients into a covered glass fruit jar and shake until thoroughly blended, then strain and serve immediately."

Uric Acid.

Dr. A. H. P. Leuf Philadelphia (*Medical Record*, Oct. 5, 1907), discusses the conditions which he thinks are due to uric acid, and uses the term "rheumatism" in describing these conditions. In other words, he does not seem to consider acute rheumatism as an infection. He believes that besides articular, ligamentous and muscular disturbances due to rheumatism, that we often overlook the cause of disturbances from uric acid. He directs attention to "cutaneous rheumatism," to "rheumatic sore throat," to "irritable bladder," to "acute urethritis," to "ocular rheumatism," to "aural rheumatism," to "rheumatic toothache," to "enteric rheumatism," and to "visceral rheumatism," all of which he believes are due to an overproduction or to retention of uric acid.

Cutaneous rheumatism is a condition with urticaria, itching, and patches of hyperemia. He finds that the best local treatment for this condition is a wash of bicarbonate of sodium, and he also administers it internally. He also regulates the diet.

Rheumatic sore throat, he believes, can be as readily caused as the urticaria of the skin. The throat looks red, feels irritated, but has no exudate, and he finds that the salicylates and colchicum give prompt relief.

"Irritable bladder and acute urethritis may both be caused by uric acid crystals in the urine," and. other causes being excluded, he finds again that sodium salicylate and colchicum effect a rapid cure.

Ocular rheumatism has long been recognized, but is still often overlooked, and sodium salicylate and colchicum are valuable curative agents.

Leuf believes that aural rheumatism occurs, and is sure that there is toothache due to rheumatism, he again using the word rheumatism to mean uric acidemia. He believes, too, that there is enteric rheumatism as evidenced at times by irregular diarrheas, and that many of the pains in the pelvic organs are due to this same cause. He also speaks of headaches and nerve pains due to this same uric acidemia.

His treatment of all these conditions aims at the uric acid, and the wine of colchicum-root, often in small doses, is his mainstay, with sodium salicylate, also in small doses, as a frequent adjunct. The bowels should be moved freely in any of these uric acid conditions, and preferably with magnesium sulphate. In local pain from rheumatism (uric acid) he finds the application of heat very valuable. Warm baths he advises for all these conditions, while he believes that cold baths are harmful. Sun baths are also advised. Any agent that increases elimination, as alkalies and iodids, or improves oxidation, as iron and manganese, are valuable. The salicylic treatment may be given as follows:

℞.

	gm. or c.c.		
Sodii salicylatis	5	or	ʒiss
Aquæ gaultheriæ	100		fl℥iv

M. et Sig.: A teaspoonful. in water. every two hours until there are some signs of salicylic acid action.

The indications that enough salicylic acid has been used, and that the frequency or the size of the dose should be diminished, are symptoms of "salicylism," and these are flushing of the face, itching of the skin, ringing in the ears, possibly slight headache, and often profuse sweating. With pure preparations of salicylic acid, there would rarely be any cardiac depression. It should be understood that synthetic preparations of salicylic acid should not be used, as they cause depression.

If the dose of salicylic acid is not frequently administered, and the sweetness of it is disagreeable, the powder can be given in capsule directly after meals, but even then there is often slight burning sensations while it is dissolving.

℞.

	gm.	
Sodii salicylatis	10	ʒiiss

Fac capsulas, 20.

Sig.: One capsule three times a day, after meals.

Nascent sodium salicylate is sometimes administered and has been considered more effective in its action.

℞.

	gm.	
Acidi salicylici	10	
Sodii bicarbonatis	10	āā, ʒiiss

M. et fac chartulas, 20.

Sig.: A powder dissolved in half a glass of water three times a day.

The formation of sodium salicylate from this preparation occurs very quickly, the solution forming an effervescing mixture which may be drunk while sparkling.

The oil of gaultheria may be substituted for the sodium salicylate, if desired, as:

℞.

	c.c.		
Olei gaultheriæ	50	or	fl℥ii

Sig.: Take ten drops on granulated sugar (or on cut sugar) four times a day, to be followed with plenty of water.

Leuf uses the wine of colchicum-root, which is doubtless the best preparation:

℞.

	c.c.		
Vini colchici radicis	50	or	fl℥i

Sig.: Five drops, in water, every four or five hours.

The colchicum should doubtless be increased until there is slight diarrhea and then the dose continued a little less than that which affected the bowels. Leuf finds that in chronic cases very small doses, as one to two drops three or four times a day, of the wine of colchicum, are effective.

Hand and Toilet Lotion.

Harbold (*Druggists Circular*, Nov. 1907) offers the following as a "non-sticky, non-greasy, and non-irritating," soothing lotion:

℞.

	gm. or c.c.		
Tragacanthæ	2		ʒss
Cydoniæ seminis	15		ʒiv
Sodii boratis	6		ʒiss
Acidi borici	8		ʒii
Sodii benzoatis	3	or	gr. xlv
Glycerini			
Alcoholis, āā........................	75		āā, fl℥iiss
Aquæ bullientis	625		fl℥xx
Aquæ	ad 1000		ad Oii

M. et Sig.: A soothing and mildly antiseptic lotion.

[It is not necessary to shake this mixture. Any perfume or coloring desired may be added to this lotion.]

"Dissolve the tragacanth in one-half a pint of water, stirring until it dissolves or becomes a homogeneous mixture. Steep the quince-seed in boiling water for four hours, stirring frequently; then strain carefully. Dissolve the borax, sodium benzoate, and boric acid in the remainder of the hot water. Add the glycerin, dissolved in the alcohol, and finally the tragacanth and quince-seed mucilage, which has previously been mixed, portion by portion, shaking on each addition, in order to get a thoroughly homogeneous mixture. The consistency may be varied by the addition of water."

Antiseptic Flexible Collodion.

John T. Harbold (*Druggists Circular*, November, 1907) recommends the following collodion as an improvement on the flexible collodion of the Pharmacopeia:

℞.

	gm. or c.c.		
Pyroxylini	10		ʒiiss
Ætheris	190		fl℥vi
Tincturæ benzoini	20	or	flʒv
Hydrargyri chloridi corrosivi	12		gr. ii
Alcoholis	ad 250		ad fl℥viii

M. et Sig.: Flexible antiseptic collodion.

"Dissolve the gun cotton in the ether, shaking until it becomes of the consistency of paper pulp; then add the tincture of benzoin and shake the mixture thoroughly. To this mixture add the alcohol in which the mercuric chlorid has been previously dissolved."

Correspondence

Johnson & Johnson's Digestive Tablets.

Wheeling, W. Va., Dec. 14, 1907.

To the Editor:—Every physician doubtless is interested in the surgical supply business. There are men scattered here and there, who, like the majority of hospitals, prepare their own dressings, but they are in the minority, and one can easily imagine their bandage rollers lying with the rusty antique surgical metal in some neglected corner of a seldom used cupboard to be resurrected once in a while to occupy the time of the office girl in the dull season. It is conceded, I suppose, that most of us depend on the manufacturers of such goods for all we use in the hundred and one little and big procedures calling daily for their use. I believe Johnson & Johnson's goods have been found satisfactory, and in many ways the firm has endeavored to be progressive and efficient. It is, therefore, with a feeling of wonder and almost incredible surprise that I ran across a bottle of digestive tablets bearing the imprint "Johnson's Digestive Tablets, New Brunswick, N. J., Johnson & Johnson, selling agents." Two letters addressed to them, for information, did not reach them, since no reply came and I was left in the darkness of ignorance. Inquiry along other lines has always received courteous attention from this firm and it is hardly to be supposed that two letters would miscarry. I therefore, refer the matter to the profession at large, and ask any one interested to go to his drug store and buy a box of "Papoids," or "Johnson's Digestive Tablets," and learn for himself the character of an exploitation carried on by the firm which actually owes its existence to his profession.

Furthermore, it may be possible that as he goes into the drug store he may see the window full of these tablets and, as he walks back, he may, possibly, increase his knowledge of this firm's first aid to the injured or dyspeptically sick by observing two test tubes, one exhibiting food undigested, the other food presumably digested by "Papoid" (no doubt aided by some wonderful agent such as bicarbonate of soda or peppermint). Purchase, therefore, a fifty cent size, and enrich your familiarity with current literature by a perusal of its circular enclosed. If you have a lingering belief that this is intended for the profession, certainly, at the same time, you must then, be belittling it needlessly.

It might be well, too, for the physician so interested to find out from reading the circular in package that there is a larger bottle of these tablets, known as physicians' size which "is for physicians" (?) or (and this comes later) "where it becomes necessary to continue the treatment." The fifty-cent size, it is stated, may, in some cases effect a cure, and before one leaves the subject, it may well occur to some how a firm selling an article with any such claim can be depended on in other directions.

The formula of the tablets is the same as that of many other tablets, and possibly one or two "patent medicines" owe their existence to the same ingredients. That is scarcely the point. But a point one can with propriety dwell on, is why need a surgical dressing firm make only one tablet for physicians' use, and that one with papoid, sodium bicarbonate and peppermint as the formula? Doubtless, in fairness, the tablet possesses value, but surely, too, only when used scientifically. For instance, do Johnson & Johnson as selling agents advise their use in a case of deficient activity of the acid forming function of the stomach?

There is one more thing, too, in passing, why is there any need for a bottle other than the physicians' size if the preparation is for physicians' use only? Below are some extracts from the circular enclosed in a fifty cent package bought in the open market:

> JOHNSON'S DIGESTIVE TABLETS.
>
> The essential active ingredient in Johnson's Digestive Tablets is obtained from the fruit of the Carica Papaya. This fruit contains a milky juice which has the property of softening and making tender the toughest meat. Hence the name "Digesting Melon." . . . The secret of the action of the digesting melon is that it contains a peculiar quality of pepsin, akin in nature to the fluid or ferment given out by the stomach in the act of digestion, and there can be no stomach digestion without this ferment. When the stomach fails to supply it sufficiently—as in dyspepsia or in cases of overeating—a substitute must be furnished. Commonly this substitute is a pig pepsin scraped from the stomach of the dead animal. It frequently contains a quantity of poisonous substances, removed with it and afterwards practically inseparable from it, which, of course, go into the stomach every time any preparation that includes animal pepsin is taken. The danger is especially great now that there are so many brands of cheap pepsin on the market, made at the great pork-packing establishments of the west.
>
> Johnson's Digestive Tablets are made from the vegetable pepsin obtained from the digesting melon, a product which contains all the properties of the fruit. . . . Time for administration and directions for employment. . . . Hygienic Hints for Dyspeptics.—In all dyspeptic conditions the good influence of hygiene, especially exercise, bathing and diet, are admitted by all. On the following pages are given brief suggestions condensed from the methods suggested by various writers. . . . (Here follow detailed instructions as to diet, bathing, exercise, massage, etc.) Johnson's Digestive Tablets are also known as Papoids. These tablets are made according to the following formula: Papoid gr., Soda Bicarb. grs. iii.; Sacch. Lactis, Menth. pip., qs. Dose—1 to 3. . . . Johnson's Digestive Tablets are put up in two sized packages; small size contains fifty doses, enough to do a great deal of good and in some cases effect a cure. They are packed in a flat, blue glass bottle that is convenient to carry in the pocket. The bottle is incased in a yellow paper carton, which bears the distinguishing label, as shown in the cut, and sells for fifty cents. The large sized package, known as Physician's size, is for the convenience of physicians and dispensers or for cases where it becomes necessary to continue the treatment. This size contains one hundred and fifty tablets and sells for one dollar.

The question which to me appears a vital one is this, how can a firm guilty of just such a thing, really, at heart be a friend of the profession any more than a big pharmaceutical house that does the same thing? Are not all firms whose business depends on the physician doing the profession a grave injustice when they cater to the casual and frequent buyer of "patent medicines" by manufacturing tablets which only enter into competition with "patent medicines" and as rarely do any appreciable good for anybody?

Perhaps, too, in the case of Johnson & Johnson their "first aid" manuals have appealed to you as a case of benevolence and philanthropy! Some day too you may be called on to witness some employés allowing a life to ebb away turning the pages of just such a book to see what to do. The firm says, "send for a doctor and do this while waiting" but it is well for us to remember the circular of the digestive tablets of which they are the selling agents when considering any attitude they profess.

It is not my intention to criticise the legitimate operations of any corporation but one can not help asking why the need of this deviation to manufacture a digestive tablet, or act as its selling agent. I trust that the firm will somewhere or other explain to the profession its connection in this case, and hope, too, that the explanation will be satisfactory.

H. M. Hall.

Fifth Pan-American Medical Congress.

New York, Dec. 28, 1907.

To the Editor:—The next Pan-American Medical Congress will be held in Guatemala, Central America, the second week in August, 1908. The international executive committee hopes that you will give it the same efficient support that you have heretofore given to the former meetings. We are sending a news item which is the invitation to be sent out to the medical journals of the western hemisphere.

It must not be thought that Guatemala is an undesirable place to visit in August and that it will be very hot and the rain constant. August is the time of the year called the canicula when, although hot, there is but little rain. The heat does not, however, compare with our summer heat, as Guatemala is situated on a plateau which is comparatively cool. The trip down from New Orleans or from New York by steamer to Porto Barrios is an agreeable one. The trip to the congress and back will be in the hands of the committee on transportation. Excursion trips can also be made in connection with this congress to Mexico or to the various islands of the West Indies. The excursions will be in the hands of Thomas Cook & Co. or of any one who chooses to organize one. There will be no charge for transportation in the Republic of Guatemala. Ramon Guiteras, Secretary.

To the Medical Profession:

Gentlemen:—The government and the people of the Republic of Guatemala, as well as the national committee of the Fifth Pan-American Congress, are actively endeavoring to do all in their power, in a sure and efficient way, to make this meeting a great success. With this object in view the committee will be pleased to invite you personally to attend, as well as the members of the society or medical fraternity to which you belong, in order that through your presence and works the certain success of the congress that science expects of its representatives will be assured.

The committee hopes that you and the other members of your institutions will meet at Guatemala Aug. 5 to 10, 1908, and sincerely begs that from now on you will not hesitate to keep yourself in fraternal relations with this committee, and also that you will let us know beforehand if you intend to attend the congress in person or to send some scientific contributions.

The committee hopes to receive a reply shortly to the invitation to this meeting, which should serve as an incentive to unite professional interests, to stimulate the advance of medical science and to contribute to the preservation of the health and the prolongation of the life of the people of the Americas.

We take advantage of this opportunity to express to you the best regards of Yours truly,

JUAN J. ORTEGA, President.
JOSE AZURDIA, Secretary.
National Committee for the Republic of Gautemala.

Sudden Death After Injection of Diphtheria Antitoxin.

[A report of a death of a man in a physician's office, immediately after receiving an injection of diphtheria antitoxin, had wide circulation in the newspapers. A request for information addressed to the physician referred to has brought the following reply.—ED.]

NORRISTOWN, PA., Jan. 6, 1908.

To the Editor:—On the evening of Dec. 12, 1907, Ely Weitzel, aged 34 years, a man of splendid physique and apparently in the best of health, came to my office and asked that I give him an immunizing dose of antitoxin, saying that he had on that morning kissed his little daughter, who was found, less than two hours afterward, to be suffering from diphtheria, both throat and nose being filled with the membrane.

A few minutes before 8 p. m., after having carefully sterilized the right side, I introduced the needle about four inches above Poupart's ligament, and slowly injected nearly all of 1,000 units of diphtheria antitoxin. He said that neither the introduction of the needle nor of the serum gave him any pain, but spoke of the "lump that raised" when I withdrew the needle.

At the time of the injection he was reclining in an office chair, having removed his coats and vest. As near as I can judge, he remained in the chair for from two to three minutes after the injection. Just as he got out of the chair he said: "What is in that stuff? I feel as though it were blistering me." He reached for his clothing, and as he did so he said: "My scalp and face itch and burn terribly," and with both hands he began to scratch his head vigorously. His next remark was: "I can not breathe." I observed that his expression denoted anxiety, and that his lips began to swell and turn dark. I told him to sit down, which he did. He then complained of the itching all over his body, and in a moment said: "I am on fire inside." His breathing was now very labored; his lips, face and neck were much swollen and very dark. A thick heavy froth began pouring from his mouth. He was apparently paralyzed, for he made no voluntary motion of any part of his body. He had a slight convulsion, lasting but a few seconds, after which he ceased to breathe. The action of the heart continued for a considerable time after the breathing ceased.

Soon after he sat down I realized that his condition was alarming and had three physicians called, all of whom live within a few yards of my office. They responded immediately, and we used all the recognized means to re-establish breathing, but did not succeed.

The time elapsing between the introduction of the serum and his death was not over five minutes. He did not speak again after saying: "I am on fire inside," except to mutter: "I—am—dying," nor did he seem to be conscious after that.

The serum used was sent to my office a few minutes before I injected it, from a neighboring drug store. The date limit was "March 7, 1908."

I have used diphtheria antitoxin in over sixty cases and have never seen any untoward symptoms, except in one instance—an attack of urticaria.

No autopsy was made in this case. I might add that this man from childhood could never be about horses without suffering from symptoms of asthma.

It would be a Herculean task to answer personally the many letters I am receiving from physicians in all parts of the country, so I trust this will answer them through your columns.

S. N. WILEY.

The Inventor of the Guillotine.

ST. LOUIS, Jan. 4, 1908.

To the Editor:—In THE JOURNAL, Jan. 4, 1908, page 68, I note that Dr. William Pepper is reported to have said: "Dr. Guillotin, the inventor of the guillotine, had his own head chopped off." If Dr. Pepper has been correctly quoted, the value of his paper on "Diseases of Great Physicians of the Past," which was read before the Philadelphia County Medical Society on Dec. 11, 1907, is much lessened. Dr. Guillotin lived until the year 1814, and died quietly in his bed. Furthermore, he did not invent the machine which bears his name.

The use of a beheading machine can be traced to the middle ages. In Genoa it was known by the name of "*manuaja*," and it was by means of the manuaja that Beatrice Cenci was beheaded at Rome in 1605. The "maiden," an instrument resembling the guillotine, was long known in Scotland. In the reign of Elizabeth it was used in Halifax and in Yorkshire.

Joseph Ignatius Guillotin, an eminent physician, was a deputy for Paris in the constituent assembly. In 1789 he prepared the draft for a law to the effect that the mode of inflicting death on criminals should be the same for all alike, without any distinction of nobles or plebeians. The bill proposed by Dr. Guillotin was voted and the assembly enacted, Jan. 21, 1790, that: "the criminal should be beheaded by means of a simple machine." In October, 1791, the same assembly voted that: "the penalty of death shall consist in the simple taking away of life without the accompaniment of any sort whatever of torture; and the convict so condemned shall be beheaded."

Having decided on decapitation, the committee of legislation directed Dr. Louis, the perpetual secretary of the Academy of Surgery, to make a report on the best method of decapitation. He suggested the plan on which the instrument should be made, and was empowered to have one constructed. A German named Schmitt was employed for the purpose. On April 19, 1792, Louis informed Roland, then minister of the interior, that experiments had been made with Schmitt's machine on three dead bodies and that: "the heads were cut off with such precision that he was astonished at the strength and celerity of its action."

The machine was first used on May 27, 1792, to execute a highway robber. The first political execution was that of Collenot d'Anglemont, on Aug. 21, 1792.

The beheading machine was at first popularly known by the name of Louison or Louisette, from the name of its inventor. By some caprice it was soon called the guillotine, although Dr. Guillotin had nothing to do with its invention or construction. Dr. Guillotin was opposed to cruel and unusual punishments, and in this he showed himself to be a true physician and a humanitarian.

JAMES MOORES BALL.

Warning Against an Insurance Agent.

MARSHALL, MICH., Dec. 24, 1907.

To the Editor:—I wish to warn the members of the profession against an insurance agent who gives his name as Herbert Squires. He represents himself as an agent of the Home Accident and Health Insurance Company of South Bend, Ind., and his object is to get some physician in each city to represent the company. On the payment of $3 the physician is given a policy for one year and is to treat the policy-holders at the regular rates to be paid by the company. The agent leaves town and nothing is seen of the policy, nor any word from the company. He claims to be a Knight of Pythias, and is familiar with the work of that order. He is very lame, having a six-inch sole on one foot, and walks with a cane. I have been taken in, as well as some of my friends in the neighboring cities, and my object is to expose the fellow.

S. K. Church, M.D.

Pharmacology

The Danger of Medical Advice from the Manufacturers of Proprietaries.

Prof. A. Neisser, in an article on the treatment of gonorrhea (*Medizinische Klinik*, 1907, No. 14, p. 381) touches on a phase of the proprietary medicine question that has received too little attention. It may happen that the manufacturers of a really creditable proprietary, in extolling its merits, obscure the importance of other treatment which is essential for the cure of disease. Neisser advocates local treatment as essential for the cure of gonorrhea. He admits that balsamic remedies may be of service by lessening pain and swelling, but he fears them on tactical grounds. He says:

"Precisely their utility in reducing discomfort and the annoying and accidental suppuration conceals the danger that not only the laity who treat themselves without the aid of a physician, but also those physicians who do not control by the microscope the condition of the gonococcus in cases of very scant secretion will be led to the belief that with the cessation of the distressing symptoms the disease has also disappeared. But this opinion is erroneous, as we have determined thousands of times since adopting the use of the microscopic examination of the secretion; in spite of the extreme scantiness of the discharge the gonorrhea still continues.

"But I oppose most emphatically all praise and recommendation of internal remedies in which the absolute necessity of treating every gonorrhea locally is either obscured or denied and, therefore, a large number of articles and manufacturers' circulars on gonosan, santyl, and especially on arrhovin, have caused me to protest publicly against this propaganda, because I must recognize a danger to the public health in this displacing of local treatment by means of internal treatment which is much more convenient to the public. I know very well that this supplanting of local treatment is unintentional, but I fear very much that the symptomatic treatment of gonorrhea which prevailed twenty-five years ago and which was so injurious and was displaced with so much trouble and labor, will again gain ground if the great public by a misconception of the circulars should give its preference again to the internal treatment of gonorrhea."

Neisser calls attention to the articles of Saar, Schindler, Seibert, and Kaiser which have led to the following conclusions:

Arrhovin applied externally, internally or combined, shows absolutely no influence on the gonococci; the external treatment is adapted to bring on complications; the internal treatment does not oppose them and can not hinder their appearance. With both methods of treatment the process has a tendency to become chronic.

The Nostrum.

In the *Druggists Circular*, a pharmaceutical journal which stands for clean pharmacy, Francis B. Hays has the following to say about the nostrum:

"There is only one name for the secret medicine. That name, through association with disreputable articles and methods, has ceased to be pleasing to the ear of the secret-medicine manufacturers, so more euphonious (as well as erroneous) substitutes for it have come into use. 'Patent medicine' is one of these; but as 'patent' means the very opposite of secret, its use in this connection is plainly wrong. 'Proprietary remedy' is a little nearer correct, but really the manufacturer of a secret remedy has no legal proprietary rights in it, as anyone who by his skill and ingenuity can learn to make the secret medicine has a legal right to do so, and to sell it under the name by which it is known. Therefore it is hardly proper to speak of the secret medicine as a proprietary remedy. What then shall we call it if we wish to be correct? The nostrum.

"Newspapers with their usual desire to be sensational have lately been printing big headlines about the 'drug trust.' This is prejudicial to the best interests of pharmacy. What put the pharmacist into a position to be regarded as a part of a trust? The nostrum."

"Some time ago the pharmacist was lampooned and cartooned as a thief, murderer, substitutor. What was at the bottom of his campaign of villification? The nostrum.

"Many physicians refuse to write prescriptions, saying that they will not send their patients to stores whose windows are filled with a disgusting display of goods fraudulently masquerading as cure-alls. What constitutes this display? The nostrum.

"Many men who are good citizens from the banker's standpoint, and who are high in civic and social circles, lie about their goods and frequently obtain the last pennies of the poor and ignorant under false pretenses. What makes them do this? The nostrum.

"When we go to the legislature to ask for laws which we want or to prevent the passage of laws which we do not want, we frequently are opposed by doctors, board-of-health officials, temperance women, and antinarcotic committees, who tell legislators that we represent an interest that is opposed to that which is best for the public. On what do they base their charge? The nostrum.

"What is a good thing for druggists to give a wide berth to in all matters pertaining to protective legislation? The nostrum.

"What is a good thing for druggists to accept—if they must accept it at all—only as a necessary evil, and not to endorse in print or by display, or to recommend by word of mouth? The nostrum."

Toxic Action of Atoxyl.

Since atoxyl is an arsenical preparation it was to be expected that under some circumstances it would develop toxic action. At the meeting of the Paris Therapeutic Society, October 22, Marie reported (*Journal de Pharmacie et de Chimie*, Dec. 4, 1907), some toxic results occurring in the course of treatment of the syphilitic insane, particularly those affected with general paralysis and tabes. In twelve cases one showed improvement of the disease (beginning general paralysis) after exhibiting serious symptoms of poisoning. On the other hand, in patients with advanced disease, poisoning showed itself by symptoms of paralysis, blindness, vertigo, nausea, vesical disturbances, etc., after the fourth injection. These patients, as Dr. Hallopeau foresaw, derive no benefit from atoxyl. In a very small dose anilin arsenate (atoxyl) may produce in the same patients a beneficial effect as an arsenic compound, but its utility in this respect is surpassed by cacodylate of sodium as an agent for the physical improvement of those patients on the verge of cachexia.

Bardet cautioned against the use of this drug and stated that the most serious accident attributable to it was the production of blindness in a certain number of patients. He thought this symptom should be attributed to neuritis produced by the arsenic.

Serini, on the other hand, was in doubt as to what the symptom was to be attributed to, since ophthalmoscopic observations had not been published.

The toxicity of atoxyl, according to Chassevant, depends on its decomposition, without which it does not appear to be active therapeutically. In this decomposition anilin is set free and part of the toxic symptoms are no doubt due to this substance which, when inhaled in small quantity, is capable of producing death. He advises the experimental determination of the proportions in which a mixture of arsenic and anilin will give useful therapeutic action without fear of poisoning.

The Absorption of Remedies in Pill Form.

In order that a medicine given in pill form shall be quickly absorbed, it is necessary that the pill disintegrate readily in the stomach or intestine. For this result much depends on the composition of the pill excipient. E. Rieben (*Archiv der Pharmazie*, Nov. 23, 1907) has investigated the effects of excipients of different composition, using potassium iodid as the medicinal agent, and examining the urine for several hours after the ingestion of the pill, to determine how soon iodin appeared in it and when the greatest amount of absorption took place. The pills were tried when freshly prepared, after keeping them two weeks, and after 65 days.

In all cases the absorption and excretion of the potassium iodid were markedly delayed as compared with the result when it was given in watery solution. The delay was most noticeable when the excipient was wax and oil. Pills made with white sugar and acacia, which have been recommended by Kobert, permitted only a limited absorption of the medicine. Those made with kaolin (bolus alba) gave better results, the best combination with this excipient being with simple syrup and wool fat (lanolin). The use of glycerin, recommended in the German pharmacopeia, was somewhat less favorable.

The best results were achieved with vegetable powders such as licorice and althea. At the head stands the combination of licorice root and syrup; the pills prepared in this way showed no reduction of absorbability after two weeks, and very little after nine weeks. It is noticeable that the excipient so much condemned by Kobert, viz., althea root and mucilage of acacia, deserves a better reputation; nine-weeks-old pills disintegrated as quickly as fresh ones made with sugar and mucilage of acacia. Pills made with medicated soap stand nearly as well as those prepared with licorice or althea. It is important to note that silver coating of pills hinders their disintegration and absorption.

Miscellany

Scopolamin Analgesia in Obstetrics.—A. Bertino, assistant at Professor Resinelli's obstetric-gynecologic clinic at Florence, Italy, publishes in the *Ginecologia*, Oct. 31, 1907, a report of 400 obstetric cases in which he administered scopolamin and morphin for the anesthetic effect. His conclusions from this experience are to the effect that the method is not free from danger for the fetus, that the scopolamin is unreliable, as no analgetic action at all was apparent in 36 per cent. of the 400 women, and that in the majority of cases the pains of labor are attenuated, but frequently with considerable impairment of the regularity of the uterine contractions. In 38 cases labor was suspended and retrogressed. In 14 cases the contractions of the uterus were arrested from 2 to 7 hours; in 8 from 8 to 24 hours; in 4 from 1 to 2 days; in 4 from 3 to 4 days; in 4 from 5 to 6 days; in 2 from 10 to 11 days, and in 2 from 17 to 18 days. He does not attribute this suspension and retrogression of the labor to the morphin associated with the scopolamin, as it occurred with about the same frequency in the cases in which the amount of morphin had been reduced to one-half or one-fourth of the usual dose. He says: "We commenced the use of scopolamin in 1905, using at first the customary dosage of 0.0005 gm. (1/134 grain) scopolamin and 0.01 gm. (1/6 grain) morphin, giving a single injection of each in 265 cases. Having observed, however, that the intensity and frequency of the uterine contractions were diminished as the sensation of pain was reduced, and that the women were somnolent, I thought I would reduce the amount of morphin to one-half or one-quarter the above. This was done in 51 cases, but even with this dosage the same inconveniences were observed, and I injected the scopolamin alone, in the dose of 0.0001 gm. (1/670 grain). I never felt the necessity to make more than two injections, and thus I never reached the doses to which Gauss arrived, because I either obtained the desired result with the first or with the second injection, or else observed an injurious effect on the progress of the childbirth." He made a single injection of 0.0005 gm. (1/134 grain) scopolamin plus 0.01 gm. (1/6 grain) morphin in 265, and the same amount of scopolamin plus half or quarter the dose of morphin in 51 cases. In 84 he made two injections; in 55 injecting 0.0005 gm. scopolamin plus 0.01 gm. morphin, and following with a second injection later of 0.0001 gm. (1/670 grain) scopolamin, not repeating the morphin. In 20 cases he gave the same first injection, following later with half the amount of each. In 9 others he injected first 0.0005 gm. (1/134 grain) scopolamin and 0.005 or 0.0025 gm. (1/12 or 1/24 grain) morphin, following later with 0.00025 gm. (1/268 grain) scopolamin and 0.0025 gm. (1/24 grain) morphin.

"In some cases," he continues, "the effect was beneficent, and delivery progressed without any complications; in others the desired effect failed entirely, and in others complications were observed for which the anesthetic was certainly responsible."

Another table shows that 60 primiparæ and 120 pluriparæ had their pains reduced in intensity, with valid contractions, that is, satisfactory results in 45 per cent. of his total material. In 6 primiparæ and 32 pluriparæ the pains were reduced, but the contractions became less frequent and weak, that is, in 9.5 per cent. In 52 primiparæ and 92 pluriparæ, no effect was apparent, that is, in 36 per cent., and in 6 primiparæ and 32 pluriparæ, that is, in 9.5 per cent., labor was arrested. He remarks that "frequently, during the period of expulsion, while the uterus was contracting regularly, the contractions of the abdominal wall, usual during this stage, were lacking, and the patients had to be asked to reinforce the uterine contractions. Only in rarest cases was the complete scopolaminic analgesia obtained as described by the German authors."

In respect to the fetus he says: "Even in the cases in which the scopolamin produced the desired effect of simply alleviating the sufferings of the patient, especially if the interval between the injection and the parturition was brief, it was noticeable how frequently the fetus had experienced the influence of the anesthetic used. This influence was manifested by a prolongation of the period of apnea which generally follows delivery, with a certain torpidity of the respiration center of the infant, owing to which, when respiration commenced, it occurred in a superficial manner, and, finally, a state of somnolency in the fetus, which lasted for a shorter or longer time. It was necessary in certain cases to stimulate with rather rough measures to start the infant to breathing spontaneously, and to make the respiration normal when the infant screamed under these maneuvers. Occasionally these measures had to be kept up for some time to keep the infant awake, as otherwise it dropped to sleep and respiration became shallow again, while slight cyanosis developed. This condition of prolonged apnea and oligopnea is evidently to be attributed to the action of the scopolamin because, I repeat, the delivery in these cases had not been retarded, and in some of them labor had been very rapidly terminated by expulsion." He adds that "no further disturbances were noted among the infants later; all the inconveniences were limited to those observed in the first hours after birth." He states further: "Twenty-six of the infants were born more or less asphyxiated, and although all were revived, yet some did not escape ulterior complications on the part of the respiratory apparatus, such as in one case resulted fatally in a few days. These infants were mostly in the cases in which labor had been abnormally prolonged, and only a few were in the cases in which the scopolamin had failed to produce any appreciable effect." Six of the infants died during labor, but in three instances the cord was looped around the neck, and one infant succumbed during forceps extraction, labor having been arrested, and several days having elapsed between the single injection and the childbirth. He adds: "There thus remain two fatalities in which there is no explanation for the cause of death; it can, therefore, be imputed with probability to the prolongation of labor which occurred in consequence of the use of scopolamin." "Reviewing these fatalities, in connection with the complications which did not prove fatal, for the fetus, we see that the percentage of cases in which abnormal phenomena occurred is still too high for us to be able to accept the assertions of the writers who proclaim that scopolamin is harmless in respect to the fetus. We are convinced, instead of this, that it is dangerous for the fetus, and if even there were only a single case in which there was a doubt of an unfavorable action from the scopolamin on the product of conception, such as to threaten its life, it would be equally our duty to advise against the extension of the use of this analgetic in obstetrics."

He thinks that it is probable that a special idiosyncrasy to scopolamin may exist. "This is demonstrated," he adds, "by the cases of intoxication and death that have occurred in scopolamin morphin anesthesia for surgical purposes."

"For all these reasons," he continues, "I do not think that the extension of the use of scopolamin for parturients should be advocated, especially in private practice, lacking the constant oversight and the means necessary for combating eventual complications." In 70 women he noticed general disturbances, sometimes prolonged for days, undoubtedly due to scopolamin. Extreme mydriasis and visual disturbances persisting longer than twenty-four hours were noted in 56; mental confusion, hallucinations and subdelirium in 10, and obstinate vomiting in 4 cases. "Although these complications did not have any serious lasting effect," he remarks, "yet they demonstrate that scopolamin is not an entirely harmless anesthetic, and, compared with the complications that follow the use of other anesthetics, chloroform, for instance, in the obstetric dosage, it must be conceded that the scopolamin does not surpass it." Its effect on the third stage of labor can not be considered as harmful, he adds, judging from his experience. The third stage of labor proceeded normally in every instance.

The article concludes with a list of twenty-two articles that have been published on the use of scopolamin in obstetrics, all of which have been summarized in these columns as they appeared, with the exception of a thesis by Wartapetian, 1904, Puschnig's article in *Gyn.*, 1905, and Steinbüchel's work, 1903.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DETERMINATION OF OPIUM OR ITS ALKALOIDS IN URINE.

Jackson, Mich., Dec. 20, 1907.

To the Editor:—Please tell me if there is any test that can be carried out, without a large amount of time or laboratory equipment, to determine by urinary analysis the presence of opium or its alkaloids. As a physician in a penitentiary, with a constant fight against its being smuggled in, I should be very much assisted if I could detect opium in the urine, without too much manipulation, when taken in the doses used by the average habitué.

G. R. Pray.

Answer.—The detection of alkaloids, especially of morphin, is never a simple matter. Before working on unknown solutions the operator should always learn to detect alkaloids in mixtures known to contain them and made up for the purpose of studying the test. In examining the urine for morphin in cases of poisoning, it must be borne in mind that the amount present in that fluid is likely to be small. Several observers have failed to detect the drug in cases in which there was no doubt of its having been taken in large doses. Morphin is excreted chiefly by the stomach and bowels, and hence the best material for examination is the vomitus or the feces. There is reason to believe that the greater part of that which remains in the blood is oxidized, and that only a small part is excreted by the kidney. In cases of the ordinary consumption of morphin by habitués it is not probable that the urine would contain more than a fraction of a grain. One who wishes to search for morphin in urine would do well to begin by adding say one-fourth of a grain to a pint of urine and see if by the method recommended he can detect morphin in 100 c.c. of the mixture. Morphin can be precipitated from its solution by Lugol's solution of iodin in potassium iodid. This method has been applied to urine, but is faulty for two reasons: First, it often fails when detectable amounts of the alkaloid are present; second, it may cause precipitates in normal urine. The following method is similar to those used in toxicology, and would probably be safe in cases in which it was desired to detect the morphin only, other alkaloids being absent:

Take as much as 250 c.c. of the urine and evaporate in a shallow dish over a water bath that is kept just below the boiling point until the liquid has reached a syrupy consistency. Stir the residue with 95 per cent. alcohol which has been acidified with a few drops of acetic acid and filter. Wash the residue on the filter with acidified alcohol of the same strength as that used for extraction. Unite the filtrate and the washings and evaporate at a gentle heat on the water bath until the alcohol has disappeared. Treat the residue with water slightly acidified with sulphuric acid and filter if need be. Put the solution in a large test tube and cover with four or five times its volume of a mixture of absolute ether and alcohol in the proportion of two volumes of the former to one of the latter. Add ammonia water to the mixture until the watery liquid has a slight alkaline reaction; then agitate gently, taking care that no emulsion is formed. Separate the ethereal liquid and repeat the extraction with a new quantity of the mixture of alcohol and ether. The ethereal extracts are now united and allowed to evaporate spontaneously. The morphin may be left in crystals or in an amorphous mass. Test the residue or a portion of it if the quantity permits with Fröhde's reagent as follows:

The reagent is made by dissolving 2 milligrams of molybdic acid in 1 c.c. of strong sulphuric acid. If heat is used in making the solution the liquid is afterward cooled, and it should be colorless when cold. A glass rod is dipped in this solution and drawn across the residue on the watch glass. If morphin is present a deep purple color appears shading into violet blue and then into tints of blue and green which are not characteristic of morphin. If the purple or violet color does not appear the reaction can not be taken to indicate morphin. Other but less delicate reactions for morphin are: (1) a blue color when touched with solution of ferric chlorid and (2) a red color given by strong nitric acid.

If there is reason to believe that the drug has been taken in the form of some preparation of opium, the isolation and detection of meconic acid may be easier and affords as certain evidence of the use of opium as the finding of morphin. For this purpose, the liquid to be examined is treated with basic acetate of lead as long as precipitate continues to form when the liquid is boiled and allowed to cool. When cold it is filtered and the precipitate washed with cold water. The precipitate contains the meconic acid of any opium present. It should be washed off the filter with water and decomposed by passing a rapid stream of hydrogen sulphid. The liquid is next filtered and concentrated to a small bulk by evaporation at as low temperature as possible. It should then be placed in a porcelain dish and tested with ferric chlorid, which will produce a purplish red coloration if meconic acid be present.

In case this method be adopted, the filtrate from the lead precipitate will contain any morphin which may have been present. It should be freed from lead by hydrogen sulphid, the precipitate of lead sulphid filtered off and washed, and the filtrate and washings evaporated to a syrup and extracted with acidified alcohol as described above.

In the above directions, the attempt has been made to give a simple and reliable method, but the physician examining the urine in this way for morphin in suspected cases of poisoning or addiction must be prepared for frequent failure on account of the small amount excreted by the kidneys.

THE NEGRI BODIES IN HYDROPHOBIA.

Stillwater, Minn., Dec. 26, 1907.

To the Editor:—I would like to know the latest opinion regarding the Negri bodies. What are they, and how much significance have they in the diagnosis of hydrophobia? Can you refer me to any recent papers on hydrophobia?

W. R. Humphrey.

Answer.—These queries were fully answered in The Journal, Aug. 3, 1907, p. 430. In addition we refer to articles by Dr. D. J. Davis, in The Journal, July 14, 1906, p. 87. An opinion unfavorable to the diagnostic value of these bodies is expressed by N. G. Keirle, in an article in the *New York Med. Jour.*, Feb. 23, 1907, an abstract of which appeared in The Journal, March 3, 1907, p. 904. On the other hand, W. Litterer regards them as living protozoa and as the etiologic factors in the disease (The Journal, April 27, 1907, p. 1453).

CONTINUOUS RECTAL INFUSION.

——, Wis., Dec. 28, 1907.

To the Editor:—Please give me a description of the proper technic to be followed in administering "continuous rectal infusion" in patients suffering with acute peritonitis. Is this irrigation equally applicable to both localized and general peritoneal infections? How long may the irrigation be kept up? What symptoms should govern the application and cessation of this therapeutic measure?

Dr. W.

Answer.—Continuous rectal infusion can be accomplished by placing the fountain syringe one or two feet above the level of the bed and securing a permanent tube in the rectum by an adhesive strip around the leg. "This can be kept in position from 24 to 48 hours without inconvenience to the patient. The best results are obtained with the syringe at such a height that it will require from 40 to 60 minutes for 1 or 1½ pints to flow. This should be repeated every two hours. The normal condition of the large intestine is one of semidistension. It will not tolerate overdistension without spasmodic contraction. The rectal acceptance of the saline solution, therefore, depends on the gradual admission of the fluid. The stomach physiologically does not absorb water, but passes it on into the intestine for absorption. In peritonitis, this transition does not take place, therefore, the most available means of reducing the thirst, diluting the poison, favoring elimination, restoring blood pressure, avoiding capillary and venous thrombosis, and tiding the patient over the critical period is the administration of large quantities of water."

The above are the directions given by Murphy in the volume on surgery of the "Practical Medicine Series," November, 1903, p. 282. Murphy uses this treatment in all cases of acute peritoneal infection. He finds it very serviceable in acute septicemia, acute anemia and anuria, and beneficial after operations on the prostate, bladder and kidney. He thinks it should be effective in the toxic stages of pneumonia, scarlatina and nephritis.

Kothe (*Therapie der Gegenwart*, October, 1907) adopts a similar technic, introducing a pint in 2 or 3 hours. He sometimes adds 150 grams (5 ounces) of grape sugar to 3 liters of the solution and thus administers nutriment as well as liquid.

The treatment is as applicable to localized as to general infection. The length of time that it should be kept up would depend on the tolerance of the patient and the persistence of the symptoms of intoxication from the disease. The danger of overloading the circulation with liquid should be borne in mind and the condition of the heart and blood vessels carefully watched. Undue distension of the large intestine should also be taken as an indication for suspending the infusion or omitting it altogether.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of December, 1907:

ALABAMA.

Fennell, J. W., Landersville.
Manasco, Orizaba, Townley.

ARIZONA.

Ferguson, Robert, Bisbee.

ARKANSAS.

Davis, R. G., Hot Springs.
Little, R. L., Judsonia.
McConnell, C. A., Hot Springs.
Proctor, J. M., Hot Springs.

CALIFORNIA.

Arthur, E. A., Stockton.
Banks, W. H., Sterling City.
Barr, W. T., Fresno.
Butler, Joseph, San Francisco.
Carey, H. B., San Francisco.
Castle, C. H., Merced.
Clarke, A. F., Oakland.
Clarke, Louise H., Riverside.
Coppedge, W. E., Alturas.
Cowden, A. F., San Francisco.
Fly, R. J., National City.
Hennemnth, J. L., Waterford.
Kjaerbye, C. P., Fresno.
Martin, Jean A., San Francisco.
Miller, H. A., Alameda.
Mize, G. H., San Francisco.
Page, C. W., Berkeley.
Parker, Ida B., Orange.
Rice, W. H., Oakland.
Resson, C. F., Hanford.
Smythe, Hudson, Stockton.
Valle, C. C., San Diego.
Van Dalsem, W. S., San José.
Willson, L. R., Fresno.
Wolfsen, L. H., Merced.
Wright, F. L., Oakland.
Zeimer, I. S., Stockton.

COLORADO.

Barney, N. E., Sterling.
Pankhurst, C. T., Brush.

CONNECTICUT.

Avery, J. W., Noroton.

DISTRICT OF COLUMBIA.

Brackett, J. E., Washington.
Deale, H. B., Washington.
Foye, A. F., Washington.
Martyn, H. E., Washington.
Moore, S. E., Washington.
Talbott, J. A., Washington.

GEORGIA.

Gregory, F. B., Macon.
Swint, R. C., Milledgeville.

ILLINOIS.

Ambrose, C. S., Mt. Olive.
Boone, H. B., Chandlersville.
Bozinch, M. F., Chicago.
Brenneman, W. E., Chicago.
Canatsey, E. D., Bluffs.
Clay, W. E., Mt. Carroll.
Deltrich, L. S., Chicago.
Elliott, F. O., Chicago.
Findlay, E. K., Chicago.
Freeman, T. O., Mattoon.
Gilliatt, C. E., Allendale.
Higgs, J. I., East St. Louis.
Kirby, A. D., Chicago.
La Due, B. E., Ottawa.
Myers, N. D., Decatur.
Neidringhaus, R. E., Granite City.
Norcross, E. P., Chicago.
Pond, D. B., Chicago.
Saling, W. J., Stonington.
Sexton, Roy, Streator.
Shierbaum, A. E. F., Marine.
Short, W. T., Stonington.
Smith, W. L., Toledo.
Steely, G. W., Louisville.
Stough, J. A., Chicago.
Thorpe, J. N., Chicago.
Trull, Jane C., Elgin.
Viers, J. W., Chicago.
Wakefield, A. P., Springfield.
Wilcox, S. H., Shattuc.

INDIANA.

Beall, C. G., Ft. Wayne.
Earp, R. R., Dunkirk.
Hughes, W. F., Indianapolis.
Krebs, M. H., Huntington.
McClure, S. W., Aurora.
Swantusch, O. H., Metz.
Tallman, H. H., La Paz.
Thompson, H. H., Noblesville.
Wimmer, G. G., Mt. Etna.

INDIAN TERRITORY.

Butts, A. M., Holdenville.
Connedge, C. E., Bixby.
Nickson, J. W., Loco.

IOWA.

Bishop, A. H., West Bend.
Carle, F. C., Garrison.
Fullerton, O. L., Redding.
Lackum, H. J., von, Dysart.
Richmond, A., Nevada.
Shohan, R. F., Eddyville.

KANSAS.

Aplin, C. B., Delphos.
Carson, A. W., Richland.
Fuller, J. A., Lane.
Williams, C. L., Neodosha.
Winslow, C. W., Oakley.

KENTUCKY.

Adair, J. M., Claypool.
Bush, W. A., Winchester.
Cowley, R. H., Berea.
Crittenden, A. M., Ferguson.
Liles, J. D., Garrison.
Muir, G. E., Lexington.
Read, H. L., Louisville.
Tyler, W. L., Curdsville.
Warren, Marion, Esteburg.
Wedding, S. J., Hartford.
Wilhoyte, R. E., Louisville.

LOUISIANA.

Gray, R. H., Shreveport.
Thiberge, Narcisse F., New Orleans.

MAINE.

Donnell, R. E., Gardiner.
Moulton, W. B., Portland.

MARYLAND.

Boucher, S. A., Barton.

MASSACHUSETTS.

Carney, P. J., Worcester.
Gregg, Donald, Cambridge.
Robbins, E. S., West Bedford.
Wells, O. V., Westford.
Watters, W. H., Boston.

MICHIGAN.

Blain, A. W., Jr., Detroit.
Haynes, H. A., Lapeer.
Miller, R. R., Harbor Springs.
Rice, O. N., Tipton.
Whitaker, W. L., Durand.

MINNESOTA.

Holdridge, G. A., St. Cloud.

MISSISSIPPI.

Bonelli, Vincent, Vicksburg.
Gilbert, W. R., Tyro
Ivy, T. G., West Point.

MISSOURI.

Clark, J. F., Rayville.
Cline, J. A., Vanduser.
Des Mond, H. E., Plattsburg.
Dutzi, August, St. Louis.
Graul, H. P., St. Louis.
Gregg, A. M., St. Louis.
Kuhn, H. P., Kansas City.
Leith, L. R., Butterfield.
MacCabe, R. S., Chaffee.
McMichael, A. O., Joplin.
Owen, W. C., St. Louis.

MONTANA.

Schulin, Carl, Billings.

NEBRASKA.

Faulk, A. J., Mitchell.
Howard, P. R., North Bend.
Wanek, A. E., Ashton.
Warta, J. J., Sargent.

NEW HAMPSHIRE.

Moody, H. A., Sanbornville.
Morrison, G. H., Whitefield.
Rowe, W. C., Andover.
Thompson, W. A., Manchester.
Towle, G. H., Raymond.

NEW JERSEY.

Burke, C. V., Newark.
Colie, E. M., Jr., East Orange.

NEW MEXICO.

Shields, J. M., Jemez Springs.

NEW YORK.

Amsbry, L. B., Utica.
Atonna, Carmelo, New York City.
Baldwin, C. H., Utica.
Banker, S. J., Ft. Edward.
Berens, T. Passmore, New York City.
Britt, W. Warren, Tonawanda.
Bronk, E. F., Amsterdam.
Burton, James, Cooperstown.
Clard, Marie L., New York City.
Cotter, J. I., Campbell Hall.
Cross, F. B., Brooklyn.
Cuthbert, W. C., Sandy Hill.
Doig, A. K., Nyack.
Ehinger, F. H., Ebenezer.
Foster, F. P., New York City.
Frost, H. P., Buffalo.
Griffin, H. H., New York City.
Heitlinger, J. A., New York City.
Henckell, A. W., Rochester.
Horstman, A. G., Brooklyn.
Howell, H. P., New York City.
Jeffrey, A. McL., New York City.
Jones, Lucy C., New York City.
Jova, A. V., Newburgh.
Kaliski, D. J., New York City.
Lambert, S. W., New York City.
Leonard, Z. L., New York City.
Lockwood, B. F., Frewsburg.
Martine, Angeline, Utica.
McAmmond, J. F., Scottsville.
McCabe, V. V., New York City.
Medd, J. C., Brooklyn.
Mendlein, F. A., Buffalo.
Meyers, Jerome, Albany.
Mills, G. W. T., Central Islip.
Moore, A. N., Lockport.
Phinney, L. N., Wappingers Falls.
Pool, W. P., Brooklyn.
Pullman, James, Brooklyn.
Rankin, John, Brooklyn.
Reiss, Henry, New York City.
Riggs, A. F., New York City.
Robertson, F. W., New York City.
Seward, F. W., Goshen.
Shoop, F. J., Brooklyn.
Shorkley, T. M., Rochester.
Solley, F. P., New York City.
Straight, A. B., Hornell.
Thorp, J. W., Oxford.
Washborne, J. B., Delmar.
Washington, Walker, Tottenville.
Wellman, W. D., Jamestown.
Wiener, Solomon, New York City.
Williams, K. E., Rome.
Woodman, John, New York City.

NORTH CAROLINA.

Davis, George, Beaufort.
Gary, R. H., Murfreesboro.
Ray, J. B., Leaksville.
Warren, W. E., Williamston.

NORTH DAKOTA.

Burrows, F. N., Bathgate.
Gislason, G. J., Grand Forks.
Grant, George, Wishek.
Lyle, W. D., Havana.
Rice, P. F., Cannon Ball.
Roan, M. W., Bismarck.

OHIO.

Biebesheimer, G. A., Botkins.
Bradford, A. A., Bremen.
Brown, Howard A., Carroll.
Brumm, L. D., Celina.
Burnett, G. W., Greenville.
Byers, P. W., Arcanum.
Chamberlin, W. B., Cleveland.
Corboy, C. S., Winchester.
Cordier, H. J., Celina.
Craig, C. A., Ava.
Goudy, R. A., Newcomerstown.
Hecker, E. A., New Madison.
Herkner, H. A., Cleveland.
Hewitt, Jos. H., Cleveland.
Hughes, D. C., Findlay.
Jones, R. H., Midway.
Kineon, G. G., Gallipolis.
Lewis, H. A., Continental.
Marchant, Grant, Milledgeville.
Mellon, J. A., Columbiana.
Mulligan, J. E., Lima.
Newman, J. E., Leipsic.
Ockuly, J. F., Ottoville.
Pelley, H. J., Millport.
Ream, C. E., Bowersville.
Remy, Edw., Jr., Mansfield.
Richardson, D. H., Celina.
Roads, W. B., Hollansburg.
Scott, W. T., Martinsville.
Searl, W. A., Cuyahoga Falls.
Shumard, C. E., Ross.
Starr, J. O., Pillsbury.
Stemler, J. E., Cincinnati.
Stubbs, W. C., Celina.
Tuckerman, W. H., Cleveland.
Ultes, C., Springfield.
Warren, W. S., Jacobsburg.
Williams, G. L., Columbus.
Williams, W. W., Cleveland.
Wyler, J. S., Cincinnati.
Yoder, I. I., Cleveland.

OKLAHOMA.

Barnwell, J. T., Jr., Overbrook.
Baze, R. J., Chickasha.
Gray, A. W., Pauls Valley.
Hartshorne, W. O., Spiro.
Hathaway, A. H., Pontotoc.
Keller, F. P. P., von, Ardmore.
McIntosh, J. W., Sparks.
Mitchell, P. S., Haskell.
Powell, W. H., Palmer.
Rosenberg, F. J., Lexington.
Sandberg, E. T., Foss.
Wilson, H. P., Wynnewood.

OREGON.

Boals, R. T., Tilamook.
Start, H. A., Portland.

PENNSYLVANIA.

Akers, A. F., Gallitzin.
Allison, J. R. G., Center Hall.
Banks, W. H., Mifflintown.
Beyer, J. W., Aspinwall.
Davis, David, Philadelphia.
Gans, C. C., Pittsburg.
Goodwin, W. C., Philadelphia.
Hartman, L. M., York.
Hopwood, W. H., Grindstone.
Karsner, H. T., Philadelphia.
Kercher, D. E., Philadelphia.
Little, W. W., Mosiertown.
Lyon, A. K., Allegheny.
McKenna, W. R., Pittsburg.
Mervine, R. B., Hillsgrove.
Munford, S. A., Philadelphia.
O'Malley, Austin, Philadelphia.
O'Neill, Joseph., Philadelphia.
Powell, F. W., Honesdale.
Ragan, Thomas, Ruston.
Schaefer, C. N., Pittsburg.
Spangler, R. H., Philadelphia.
Stevenson, J. D., Aliquippa.
Stiles, F. A., Philadelphia.
Tidd, R. M., Clark.

RHODE ISLAND.

Cooke, C. O., Providence.
Ricker, C. H., Block Island.

SOUTH CAROLINA.

Johnston, J. B., St. George.
Ward, J. LaB., Georgetown.

TENNESSEE.

Gaines, S. E., Sparta.
Minor, H. F., Memphis.

TEXAS.

Carver, C. R., Sterling City.
Dixon, Archibald, Jr., El Paso.
Harral, R. D., Honey Grove.
Keidel, Victor, Fredericksburg.
Langford, M. L., Mart.
Pressley, W. R., Haskell.

Vinyard, S. P., Amarillo.
Works, B. O., Brownsville.

VERMONT.

Beecher, C. H., Burlington.
Darling, S. E., Hardwick.
Gammons, J. L. Poultney.

VIRGINIA.

Black, R. A., Hot Springs.
Burke, J. M., Petersburg.
VanderHoof, Douglas, Richmond.

WASHINGTON.

Howard, H. W., Prosser.
Moore, J. C., Seattle.

WEST VIRGINIA.

Shriver, G. W., Middlebourne.

WISCONSIN.

McCarthy, T. H., Janesville.

WYOMING.

Spencer, A. E., Grey Bull.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 4, 1908:

Shimer, I. A., asst.-surgeon, relieved from duty as attending surgeon in New York City, and ordered to the Philippine Islands for duty, to sail from San Francisco, about Feb. 5, 1908.

Flagg, C. E. B., asst.-surgeon, relieved from duty at Fort Crook, Neb., and ordered to the Philippine Islands for duty on transport to sail from San Francisco, about Feb. 5, 1908.

Greenleaf, H. S., and Williams, A. W., asst.-surgeons, relieved from duty in the Philippine Islands, and will proceed on the transport to sail from Manila on or about March 15, 1908, to San Francisco, and on arrival report by telegraph to the Adjutant General of the Army for further orders.

Crosby, W. D., McCaw, W. D., and Winter, F. A., surgeons, appointed members of a board of officers to meet at the Army Medical Museum Building in this city, for the examination of such officers of the Medical Department as may be ordered before it to determine their fitness for advancement or promotion.

Shimer, I. A., surgeon, ordered to report in person on Tuesday, Jan. 7, 1908, to Major William D. Crosby, surgeon, president Examining Board, Army Medical Museum, this city, for examination to determine his fitness for promotion.

Owen, L. J., asst.-surgeon, on expiration of his present leave of absence will proceed to Columbus Barracks, Ohio, for duty.

Morris, E. R., and Munson, E. L., surgeons, appointed members of board to meet at Jeffersonville, Ind., for the examination of such officers of the Quartermaster's Department as may be ordered before it to determine their fitness for promotion.

Brown, O. G., asst.-surgeon, relieved from further temporary duty at Jefferson Barracks, Mo., and will return to his proper station, Fort Robinson, Neb.

McCaw, W. D., surgeon, and Russell, F. F., asst.-surgeon, appointed members of a board to meet in Washington, D. C., for the purpose of conducting such experiments as may be necessary regarding the efficiency of the Darnall filter for the purification of water, and its adaptability to the use of troops in the field.

Richards, R. L., asst.-surgeon, ordered to report in person on Jan. 14, 1908, to Major W. D. Crosby, surgeon, president, examining board, Washington, D. C., for examination to determine his fitness for advancement.

Duncan, L. C., asst.-surgeon, granted four months' leave of absence, with permission to go beyond the sea.

Powell, J. L., surgeon, leave extended 10 days.

Tignor, E. P., dental surgeon, left Fort Ontario, N. Y., and arrived at Madison Barracks, N. Y., for duty.

Hussey, S. W., dental surgeon, ordered to Fort Lincoln, N. D., for 30 days; Fort Yellowstone, Wyo., 30 days; Fort William Henry Harrison, Mont., 30 days; Fort Missoula, Mont., 30 days; and on the return trip to Fort Snelling, Minn., to spend 15 days more at each of the first three mentioned posts.

Voorhies, H. G., dental surgeon, ordered, at expiration of present sick leave of absence, to Fort Leavenworth, Kans., for observation and treatment.

Hutson, T. O., contract surgeon, relieved from treatment at Hot Springs, Ark., and ordered to his home, Beaufort, S. C., for annulment of contract.

Harmon, D. W., contract surgeon, returned to duty at Fort Hancock, N. J., from leave of absence for one month.

Dunbar, L. R., contract surgeon, left Fort Terry, N. Y., on leave of absence for ten days.

Trotter-Tyler, Geo., contract surgeon, returned from temporary duty at Fort Hancock, N. J., to duty at Fort Adams, R. I.

Freeland, H. L., contract surgeon, left Fort Leavenworth, Kans., on leave of absence.

Watkins, V. E., contract surgeon, relieved from duty at Plattsburg Barracks, N. Y., and ordered to Fort Greble, R. I., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 4, 1908:

Michels, R. H., P. A. surgeon, detached from the Naval Recruiting Station, Kansas City, Mo.

Dessez, P. T., asst.-surgeon, detached from the Naval Hospital, Boston, and ordered to the Naval Recruiting Station, Kansas City, Mo.

Sellers, F. E., asst.-surgeon, detached from the *Wilmington* and ordered to the Naval Hospital, Annapolis, Md.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 1, 1908:

Williams, L. L., surgeon, granted leave of absence for 10 days from Jan. 8, 1908.

Stoner, J. B., surgeon, leave of absence granted for 10 days from Dec. 13, 1907, amended to read 7 days only.

Sprague, E. K, P. A. surgeon, granted leave of absence for 7 days from Dec. 31, 1907.

Lavinder, C. H., P. A. surgeon, granted leave of absence for 1 month from Jan. 12, 1908.

Lumsden, L. L., P. A. surgeon, granted leave of absence for 6 days from Dec. 24, 1907, under Paragraph 191, Service Regulations.

Francis, E., P. A. surgeon, granted leave of absence for 5 days from Dec. 31, 1907.

Robertson, H. McG., P. A. surgeon, granted extension of leave of absence for 10 days from Jan. 4, 1908.

Frost, W. H., asst.-surgeon, granted leave of absence for 1 day.

Browne, R. W., acting asst.-surgeon, granted leave of absence for 2 days from Dec. 23, 1907, under Paragraph 210, Service Regulations.

Frick, John, acting asst.-surgeon, granted leave of absence for 5 days from Jan. 1, 1908.

Holland, D. J., acting asst.-surgeon, granted leave of absence for 3 days from Dec. 26, 1907, under Paragraph 210, Service Regulations.

Nute, A. J., acting asst.-surgeon, granted leave of absence for 9 days from December 23, instead of 10 days from Dec. 21, 1907.

Stanton, J. G., acting asst.-surgeon, granted leave of absence for 14 days on account of cickness, from Dec. 5, 1907.

Watkins, McD., acting asst.-surgeon, granted leave of absence for 2 days from Dec. 26, 1907.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General Public Health and Marine-Hospital Service, during the week ended Jan. 3, 1908:

SMALLPOX—UNITED STATES.

California: Los Angeles, Dec. 15-21, 13 cases, San Francisco, 10 cases.
District of Columbia: Washington, Dec. 15-21, 1 case.
Florida: Tarpon Springs, Dec. 15-21, 3 cases.
Illinois: Chicago, Dec. 22-28, 2 cases; Springfield, Dec. 13-19, 9 cases.
Indiana: Indianapolis, Dec. 16-22, 1 case; Lafayette, Dec. 17-23, 2 cases.
Kansas: Wichita, Dec. 15-21, 5 cases.
Kentucky: Covington, Dec. 15-21, 1 case.
Maryland: Baltimore, Dec. 22-28, 1 case.
Massachusetts: Boston, Dec. 15-21, 1 case; Fall River, Dec. 22-28, 1 case.
Michigan: Saginaw, Dec. 15-21, 14 cases.
Minnesota: Winona, Dec. 15-21, 1 case.
Missouri: St. Louis, Dec. 15-21, 1 case.
Nebraska: Nebraska City, Dec. 8-21, 2 cases.
New York: New York, Dec. 15-21, 3 cases; Niagara Falls, 2 cases; Syracuse, Dec. 15-24, 1 case.
North Carolina: Greensboro, Dec. 15-21, 1 case.
Ohio: Cincinnati, Dec. 21-27, 2 cases.
Pennsylvania: Erie, Dec. 20-26, 2 cases.
Tennessee: Knoxville, Dec. 15-21, 2 cases; Nashville, 10 cases.
Texas: San Antonio, Dec. 15-21, 1 case.
Washington: Tacoma, Dec. 15-21, 4 cases.
Wisconsin: La Crosse, Dec. 15-21, 3 cases; Milwaukee, 4 cases.

SMALLPOX—FOREIGN.

Africa: Algeria—Algiers, Nov. 1-30, 2 deaths.
Argentina: Rosario, Sept. 1-30, 3 deaths.
Brazil: Bahia, Nov. 2-30, 157 cases, 3 deaths; Para, Dec. 1-7, 9 cases, 2 deaths; Rio de Janeiro, Nov. 18-24, 37 cases, 5 deaths.
Canada: Nova Scotia—Halifax, Dec. 15-21, 1 case; Ontario Province, Dec. 19, outbreak reported in several places; Belleville, Dec. 17-23, 4 cases.
China: Shanghai, Nov. 18-24, 5 cases, 11 deaths, cases foreign, deaths native.
Ecuador: Guayaquil, Dec. 1-7, 4 deaths.
France: Paris, Dec. 1-7, 8 cases.
Germany: General, Nov. 17-23, 1 case.
India: Calcutta, Dec. 1-7, 2 deaths.
Japan: Kobe, Nov. 21-27, 23 cases, 2 deaths; Yokohama, Nov. 28-Dec. 3, 1 case; Malta, Dec. 1-7, 1 case, 1 death.
Mexico: Aguas Calientes, Dec. 9-15, 3 deaths.
Panama: Colon, Dec. 8, 1 case (from S. S. *Atrato*).
Peru: Callao, Nov. 20-26, 1 death.
Russia: Moscow, Nov. 24-30, 4 cases, 6 deaths; Odessa, 4 cases.
Spain: Cadiz, Nov. 1-30, 8 deaths; Madrid, Nov. 1-30, 1 death; Valencia, Dec. 2-8, 31 cases, 2 deaths.
Turkey in Asia: Bagdad, Nov. 3-16, 89 cases, 26 deaths.

CHOLERA.

India: Calcutta, Nov. 17-23, 108 deaths; Rangoon, Nov. 11-23, 16 cases.
Japan: Oshima Island, Dec. 3, 5 cases; Ibaraki, Nov. 27, 1 case; Kanagawa, Dec. 1-2, 4 cases; Kobe, Nov. 18-23, 7 cases, 2 deaths; Nagasaki, Nov. 18-24, 1 case, 1 death; Tokushima, Nov. 27, 27 cases, 23 deaths; Yokohama, Oct. 27-Nov. 2, 5 cases, 4 deaths.
Russia: General, Nov. 7-12, 403 cases, 225 deaths; Kief, Nov. 19-23, 14 cases, 3 deaths.

YELLOW FEVER.

Brazil: Para, Dec. 1-7, 16 cases, 10 deaths; Rio de Janeiro, Nov. 18-24, 2 cases, 1 death.
Cuba: Habana Province—Guinea, Dec. 23-27, 1 case, 1 death (from Palos); Santa Clara Province—Cienfuegos, Dec. 29-31, 2 cases, 1 death (case Dec. 31 from Palmira); Palmira, Dec. 31, 1 case, 1 death.
Ecuador: Guayaquil, Dec. 1-7, 1 death.
West Indies: Bridgetown, Dec. 4-14, 1 case, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, Dec. 26-27, 1 case, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Bahia, Nov. 2-30, 18 cases, 18 deaths; Rio de Janeiro, Nov. 18-24, 8 cases, 2 deaths.
India: General, Nov. 9-16, 8,451 cases, 6, 308 deaths; Calcutta, Nov. 17-23, 22 deaths.
Japan: Osaka, Nov. 17-23, 51 cases, 57 deaths.
Peru: Chosica, Nov. 21-27, 1 case; Lima, 6 cases, 5 deaths; Palta, 3 cases, 1 death; Piura, 1 case; Trujillo, 8 cases, 7 deaths.

Book Notices

The British Pharmaceutical Codex, an Imperial Dispensatory for the Use of Medical Practitioners and Pharmacists, Published by Authority of the Council of the Pharmaceutical Society of Great Britain, at 72 Great Russell Street, London, W. C., 1907.

The British Pharmaceutical Codex is to Great Britain and its colonies what the American dispensatories are to the United States. It differs from the American dispensatories in that, while these are published by individual interests, the British Pharmaceutical Codex is published by the authority of the Council of the Pharmaceutical Society of Great Britain. While, in American dispensatories, much space is given to the actions and uses of drugs by quoting, often at random, from medical publications, the preface to the codex states that these are not mere excerpts from medical literature, "but original and concise descriptions of physiologic action which should assist medical practitioners to formulate a rational therapy without encouraging counter-prescribing." The latter part of this quotation is interesting in that it emphasizes that in Great Britain the relation of physicians to pharmacists is under discussion as it is in this country. As in this country, so the multiplication of names for more or less well-known drugs is being felt in England and is given particular attention. Thus, the preface states: "Special attention has been devoted to the nomenclature of substances of definite composition which are known under a variety of names, and it has been considered desirable to describe such substances under brief, more or less descriptive, names which have, in some instances, been especially devised for the purpose." As an illustration of this, the substance which in the United States Pharmacopeia is called "hexamethylenamina" is described in the codex under the coined name "formamina" and a note appended which states: "Formamin is also known under the following trade names: aminoform, ammonioformaldehyd, ammonaldehyd, cystamin, cystogen, formin, metramin, urisol, uritone, urotropin and vesalvin." Being the first undertaking of this kind by the British Pharmaceutical Association, the codex is not free from errors, as is indicated by the list of "corrigenda" which accompanies the volume; this point has already been taken advantage of by proprietary interests who fear that this work will discourage the prescribing of well-known preparations under coined names and is being used to discredit the codex. The work should prove of great value to physicians of the British Empire.

Mosquito Life. By Evelyn G. Mitchell, A.B., M.S. Cloth. Pp. 281. Price, $2.25. New York: G. P. Putnam's Sons, 1907.

This work is both popular and scientific. It furnishes the general reader an intelligible account of the structure and an interesting description of the habits of the mosquito with some notes on the commoner species, especially those which are concerned in the transmission of disease. Two chapters are devoted to malaria, yellow fever and other diseases which are carried by mosquitoes and one to the methods of destruction of the insects. The book grows out of the work of Dr. J. W. Dupree, whose assistant the author was and whose notes she has used. Unfortunately, Dr. Dupree died before he could give the results of his researches to the world. The author pays a fitting tribute to his memory. The book closes with a set of keys by which the identity of particular species can be determined from the adult forms or from the ova or larvæ. It bids fair to be an exceptionally useful work.

Points in Surgical Anatomy of the Temporal Bone from Birth to Adult Life. By Arthur H. Cheatle, F.R.C.S., Aural Surgeon to King's College Hospital and to King Edward VII's Hospital for Officers. Cloth. Pp. 129. Price, $1.25. London: J. & A. Churchill, 1907.

This book is a reprint of the Hunterian lectures delivered at the Royal College of Surgeons in 1906. The first lecture considers the temporal bone at birth, and takes up in detail the various divisions of the bone, including the surgical anatomy of the labyrinth. The second lecture discusses the superficial changes in the bone during growth; the relation of the lateral sinus to the surface; the consistence of the outer antral wall and mastoid; variations in the antrum, and variations in the middle ear proper. Lecture Three deals with the surgery of the mastoid region, including the anatomic relations of the parts. The illustrations are excellent.

Syphilis in the Army. By Major H. C. French, Author of "Action of Drugs in Syphilis." Cloth. Pp. 126. Price, $1.50. London: John Bale, Sons & Danielsson, Ltd., 1907.

This work is an attempt to show by statistics that the preventive measures adopted in the British army, especially in India, have been effective in lessening the amount of syphilis. The author gives a general survey of the conditions in military life which tend to increase the prevalence of venereal disease. The methods of dealing with syphilis by the medical men of the army are given with suggestions as to how these methods can be made more effective for the prevention of the disease. The latter half of the book is taken up with a series of statistical tables which go to prove in the author's opinion the good effects of regulation of prostitution. Whether one agrees with this conclusion or not, the tables ought to be of value, as they represent a considerable amount of research.

Anatomy of the Brain and Spinal Cord, with Special Reference to Mechanism and Function. By Harris E. Santee, M.D., Ph.D., Professor of Anatomy in the College of Physicians and Surgeons, Medical Department, University of Illinois. Fourth Edition, Revised and Enlarged. 128 Illustrations. Cloth. Pp. 454. Price, $4.00. Philadelphia: P. Blakiston's Son & Co., 1907.

Prepared originally as a text-book for medical students, this work is now in every way worthy of a place in the library of the practitioner for general reference and study. The chapter on the embryology of the brain and cord is clearly written and well illustrated. An extensive chapter on "Tracing of Impulses" takes up the various motor and sensory paths in the nervous system. Aside from this, the physiology of the subject is considered with the anatomy. The illustrations comprise diagrams, semidiagramatic drawings, and photographs of cross-sections of cord, medulla, etc. Some are from other books, but many are original.

Metabolism and Practical Medicine. By Carl von Noorden, Professor of the First University Medical Clinic, Vienna. Anglo-American Issue, under the Editorship of I. Walker Hall, Professor of Pathology, University College, Bristol. Volume III. Cloth. Pp. 1320. Price, $6.00. Chicago: W. T. Keener & Co., 1907.

The third volume of von Noorden's work continues the subject of pathology. Although it appears only shortly after the German edition, the opportunity has been taken to supplement the German edition by introducing into the text an account of the most recent investigations. An appendix giving the analysis and calorific value of the commoner foods has been added and would have proved a feature of great value but, unfortunately, the typographical process has so juggled the figures that only an expert can bring any order out of them, and as the tables stand they are in many places absolutely worthless to the average reader.

Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia. Eighth Edition, Revised and Illustrated. Pp. 1317. Cloth. Price, $5.50. Philadelphia: W. B. Saunders Co., 1907.

This well-known text-book has been subjected to a thorough revision with elaboration of some of the most useful features. The work has been well done and the book may be expected to continue to hold the favor of the medical public in the future as it has in the past.

Marriages

William McLean Pitts, M.D., to Miss Eleanor Kervin, both of Selma, Ala., December 19.

Louis F. Kornmann, M.D., to Miss Seba Wight, both of Clarksburg, W. Va., December 24.

Thomas C. Thompson, M.D., to Mrs. Lulu C. Walker, both of Jacksonville, Fla., December 23.

John L. Scales, M.D., Alden Bridge, La., to Miss Ethel Webb of Nashville, Tenn., December 4.

James Voorhees Freeman, M.D., Jacksonville, Fla., to Miss Leslie Butts of Brunswick, Ga., November 27.

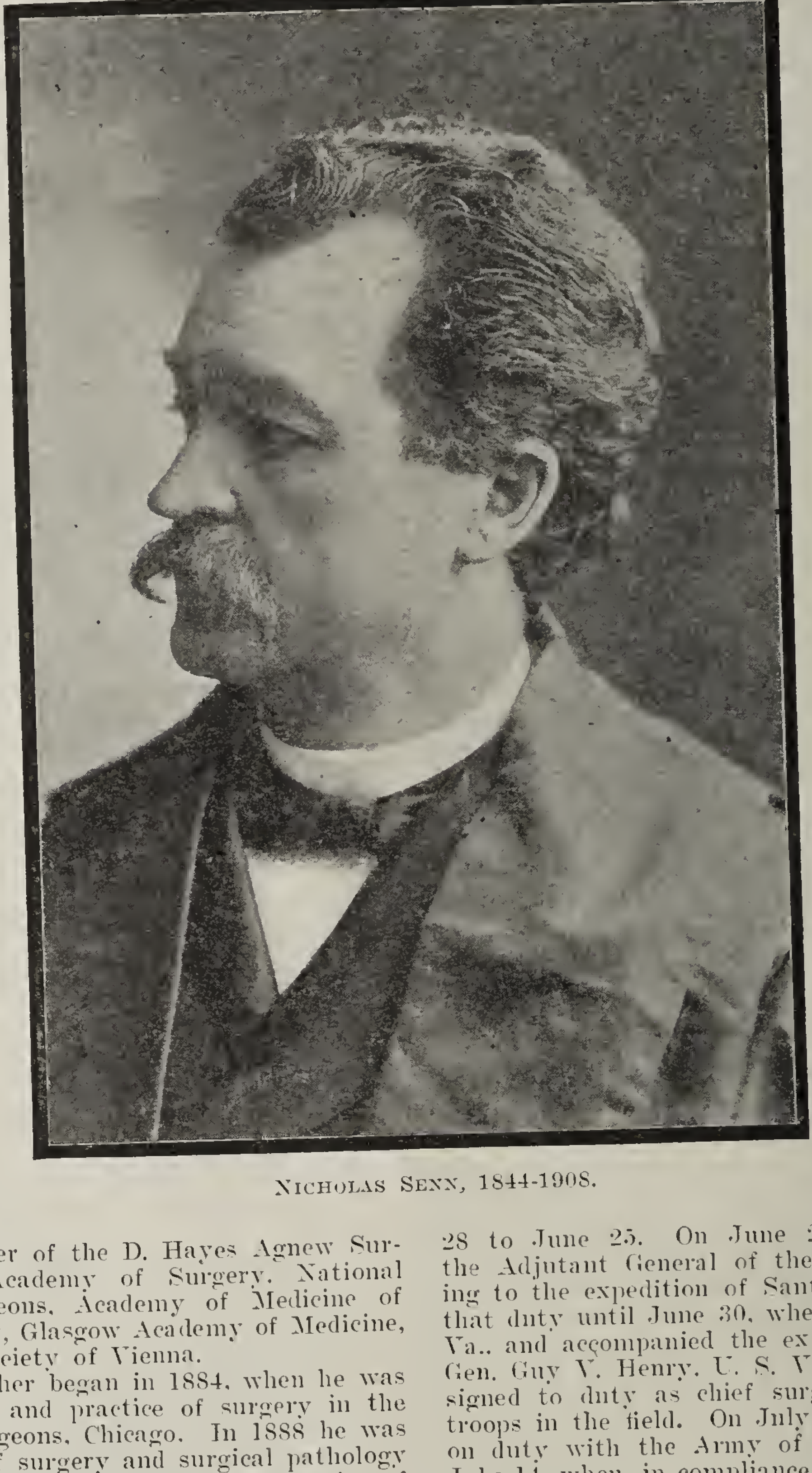
Stanley G. Zinke, M.D., U. S. Army, to Miss Beulah Few Kenney of Leavenworth, Kan., December 19.

James Clarence Harper, M.D., Greenwood, S. C., to Miss Nannie Andrew McCaughrin of Newberry, S. C., January 1.

THE DEATH OF NICHOLAS SENN

Nicholas Senn, "master surgeon," pathologist, teacher, patriot and loyal friend, died January 2, at his home in Chicago, from dilatation of the heart, aged 63 years, 2 months and 2 days.

He was born in Buchs, Canton of St. Gall, Switzerland, Oct. 31, 1844, came with his parents to the United States in 1852 and settled at Ashford, Wis. He was graduated from the Fond du Lac High School in 1864. After teaching school he began the study of medicine with Dr. E. Munk of Fond du Lac. In 1865 he entered Chicago Medical College, and graduated with first honors in 1868. His thesis was on "The Modus Operandi of Digitalis Purpurea." In 1869 he was married to Miss Aurelia S. Muehlhauser, of La Crosse, and commenced practice in Ashford. Five years later he moved to Milwaukee, and there became a member of the attending staff of the Milwaukee Hospital. In 1877 he returned to Europe, and, after studying at the University of Munich, received a degree in medicine in 1878. He then practiced in Milwaukee until 1893, when he took up his permanent residence in Chicago.



Nicholas Senn, 1844-1908.

Dr. Senn's first experience on a hospital staff was as an interne in Cook County Hospital, Chicago, where he served for eighteen months. He was afterward a member of the staff of the Milwaukee Hospital, and later surgeon-in-chief to the St. Joseph's Hospital and Presbyterian Hospital, Chicago, and surgeon to the Passavant and Policlinic hospitals. Of late years his chief work has been done in St. Joseph's Hospital.

Dr. Senn was a member of many scientific societies. In 1896 he delivered the oration on surgery, and in 1897 was president of the American Medical Association. He founded the Association of Military Surgeons of the United States in 1891 and was its president for two years. He was also the founder of the Association of Military Surgeons of the State of Illinois in 1893, and has been its president during the entire existence of the organization. He has been a delegate to the International Medical Congresses at Berlin, Moscow, Madrid and Lisbon. He was a member of the Royal Medical Society of Buda-Pest, Philadelphia College of Physicians, Norwegian Medical Society, Swedish Medical Society, American Surgical Society, and Japanese Red Cross, a life member of the American National Red Cross, and an honorary member of the D. Hayes Agnew Surgical Society, Philadelphia Academy of Surgery, National Association of Railway Surgeons, Academy of Medicine of Mexico, Manila Medical Society, Glasgow Academy of Medicine, and Imperial-Royal Medical Society of Vienna.

His career as a medical teacher began in 1884, when he was elected professor of principles and practice of surgery in the College of Physicians and Surgeons, Chicago. In 1888 he was made professor of principles of surgery and surgical pathology in Rush Medical College, and in 1891 professor of practice of surgery and clinical surgery in the same institution. Later he was appointed professorial lecturer and then professor of military surgery in the University of Chicago. He was also professor of surgery in the Chicago Policlinic. Dr. Senn was a thorough teacher and held the attention of his classes closely by the interest with which he invested the topic on which he was lecturing. His information was universal and perfectly classified, he was never at a loss for a word, and could always supply the names of authorities, dates and particulars, and this off-hand, without reference to notes. His style of delivery was dramatic and his audiences never tired. The students never stayed away from his clinics and the amphitheater was always filled.

As a surgeon Dr. Senn was probably the best known and most universally esteemed in the United States. His fame was not local, but extended far beyond the confines of America to Europe, Africa, South America and the far East. He was a skilful and always conservative operator and a most eloquent clinical lecturer. In plastic surgery he excelled. To detail the surgical procedures he has devised based on careful experiment and observation, and to describe his methods of operating would require far more space than could be permitted in this notice. His research work on military surgery, and especially first aid on the battle field and the conservative treatment of gunshot wounds, has attracted the attention and compelled the admiration of the surgeons of the world.

Dr. Senn was from his early life interested in military matters, and especially in military surgery. In 1888 he was made surgeon general of Wisconsin and retained this position until he left the State. In 1892 Governor Altgeld commissione him surgeon general of Illinois, and this position he hel through various administra tions until his death. He too deep interest in the increas of the efficiency of the Na tional Guard, and through hi initiative was instituted th systematic physical examina tion of recruits, nearly ap proximating that required b the U. S. Army, the menta and physical examination candidate medical officer and the promotional exan ination of medical officer also closely patterned aft that required by the regul establishment. On the ou break of the Spanish-Amer can War he at once repair to the state mobilizati camp at Springfield and a sumed charge. The records physical examination of r cruits made there under direction were most comple and valuable.

He was commissioned lie tenant colonel and chief su geon, U. S. V., May 13, 18 and was assigned to du with the Sixth Army Cor He was on duty at Chick manga Park, Georgia, and temporary charge of Lei General Hospital from M 28 to June 25. On June 24 he was ordered to report the Adjutant General of the Army for special duty perta ing to the expedition of Santiago, and was in Washington that duty until June 30, when he proceeded to Newport Ne Va., and accompanied the expedition under command of Br Gen. Guy V. Henry, U. S. V., to Santiago, Cuba, and was signed to duty as chief surgeon of the operating staff w troops in the field. On July 7 he arrived in Siboney and on duty with the Army of the Invasion near Santiago u July 14, when, in compliance with orders, he reported for d on board the U. S. Hospital Ship *Relief*. On August 20 he relieved from duty in Cuba and proceeded to Montauk Po Long Island, N. Y., and eleven days later was placed in cha of the surgical work at that place. He resigned Septemb and was honorably discharged September 17. In general or from the adjutant general's office, dated Feb. 13, 1900, L tenant-Colonel Senn was commended for his surgical w during the Cuban campaign and for making a scientific st into the causes of typhoid fever among the troops.

Dr. Senn was a prolific contributor to the medical literature. Prominent among his writings, which number more than 300 titles, are his text-books on "Experimental Surgery," "Intestinal Surgery," "Surgical Bacteriology," "Principles of Surgery," "Tuberculosis of Bones and Joints," "Genito-urinary Tuberculosis," "Pathology and Surgical Treatment of Tumors," and "Practical Surgery." He has also written a number of books of travel, giving observations of the diseases, medical men and hospitals of various countries of the world. During his recent vacation tours he has contributed frequent letters to The Journal. In this issue on page 116 appears Article X of the South American series, which deals with La Paz, Bolivia.

On Nov. 11, 1905, a testimonial banquet was given Dr. Senn, at the Auditorium Hotel, which was attended by more than 700, 20 states being represented. At this banquet Dr. Senn was presented with a gold medallion inscribed "To Nicholas Senn, the Master Surgeon from his Fellows, November 11, 1905." On the same occasion he was presented with a silver loving-cup on behalf of his former pupils.

Dr. Senn's benefactions were many. He endowed two rooms at St. Joseph's Hospital, Chicago, presented to Rush Medical College the Senn Clinical Building, and to the medical department of the Newberry Library (now the Crerar Library) a valuable collection of medical books and monographs, including the entire library of the late Dr. William Baum, professor of surgery in the University of Gottingen, and that of Dubois-Reymond.

In the opinion of his attending physician, Dr. Senn gave a plain history of chronic interstitial myocarditis, running back beyond a period of two years. He did not recognize the plain manifestation of the lesion, but imagined himself even at this time to be a prodigy of physical and mental endurance. The acute manifestations of his illness were precipitated by his tour around South America. Immediately before his arrival on that continent he was disturbed by an acute intestinal derangement, and soon after his arrival he imprudently ascended a great mountain to an altitude of 16,000 feet. The phenomena of acute dilatation of the heart immediately appeared and continued until his death. On his arrival at home he showed an enormously dilated heart with gallop-rhythm, marked pulmonary stasis with edema, extreme dyspnea and great anasarca. The circulatory disturbance was not durably benefited by medicinal treatment. Periods of temporary improvement were interrupted by periods of aggravation. As part of the general vascular stasis connected with the dilatation, a rather acute ascites made its appearance, suggesting the pre-existence of some impediment to the portal circulation. About two weeks before death an acute nephritis was engrafted on the course of a chronic passive congestion of the kidneys, and this was the feature of his illness that precipitated the fatal termination.

The funeral services were held at his late residence, Sunday, January 5. The Rev. Frank W. Gunsaulus officiated. The Second Illinois Infantry acted as escort. The active pallbearers were: Drs. Gustav Kaumheimer and Louis G. Nolte, Milwaukee; Drs. Arthur McNeal, Berwyn, and S. M. Wylie, Paxton, Ill., and Drs. A. M. Butzow, A. Belcham Keyes, S. C. Stanton and Homer M. Thomas, Chicago. A large list of honorary pallbearers was selected, many of whom were present, representing the various medical, military and other organizations, throughout the country, with which Dr. Senn was affiliated.

Nicholas Senn was truly great; master of his profession; a patriot, always ready to sacrifice his personal interests and comfort for the service of his adopted country; intensely loyal in his friendships; generous to a fault; simple-minded; too honest to harbor suspicions; a man of singularly clean speech, never profane nor vulgar. His greatest glory was in his extraordinary capacity for work, which he held as duty, and that work entirely for the betterment of his fellow men. Of him it may with truth be said that the world is better for his having lived.

Robert Charles Reuling, M.D. Baltimore Medical College, 1893; a member of the Medical and Chirurgical Faculty of Maryland and Baltimore City County Medical Society; assistant resident physician of Johns Hopkins University, and lecturer on neurology for several years at Baltimore Medical College and the University of Maryland; a member of the staff of the *Maryland Medical Journal;* and recently appointed resident physician at Springfield Hospital for the Insane, Sykesville; died in that institution, December 28, aged 35.

William R. Hamilton, M.D. New York University Medical College, New York City, 1854; formerly mayor of Peoria, Ill.; surgeon in the volunteer service during the Civil War; surgeon of the Pennsylvania Railway Company at Pittsburg from 1863; a member of the medical societies of the State of Pennsylvania and County of Allegheny; died December 29, at his home in Pittsburg, after an illness of a few hours, from senile debility, aged 79.

Robert W. Taylor, M.D. College of Physicians and Surgeons in the City of New York, 1868; a member of the American Medical Association; professor of genitourinary diseases in his alma mater; consulting surgeon to the genitourinary division, Bellevue Hospital, and consulting surgeon to the venereal division, New York Charity Hospital; a member of the Association of Genitourinary Surgeons and American Dermatological Association, was found dead at his home in New York City, January 5, aged 65.

John Y. Hoffman, M.D. Jefferson Medical College, Philadelphia, 1880; of Reading, Pa.; in 1884 prison solicitor; in 1897 coroner of Berks County, Pa.; thereafter city treasurer of Reading; a member of the Medical Society of the State of Pennsylvania and Berks County Medical Society, was shot and instantly killed December 26, at his home, by his intoxicated son-in-law, whom he was endeavoring to quiet, aged 49.

Benjamin F. Eager, M.D. Louisville (Ky.) Medical College, 1887; a member of the American Medical Association; formerly assistant superintendent of the Western Kentucky Asylum for the Insane, Hopkinsville; and later in charge of Beechhurst Sanitarium, Louisville; a widely known authority on nervous diseases; died at his home in Louisville, December 28, after an illness of several months, aged 59.

Nathaniel Garland Kierle, Jr., M.D. College of Physicians and Surgeons, Baltimore, 1899; a member of the staff of the City, Bayview and Hebrew hospitals, Baltimore; for some time associate director of the Pasteur Institute of the College of Physicians and Surgeons; one of the most promising young practitioners of Baltimore, died in that city from pneumonia, January 5, aged 33.

William C. Egelhoff, M.D. Northwestern University Medical School, Chicago, 1902; of Chicago; a member of the American Roentgen Ray Association; a member of the hospital corps during the Spanish-American War; died at Augustana Hospital, Chicago, from septicemia, said to have been due to exposure to the *x*-rays, December 27, after an illness of three years, aged 35.

Joseph Green Pierce, M.D. Eclectic Medical Institute, Cincinnati, 1883; a member of the Medical Society of the State of California and Sonoma County Medical Society; formerly coroner and public administrator of Sonoma County; died at his home in Sebastopol, December 21, about three weeks after a surgical operation, aged 73.

John L. Banks, M.D. University of Virginia, Department of Medicine, Charlottesville, 1861; a member of the medical societies of Virginia and Cumberland County; a Confederate veteran, and for nearly half a century a resident of Cumberland County; died at his home near Oak Forest, December 23, from paralysis, aged 73.

Richard M. Higgins, M.D. Jefferson Medical College, Philadelphia, 1855; a member of the American Medical Association; who for about 25 years had devoted his time to the preparation of vaccine virus; a native of St. Louis County, Mo.; died at his home in Glendale, December 30, after an illness of a few weeks, aged 65.

William McLean Pitts, M.D. University of Louisville (Ky.) Medical Department, 1894; a member of the American Medical Association, and a prominent young practitioner of Selma, Ala.; died at the home of his father in that city, from typhoid fever, December 25, aged 34.

Charles Francis Conlin, M.D. University of Georgetown, Medical Department, Washington, D. C., 1904; of Worcester, Mass.; formerly an interne in a Washington hospital; died at St. Vincent's Hospital, Worcester, December 24, from pneumonia, after a short illness.

Christian C. J. Wachendorf, M.D. Pulte Medical College, Cincinnati, 1891; is said to have shot and killed himself at Sioux Falls, S. D., December 28, a few minutes after his arrest for sending a threatening letter through the mails, aged 43.

J. C. Thorn, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1902; formerly of Cowpens, S. C., is said to have committed suicide in his home at Gaston Shoals, S. C., December 25, by cutting his throat with a razor, aged 40.

Blexton Harris, M.D. Rush Medical College, Chicago, 1859; surgeon in charge of the Eighteenth Army Corps Base Hospital during the Civil War; died at his home in Aurora, Ill., December 25, after a short illness, aged 83.

Edward H. Chamberlain, M.D. Eclectic Medical Institute, Cincinnati, 1884; secretary of the Homeopathic Board of Medical Examiners of South Carolina; died suddenly at his home in Cheraw, S. C., November 9, aged 49.

Lyman J. Rhoades, M.D. Rush Medical College, Chicago, 1891; of Fond du Lac, Wis.; a member of the Wisconsin State and Fond du Lac County medical societies; died in White Pigeon, Mich., December 25, aged 47.

Daniel Edwin Bartlett, M.D. Medical School of Harvard University, Boston, 1904; formerly of Cambridge, Mass., was found dead in a hotel in Seattle, presumably from an overdose of a drug, December 19, aged 32.

John Person, M.D. Rush Medical College, Chicago, 1875; coroner of Lake County, Minn., for two years; died at his home in Two Harbors, December 27, from cerebral hemorrhage, after an illness of six days, aged 63.

Leamington B. Stewart, M.D. Toledo (Ohio) Medical College, 1884; of Sardis, W. Va., was accidentally drowned by walking off a ferry float at Stony Town, Ohio, opposite Sardis, December 25, aged 55.

Henry Gray, M.D. Dartmouth Medical School, Hanover, N. H., 1848; for nearly 40 years a practitioner of Bloomfield, Conn.; died at the home of his daughter at Jamestown, N. Y., December 13, aged 83.

John M. Watson, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1874; died at his home in Dearborn, Mo., October 30, from heart disease, after an illness of four days, aged 74.

William J. Cottrell, M.D. Howard University, Medical Department, Washington, D. C., 1900; died at his home in Denver, December 26, from pneumonia, after a short illness, aged 36.

Ahira R. White, M.D. University of Buffalo (N. Y.) Medical Department, 1866; died at his home in Indianapolis, December 24, from cerebral hemorrhage, after an illness of three months, aged 65.

John S. Park, M.D. Pennsylvania Medical College, Gettysburg, 1849; one of the oldest practitioners of Tennessee; died at his home in Franklin, December 23, from senile debility, aged 88.

Charles E. Wilder, M.D. Leonard School of Medicine, Medical Department, Shaw University, Raleigh, N. C., 1901; died at his home in Richmond, Va., December 25, after an illness of six weeks.

Peter Shaw, M.D. Eclectic Medical College of Philadelphia, 1886; died at his home in Mount Bethel, Pa., December 24, from paralysis, after an illness of a year and a half, aged 58.

Reid C. Matthews, M.D. Jefferson Medical College, Philadelphia, 1881; died at his home in Columbus, Ohio, December 24, from typhoid fever, after an illness of seven weeks, aged 49.

James J. Wilson, M.D. Missouri Medical College, St. Louis, 1886; physician of Littleton and Arapahoe County, Colo.; died at his home in Littleton, December 21, aged 45.

Benjamin F. Wheat, M.D. University Medical College of Kansas City, Mo., 1865; died at his home in Hale, Mo., December 14, from cerebral hemorrhage, aged 71.

Jett M. H. Ruff, M.D. Medical College of the State of South Carolina, Charleston, 1857; died suddenly at his home in Reuben, S. C., December 17, aged 72.

Samuel Mundy (years of practice, Ill., 1877); for fifty-seven years a practitioner of medicine; died at his home in Mt. Erie, Ill., December 12, aged 81.

Holland M. Thompson (years of practice, Kan., 1901); of Herndon, Kan., died at Atwood, Kan., December 19, as the result of morphin poisoning.

James Crozier (Illinois Army Board, 1861); died at the Soldiers' Home, Quincy, Ill., July 26, from cerebral hemorrhage, aged 74.

Death Abroad.

Albert J. Hoffa, M.D., professor of orthopedic surgery at Berlin, died January 5, aged 49, according to a cablegram to Dr. John Ridlon, Chicago. He was a pioneer in his specialty, particularly in the operative treatment of congenital luxation of the hip joint, in devising innumerable orthopedic appliances and in popularizing systematic massage. His "Manual of Orthopedic Surgery" has passed through many editions and been translated into all the current languages. He founded the *Zeitschrift für orthopädische Chirurgie* in 1892, and has been a prolific writer, preaching by precept and by example that the physician should learn to make his own orthopedic appliances for his individual cases. Until called to Berlin, about five years ago, Hoffa was professor of the same specialty at Würzburg, where he opened a private orthopedic institute in 1886.

Medical Education and State Boards of Registration

New Mexico Board of Health and Medical Examiners, Santa Fe, January 13. Secretary, Dr. J. A. Massie, Santa Fe.

Arkansas Regular Board of Medical Examiners, State Capitol Building, Little Rock, January 14. Secretary, Dr. F. T. Murphy, Brinkley.

Arkansas Eclectic Board of Medical Examiners, Little Rock, January 14. Secretary, Dr. A. J. Widener, Little Rock.

Arkansas Homeopathic Board of Medical Examiners, Little Rock, January 14. Secretary, Dr. V. H. Hallman, Hot Springs.

New Hampshire State Board of Medical Examiners, Concord, January 14-15. Regent, Mr. H. C. Morrison, Concord.

Vermont State Board of Medical Registration, State House, Montpelier, January 14-16. Secretary, Dr. W. Scott Nay, Underhill.

Wisconsin Board of Medical Examiners, Plankinton Hotel, Milwaukee, January 14-16. Secretary, Dr. J. V. Stevens, Jefferson.

Nevada State Board of Medical Examiners, Carson City, February 3. Secretary, Dr. S. L. Lee, Carson City.

New York State Board of Medical Examiners, Albany, February 4-7. Chief of Examinations Division, Charles F. Wheelock, Albany.

Nebraska State Board of Health, State Capitol Building, Lincoln, February 5-6. Secretary, Dr. E. J. C. Sward, Oakland.

Kansas State Board of Medical Registration and Examination, February 11. Secretary, Dr. D. P. Cook, Clay Center.

Wyoming State Board of Medical Examiners, Laramie, February 12-14. Secretary, Dr. S. B. Miller, Laramie.

Idaho October Report.—Dr. W. F. Howard, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, Oct. 1-2, 1907. The subjects examined in numbered 11; total questions, 110; percentage required, 75. Twenty-four candidates were examined, 22 passed and 2 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Gross Med. Coll.	(1891)	75.8
Bennett Coll. of Ecl. Med. and Surg.	(1907)	84.1
College of P. and S., Chicago	(1904) 84.4; (1907)	82.6
American Med. Miss. Coll., Chicago	(1903)	77.6
Rush Med. Coll.	(1901)	81.6
Northwestern Univ. Med. School	(1907)	79.6, 81.8
University of Iowa	(1907)	88.3
Drake University	(1901)	75.7
Hamline University	(1902)	80.4
Ensworth Central Med. Coll.	(1907)	78
University Med. Coll., Kansas City	(1898)	75
Barnes Med. Coll.	(1907)	75
St. Louis College of P. and S.	(1896)	76.7
St. Louis University	(1907)	78
Kansas City Hahnemann Med. Coll.	(1904)	75.2
Albany Med. Coll.	(1881)	77.5
University of Virginia	(1907)	82.9, 84.1
Jefferson Med. Coll.	(1907)	84.6
Western University, London, Ontario	(1903)	78.1

FAILED.

College.	Year. Grad.	Per Cent.
Washington University	(1904)	66.3
University of Louisville	(1883)	55.4

Massachusetts November Report.—Dr. E. B. Harvey, secretary of the Board of Registration in Medicine, reports the written examination held at Boston, Nov. 12-14, 1907. The subjects examined in numbered 13; total questions, 70; percentage required, 75. Seventy-one candidates were examined, 42 passed and 29 failed, including 11 non-graduates. One candidate did not complete the examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Georgetown University	(1907)	80.8
Northwestern Univ. Med. School	(1902)	75.5
Baltimore Med. Coll., (1905) 83.2; (1906) 75; (1907) 75, 75.7, 78.2		
Harvard University, (1905) 75.7; (1906) 84.6; (1907) 75.5, 76, 79.1, 78.5, 82.		
Boston University	(1906) 75.5, 80; (1907)	78.7, 81.1
Tufts Coll. Med. School, (1906) 76; (1907) 75, 77, 77.7, 77.8, 77.8, 78.3, 78.6, 79.2, 79.5.		
College of P. and S., New York	(1901) 82.1; (1906)	80.1
Bellevue Hosp. Med. Coll.	(1897)	76.7
Woman's Med. Coll. of Pennsylvania	(1904) 75; (1907)	81.1
University of Pennsylvania	(1906)	75.5
Jefferson Med. Coll.	(1907)	75.6
Hahnemann Med. Coll., Philadelphia	(1905)	78.1
University of Vermont	(1906) 75, 77; (1907)	76.5, 76.7
McGill University, Quebec	(1905)	75.1
Royal Institute of Florence, Italy	(1903)	75.3

FAILED.

College.	Year. Grad.	Per Cent.
College of P. and S., Chicago	(1905)	73.7
Baltimore University	(1907)	67.7
Maryland Med. Coll.	(1907)	71
Baltimore Med. Coll.	(1905) 70.6; (1907)	68.1
Tufts Coll. Med. School	(1907)	73.1
College of P. and S., Boston, (1905) 67.2; (1906) 50.2; (1907) 57.6, 60.3, 70.7.		
Boston University	(1907)	72
Woman's Med. Coll. of Pennsylvania	(1902)	68.
Laval University, Canada, (1904) 52.5; (1905) 65.4; (1906) 59.5 (1907) 58.		
Alexanders University, Finland	(1902)	61

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Sweaters of Labor.

It is satisfactory to receive occasionally competent though unwilling testimony that the attempts to exploit the medical profession by the so-called "friendly societies" are not altogether a success.

Such testimony is afforded by the late chief organizer of the "Brotherhood of Owls" in Michigan, Wisconsin, Minnesota and the Dakotas, in an interview reported in the *Seattle Times*, November 27. After telling how he had to give up his work in those states on account of inability to obtain the services of physicians for the order, he says: "As a result, the Eagles and the Owls are crumbling to pieces in that territory. The Eagles have raised their dues from 75 cents to $1 a month, but even at that they can not get along because of the increased cost of furnishing medical care to members. The lodge of Red Men at St. Cloud is 1,200 smaller than it was two years ago, owing to the same reason."

He also says that physicians in Seattle and elsewhere in the Pacific states furnish free medical attendance to the families of the members of these orders who pay 50 cents a quarter for the privilege. "Under this arrangement the physician who does the work for the Ballard Nest of Owls, for instance, only gets approximately $50 a month for doing work for which he would otherwise get $450."

This naive confession that the organization represented by this witness sweats the physician down to only one-ninth of what he ought to receive is worth noting. Authorities on natural history tell us that the owl is a bird of unlimited appetite and that it will devour more than its own weight of its fellow creatures every few days. It certainly appears, therefore, that this secret "benefit" organization has chosen a very appropriate name.

An Optometry Bill to be Introduced in Massachusetts.

Information received from Massachusetts indicates that preparations are being made to introduce into the state legislature at the coming session a bill entitled, "An Act to Regulate the Practice of Optometry." Examination of a copy of this bill indicates that it is similar to one introduced into the legislature in Illinois at the last two sessions and which was defeated, thanks to the united opposition to it presented by the members of the medical profession and of the State Board of Health.

The Massachusetts bill seeks to establish a board of registration in "optometry," which is defined to be "the employment of any method or means other than the use of drugs, medicine or surgery for the measurement of powers of vision and the adaptation of lenses for the aid thereof." The bill further provides that the provisions of the law shall not apply to physicians or surgeons lawfully entitled to practice medicine in Massachusetts, nor to persons who sell spectacles or eye-glasses on prescription from any physicians or duly qualified optometist, nor to dealers in spectacles or eye-glasses who neither practice nor profess to practice "optometry." As the wording of the law exempts from its operation practically every one concerned, it is difficult to see the object of adopting it.

So far as shown by any recognized authority in the English language, there is no such thing as "optometry." It certainly is not recognized in any scientific circles. The argument advanced by the supporters of these bills, which have been appearing from time to time in our various state legislatures, that their design is to protect the public from ignorant and untrained men, is offset by the exemptions made in the bill. It is reported that efforts are being made to secure the endorsement of individual members of the Massachusetts Medical Society. It is hoped that vigorous opposition to the bill will be manifested by the physicians of Massachusetts, as the proposed law is without merit.

Professional Leadership in the Abatement of Public Nuisances.

In a recent number of the *Cincinnati Lancet-Clinic* appears the presidential address of Dr. H. H. Grant of Louisville, delivered before the Mississippi Valley Medical Association in October. Dr. Grant took as his subject, "The Relations Between the Medical Profession and the People." He said that the duty of the physician is not limited to prescribing for the sick or ministering to the suffering, but that the doctor, as a careful student and investigator, knows better than anyone else the amount of suffering and wretchedness in existence, how much of it is preventable and what are the fundamental causes of distress. He also knows that relief lies not only in the prevention of contagion and the use of remedies, but in improved hygienic surroundings in the schools, homes and shops. Under this heading Dr. Grant enumerates the proper ventilation of tenement houses, the regulation of working hours, especially of women and children, proper supervision of food and water supply, clean streets, protection of employés from injury by machinery and the reduction of quackery and imposture. In a word, the lessening of human misery lies in the abatement, as far as possible, of all public nuisances which ignorance, superstition, cupidity or shameful indifference allow to militate against health and happiness. In this work he feels that, no matter who carries on the campaign, the medical profession should be the unquestioned leader.

Kenosha Physicians Decide on Insurance Fees.

The physicians of Kenosha County, Wisconsin, have adopted the following resolutions:

WHEREAS, Nearly all of the "old line" life insurance companies have agreed with the medical profession that a fee of five dollars is a reasonable and just compensation for the work, care and skill required to make an examination of an applicant for insurance, where a chemical analysis of urine is required; and

WHEREAS, A fraternal insurance organization demands the same amount of work, care and skill to make an examination of its applicant and the very life and prosperity of the society depends on the carefulness with which such examinations are made; and

WHEREAS, We consider it an unwarranted and unjust discrimination to render the same services to one person for a much smaller fee than that demanded from another person, unless it be for the sake of charity:

Therefore, We, the undersigned physicians, of Kenosha County, Wisconsin, hereby agree and pledge ourselves that after this date we will not make, or enter into, any new contract for less than a fee of $5.00 for each examination for life insurance with chemical analysis of the urine, and an additional fee of $3.00 where a microscopic examination of the urine is required.

Furthermore, it is our opinion that a plan by which the fees for medical examination would be paid by the society instead of by the applicants would be feasible and of great advantage to the societies.

This agreement goes into effect as soon as it is signed by every reputable practitioner of medicine in Kenosha County.

The above resolutions were signed by every practicing physician in the county and became effective Dec. 5, 1907.

Aid to Widows and Orphans.

At a recent meeting of the Philadelphia County Medical Society, a report was made of the objects and work of the aid association of the county society by Dr. John B. Roberts, who explained that it was auxiliary to the county society and that in the event of the death of a member leaving a widow or children in distress, the case would be looked into, the wife given an annuity for life and the children an annuity for a certain number of years. The cost of membership was shown to be small and to be simply a matter of "two less car rides, two less cigars a week."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month.

THIRD WEEKLY MEETING.

Pneumonia.

Croupous Pneumonia.

Etiology: Influence of age, occupation, habits, previous diseases, climate and season.

Specific microörganisms and causal relations. Found in what other regions of body. Morphology and methods of culture.

Pathologic Anatomy: Changes occurring in (a) engorgement, (b) red hepatization, (c) gray hepatization, (d) resolution. Changes in bronchi and pleura. Changes in other organs of body.

Symptoms: Clinical course of typical lobar pneumonia, ending in recovery. Symptoms of (a) respiratory system with physical signs, (b) circulatory system (c) nervous system.

Catarrhal Pneumonia.

Etiology: Age. Following what disease? Occurrence in old age. Aspiration pneumonia. Occurs under what conditions?

Pathologic Anatomy: Characteristic changes, gross and microscopic, in lung. Wherein do they differ from croupous pneumonia? Difference in distribution of consolidated areas. Organisms found in catarrhal pneumonia.

Symptoms: After an infectious disease what would lead to diagnosis of catarrhal pneumonia? Usual physical signs. Difference in onset and symptoms between catarrhal and croupous pneumonia.

Differentiate physical signs.

Society Proceedings

COMING MEETING.

Med. Society of the State of New York, Albany, Jan. 28.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Twentieth Annual Session, held at New Orleans, Dec. 17-19, 1907.

The President, Dr. Howard A. Kelly, of Baltimore, in the Chair.

The election of officers was noted in The Journal, January 4, page 50.

Perinephritic Abscess Following Parturition.

Dr. J. Shelton Horsley, Richmond, Va., reported three cases that he had operated on. He called attention to the necessity for early diagnosis in order to give the patient the benefit of an early operation, as all statistics on this subject show that the mortality of this disease increases as the operation is delayed. He laid stress on the occurrence of pain in either flank a few weeks after parturition, even in cases that undergo a comparatively aseptic delivery. The bending of the body to the affected side, stiffness of the spine, slight limp in walking, and pain on pressure over the affected flank, are important early symptoms. Later there is muscular spasm and a decided mass can be felt over the region of the kidney. Constipation is always marked, due partly to the patient's dread of muscular effort. The usual constitutional signs of sepsis appear as the disease progresses. All of his cases were on the right side. He attributes this to the fact that the right kidney and perinephritic tissue are lower than the left, and are consequently more likely to be injured by the bearing-down pressure of the pregnant uterus during parturition. This affords a point of least resistance in perinephritic tissues of the right side, and germs which are absorbed by the lymphatics of the uterus may readily gain a foothold here. Treatment should follow the diagnosis at once, and consist in a lumbar incision, as in an operation for nephrotomy and drainage with a tube of large caliber.

Postoperative Complications in Abdominal Surgery.

Dr. Charles M. Rosser, Dallas, Texas, said, among other things, that shock, whether due to basic inhibition or vasomotor paresis, can not be overcome by stimulants to an already exhausted nerve center, but position for the purpose of relieving cerebral anemia from hemorrhage, saline solutions to enlarge the volume of the blood current, adrenalin to restore the equilibrium of the blood pressure, and morphin to give balance to the flagging vital forces, are the remedies. A rubber bandage or suit by limiting circulatory necessity may be used either as a precaution or treatment. Postoperative peritonitis results from excessive trauma or infection. Drainage is the best safeguard after asepsis. If required, reopening for drainage is to be done with the least possible trauma and minimum amount of anesthetic. Ileus or other obstruction may be treated by enema of alum solution which reverses peristalsis and gas distension by egg-turpentine emulsion injected high up. Inhalation pneumonia suggests mouth and pharynx antisepsis, and is treated in the usual way. Hypostatic pneumonia is not so common, since physicians do not insist on decubitus as a routine.

Dr. Randolph Winslow, Baltimore, reported the histories of two cases of appendicitis with peritonitis.

Acute Postoperative Dilatation of the Stomach.

Dr. C. Jeff Miller, New Orleans, said that among the unexpected complications that may arise after surgical operations no condition has furnished a more distressing chapter than acute dilatation of the stomach. This complication is probably as serious as any postoperative complication that may arise. The latest statistics, gathered by Simpson, show that, of 128 cases, 86 died. Kayser's collection of 60 cases, quoted by Bloodgood, yield 71 per cent. of deaths. Conner's exhaustive study of 102 cases shows 74 deaths, or 72.5 per cent. deaths, and 28 recoveries.

The treatment may be summed up in a few words, namely, early recognition, prompt emptying and washing of the stomach, and such posture as may release a mesenteric compression. To these may be added any eliminative measure indicated, if the emunctory organs are inactive. Early diagnosis is essential to successful treatment. Judging from the cases reported in which operation was done with the idea of relieving obstruction, surgery is not encouraging. In spite of the high mortality, however, there is strong evidence to prove that many cases can be saved by prompt treatment. The author reported a case on which he operated successfully.

DISCUSSION.

Dr. Henry T. Byford, Chicago, said his experience has been that the longer the anesthesia the less nausea there is, and the slower the patient comes out from under the influence of the anesthetic the less nausea there is. He has found it of advantage to give from one to two ounces of brandy just before giving the anesthetic, in order to diminish the amount of anesthetic necessary, as there is much less lung irritation. He has also noticed the good effect of giving an enema after operation, putting in the enema one-half an ounce of alcohol.

Dr. George Ben Johnston, Richmond, does not agree with Dr. Byford that prolonged anesthesia is wise. The smallest quantity of any anesthetic should be given, and the anesthesia occupy as little time as possible. These things conduce to the welfare of the patient. In regard to complications which arise, the most important thing is the prompt recognition of them. Fatalities from complications occur because the complications are not promptly recognized and, therefore, not promptly treated. A careful study of every postoperative case will enable the experienced clinician to recognize an approaching dilataion of the stomach, and if this condition is quickly recognized and energetically treated a great many of the patients recover, say fully 33 per cent. The stomach should not be washed out in these cases at stated intervals. As soon as the condition is recognized, prompt lavage should be practiced and continued as long as there is any indication of vomiting.

Dr. Rufus B. Hall, Cincinnati, in speaking of abdominal distension, referred to the value of the hypodermic use of eserin in 1/50 or 1/100 grain doses. Within forty minutes after it has been administered the patient will begin to pass gas. His rule has been to give patients 1/50 of a grain under the skin, and within forty minutes, if the patient is not relieved by passing great quantities of gas, the dose is repeated. But it is rare that he has to give a second dose. He has used this remedy for about two years in more than thirty cases, and in only one case has it failed to bring on the prompt elimination of the gas.

Dr. W. P. Carr, Washington, has had good results from eserin in a number of cases, and where he has had the stomachs of patients washed out directly after operation, and has given them a dose of eserin when they leave the table, there has been very little trouble from distension by gas or in getting the bowels to move afterward. Washing out the stomach after an operation and giving 1/30 of a grain of eserin on the table is very effective as a routine practice, except where the bowel is open and where one does not want to get very much peristalsis. It is only effective when there is something in the bowel. If the bowel is absolutely empty, eserin does not seem to have any effect.

Dr. Charles H. Mayo, Rochester, Minn., in referring to acute dilatation of the stomach, said there is a great amount of discomfort following operation in these cases, many of the patients dying. They die because on the second, the third or fourth day they show a marked condition of regurgitation. These patients lie in bed and vomit a peculiar greenish material in considerable quantity. Suddenly two or three quarts may be vomited. The lower abdomen is flat, while the upper is distended. The condition runs on possibly for four days, when there may be a profuse diarrhea. The condition can be met successfully in many cases by lavage, washing the stomach and keeping it washed as long as it shows a tendency to refill. Many of these cases after three or four washings within the third day will be entirely relieved; intestinal peristalsis will start up, and gas escapes. Some of the more severe cases can be saved by a gastrojejunostomy done between the fifth and seventh days as a secondary operation.

Dr. Herman J. Boldt, New York, does not think the mortality from acute dilatation of the stomach is as high as has been quoted. However, it is a comparatively frequent and undesirable complication after abdominal section work. Whenever there is the slightest evidence of an inflammatory process in the peritoneum, salicylate of eserin does no good, so that one must be careful in selecting his cases. Early mobility of patients will guard against some of these postoperative complications.

Dr. J. M. Mason, Birmingham, Ala., mentioned a patient who developed acute dilatation of the stomach the day following an operation, but who was entirely relieved by getting rid of the Fowler position, elevating the foot of the bed, and by resorting to lavage.

Dr. Hubert A. Royster, Raleigh, N. C., reported a case of acute dilatation of the stomach following operation for the fixation of both kidneys. Patient died on the fourth day after efforts to relieve her.

Dr. John Young Brown, St. Louis, said he has had twenty-eight cases of diffuse peritonitis, and since he began the treatment recommended by Bond, in a paper read before the British Medical Association, and which was discussed by Murphy in Cincinnati last year, his mortality has been greatly reduced, whereas prior to that time, when he irrigated, it was high. It is not so much the Fowler position as in getting these patients to move about in bed and preventing the complications that were formerly seen. Of ten cases treated without the Fowler position, the results were as good as in those treated with it. He believes that by following a simple technic at the primary operation, complications which would otherwise arise might be prevented.

Dr. I. S. Stone, Washington, thinks that after doing fairly good surgical work the patient's bowels should be allowed to rest. When a surgeon gives purgatives immediately after operations, he believes he defeats the purpose he ought to attempt to accomplish. He has done many operations in the last five years and has had no death from ileus.

Dr. Edward H. Ochsner, Chicago, said the sooner surgeons learn to recognize that rest favors repair, and motion favors adhesions, the better it will be for the patients.

Transperitoneal Removal of Tumors of the Bladder.

Dr. Charles H. Mayo, Rochester, Minn., said the large percentage of early recurrences following the removal of bladder tumors, both benign and malignant, indicates delayed operation or imperfect removal. With the increasing interest in cystoscopy, early operating is becoming more common. The ineffective operation is due, in part at least, to imperfect exposure of the operative field. The transperitoneal operation is advised in cases of large tumors, benign or malignant, of the bladder. With the patient in the Trendelenburg posture, the bladder empty, a long median incision is made over the bladder, the peritoneum opened, and the intestines walled off into the upper abdomen by large gauze pads in the operative field. The bladder is drawn up into the wound and opened through the peritoneal covering on its posterior superior aspect. The cavity is now dried with gauze and the incision increased forward or back two or three inches, the tumor excised, and the area involved treated with the Paquelin cautery. In some cases large areas of the bladder, even two-thirds of it, may be resected. The opening is closed by catgut suture protected on its peritoneal side by a linen suture of the Cushing type. The abdominal incision is closed usually without drainage. In the after-care, repeated use of the catheter for a few days, if necessary, being preferred in uncomplicated cases.

Treatment of the Bladder After Suprapubic Cystotomy for Stone.

Dr. William S. Goldsmith, Atlanta, Ga., said the principles governing the treatment of the bladder after suprapubic cystotomy are: (1) The immediate and complete closure of the bladder and abdominal wound, and (2) the institution of urethral retention catheter drainage. A series of external urethrotomy cases, in which the retention catheter method is used, and following the closure of the perineal incision, convinces him of its efficiency and of the tolerance of the bladder for these unusual conditions. Perfect urethral drainage is such a necessity that failure in securing successful results is attributed to some imperfections of this important factor of treatment. Large stones can not be removed through small incisions without seriously macerating the mucous membrane and other coats and leaving a ragged, lacerated suture line altogether unsurgical in character, and encouraging tissue necrosis with eventually bad results. On the removal of the foreign body, the wound is protected with gauze, the patient turned on his side, and the bladder thoroughly irrigated with urethral catheter. The wound is closed tight with interrupted silk sutures, introduced down, but not including the mucous membrane. The abdominal incision is closed with small chromic catgut and cotton and collodion applied. Elaborate abdominal dressings are not used, for the reason that they serve no purpose other than to interfere with the freedom of the patient in turning from side to side. In adults, and particularly men of middle age, posture is a most important detail. The ability to turn on either side and the insistence of frequent change of position stimulate urinary secretions, prevent puddling of urine, and insure a clean, collapsed cavity, which at once begins a regeneration of exhausted anatomical and physiologic vitality. The semi-erect, and finally the erect position is rapidly assumed, and every effort is directed along the line of forced recuperation and rapid convalescence.

(To be continued.)

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Regular Meeting, held Dec. 23, 1907.

The President, Dr. Walter Lester Carr, in the Chair.

Dr. Edward D. Fisher delivered a memorial address on Dr. Seneca D. Powell.

Treatment of Stuttering and Stammering by the General Practitioner.

Dr. Edward W. Scripture stated that the terms stuttering and stammering are loosely applied to one disease, which may be defined by its fundamental symptom, namely, excessive innervation of the vocal cords. The symptoms of superenergetic phonation he classes as follows: Cramps and hypertonicity of the breathing muscles, of the laryngeal muscles, of the muscles of pronunciation, accessory cramps, contortions and tics. He believes the disease to be a pure psychomotor neurosis. Among the exciting causes he mentioned irritation in the breathing organs, imitation of other stutterers, fright, etc. Every case of hyperphonia requires special therapeutic procedures. He begins at once to teach the person to speak melodiously, using little verses, and sliding the voice somewhat excessively. Then the individual is taught to speak and converse with melody. This "melody cure" is said to be as simple as it is effective, and Dr. Scripture stumbled on it by chance while trying other cures. This cure is so effective, because the stammering habit is associated with one definite manner of speaking. A stutterer never stutters when he sings. Expressiveness is developed, and Dr. Scripture makes the stutterers talk with the use of gestures, declare emotional pieces, etc. They require distraction from the convulsive idea. Patients are taught to beat time in a vigorous and snappy way. These procedures produce a permanent cure in three-quarters of the number of stutterers and stammerers, providing practice is given as often as possible at first, and then with steadily increasing intervals.

DISCUSSION.

Dr. Charles L. Dana agreed that stammering is a form of mental tic. A good deal of the success in treatment, he said, depends on the faithfulness of both teacher and patient.

Dr. L. Pierce Clark classed stammering with the minor psychomotor neuroses. Its real pathogenesis is a disorder in coordination of mental associations. A block in the outlet of the flow of vocalization in speech results in a spread of the cramp defect into adjacent and closely related motor centers, such as spasm of the face, and finally, in the upper and lower extremities. These speech disorders are easily overcome before the cramp habit is old and fixed, and this shows the importance of the ounce of prevention idea. If taken early, the cure habit should have an equal chance with the cramp habit. Nearly all stammerers are usually of emotional and sensitive temperaments.

Dr. L. E. La Fetra believes that these persons should be taught to breathe properly. He favors the form of mental therapeutics employed by Dr. Scripture.

Dr. Graeme M. Hammond does not believe that a severe stammerer ever gets well of this trouble so long as he is sensitive, because timidity is a potent factor in keeping up stammering.

Medical Treatment of Trifacial Neuralgia.

Dr. Charles L. Dana believes that no single measure of therapeutics avails. A subgroup of the disease in question is tic douloureux, which occurs before the age of 40, is severe and chronic in its manifestations, and often is associated with migraine, a form he terms migrainous tic. The more such patients are operated on the worse they become. True tic douloureux is a degenerative neurosis, and is so much associated with vascular conditions that it seems as much a vascular as a nervous disease. There is a tendency to get well spontaneously, and also for remissions. A patient with tic douloureux not over two or three years in duration, he gives the rest cure and strychnin; if the disease has lasted five or six years, the rest cure is of doubtful value; such cases should be handed to the surgeon. The operative treatment as applied by Dr. Abbe, he believes, is effective and satisfactory.

Schlösser's Alcohol Injections for Trifacial Neuralgia.

Dr. Otto Kiliani related his sixteen months' experience with 55 cases, with but three failures. His first paper on this method was published in the *New York Medical Record*, Dec. 29, 1906. Schlösser was the first to employ 80 per cent. alcohol injections, either into the foramen from which the respective branch emerges on to the face or, if necessary, into the foramina ovale and rotundum. Since the last of September, 1906, he has treated by injection 55 cases of facial neuralgia. The second branch was affected in 13 cases, and the second and third in 35 cases; the first and second branches were affected in 4 cases, and all three branches in 3 cases. The neuralgia was established from six months to twenty years. There were 35 men and 20 women. No cause was given in 44 cases; grip was given as a cause in 7 cases; exposure to cold and water in 3, and shock in one case. The left side was affected in 35 cases, the right in 18, and both in 2 cases. The frequency of attacks varied from one in three days to one every few minutes. In all the cases he made peripheral injections first, without narcosis or local anesthesia. Of the 55 cases the treatment failed in only three.

Electric Anesthesia.

Dr. James E. King referred to the work done about three years ago by Dr. Edward W. Scripture in the production of local anesthesia by the sinusoidal current, and to the article of Le Duc. Dr. King first experimented with the Le Duc current. Dogs were used. The head electrode was attached to the negative pole and the positive pole was placed over the kidneys. The dogs pass quickly into a stage of excitement quite analogous to the same stage seen in ether and chloroform narcosis. At this stage the current is increased more rapidly and the animal lapses into unconsciousness. A further increase in the strength of the current secures relaxation and abolition of all movements. After the current is removed the awakening is immediate. Dogs were kept under the influence of this current from a few minutes to two hours. The circulation does not seem to be affected, excepting a slight rise of blood pressure. In some animals the respiration is much embarrassed. When death occurs it is from respiratory failure; the heart continues to beat long after respiration has ceased. The only record of the use of this current in the human being was the testimony of Le Duc himself, who twice submitted himself to it; the length of time he was under its influence was twenty minutes. His return to normal was immediate after the removal of the current.

Value of the Le Duc Current in Neuralgia.

Prof. F. L. Tufts of Columbia University demonstrated and explained Le Duc's apparatus.

Dr. L. Pierce Clark said that the majority of electric currents are nerve stimulants; few currents lend themselves as nerve sedatives. The Le Duc current is one of the best of this latter class. Until very recently it was generally held that the brain was not directly excitable by the electric current. The possibility of passing an electric current through the intact skull was first shown by Erb in 1867. Of all the deep-seated organs the brain is the most accessible to electricity; in view of this it is difficult to understand why brain disorders have remained untreated by electricity. One of the greatest values of the Le Duc current was shown in the field of cerebral physiology. The general effect of this current when applied to the cerebrum is highly characteristic of normal sleep. The awakening is instantaneous and all the bodily functions resume work as before the application. His own observations concerning the Le Duc current in all forms of peripheral neuralgia show that the relief of all sorts of neuralgia and neuritic pain is instantaneous. The length of time to abolish the pain varies from two to six hours. As a temporary sedative in locomotor ataxia and facial neuralgia he heartily recommends the Le Duc current.

DISCUSSION.

Dr. George E. Brewer said that as the results of his observations, he is convinced that the Le Duc current acts extraordinarily in the production of anesthesia. He has seen animals to whom the current has been applied, go through identically the same symptoms which follow ether and chloroform narcosis, resulting in the same condition of profound surgical anesthesia. As yet they are in no position to try it on the human subject. It would be a great boon to mankind if they could use an agent that does away with the toxic effects, that does not irritate the lungs and kidneys, and which is devoid of unpleasant after-effects.

Dr. Graeme M. Hammond believes that tic douloureux is a degenerative process and that it is not curable by any agent at present known. He treats the disease with massive doses of strychnin, gradually increasing the dose until the patient at last takes from one-third to one-half a grain, three times a day. This treatment should be kept up for two or three years.

Medicolegal

Requirements of Medical Practice Act.

The Supreme Court of California says, in the case of Arwine vs. Board of Medical Examiners of California, in which Arwine sought to compel the board to give him a license, that the medical practice act required that, in order to procure a certificate to practice medicine and surgery in California, the plaintiff must produce before the board of medical examiners, in addition to satisfactory testimony of good moral character, a "diploma issued by some legally chartered medical school, the requirements of which medical school shall have been, at the time of granting such diploma, in no particular less than those prescribed by the Association of American Medical Colleges for that year, or satisfactory evidence of having possessed such a diploma, or a license from some legally constituted institution which grants medical and surgical licenses only on actual examination, or satisfactory evidence of having possessed such a license."

In the matter of credentials, the only documents alleged to have been produced to the board of medical examiners were, first, a diploma issued to the plaintiff from the medical department of the University of the South, at Sewanee, Tenn., which was alleged to be a legally chartered medical school, the requirements of which at the time of granting the diploma were in no material particular less than those prescribed by the Association of American Medical Colleges for that year; and, second, certificates or licenses to practice medicine and surgery granted by the boards of examiners of the District of Columbia and the state of Indiana. As to the latter, it was not alleged nor did it otherwise appear that either of such boards granted licenses "only on actual examination," or that the legal requirements of either of said boards were at the time it issued the certificate in no degree or particular less than those of California at the time when such certificates were presented for registration. So far as the record showed, these certificates were, therefore, insufficient under the requirements of the act, and could not authorize the granting of a license by the defendants.

Concerning the diploma, the court says that, while the allegations of the plaintiff indicated that the requirements of the school were in no particular less than those prescribed by the Association of American Medical Colleges for that year, that allegation was denied by the defendants in their answer. The issue of fact thus made was not determined by the District Court of Appeals; that court saying in its opinion that on the evidence before it that question of fact could not be determined. That opinion did not state any evidence which enabled the Supreme Court to determine that question, and no evidence was introduced before the Supreme Court on the issue. The burden is, of course, on the plaintiff in a proceeding of this character to prove such material allegations in behalf of his claim as are denied by the answer. The finding on this issue must, therefore, be against the plaintiff, and it followed, that, on the case before the Supreme Court, the diploma must be held insufficient under the requirements of the act.

It was suggested that that provision of the act, which makes the rule of guidance the standard set by the Association of American Medical Colleges, is void, because the effect thereof is to delegate to this association a power which, it was claimed, can be exercised only by the legislature itself. But the court holds to the contrary.

It was further urged that the act should be construed as rendering an applicant entitled to a certificate on his passing a satisfactory examination even though he fails to produce the required diploma or license; in other words, that the act entitles him to a certificate either on the production of a proper diploma or license, or on passing a satisfactory examination. But clearly the act will bear no such construction. The language of the provision as to production of diploma or license is such as to necessarily make it applicable to every case, and no exception thereto is declared in any other part of the act. A diploma or license coming up to the requirements of the act is essential in every case to the right to a certificate, however well qualified the applicant may be in other respects.

Wherefore, the court is forced to the conclusion that, notwithstanding the long experience of the plaintiff as a practicing physician and surgeon, extending over a period of more that ten years, and notwithstanding that he may have successfully passed the examination as to his qualifications to practice, it must be here held that he failed to comply with the provisions of the act in the matter of producing a proper diploma or license, and, therefore that he must fail in this proceeding, which was brought to compel the board of medical examiners to issue to him a certificate to practice medicine and surgery.

Liability of Surgeon for Consequences of Too Tight Bandaging or Prior Use of Infected Water.

The Court of Appeals of Kentucky says that the case of Baute vs. Haynes was instituted by the next friend of the latter—named party, an infant nine years of age, to recover damages on account of alleged carelessness and negligence on the part of the defendant, a physician and surgeon, after he had accepted general employment in setting and bandaging her broken arm, and his failure to render to her broken arm, after the first treatment, any further surgical or medical service, and that by reason of his negligence, carelessness, and failure it became necessary for her arm to be amputated. The defendant admitted that he was employed to and did make one trip and set and bandaged the arm alleged to have been broken but averred that one trip was the extent of his employment, and that he was not, and it was not so understood that he was to treat the patient generally, and denied any carelessness, negligence, or failure on his part to render the plaintiff the necessary attention, but averred that he set and bandaged the broken arm in the usual and ordinary manner, as accepted by his profession to be the very best treatment. For further answer he pleaded contributory negligence on the part of the plaintiff's father in refusing and failing to employ or request him to visit the patient after her arm was set, or to provide and give her the necessary and proper attention, as he was requested to do by the defendant on his visit, and that he failed to provide sanitary measures and surroundings as were necessary and that her condition demanded. The court thinks each of the parties produced on the trial evidence to support the allegations made. The jury returned a verdict in behalf of the plaintiff for $1,000.

In affirming the judgment of the lower court, the Court of Appeals says that the plaintiff's arm was broken on Sunday about noon, and the defendant treated it on Monday about noon. In the meantime, and while they were trying to obtain the services of a physician, the plaintiff was lying on a bed, while continued applications of cloths saturated with cold spring water were being applied to the injured arm. The defendant treated the arm by cleansing, using an antiseptic, forced the broken bone into its place, placed plaster-of-Paris splints on it, and bandaged it. Several physicians testified as experts, and the trend of their testimony was to the effect that the arm was bandaged too tight, stopping the circulation of the blood, which caused it to mortify and which necessitated its amputation; but about all of them stated that the mortification might have been produced by the infection of germs or microbes caused by the use of this cold spring water and the cloths.

The defendant's counsel contended that under this evidence the court should have given a peremptory instruction in favor of the defendant, for the reason that, if the plaintiff lost her arm by reason of the infection of the wound by germs in the manner stated, the defendant was in no wise responsible for it, and that under the evidence it could not be ascertained with any degree of certainty whether the germs or the manner of treatment produced the injury, and that the jury should not have been permitted to make a guess as to which was the cause; and he cited Hughes' Adm'r vs. C. & S. R. R. Co., 91 Ky. 526, and Wintuska's Adm'r vs. L. & N. R. R. Co., 14 Ky. Law Rep. 579, as supporting his contention. But in the court's opinion the cases referred to did not apply to the facts of this case. In the cases referred to the persons killed were brakemen on trains. They were found dead, and the court determined that there was no evidence whatever indicating how they met their deaths.

The defendant treated the plaintiff's arm, and bandaged it. The proof was that the bandaged was too tight, and all of the physicians agreed that that would stop circulation and produce gangrene, which would necessitate the amputation of the arm. As to the germs or microbes causing the mortification, it was only a possibility; but, even if caused in this way, it would not of itself have relieved the defendant from responsibility. He was informed when the plaintiff received her injury, and that the applications of this cloth saturated with cold spring water had been made, and he should have used reasonable care and skill to have ascertained whether her arm was infected or not, and, if so, treated her for this infection, and if he failed in this he was responsible.

Prerequisites to a Physician Being Allowed to Testify as an Expert.

The Supreme Court of Oregon says, in Hildebrand vs. United Artisans, that it is a well-settled rule that before a witness can be permitted to give expert testimony it must not be on a subject of common experience. The proper mode of examination is by a hypothetically stated case which should embody substantially all the facts relating to the subject; and a physician testifying as such expert must first be shown qualified to do so either by actual experience in cases similar to the one put to him or by such careful and deliberate study as enables him to form a definite opinion of his own in reference to the matter under consideration. Also, where he is called on to testify from his own knowledge, it must appear that he has trustworthy information and knowledge of facts involved and on which his opinion is to be founded.

Compensation for Physicians as Witnesses.

The Court of Appeals of Georgia holds, in the case of Schofield vs. Little, that, while no statute in Georgia allows or prohibits fees to expert witnesses, and while there can be no charge beyond the legal fees of ordinary witnesses for attendance on the court in obedience to a subpœna, still, as a physician can not be required to make any examination or preliminary preparations, or to listen to the testimony, in order the better to give his opinion as an expert, he may for such services demand extra compensation.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

December 26.

1 *Attitude of the Medical Profession Toward the Psychotherapeutic Movement. E. W. Taylor, Boston.
2 Roentgen-Ray Examinations in Pulmonary Tuberculosis. F. H. Williams, Boston.
3 *Results of Chemical Investigation of Tumors. S. P. Beebe, New York.
4 The "Optometrist." A Warning Word. J. C. Bossidy, Boston.
5 *Strain as a Causative Factor in Infectious Arthritis. J. D. Adams, Boston.
6 Pseudotuberculosis of the Peritoneum. F. Cobb, Boston.

1. **Psychotherapeutic Movement.**—Taylor concludes that in our enthusiasm for the development of a highly significant therapeutic advance we should not allow the traditions of the profession to which we belong to be submerged. Our enthusiasm should not lead to the antagonism of any reasonable member of the profession. In our efforts toward what we regard as progress we should proceed with great deliberation and by recognized logical methods. To this end we should quote cases and exploit methods which have stood the test of experience. We should hesitate in appearing before the public with a detailed expression of our views and theories until we have secured the acquiescence of the conservative members of our own profession. We should not ally ourselves with movements over which we have no immediate control; we can ill afford misinterpretation, especially at the hands of our brother physicians. Our essential aim should be to develop a permanent interest in the psychotherapeutic movement within the ranks of the profession, and do nothing which can in any way retard this effort. To attain this we should urge reasonable but adequate recognition of the claims of psychotherapy as a legitimate and necessary element in medical education. Finally, our one object as members of a liberal profession should be to insist on the importance of psychotherapeutic methods with an enthusiasm which should only be increased by the legitimate limitations set on its action.

3. **Tumors.**—Beebe presents the results of recent chemical investigations of tumors in reference to 1, inorganic constituents; 2, proteids; 3, toxins, hemolytic substances and enzymes. 1. Actively growing tumors were found to contain a much larger amount of potassium and sodium and a much smaller amount of calcium than was found in the old necrotic tumors. These findings have been confirmed subsequently by Clowes and Frisbie. The studies of the distribution of iron, phosphorus and potassium as carried out by microchemical reaction have not shown any peculiarities that differentiate tumors from normal tissue. 2. As regards the character of the proteids found in malignant growths, compared with those in normal tissues, his conclusions accord with those of Petry and Wolff, namely, that a larger amount of nucleoproteid, less globulin, more albumin, and much more non-coagulable nitrogen is found in tumors than in normal tissues. As to the chemical composition of the primary growths compared with that of the secondary growths in some distant organ, he found that primary epithelial growths did not contain nucleo-histone, while the secondary growths found in the lymph nodes invariably yielded nucleo-histone. He can not agree with Bangs' conclusions, therefore, that the primary growth has its origin in an embryonic lymphatic cell group. He believes that chemically at least the metastases are not, in all respects, similar to the primary growth. For various reasons he considers that the evidence of the superiority of tryptic digestion over peptic digestion, as a distinguishing characteristic of tumors from normal tissues, is inconclusive. 3. Tumor extracts, and especially necrotic tumor extracts, have a much greater toxic effect than extracts of normal tissues and a much smaller amount of tumor nitrogen than of extract from autolyzed normal organs is required to produce a fatal result. He is unable to state whether these are characteristics of neoplasms. Regarding hemolytic substances, extracts of normal organs containing blood are markedly hemolytic; extracts of blood-free organs are very slightly hemolytic, but may be activated by adding a trace of hemolyzed red blood cells; extracts of fresh, vigorously growing tumors are more hemolytic than those from most normal organs, but extracts from necrotic organs and tumors are a hundred-fold more hemolytic. The author has recently obtained additional evidence that the hemolytic substance in the tumor is really a factor in causing anemia and cachexia, which, of course, are most profound in patients with large necrotic tumors. While he has no experimental evidence that tissues other than blood cells suffer from this lytic action, he believes that they do. It was found that tumors are rich in enzymes, but no specific enzyme has been found that is present in one kind of tissue and lacking in another, that would suffice in any way to explain the tumor process.

5. **Infectious Arthritis.**—Adams reports cases of so-called infectious arthritis and concludes that whatever the cause in this class of cases, whether of chemical or bacteriologic origin, one is justified in considering strain as a causative factor. The trouble in all his cases was confined to the hand; all the patients worked with heavy goods, and in several cases the symptoms started in the thimble finger. The treatment consisted of dieting, sodium benzoate 5 grains, three times a day, to neutralize the acidity, and daily baking, either applying a 100-candle-power light for twenty minutes close enough to be tolerated by patient over bare skin, or in a wooden asbestos lined box containing six 16-candle-power lamps.

Medical Record, New York.

December 28.

7 *Unclassified Dangers in Anesthesia. J. T. Bryant, New York.
8 Environment and Personal Hygiene as Causes of Consumption. R. C. Newton, Montclair, N. J.
9 *Bacteria as Incitants of Malignant Endocarditis. A. Wadsworth, New York.
10 *Skiagraphy in Orthopedic Surgery. F. H. Albee, New York.
11 Hot Springs, Virginia. G. Hinsdale, Hot Springs, Va.
12 Appendicitis Due to Presence of Oxyuris Vermicularis. M. C. Thrush, Philadelphia.

7. **Anesthesia.**—Bryant considers some of the dangers incident to anesthesia. The induction of new methods and the use of novel mechanism for the sake of originality are often more pernicious than beneficial, both to the patient and to the cause of anesthesia. Unripe anesthetists, and even some of maturer growth, trust too much to the mechanical action of apparatus or to therapeutic modifying measures. Specialism is of the utmost value, but it will be long before the use of trained anesthetists can be universal. In medical education, therefore, training should not be monopolized by the mechanical standpoint, but should include an established physiologic comprehension of the effects of anesthetics, so that significant phenomena may be promptly interpreted and fittingly estimated. The anesthetists should be well acquainted with the simplest as well as the more complex modes of administration.

9. **Malignant Endocarditis.**—Wadsworth states that malignant endocarditis develops on injured or diseased endocardium as a secondary localization of the bacteriemia or pyemia of infectious disease. It may be incited by many different species, but usually the pneumococcus, streptococcus, staphylococcus or gonococcus is present. It may be associated with any infectious disease, especially pneumonia or sepsis. The lesions of the endocardium when freed of their mycotic nature tend to heal. The treatment depends primarily on the balance between the two opposing factors of infection, the body cells and the bacterial cells.

10. **Skiagraphy.**—Albee states that it is desirable to inspect the plate itself rather than the print, and that care should be taken to hold the plate at proper distance from the light so that the light may be diffused equally over it. The most common bone disease is tuberculosis. The first point most usually noticeable is the thickening of the capsule, with blurring of the outlines of the bony elements of the joints; later there is erosion of articular surfaces and destruction of bone. Bone atrophy is also significant, and is shown in a lessening of the thickness of the shaft and a rarification of the bone, while the epiphysis becomes enlarged and has a characteristic squaring. The differentiation between the synovial type and the bony type is important as the latter is amenable to operative treatment. Much can be discovered as to the progress of the disease by a repetition of exposures at intervals. The *x*-ray picture permits a differentiation between the syphilitic and tuberculous forms of dactylitis. A cyst-like condition of the phalanx with marked atrophy of neighboring bones is characteristic of tuberculosis, while in syphilis there is less atrophy, the articular surfaces are less often involved, and there is a new deposit of bone beneath the periosteum. Osteomyelitis rarely affects the epiphysis, but confines itself to the shaft, being limited to the epiphyseal cartilage. Thickening of the cortex and the deposit of bone beneath the periosteum are the most characteristic evidences of both congenital and hereditary syphilis. Sarcomata often can be discovered by the *x*-ray.

New York Medical Journal.

December 28.

13 Neurasthenia: Its Relation to Personality. J. E. Donley, Providence.
14 *Tuberculosis of the Bones and Joints of the Lower Extremity. H. Lilienthal, New York.
15 Tendency to Consumption. J. B. Huber, New York.
16 Modern Management of Tuberculosis. B. H. Waters, New York.
17 *Silver Nitrate in Gastric Diseases. H. Weinstein, New York.
18 Oxychloranilin Reaction for Free Hydrochloric Acid. R. L. Pitfield, Philadelphia.

14. **Tuberculosis of Bones.**—Lilienthal discusses the diagnosis nd treatment of tuberculosis of the bones and joints of the ower extremity, describes his own method of treatment in arious forms of bone trouble, and incidentally expresses the pinion that useful as Bier's method and the therapy by cold, resh air may be, they are apt to be overdone. Surgical mehanics can not with safety be neglected.

17. **Silver Nitrate in Gastric Diseases.**—Weinstein's observaons lead him to recommend the use of silver nitrate internally all irritative conditions of the gastric mucosa characterized increased secretion, hyperacidity of the gastric juice, nausea, omiting and pain. It is useless, however, in gastric neurosis. e considers it superior to any drug for the relief of pain in gastric ulcer, acute or chronic. In benign pyloric stenosis gastric lavage, followed by the internal administration of silver nitrate, a non-irritating diet, and olive oil on an empty stomach has never failed in his experience. From one-quarter to half a grain in solution, three times a day on an empty stomach, is the method of use; neither food nor drink should be taken for half an hour. It is rarely necessary to continue its use more than three weeks, and it should be discontinued at once if the intestines react unfavorably.

Lancet-Clinic, Cincinnati.

December 21.

19 *Stomach and Intestinal Colic. F. L. Ratterman, Cincinnati.
20 Strophanthin. J. Burke, Manitowoc, Wis.

19. **Colic.**—Ratterman says that the physiology of gastric as well as of intestinal peristalsis calls for a single dilatation of the muscle in the stomach and intestinal coil, followed immediately by a single wave-like contraction from above downward toward the anus, decreasing in contracting force as it progresses. In the colon the peristalsis normally occurs by the expansion and contraction of the haustra in regular rotation from above down. Normally, when the gastric and intestinal contents are contracted on, the contraction is not of the severity to retain the food within the contracted area, as occurs in colic, but allows part of it to regurgitate backward as well as part to be propelled forward into the relaxed areas. Colic, both gastric and intestinal, is a violation of the rule of contrary innervation, in that the intestine as well as the pyloric sphincter or pyloric antrum tonically contracts, while the intestinal coil or gastric muscles immediately above this point at first slowly contract in peristaltic action and then rapidly increase in intensity until the intestinal or gastric contents are forced against the antagonistically strictured muscle below. The result is that the contracting coil immediately above the stricture must dilate to the extent of the quantity of stomach and intestinal contents forced into it. The severe tension in the muscles of this area is so great that the nerves supplying them, although non-sensitive under ordinary conditions, are now irritated and awaken the symptom of pain. Heredity plays a great rôle in the etiology of stomach and intestinal colic. Furthermore, indiscretions in both eating and drinking and climatic changes often cause it; hyperacidity can cause it in those predisposed by heredity or former attacks; constipation is a fruitful agent for colic; constitutional poisons, as uric acid, lead, etc., often produce it; disturbances in the general nervous system can underlie it; and, finally, a dislocated kidney or diseases of the gall bladder, kidney, uterus and appendix can reflexly be the offending cause. Sudden attacks of severe pain in either epigastrium or the entire abdomen initiates the condition, and this symptom is occasionally followed by nausea, alone or associated with vomiting, and by a peristalsis of such a violent nature as not only to be frequently observed when sitting by the side of the uncovered abdomen of the patient, but to be felt by the palpitating fingers. To treat colic properly, the accidental causes above stated must be borne in mind and eradicated, especially when caused reflexly by dislocations of and diseases in other organs.

Pennsylvania Medical Journal, Athens.

November.

21 *Pathology and Classification of Nephritis. J. McFarland, Philadelphia.
22 *Circulation in Nephritis. W. B. Stanton, Philadelphia.
23 *Uremia. J. M. Anders, Philadelphia.
24 *The Eye and the Kidney. G. R. de Schweinitz, Philadelphia.
25 *Symptomatology and Treatment of Acute and Chronic Nephritis. J. I. Johnston, Pittsburg.
26 *Modern Means of Diagnosis in Surgical Diseases of the Kidney. C. P. Noble, Philadelphia.
27 *Surgery of Movable Kidney. J. C. Da Costa, Philadelphia.
28 *Treatment of Surgical Affections of the Kidney. E. Martin, Philadelphia.
29 *Treatment of Nephritis. J. Tyson, Philadelphia.
30 Surgical Treatment of Gastric and Duodenal Ulcers. G. W. Ely, Pittsburg.
31 Case of Electric Light Burn of the Eyes with Transient Blindness. B. Chance, Philadelphia.
32 Displacement of Heart to Right Side. R. J. Behan, Pittsburg.

21. **Pathology of Nephritis.**—McFarland states that the morbid conditions of the kidneys collectively spoken of as nephritis present themselves as follows: 1. Those depending on and occurring in association with well defined and easily recognized

lesions originating primarily in the kidney or the structures with which it is in relation. In this group may be placed nephrolithiasis, hydronephrosis, pyonephrosis, "surgical kidney," tuberculosis and the neoplasms. 2. Those depending on the colonization in the kidney of micro-organisms brought from distant primary foci of disease by the circulating blood—pyemia, miliary tuberculosis, septicemia, smallpox, etc. 3. Those depending on certain constitutional disturbances of uncertain nature, characterized by general fibrosis of all the organs, with cirrhotic changes in the kidney—arteriocapillary fibrosis, arteriosclerosis, chronic syphilis, gout, lithemia, etc. 4. Those depending on chronic forms of intoxication with fibrotic changes chiefly located in the kidneys—chronic interstitial nephritis, lead poisoning, etc. 5. Those depending on definite chemical intoxications, as by cantharides, turpentine, mercuric chlorid, phosphorus and ether. 6. Those resulting from intoxications associated with various well-known infectious diseases, such as yellow fêver, scarlatina, pneumonia and diphtheria. 7. Those occurring in certain definitely toxic affections not known to be infectious, as acute yellow atrophy of the liver. 8. Those developing during periods when the metabolic and physiologic equilibrium of the body are disturbed, as at puberty or during pregnancy. 9. Those arising from causes not yet explained. All nephritis is toxic and secondary to lesions in other organs, charging the blood with injurious matter. Many toxins have irritative effects in common and others peculiar and specific. Sometimes they have definite specific affinities acting most on certain cell groups, or they are so complex as to affect different tissues in different ways. The degree of concentration modifies the effects. Where one toxic substance is at work others soon make their appearance. The simplest classification is the best. McFarland divides nephritides into those chiefly affecting connective tissue framework—interstitial—and those chiefly affecting epithelium—parenchymatous. He criticises the existence of many redundant terms, e. g., tubular, exudative and croupous nephritis. He discusses briefly the morbid anatomy, calling special attention to the difference between the atrophic kidney of arteriosclerosis, which is but little below normal size, is deeply pitted and grooved, and permits of easy stripping of the capsules from a smooth shining surface, and chronic interstitial nephritis. He also points out that for once that one sees the typical lesions one encounters atypical or combined lesions ten times, and that an apparently badly diseased kidney often shows but little microscopic destruction, and vice versa. A kidney with localized serious disease, other parts remaining unaffected, is probably much better than one in which the entire substance is affected though only very slightly. He then describes in detail the microscopic lesions of nephritis as they affect the interstitial tissue, the glomeruli and the tubules.

22. **Circulation in Nephritis.**—Stanton describes the anatomy and physiology of the kidney, and considers the effects of disease of the kidneys on the circulation, and especially on the heart. In answer to the question why the heart hypertrophies, or what amounts to the same thing, why the blood pressure is increased, after reviewing and criticising the various theories advanced, he considers the most tenable theory at the present time to be that of Bright, that the cause of increased pressure lies in some disturbance or irritation of the walls of the smaller vessels, probably dependent on a change in the constitution of the blood. The incompleteness of the theories offered in explanation is due to the fact that attempts have hitherto been made along purely physical mechanical lines. In the diagnosis of cardiac hypertrophy in kidney cases the classical signs are accentuation of the aortic second sound, heaving apex beat, and a hard pulse. The presence of all renders the diagnosis certain, but the converse is not true; the only certain sign of increased pressure is a blood pressure estimation with a reliable apparatus. As to the significance of heightened pressure, Stanton considers it a conservative effort, so that a marked reduction by drugs may result disastrously. The proper course is correction of the mode of life and regulation of diet and exercise, maintaining the heart's nutrition and enabling it to keep pace with its work.

23. **Uremia.**—Anders considers that it may be assumed that interference with albuminous metabolic processes, followed by disturbed hepatic function and renal function, explains the etiology of uremia most satisfactorily. He discusses the symptoms and diagnosis at length, calling particular attention to the importance of not neglecting laboratory methods and to the liability of confusing cerebral apoplexy or hemiplegia with uremic conditions, and the occurrence of well-developed acute uremia secondary to the acute infection. On the other hand, chronic uremia may simulate the acute infections, particularly typhoid, opium poisoning and diabetic coma. While, as Osler states, patients with chronic uremia succumb to terminal affections—peritonitis, pericarditis, pleurisy, meningitis or endocarditis—Anders has observed that a fatal acute uremia may develop secondarily to these terminal conditions in chronic nephritis. Any plan of treatment that does not include prophylactic measures is incomplete. The symptoms of the early stage are a signal for diaphoresis, catharsis and diuresis. He employs nitroglycerin freely when necessary, combining it with aconite; the dosage is proportioned to the degree of abnormal pressure. Nitroglycerin 1 minim, and tincture of aconite 2 minims, every third hour has proved successful. He confirms Robinson's eulogy of nitrous ether as effective and innocent. Hot wet packs or dry hot air baths, saline laxatives or elaterium, are approved. Pilocarpin he considers dangerous. He has witnessed good results from morphin in the acute and chronic parenchymatous varieties, but agrees with Tyson that it is harmful in the chronic interstitial variety. He directs special attention to the gastrointestinal group of symptoms, and says that no attempt should be made to arrest a uremic diarrhea.

24. **The Eye and the Kidney.**—De Schweinitz recounts the ocular lesions associated with nephritis, describes the varieties of renal disease that produce retinal lesions, and considers the date of occurrence of retinal lesions, the age at which they occur, their frequency, course, and prognosis, pathology, diagnosis, and the alterations in the caliber and relation of the retinal blood vessels, as a sign of nephritis. He states that the most frequent manifestation of renal retinitis is a congestion of the optic nerve with small scattered hemorrhages and dots in the macula and fluffy exudates in the periphery of the eye ground; also, he says that, in association with other indications of arteriosclerosis, the so-called "silver wire arteries" are significant of a process likely to eventuate in chronic interstitial nephritis. Finally, he states that the presence of normal vision does not in any sense exclude the existence of the retinal lesions of chronic Bright's disease.

25. **Acute and Chronic Nephritis.**—Johnston discusses the symptomatology of chronic nephritis, both parenchymatous and interstitial, making mention also of postural albuminuria. He discusses the general treatment of all forms of nephritis, and states that it is his practice in acute nephritis to give normal saline solutions by the mouth when no edema is present, and that he has seen only good follow. Of medicines, when indicated, he uses fresh infusion of digitalis, or liquor ammoniæ acetatis with 1 grain of caffein. In chronic nephritis, he orders liquid and salt-free non-nitrogenous diet, saline purgatives, and caffein. In edema with anemia iron alone is of use. In uremic convulsions he gives morphin at once irrespective of the type of the disease. He has used chloral hypodermically with happy results.

26. **Modern Diagnosis in Kidney Diseases.**—Noble discusses the following modern means of diagnosis. Cystoscopy, with catheterization of the ureters, the *x*-ray; microscopic study of the separate urines obtained from each kidney; study of the bacteria of the separate urines, including the injection of urine so obtained into guinea-pigs for the study of micro-organisms by inoculation; cryoscopy, or the freezing point of urine; the bilateral exploratory incision of Edebohls.

27. **Movable Kidney.**—Da Costa discusses the nature of movable kidney, the technic of examination, the symptomatology and the operative measures when rendered necessary by ineffectiveness of the various bandages and other supporting procedures.

28. **Surgical Affections of Kidney.**—Martin gives the following as the order of the frequency of kidney conditions calling for surgical intervention: Calculus, tuberculosis, acute and subacute infections of other forms, excessive mobility, new

growths, ureteral obstruction. He describes the appropriate measures for each case.

29. **Treatment of Nephritis.**—Tyson points out that in both parenchymatous and interstitial nephritis the immediate cause is an irritant, and our first duty is to recognize what that irritant is—infectious diseases, over-eating or over-drinking (especially alcohol, tea, coffee), intestinal products, etc. A nicer judgment is often required to treat chronic than acute cases. Basham's mixture is too carelessly administered. Tyson gives it now less than he used to. Iron in small doses, with very small doses of bichlorid of mercury freely diluted, is recommended; he also advises purgatives, the iodids as vasodilators, and the derivatives of the caffein group. In uremia he recommends venesection with hypodermoclysis, purging, and sweating, and high colonic injection of hot salt solutions administered slowly. In edema, scarification and Southey's tubes. He does not think much of nitroglycerin, but thinks it harmless and tending to relieve high tension. In the high tension of granular kidney, however, exceeding 160 milligrams of mercury, it is of signal service; 1/100 of a grain is given every two hours until the effect is produced. In low tension digitalis and caffein must be substituted. He accords Edebohls' operation a place in treatment, but does not consider it curative. He urges insistence on an ophthalmoscopic examination in every case of Bright's disease at least twice a year. In renal headache he advises pilocarpin nitrate or hydrochlorid, beginning with 1/12 grain, rapidly increased, to produce an effect on the skin.

Journal of Michigan State Medical Society, Detroit.

November.

33 *Survey of the Endemic and Epidemic Bowel Disturbances Prevailing in Escanaba. O. C. Breitenbach, Escanaba.
34 *The Diazo Reaction in Urine. W. Haughey, Battle Creek.
35 Diagnosis and Differential Diagnosis of Gall-bladder and Bile-duct Disease. F. B. Walker, Detroit.
36 Individual Viewpoints in Medicine. C. B. Stockwell, Port Huron.
37 *Case of Empyema with Difficulties. F. B. Florentine, Saginaw.
38 *Wherein Can the Trained Specialist Aid the General Practitioner. E. J. Bernstein, Kalamazoo.

33. **Bowel Disturbances in Escanaba.**—Breitenbach gives an analysis of epidemic and endemic bowel disturbances prevailing in Escanaba, showing four distinct types. The article is accompanied by tables and plates of interest to sanitarians as indicating the relation of interdependence existing between the temperature and typhoid and other bowel troubles. He pleads for a greater employment of the schools as disseminators of sanitary knowledge, for the establishment of a public health conference, for the establishment of a national department of health with cabinet representation, and for a greater effort on the part of the profession, in the words of Senn, to "interest our governments, our people, our educators, and the public press in this great movement of abolishing preventable disease."

34. Abstracted in The Journal, July 13, 1907, page 181.

37. **Empyema with Difficulties.**—Florentine reports the case of a boy, fourteen years old, who, following an unusually severe attack of lobar pneumonia, became the subject of a right-sided empyema due to pneumococci. Operation was refused at first, but agreed to on the following day. Florentine then aspirated and removed three and one-half pints of pus. This procedure was repeated on the ninth day, and again on the eighteenth, with a similar result each time. The patient then having improved sufficiently, a radical operation was done. The boy was delirious for a time, and recovery was protracted, although complete. Florentine believes in early operation, always preceded by aspiration; in resection of rib or ribs in preference to other methods, and in large drainage tubes. He employs irrigation only in cases of fetid discharge.

38. Abstracted in The Journal July 13, 1907, page 179.

Iowa Medical Journal, Des Moines.

December.

39 Iritis Due to Diseases of the Sinuses. F. G. Murphy, Mason City.
40 *Relation of Nasal Accessory Sinus Trouble to Asthma. L. W. Dean, Iowa City.
41 Corneal Ulcers. C. P. Frantz, Burlington.
42 Our Duty to the School Child. W. J. Bussey, Sioux City.
43 *Otologic and Rhinologic Aspects of Vaccine Therapy. E. R. Lewis, Dubuque.
44 Address of Chairman of Section on Obstetrics of Iowa State Medical Society. H. C. Eschbach, Albia.
45 Abortion. C. B. Taylor, What Cheer.

40. **Asthma and Accessory Sinus Trouble.**—Dean reports three cases in which treatment for nasal accessory sinus trouble appeared to mitigate asthmatic trouble almost to the point of extinction. He considers them associated conditions rather than cause and effect.

43. **Vaccine Therapy in Otology.**—Lewis says that vaccine therapy is applicable to acute or chronic affections of other than transient nature. It is especially suitable in tuberculosis, and the results are more hopeful than those of other methods. *Staphylococcus pyocyaneus* and gonococcus infections are promising in the order named. The pneumococcus and *Bacillus lanceolatus* are unsuitable for this treatment. Vaccines should never be used without careful supervision of the opsonic index throughout the course of treatment. He especially condemns the use of Tuberculin TR. Surgical measures should be undertaken during vaccine treatment only when the opsonic index is high.

Northwestern Lancet, Minneapolis.

November 15.

46 Prevention of Prostatic Hypertrophy. H. Peddicord, St. Paul.
47 Treatment of Empyema of the Antrum of Highmore. E. H. Parker, Minneapolis.
48 Ether and Chloroform Anesthesia. D. E. Arnold, Aberdeen, S. D.
49 Early Operation in Appendicitis. J. T. Asbury, Wabasha, Minn.

Western Medical Review, Omaha.

December.

50 *Arteriosclerosis, with Special Reference to Intermittent Claudication. A. D. Dunn, Omaha.
51 *Nervous Symptoms Depending on Arteriosclerosis. F. E. Coulter, Omaha.
52 *Combined Gynecologic Operations. P. Findley, Omaha.
53 Albuminuria in the Insane. L. B. Pilsbury, Lincoln.
54 Hyoscin, Morphin and Cactin Anesthesia. O. Grothan, Kearney.

50. **Arteriosclerosis.**—Dunn discusses the etiology of this condition under the three heads of syphilis, hypertension and heredity. He considers the physiology of blood pressure, and enumerates among the factors leading to more or less continuous hypertension strain, infectious diseases, nephritis, toxins (including tobacco, coffee, tea), gastrointestinal toxins, ptomains (of meat, cheese, game, etc.), constitutional diseases (obesity, diabetes and gout), and heredity. He describes the symptomatology in reference to arteriosclerotic or senile atrophic kidney, cardiac decomposition due to arteriosclerosis, and intermittent claudication, of which the chief symptoms are intermittent pain, cramps, limping, weakness, lameness, stiffness, cold and numbness, paresthesias, paleness and cyanosis. He discusses this condition at some length.

51. **Arteriosclerosis and Nervous Symptoms.**—Coulter points out that the etiology of the nervous aspect of arteriosclerosis is practically the same as that found in general arteriosclerosis. Those engaged in mental labor or inclined to worry or who have inherited a neurotic temperament, are especially liable to an involvement of the arteries of the nervous centers. The nervous symptoms are referable either to the peripheral nerves, the cord, or the brain (including mental alterations). Any group of arteries may be the principal seat, other vessels escaping for a time, which may result in the localization of the symptoms in one of these directions the other regions apparently escaping. He points out that the anatomic disposition of the blood supply of the cord results in the anterior portion being more frequently affected than the posterior. Hence motor and trophic changes are more common than sensory. He discusses the cerebral symptoms at length and urges a guarded prognosis in all neurasthenic cases accompanied by any evidence of arteriosclerosis. He further insists on the use of a sphygmomanometer in place of relying on the touch.

52. **Combined Operations.**—Findley urges the importance of attention to minor lesions that would not of themselves justify a major operation, whenever such conditions are found in the course of major operations.

Kentucky Medical Journal, Bowling Green.

November.

55 *President's Address Before Kentucky State Medical Association. D. M. Griffith, Owensboro.
56 Preventive Medicine and Sanitation. C. H. Vaught, Richmond, Va.

57 Stale Points for Life Insurance Examiners. J. G. Cecil, Louisville.
58 Pregnant Women. B. M. Taylor, Greensburg.
59 Obstetrics in Country. J. J. Gibson, Lexington.
60 Therapeutics of Wheat Dough, with Report of Case. A. S. Cook, Monticello.
61 Acute Nephritis. T. D. House, Hopkinsville.
62 Cholera Infantum. J. H. Rice, Hopkinsville.
63 Puerperal Eclampsia. D. H. Erkeletian, Hopkinsville.

55. Abstracted in The Journal, Oct. 26, 1907, page 1465.

Journal of the Arkansas State Medical Society, Little Rock.

November.

64 Surgical Affections of the Kidneys. F. H. Clark, El Reno, Okla.
65 Autointoxication. E. T. Barlow, Dermott.
66 *Treatment of Gonorrheal Prostatitis by Acetelyne Gas. A. U. Williams, Hot Springs.
67 *Supplementary Report of Case of Fracture of the Spine. C. J. March, Fordyce.
68 Interesting Case of Boils Apparently Caused by Worms. D. T. Wilson, Hampton.
69 Double Pneumonia with Complications. N. H. Jackson, Pontoon.

66. **Acetylene Gas in Gonorrheal Prostatitis.**—Williams reports a case of gonorrheal prostatitis treated with acetylene gas. The apparatus consisted of an ordinary wide mouth, one gallon glass bottle, six feet of small rubber tubing and a glass nozzle with a blunt point. The jar should be from one-half to one-third filled with water and a piece of carbide the size of the thumb dropped in from time to time until the treatment has continued for ten or twelve minutes. The nozzle should not be held too tight in the urethra when the evolution of gas is strong. In Williams' case improvement was noted after the second treatment and continued. No unpleasant symptoms were observed.

67. Abstracted in The Journal, June 22, 1907, page 2147.

West Virginia Medical Journal, Wheeling.

December.

70 *Cardiospasm: Its Frequency, Causes and Treatment. C. A. Wingerter, Wheeling.
71 Consideration and Treatment of Alcoholic and Other Narcotic Habitués. G. H. Benton, Chester.
72 *Conservative Treatment of Compound Fractures. H. G. Nicholson, Charleston.
73 Chloroform Anesthesia and the Anesthetist. C. N. Slater,. Clarksburg.
74 Frontal Sinusitis. H. R. Johnson, Fairmont.
75 Case of Hydatidiform Pregnancy. E. A. Hill, Clarksburg.

70. **Cardiospasm.**—Wingerter emphasizes the following points: Cardiospasm is probably not infrequent, but cases doubtless are being overlooked by most clinicians. There is a sequence-symptom-complex that is almost pathognomonic of the affection. In diagnosing cardiospasm it will often be necessary to elicit the typical clinical history by skillful questioning. Cardiospasm is not an affection to be found only in hysterical women. Gastroptosis may have a pathogenic relation to cardiospasm. In severe cases forcible dilatation of the cardia will generally bring about an apparent cure. Gastrotomy and dilatation from below may be done when dilatation from above has been found ineffectual or impracticable.

72. This article was published in the *Virginia Medical Semi-Monthly*, September, 1907.

Northwest Medicine, Seattle.

December.

76 Myoclonus Multiplex. W. T. Williamson, Portland, Ore.
77 *Traumatic Neurosis. W. H. Axtell, Bellingham, Wash.
78 Congenital Dislocation of Hip. P. W. Willis, Seattle.
79 Acute Otitis Media. W. Johnston, Spokane.

77. **Traumatic Neurosis.**—Axtell discusses the history of this many-named condition, and says incidentally that a legal settlement has been in his experience the most effectual treatment. The description of traumatic neuroses without discoverable lesions has left a permanent menace to physicians as well as to all employers of men. Traumatic neuroses, or railway spine, in Axtell's opinion, is nothing more nor less than a case of hysteria born in the attorney's shop like a "brain storm," both of which have no place in medical and surgical annals, save as they serve to annoy the surgeon and employers. There should be a fixed distinction in all writing between a neurosis with lesions and one without. Treatment is impossible so long as medical men are permitted to appear on both sides of the case. Until the court appoints a special commission to decide each case on its own merits the medical profession will suffer as experts and unfair damages will be extorted.

Detroit Medical Journal.

November.

80 Description of Killian's Frontal Sinus Operation. (Concluded.) E. E. Foster, New Bedford, Mass.
81 *Infectious Arthritis of Tonsillar Origin. P. M. Hickey, Detroit.
82 *Defects of Ordinary Insurance Examinations. W. Kuykendall, Eugene, Ore.

81. **Infectious Arthritis.**—Hickey holds that chronic rheumatism and arthritis deformans are meaningless terms as titles of diseases and should be used simply as descriptive of symptoms. Infectious arthritis is a comparatively common pathologic condition; no chronic case should be classed as hopeless without the most painstaking investigation; infectious arthritis of tonsillar origin is often favorably affected by removal of the tonsils; and, finally, he states that the Roentgen-ray is a valuable aid in the diagnosis of such joint conditions as are commonly considered to be medical.

82. This article was published in the *Medical Sentinel*, October, 1907.

Maryland Medical Journal, Baltimore.

November.

83 A New Rectal Sign. A. K. Bond, Baltimore.
84 *Annual Oration Before Medico-Chirurgical Faculty of Maryland. G. H. Simmons, Chicago.
85 *Indications for Surgical Intervention in Treatment of Chronic Suppurative Otitis Media. H. O. Reik, Baltimore.
86 *Proprietary and Patent Medicines. L. B. Henkel, Jr., Annapolis.
87 Value of Laboratory Methods in the Early Diagnosis of Gastric Carcinoma with Report of 27 Cases. C. U. Smith, Baltimore.

84. This address was published in The Journal, May 18. 1907, page 1645.

85.and 86. Abstracted in The Journal, May 11, 1907, page 1625.

Progressive Medicine, Philadelphia.

December.

88 Diseases of the Digestive Tract and Allied Organs: The Liver and the Pancreas. J. D. Steele, Philadelphia.
89 Diseases of the Kidneys. J. R. Bradford, London, Eng.
90 Surgery of the Extremities: Fractures, Dislocations, Tumors, Surgery of Joints, Shock, Anesthesia, and Infections. J. C. Bloodgood, Baltimore.
91 Genitourinary Diseases. W. T. Belfield, Chicago.
92 Practical Therapeutic Referendum. H. R. M. Landis, Philadelphia.

St. Paul Medical Journal.

November.

93 Raynaud's Disease. L. Sogge, Windom, Minn.
94 *Membranous Laryngitis a Complication of Influenza. J. E. Schadle, St. Paul.
95 *Sanitary Proficiency. E. F. Bigelow, Owatonna, Minn.
96 Hernia. C. C. Allison, Omaha, Neb.
97 Some Ophthalmologic Paradoxes. J. H. Stewart, St. Paul.

94. **Influenzal Laryngitis.**—Schadle calls attention to the membranous laryngitis not infrequently seen in epidemic influenza. He regards it as an infectious disease of the larynx, which in all probability forms the starting point of the infection and urges that whenever laryngeal symptoms manifest themselves the laryngoscope should at once be resorted to. The first noticeable thing is acute hyperemia, especially of the epiglottis, then pinhead-like ulcers covered with a delicately formed white exudate which coalesce into a homogeneous membrane. The glottic surfaces of the glottis are next affected then the interarytenoid, the arytenoid cartilages. The tru vocal cords remain unaffected. Desquamation is tardy and follows the orders of inception, two-or three weeks being require for total subsidence of the condition. A case is reported.

95. **Sanitary Proficiency.** Bigelow considers that the onl means by which it will be possible to render the labors of th state board of health less honorary and more efficient is th state legislature, which should be prevailed on to enact law to the following effect: First, require members of the stat board of health to be nonpartisan politically; second, the men bers of the state board ot health shall, hereafter receive the appointments through recommendations from the medical pr fession of the state; third, the state board of health be autho ized to appoint the presidents of the boards of health in citi

of 1,500 or more inhabitants in the interior portions of the state, and that the state board shall be required to select as quickly as possible for such positions professional men who are up to date and qualified through a practical knowledge of analytic, microscopic and bacteriologic laboratory work. One of the appointers to each city board should be also the president of the county board in the county in which he lives. Such appointee, in addition to the usual duties of office, should do the laboratory work arising in his neighborhood, look after the city water supply, determine its purity, and under the directions of the state board of health inspect the laying of sewer systems and their extensions, direct the disposition of sewage, as to the proper outlets, whether by the river route or through disinfecting tanks, enforce the pure food laws, and if necessary analyze suspected adulterated food, and perform any professional labor required of him by the county or city in which he resides; his proficiency making him an authority, independent in character, capable of giving disinterested and unbiased testimony in medicolegal questions arising in the district courts.

Mississippi Medical Monthly, Vicksburg.

December.

98 Conservative Forceptry. L. Newman, Ecru.
99 Spasmodic Asthma. A. L. Morris, Gulfport.
100 Some Ancient and Modern Theories of the Propagation and Treatment of Malarial Diseases. H. C. Buck, Friar's Point.

Albany Medical Annals.

December.

101 The Right Upper Abdominal Quadrant. H. E. Lomax, Albany.
102 Early Treatment of Pulmonary Tuberculosis. Daniel V. O'Leary, Jr., Albany.

Therapeutic Gazette, Detroit.

November.

103 *Pathology and Classification of Nephritis. J. McFarland, Philadelphia.
104 *Study of the Symptomatology and Treatment of Acute and Chronic Nephritis. J. I. Johnston, Pittsburg.
105 *Treatment of Nephritis. J. Tyson, Philadelphia.
106 *Circulation in Nephritis. W. B. Stanton, Philadelphia.
107 *Surgery of Movable Kidney. J. C. Da Costa, Philadelphia.
108 *Treatment of Surgical Affections of the Kidney. E. Martin, Philadelphia.
109 *Uremia. J. M. Anders, Philadelphia.
110 *The Eye and the Kidney. G. R. de Schweinitz, Philadelphia.

103 to 110. Published in the *Pennsylvania Medical Journal*, November, 1907. See abstracts 21 to 25 and 27 to 29 in this issue.

Louisville Monthly Journal of Medicine and Surgery.

December.

111 Gall-Bladder Diseases. J. R. Wathen, Louisville.
112 Anesthesia. C. H. Whitlatch, Louisville.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

December 14.

1 *Prognosis in Relation to Treatment of Tuberculosis of Genitourinary Organs. R. J. Godlee.
2 *Gastric Conditions in Wasted Infants, Especially Hypertrophic Pyloric Stenosis. R. Miller.
3 Two Cases of Congenital Deficiency of the Muscles of the Abdominal Wall, with Pathologic Changes in the Genitourinary Organs. G. Hall.
4 Case of Caisson Disease. F. H. Rudge.
5 Three Successful Cases of Operation on the Labyrinth. S. R. Scott.
6 Twenty-Six Cases in which Both Eyes Were Operated on for Senile Cataract. A. C. Roper.
7 Compensatory Collateral Circulation with Caput Medusæ in Cirrhosis of Liver without Ascites. U. N. Brahmachari.
8 *Synchronous Movements of the Lower Eyelids with the Tongue and Lower Jaw, Observed in Certain Diseases; Sign of Disease in Connection with the Lower Eyelid. H. J. Robson.

1. **Tuberculosis of the Genitourinary Organs.**—Godlee's Bradshaw Lecture is a plea for conservatism in the surgery of tuberculosis of the genitourinary organs. He begins by pointing out that in the early seventies it was considered exceptional for patients with pulmonary tuberculosis to be cured, that disease being regarded as always fatal. At the same period it was obvious that a large number of tuberculous affections in other parts of the body, which were either imperfectly treated or not treated at all, had a natural tendency toward recovery. The modern student, however, is tempted, as the result of modern teaching, to overlook the fact that he often sees old cured tuberculous lesions in the postmortem room, evidences of long past acute tuberculous trouble in patients who have died from some totally different disorder. The modern teaching referred to is, that if there is one obvious tuberculous focus and no evidence of any other, it should be extirpated root and branch. Godlee then reports a number of cases of recent years of such affections as tuberculous epididymitis and tuberculosis of the kidney, bladder and testicle, in which local measures without any extensive operation restored health. He considers in detail tubercle of the adrenals, of the kidney, of the ureter, the bladder, the testicle and the urethra, and in regard to the kidney expresses himself as opposed to removing the obviously affected organ when it causes no symptoms, even if the evidence is against the presence of any disease in the other. In regard to tuberculosis of the bladder, he believes that the more cases of simple tuberculous cystitis are left alone the better the prognosis will be. He considers tuberculosis of the testicle usually a chronic disease, and states that even in most of those cases which appear to be acute or subacute a chronic enlargement has preceded; also that it is common for the second testicle ultimately to become affected whether the first has been removed or not. Consequently he has given up removing every tuberculous testicle, however quiescent, if no sign of the presence of tubercle is to be found elsewhere. He discusses Sir Almroth Wright's work in relation to this subject and criticises the attack on expectant treatment in Wright's lecture before the Harvey Society of New York, by asking whether it is such a rare thing for spinal caries to be cured by rest and fresh air, or a tuberculous knee or hip to get well under similar treatment; and in regard to genitourinary tuberculosis he refers in refutation to his present thesis.

2. **Gastric Conditions in Infants.**—Miller and Willcox, as the result of a series of investigations, find that differences exist in the gastric secretion in various cases of infantile wasting, and that these differences may be shown to correspond to three clinical groups: First, pure "marasmus," which they term a trophic dyspepsia; second, hypertrophic stenosis; and third, cases of pyloric spasm unaccompanied by hypertrophy, which they find to be acid dyspepsia. They conclude that in acid dyspepsia the importance of alkaline gastric lavage, together with the administration of alkalies, such as sodium citrate or bicarbonate, will be obvious. In regard to hypertrophic pyloric stenosis the best diet would be one of a non-coagulable nature, such as a whey and cream mixture, citrated milk, milk powders, or even milk treated with an antirennin preparation, such as might be made from the serum of goats which had been given repeated subcutaneous injections of rennin. They emphasize the importance of giving the smallest possible doses of food in marasmic conditions, for large amounts run the risk of setting up what may be a fatal diarrhea, and in hypertrophic pyloric stenosis a large vomit and death.

8. **Synchronous Movements of the Tongue and Lower Eyelids.**—Robson refers to a previous communication, in 1905, on a new sign of disease consisting of a slight eversion of the lower eyelids made evident on protrusion of the tongue or depression of the lower jaw, the lids resuming their normal shape when the tongue is retracted or the mouth shut. He draws the following general conclusions: 1. The phenomenon can not be detected unless it is especially looked for, because the tongue and eyes are not inspected at one and the same time unless the observer is on the alert for this movement of the eyelids; and this, Robson thinks, is one of the main reasons why the sign has hitherto not received any notice. 2. It should always put the medical man on his guard whether he is treating an acute case for some urgent symptoms or examining a patient for life insurance; as whenever the phenomenon is present in chronic cases—judging from experience—some severe asthenic condition will be found to exist, or it will be found that the patient has been a martyr to pain for many years. 3. From observations made in a few cases he has noticed that the phenomenon for a time almost disappears after the tongue has been protruded several times, and also after stroking the forehead or touching the lower eyelid. 4. In all the patients observed except one it was present in both eyes. 5. In three of the patients the phenomenon disappeared as they convalesced

from their maladies. 6. In two of the patients, though formerly the phenomenon was present in a very marked degree, it is now nearly absent and the patients are both in much better health than when Robson first saw them. 7. In two acute cases in which the phenomenon was observed, it disappeared when the urgent symptoms had passed off. 8. As regards chronic cases, the patients who have presented this phenomenon in Robson's practice have been affected with various cardiac and abdominal diseases, and two of them had suffered from very severe headaches for many years in consequence of uncorrected astigmatism. 9. The phenomenon is never present in health. It comes and goes with the onset and cure of disease, as proved in five of his cases, and therefore he thinks that it is a clear index or sign of disease.

British Medical Journal, London.

December 14.

9 *Prognosis in Relation to Treatment of Tuberculosis of the Genitourinary Organs. R. J. Godlee.
10 Nephropexy. B. Pollard.
11 Pericolitis Sinistra with Abscess Formation: Recovery. R. Donaldson.
12 *Part Played by Pediculus Corporis in the Transmission of Relapsing Fever. F. P. Mackie.
13 *Possible Explanation of Late Return Cases in Scarlet Fever. W. Habgood.
14 Strangulation of Small Intestine Through Rent in Mesentery. C. E. Bell.
15 Treatment of Scabies. F. J. W. Porter.
16 Ptomain Poisoning from Mutton, with Marked Bradycardia. M. Bryson.
17 Case of Ruptured Tunica Vaginalis. L. Fraser.
18 Large Fatty Liver in Infant. Sudden Death. T. R. Atkinson.

9. See Abstract No. 1.

12. **Pediculus Corporis and Relapsing Fever.**—Mackie describes an epidemic of relapsing fever which broke out in a mixed settlement of boys and girls living under similar conditions, but inhabiting different buildings. A very high percentage of the boys fell victims to the disease in the course of a few weeks, while a much smaller percentage of girls fell ill, and that in frequent intervals extending over three months. The most notable factor in which the boys differed from the girls was that the boys were infested with body lice, from which parasite the girls were almost free. A well-marked percentage of the lice taken from the infected (boys') ward contained living and multiplying spirilla. The stomach of the louse was the chief seat of multiplication, and this was carried on in the face of active digestion and after the disappearance of all other cellular elements. Other organs became secondarily infected. The secretion from the mouth of infected lice contained great numbers of living spirilla, and they also existed in great or less numbers in the upper alimentary tract. The ovary was frequently infected, but spirilla were not found in deposited ova. With the increase of the epidemic among girls, body lice became more in evidence, while, with the subsidence of the epidemic among the boys the percentage of infected lice fell. An attempt to infect a monkey by means of lice failed. Mackie considers the above facts sufficient to throw grave suspicion on the body louse as a transmitter of relapsing fever. In support of this view, he points out that relapsing fever has always been associated with poverty-stricken, overcrowded and half-starved communities, and that in mixed communities the disease seems to single out principally the poor and dirty.

13. **Return Cases in Scarlet Fever.**—Habgood points out that of recent years it has been recognized that when "return cases" of scarlet fever occur, the discharged patient will be found to have some purulent or mucopurulent discharge. He thinks that many patients, when sent out free from any nasal discharge, may not at the time be infectious, but that the occurrence of an ordinary attack of nasal catarrh may renew the activity of a few quiescent scarlet fever germs.

Medical Press and Circular, London.

December 11.

19 Otosclerosis. M. Yearsley.
20 Color of Mucous Membranes as Guide to Condition of Blood and as an Index of the Nutrition of the Body. A. Haig.
21 Diphtheria and Schools. J. Niven.
22 *Action of Certain Salts of Formic Acid on the Circulatory and Muscular Systems. A. Goodall and I. Mitchell.

22. **Formic Acid Salts.**—Goodall and Mitchell conclude, as the result of their investigations, that formates are almost useless drugs; in all probability they are rapidly converted into carbonates in the tissues. Sodium formate is practically inert. Calcium formate may find a sphere of usefulness as a readily absorbed and not unpleasant calcium salt, and be given in cases of hemorrhage, such as hemophilia, in which the action of the Ca ion is desired.

Journal of Obstetrics and Gynecology of the British Empire, London.

November.

23 *Cesarean Section Successfully Performed for the Fourth Time on the Same Woman, with Remarks on the Production of Utero-parietal Adhesions. W. Sinclair.
24 Suppuration of the Ovary. J. Oliver.
25 *Typhoid Infection of Ovarian Cysts. F. E. Taylor.
26 Cesarean Hysterectomy for Traumatic Atresia of Vagina, the Patient Having Previously Undergone a Successful Operation for a Vesicovaginal Fistula Due to the Same Injury. A. Routh.
27 Case in Which Ligature of Fallopian Tubes Failed to Effect Sterilization. G. A. Casalis.

23. **Cesarean Section.**—Sinclair reports four operations for Cesarean section in one patient, a woman with marked lordosis, contracted pelvis and ankylosis of the left hip. He agrees with Wallace that all Cesarean sections should be performed with a view to ulterior pregnancy. Extirpation of the merely septic uterus has almost disappeared from the category of justifiable operations. Sinclair thinks that sterilization and hysterectomy are rapidly following it into the limbo of deplorable episodes in the history of obstetrics and gynecology. He prefers to begin operating before the onset of labor pains. He considers the formation of adhesions, the site of incision, the suture material, and the fear of rupture of the uterus, the intentional production of adhesions between the uterus and the abdominal parietes with a view to facilitating subsequent operation, and describes the technic of the operation.

25. **Typhoid Infection of Ovarian Cysts.**—Taylor describes a case in which a bacillus was obtained in pure culture from the pus of a suppurating ovarian cyst eight months after an attack of typhoid. This bacillus, from a comprehensive study of its morphologic, tinctorial, cultural and serum agglutinating properties, was definitely proved to be the *Bacillus typhosus*. Further, the agglutinating power of the patient's serum with typhoid bacilli proves that the febrile illness from which the patient had suffered really was typhoid fever. He describes and tabulates the twelve preceding recorded cases, and concludes that the metastatic transference of the bacilli to various regions and organs of the body and the occurrence therein of post-typhoid suppuration is not difficult to explain in the light of the exhaustive research on the bacteriology of the blood in typhoid fever by Coleman and Buxton, published in the *American Journal of Medical Sciences*, 1907, page 896.

Annals of Tropical Medicine and Parasitology, Liverpool.

November.

28 Certain Parasitic Protozoa Observed in Africa. J. E. Dutton, J. L. Todd and E. N. Tobey.
29 *Yaws. C. W. Branch.
30 Description of Some Gold Coast Entomostraca. W. M. Graham.
31 Notes on Dr. Graham's Collection of Cyclopidæ from the African Gold Coast. G. S. Brady.
32 Morphology and Life History of Spirochæta Duttoni. A. Breinhl.
33 Cytology of the Trypanosomes. J. E. Salvin-Moore.

29. **Yaws.**—Branch discusses the relations of syphilis and yaws and gives some reasons why the identity of the two diseases has not been more extensively recognized. The extreme prevalence of syphilis in the West Indies is shown by the hospital experience and the mortality experience. In St. Vincent he finds that 19 per cent. of the admissions to hospital are for syphilis, and that syphilis is responsible for 14 per cent. of the deaths in the colony. In striking contrast with the large number of syphilitic cases is the small number of patients with primary venereal sores who apply for treatment. He believes that this is due to the fact that there is a large amount of non-venereal contagion in which the primary chancre is not recognized. In many of these cases the early cutaneous symptoms have taken the form of the frambesial eruption of yaws. This is so much the case that several authors have described tertiary symptoms attributed to yaws which were indistinguishable from the similar symptoms of syphilis. That a

primary sore may precede the frambesial eruption is also recognized by authors who have treated yaws. The association of yaws with syphilis is recognized by the natives who do not confine the term yaws to the frambesial eruption and attribute symptoms evidently syphilitic to a previous yaws. The view that yaws is represented only by the frambesial eruption and is an independent disease of comparatively little importance has led to its going practically untreated in a large number of cases and may account for the relatively greater prevalence of tertiary than of primary syphilis. Branch discusses the attitude of the medical profession to the question of the relation of yaws and syphilis and shows that the objections made by Manson that the primary sore, infection of the fetus, adenitis, affection of the permanent teeth, exanthem, alopecia, absence of itching, iritis, bone and eye affections, congenital lesions, polymorphism or eruptions, nerve lesions, and gummata of syphilis are wanting in yaws, is not well founded, as most of these conditions are found in yaws or are very rare in cases of syphilis in negroes. It is only in the frambesial eruption that yaws differs from syphilis and even the frambesia is identical with the syphilitic papilloma on a moist surface. The difference between yaws and syphilis is only in the frequency of occurrence of this eruption. Syphilis as yaws is almost general in tropical countries wherever the conditions of damp, heat and dense vegetation obtain. The suggestion of Hutchinson that yaws is the original disease among peoples inhabiting tropical countries, from whom it spreads to the European races as syphilis, taking a different form in the colder climate is not fully approved by Branch. Branch finds intramuscular injection of soluble mercuric salts the best method of treating both syphilis and yaws among the negroes. In the local treatment of yaws he has had the best results from a paint of zinc oxid and calamin. This coats the lesions so that the secretions can not well become the source of infection.

Clinical Journal, London.

December 11.

34 Brachial Neuritis and Occupation Neuroses. T. D. Savill.
35 Position, Deformities and Injuries of Foot Due to High Heels. E. M. Corner.
36 Scarlatinal Otitis. K. Gordon.

British Journal of Children's Diseases, London.

November.

37 Clinical Aspects of Lymphosarcoma in Children. D. M. Greig.
38 *Cerebrospinal Meningitis. E. Cautley.
39 Case of Pneumococcal Infection of Serous Membranes. H. S. Clogg.

38. **Meningitis.**—Cautley divides the various forms of meningitis on a bacteriologic basis: 1, Tuberculous; 2. septic (pneumococcus, streptococcus, staphylococcus, etc.): 3, cerebrospinal, epidemic or sporadic, or of the type known under the names of post-basic, simple posterior, basal of infants, chronic basilar, or cervical opisthotonos of infants. He forms his conclusions from 125 cases, in most of which the diagnosis was confirmed by the results of lumbar puncture during life or postmortem. Cases developing from influenza or other diseases are omitted. He thinks ear disease by no means so frequent a cause of meningitis in early life as is commonly supposed. The presence of the pneumococcus in middle-ear discharge does not prove the meningitis to be secondary to the ear trouble; often it arises from the same origin as the meningitis or by extension from it. We may conclude that meningitis during the first six months of life is most commonly non-tuberculous; in the second six months it is non-tuberculous in about two-thirds of the cases; and after the first year the tubercle bacillus is by far the most common cause. The seasonal incidence of tuberculous meningitis is about the same in all seasons of the year. Pneumococcal meningitis is fairly common in infancy. It is usually secondary to bronchitis and other lung diseases and to acute pneumococcal endocarditis. Streptococcal meningitis is usually due to ear disease or pyemic affections. Cerebrospinal meningitis is most common in early life and appears in two distinct forms, the toxemic and the meningitic. The first is the "spotted fever." The symptoms are those of profound blood poisoning. The meningitic type of the epidemic variety is clinically similar to the ordinary post-basic meningitis in course, complications and sequelæ, and pathologically. The only distinction between them lies in the epidemic character and virulence. There is little proof that the epidemic variety is spread by direct infection. Several members of a household may be attacked, but it is obvious that they are living under similar conditions. He describes the three stages, respectively of congestion, exudation and effusion, and the symptoms—headache, rigidity of the neck muscles, conjunctivitis, Kernig's sign, if the inflammation has spread down the cord, vomiting, the pulse and respiratory and temperature conditions—and states that lumbar puncture may yield evidence of absolute diagnostic certainty. In tuberculous meningitis the cerebrospinal fluid is clear and may contain an excess of lymphocytes and perhaps tubercle bacilli. In cerebrospinal meningitis it is likely to be cloudy and to contain an excess of polymorphonuclear cells and the meningococcus. In the hydrocephalic stage the fluid may be indistinguishable from that of the tuberculous disease. As to treatment, in the cerebrospinal variety, the nose must be kept disinfected. Serum treatment has proven unsatisfactory. Careful feeding and nursing are essential. Cold to the head and hot baths afford relief from convulsions, extreme opisthotonos and hyperesthesia. Small doses of coal-tar derivatives and opium are useful; quiet and rest are imperative. The removal of fluid by lumbar puncture is distinctly beneficial when there is intracranial pressure. Vaccine treatment has not been adequately tried.

Bulletin de l'Académie de Médecine, Paris.

November 26, LXXI, No. 40, pp. 382-400.

41 Dystrophy of Venous System in Inherited Syphilis. A. Fournier.
42 *"Medical Tetanus." Predisposing Influence of Liver Affections. H. Vincent.

42. **Spontaneous Tetanus.**—Vincent reiterates that the intervention of the tetanus germ is as evident in medical as in traumatic tetanus, and that hyperthermia, sunstroke or any cause lowering the resisting powers favors its development in a tetanus spore carrier. His experimental research has shown that liver affections have an unusually marked predisposing influence on the appearance of this form of tetanus. His research has confirmed the deleterious influence of lesions of the liver on the defensive forces of the organism, both cellular and humoral, weakening them until they are unable longer to oppose successful resistance to invading germs. The seed of tetanus germinates readily in individuals with cirrhosis of the liver or any other latent or declared liver affection.

Presse Médicale, Paris.

November 30, XV, No. 97, pp. 777-784.

43 Deviation of Complement in the Streptococcus in Scarlet Fever. (La réaction de Bordet et Gengou vis-à-vis du streptocoque dans la scarlatine.) C. Foix and E. Mallein.
44 Efficacy of Faradization of Chest in Chloroform Syncope. J. M. Villette.

December 4, No. 98, pp. 785-796.

45 *Clinical Examination of the Neck. (Formes extérieures du cou.) P. Desfosses.
46 Treatment of Delirium Tremens. Legrain.

45. **Clinical Examination of Neck.**—Desfosses' article has sixteen illustrations.

Revue de Gynécologie, Paris.

October, XI, No. 5, pp. 755-960.

47 *Chorioepitheliomas of the Genital Glands and Especially of the Ovary. E. Forgue and G. Massabuau.
48 *Anatomy of the Kidney Pelvis and Surgical Exploration of the Kidney. (Anatomie du bassinet et exploration sanglante du rein.) J. Albarran and E. Papin.
49 *Primary Cancers of the Appendix. M. Letulle.

47. **Chorioepitheliomas of the Genital Glands.**—Two cases are reported in detail and 116 from the literature are summarized and compared for study of the origin of these tumors.

48. **Anatomy of the Kidney Pelvis.**—Albarran and Papin illustrate with several colored plates their findings in regard to the anatomy of the kidney pelvis and the technic for exploration of the organ. The capacity of the pelvis varied from 6 to 28 c.c. in twelve specimens examined.

49. **Primary Cancer of the Appendix.**—Letulle reported in 1897 the first case of this kind observed in France, and has since encountered 10 more cases. They are reported in detail with illustrations, and he urges microscopic examination of every appendix removed for any cause. A zone of induration, especially at the tip, should be regarded as suspicious of a can-

cerous or tuberculous process. In nearly every instance known, primary cancer of the appendix was consecutive to an obliterating appendicitis of more or less prolonged standing.

Semaine Médicale, Paris.

December 4, XXVII, No. 49, pp. 577-588.

50 *Management of a Private Obstetric Case. (Comment il faut s'y prendre dans la pratique courante de l'accouchement.) R. de Bovis.
51 *Roentgen Rays an Etiologic Factor in Cancer.

50. **Management of an Obstetric Case.**—De Bovis insists that every childbirth is a surgical affair and should be treated on the same principles as any surgical operation. Nature is such a kind mother that infection of the obstetric wound is a rare exception, yet the danger is always there, and he outlines some simple measures by which it can be warded off. Mechanical asepsis should be the main reliance, washing the hands under boiled water running from a fountain syringe, or rinsing off with the same the field of operation. Antiseptics may be used, but not until after the parts have been cleansed with soap and running water. He thinks that ordinary wood alcohol can be depended on as much as mercury bichlorid—in the obstetrical dosage—and it is obtained so easily that he advises it for dipping the fingers and instruments, etc., in the place of more expensive and less readily obtained antiseptics. He urges the use of rubber gloves—not necessarily for examining or operating—but for all the rest of the time. If they become soiled they can be easily rinsed. He warns against wiping off the amniotic fluid on the vulva; Nature keeps it there to protect the tissues against lacerations. He adds that he is trying to impress on his readers the worship of cleanliness and to free them from the yoke of the prevailing superstition in regard to antisepsis, while extolling the superiority of mechanical agents of disinfection. In obstetrics, he reiterates, "bichlorid isn't everything; it does not relieve the physician from the necessity for being clean."

51. **Cancer from Roentgen Exposures.**—After reviewing the history of this subject and the experiences in France, the editorial warns that small doses frequently repeated seem to be more dangerous in respect to the development of cancer from Roentgen exposures than a few prolonged sittings. Another practical conclusion is that Roentgen treatment seems to be contraindicated in case of affections which already display a predisposing tendency to malignant degeneration. Also that an *x*-ray burn resisting treatment should be excised early.

Beiträge zur klinischen Chirurgie, Tübingen.

October, LV, No. 3, pp. 619-793.

52 *Tumors of the Soft Parts over the Alveolar Process of the Jaw, and Results of Treatment. (Epulis und Resultate ihrer Behandlung.) R. Kühner.
53 Firearm Wounds. (Schussverletzungen.) R. Bestelmeyer.
54 *Serum Treatment of Tetanus. M. Hofmann.
55 Nephrectomy for Hydronephrosis. K. Fischer.
56 Nephrolithotomy and Plastic Operation on Ureter for Hydronephrotic Stone Kidney. Id.
57 *Triangular Support for Ambulant Extension Treatment of Fractures of Upper Arm. (Das v. Hacker'sche Triangel für Oberarmbrüche.) E. Streissler.
58 Treatment of Talipes Equino-varus by Excision of Wedge from Tarsus. F. Dieffenbach.
59 Hacker's Modification of Heidenhain's Technic for Hemostasis in Operations on the Skull. (Blutstillung bei Trepanationen, etc.) J. Pollak.

52. **Tumors of Jaw.**—Kühner refers in particular to the giant-celled sarcoma which is the most frequent variety of tumor developing in the soft parts over the alveolar process of the maxillary bone. Although histologically malignant yet its clinical course is mild. In 90 cases at the Tübingen clinic the majority were observed between the ages of 10 and 40, and two-thirds of the patients were women, as also in 139 cases he has found on record. The after-history is known of 79 patients whose tumor was removed during the last 35 years; 72 were found permanently cured. Two patients died from recurrence, but the others were all permanently cured after removal of a recurrence, so that 77 of the 79 patients are still in good health.

54. **Serum Treatment of Tetanus.**—Hofmann reports 30 cases of tetanus in which the patients were treated with antitetanus serum. It was given by subcutaneous injections alone in 13 cases with 53.8 per cent. mortality, but only 2 of the patients died in the 16 cases in which the serum was injected into the dural sac by lumbar puncture. Endoneural injections were also made in 3 cases. The endoneural route has certainly an excellent experimental basis, but not much clinical experience to sustain it. His series of 16 patients treated by dural infusion of the serum included a number of extremely severe cases, with brief incubation. One patient had recovered from the tetanus, but fatal pneumonia developed, and another patient was extremely debilitated from amputation of the arm on account of sarcoma; he would probably have succumbed even without the tetanus. Excluding these cases leaves an unbroken series of 14 patients with severe tetanus all recovering under subcutaneous and subdural infusion of antitetanus serum. The benefit from the serum became only gradually apparent, but was progressive and permanent. In a few cases the temperature rose for a day or so after the dural infusion, but no ill consequences were observed from this temperature and the headache soon subsided. In 2 cases an extensive and obstinate exanthem developed over the entire body, as also after the subcutaneous injections in some cases. Another patient had cramp-like pains persisting even after the subsidence of the tetanus, but then rapidly subsiding. No tardy by-effects were observed in any case except that one patient has had headache occasionally during the year since, while she never had known headache before. No macroscopic changes could be discovered in the meninges in the fatal cases. He remarks in conclusion that dural infusion of antitetanus serum seems to be amply justified theoretically, and that his favorable experiences certainly encourage its further use. It is still a question whether or not the cerebrospinal fluid contains tetanus toxin. Certain experiences that have been reported seem to indicate this, and until the matter is decided he thinks that it would be better to abstain from using this fluid to dilute the antitetanus serum. When a patient is brought to the clinic with traumatic tetanus, the fingers, toes or frozen members—the seat of the injury—are amputated, although the clinic is extremely conservative under other circumstances. After an injection of morphin or under local anesthesia alone, lumbar puncture is done and a considerable amount of cerebrospinal fluid is allowed to escape. Then 20 c.c. of fluid antitoxin are slowly injected into the dural sac—half this amount in case of a child. The patient also receives a subcutaneous or endoneural injection of the serum, in the vicinity of the injury. The subcutaneous injection is repeated daily and the dural infusion every two or three days until improvement is apparent. If the wound requires it, spinal anesthesia can follow the dural infusion at once. In future he intends to apply the antitoxin also directly to the wound. The patient is kept in a quiet, darkened room and, in case the convulsions are very severe, morphin is injected or from 5 to 10 gm. of chloral are given by the rectum. Only fluid food is allowed and alimentary enemas are given in case of difficulty in swallowing. Baths are not given until a later stage, but sweating was induced in some cases and seemed to have a favorable influence on the tetanus.

57. **Triangle for Extension of Fractured Arm.**—It is said that remarkably prompt and correct healing has been obtained in case of fracture of the upper arm by the use of the triangle splint devised by von Hacker of Gratz. A long straight strip of strong paper board, about as wide as the arm, is marked off with the distance from the crest of the ilium to the axilla, then the distance from the axilla to the bend of the elbow, and then the distance from the elbow to the roots of the fingers. A wedge-shaped incision is then made across the splint where the first division was marked off, and another at the second division. The first incision cuts straight across the splint, but the second is diagonal. The splint is then bent at the cut lines to form a triangle with the straight sides of the triangle projecting somewhat, the whole thus assuming somewhat the shape of a figure four (4). The straight back rests against the side of the patient, reaching from ilium to axilla. The fractured upper arm rests on the hypothenuse of the triangle, and the forearm beneath the base of the triangle and its extension. The straight side of the triangle fits into a slit cut part way across the extended base of the triangle. The fracture is reduced and the splint is then fitted in place between the axilla and flexed elbow and the forearm is stretched along under the base of the triangle, the fingers reaching only a little beyond

the median line, near the umbilicus. Bandages are then wound around the arm and splint and around the body, immobilizing arm, shoulder and elbow, leaving only the thumb and fingers free.

Deutsche medizinische Wochenschrift, Berlin.

December 5, XXXIII, No. 49, pp. 2025-2072.

60 Recent Research on Morphology and Origin of Tumors. (Morphologie und Entstehung der Geschwülste.) E. Schwalbe.
61 Deviation of Complement. (Zur Frage der Komplementablenkung.) Haendel.
62 *Injury of Optic Nerve from Atoxyl. (Sehnervenerkrankung durch Atoxyl.) Fehr.
63 Improved Technic for Correction of Noses Planted Awry. (Korrektur der Schiefnase.) J. Joseph.
64 When is the Radical Operation on Nasal Accessory Sinuses Necessary? (Wann ist die Radikaloperation der Nebenhöhlen der Nase notwendig?) W. Lublinski.
65 *Physiology of the Tonsils and the Indications for Their Removal. E. Barth.
66 Retrobulbar Teratoid Tumor Removed from Adult with Retention of Eyeball. (Kroenleinsche Operation.) O. Rothschild.
67 Breaking of Cannula During Lumbar Puncture. K. Torkel.
68 *Benefit of Bier's Constriction Hyperemia for Burns. (Anwendung Bierscher Stauung bei Verbrennung.) Stein.

62. **Injury of Optic Nerve from Atoxyl.**—Fehr reports two cases of visual disturbances under administration of atoxyl. similar to the two cases reported by Bornemann and von Krüdener. As the vision became reduced, the center of the visual field was comparatively undisturbed, but the field on the side toward the nose was restricted. The entire sheath of the optic nerve was blanched and the retinal arteries were contracted, but the pupillary reactions remained normal. In his two patients suspension of the drug was followed by restoration of sight, with no further trouble during the two years since, but in the two other cases the blindness persisted. Lesser and Greef have further reported two cases of transient blindness from the use of atoxyl, retrogressing on its suspension. [Koch had 22 cases of blindness in his experience with atoxyl treatment of sleeping sickness, but all were under higher dosage than he now advocates.]

65. **Physiology of the Tonsils and Indications for Their Removal.**—Barth concludes his study of the anatomy and physiology of the tonsils with the statement that all the testimony seems to point to a current of lymph and secretion in the tonsils flowing outward—an emigrating stream of lymphocytes pouring forth. The germs found in the normal tonsils are on their way outward, he says, not from without inward. He considers the tonsils extremely important aids in the elimination of toxic substances and bacteria circulating in the body fluids. When the normal tonsil becomes inflamed the probabilities are that the infection has arrived from the interior; he cites several instructive instances where this was beyond question, as also a number of experiments in this line. Consequently he advises against removing the sound tonsils which serve such a useful purpose in elimination. Of course, if any of the tonsil tissue becomes necrotic or if there is abscess formation, then the normal outward flow is arrested and infection from without is liable. In this case it is wise to remove or cauterize the tonsils, as also when they are enlarged to an extent as to interfere with breathing. Hypertrophy merely testifies to excessive functioning if the tonsil is sound.

68. **Constriction Hyperemia for Burns.**—Stein has found that the pain of a burn can be materially relieved or entirely abolished by applying a constricting band above. A string around the root of the finger will answer the purpose when the burn is on the finger. He keeps loosening the constricting band, until finally he is able to remove it altogether without return of the pain. It is his impression that the cicatricial shriveling was not so severe in the cases in which this constriction had been applied. He advises keeping up the constriction for burns of the second and third degree not only to relieve the pain but to promote healing, applying the band for ten, twenty or thirty minutes, morning and afternoon.

Deutsche Zeitschrift für Chirurgie, Leipsic.

XC, Nos. 4-6, pp. 289-608.

69 *Case of Acquired Displacement of Kidney with Hydronephrosis. (Nierendystopie.) H. Schaad.
70 Acquired Atresia of the Intestines. A. Jenckel.
71 Prognosis and Technic of Gastroenterostomy. Helferich.
72 *Surgery of Non-malignant Stomach Affections. (Chirurgie der gutartigen Magenerkrankungen.) P. Graf.
73 *Operative Treatment of Dilatation of the Large Intestine. (Operative Behandlung der Hirschsprungschen Krankheit.) H. Ito and Y. Soyesima.
74 Bone Formation in Human Penis. (Sogen. Penisknochen.) P. Frangenheim.
75 Pathology of Deposits of Fat Tissue in the Knee. (Fettgewebs-Wucherungen im Kniegelenk.) H. Lohrer.
76 *Chronic Cystic Mastitis. F. Lichtenhahn.
77 *Etiology of Retention of Testicles. (Hodenretention.) K. Budinger.
78 *Spinal Anesthesia at the Moabite Hospital at Berlin. (Lumbalanästhesie in 875 Fällen.) Oelsner.
79 Extensive Resections of Tarsus and Metatarsus. Budde.

69. **Acquired Displacement of the Kidney and Hydronephrosis.**—Schaad's patient was a clerk of 17, previously healthy, who was suddenly seized with intense abdominal pain, and was sent to the hospital at once, on the supposition of appendicitis. He was supposed to have had two attacks of appendicitis years before, but the discovery of hydronephrosis in a misplaced and fastened kidney threw light on the previous illnesses which must have been of the same character. The first had followed a fall in which the kidney had probably become displaced, adhesions later fastening it in this abnormal position. The walls of the kidney pelvis were so thin from the distension that recuperation did not seem possible and the kidney was removed. Convalescence was disturbed by an infectious tonsillitis followed in a few days by signs of acute nephritis in the remaining kidney. Under medical treatment the nephritis subsided, and the young man has resumed his duties as clerk. The subject of displaced and firmly anchored kidneys is discussed in detail, and the various forms of congenital and acquired displacement are classified.

72. **Surgery of Non-Malignant Stomach Affections.**—Graf devotes nearly 100 pages to discussion of the end results in 95 cases of various non-cancerous gastric affections treated by surgical intervention at Kiel. One-third of the patients were in the fifties, and there were nearly twice as many women as men. There was no mortality from gastroenterostomy for the gastric affections without an open ulcer, but an open pyloric ulcer and ulcer of the fundus without stenosis showed a low mortality. The end results were excellent in four-fifths of the cases of simple motor disturbances—ptosis or atony—also in three-fourths of the patients with cicatricial pyloric stenosis, and in two-thirds of those with pyloric ulcer and in one-half of those with ulcer without stenosis. The later disturbances observed in some cases were caused by pains, hemorrhage or perforation of an unhealed ulcer, by stenosis of the anastomosis, perigastric adhesions or by combination of gastric symptoms with constitutional disease. The gastroenterostomy improved the motor function, generally restoring it to normal and reducing the acidity of the gastric juice. It is generally followed by partial subsidence of the dilated stomach. Jejunostomy is unreliable, he asserts, and resection of the ulcer showed considerable mortality and unreliable end results. It is positively indicated in suspicion of cancer and perforated ulcer and relatively indicated in bleeding ulcer. In absolute and relative stenosis of the pylorus, waiting is not directly dangerous, but continuance of lavage for months or years is an unnecessary torment for the patient, considering the excellent prognosis of gastroenterostomy, especially in such cases. In case of a firm, pressure-resisting ulcer, showing no tendency to stenosis, the danger of hemorrhage and perforation is so imminent that waiting is perilous. Hence operation should be proposed after the failure of several courses of medical and rest treatment. Those who die in these cases die in consequence of the ulcer, not of the operation. The results to date show 50 per cent. cured. In conclusion he advocates gastroenterostomy as the routine procedure for ptosis and atony instead of ventrofixation or plication alone, that is, fastening the stomach or taking up a fold in it.

73. **Operative Treatment of Hirschsprung's Disease.**—Ito and Soyesima report a case of obstipation and enlargement of the abdomen accompanied by fecal incontinence at night. The patient was a boy of 14 and the operation disclosed a probably congenital giant colon. They review 204 articles that have been published on the subject in various lands, their conclusion being that partial exclusion of the intestine is the best method of treating such cases that fail to yield to internal treatment and in which there is no mechanical obstruction. Resection is much

more serious and the lesser operation may accomplish the desired purpose, as in the case reported in which the patient was cured by incomplete exclusion of the entire colon. Pseudo-megacolon is liable to correct itself in later life, so that operative treatment should not be applied without consideration of this fact.

76. **Chronic Cystic Mastitis.**—Lichtenhahn reports five cases of this affection and warns of the liability of cancerous degeneration. His patients were all between 40 and 50; two were virgins.

77. **Etiology of Retention of the Testicles.**—Budinger remarks that retention may be due to internal displacement, to anomalies in the genital apparatus or to cicatricial changes and adhesions in the abdomen, left from preceding inflammation. The testicle itself is not involved in these adhesions, as a rule, but the changes in the region interpose mechanical obstacles to the descent of the testicle.

78. **Spinal Anesthesia.**—Oelsner states that Sonnenburg has been using spinal anesthesia since 1904 and has now a record of 875 cases in which it was appplied. The analgesia did not appear in 54 cases, and slight to moderate collapse was observed in a number. The passage of flatus and stools under the influence of the spinal anesthesia was often of direct therapeutic value. This was observed especially in cases of incarcerated hernia after the intestine had been freed from the constriction, and also in cases of acute appendicitis with atony of the bowel. The contemplated operation was rendered unnecessary for two patients presenting symptoms of ileus by this by-effect of the injection. One fatality was observed, for which the method, however, can not be held responsible. In many instances depression, nausea, vomiting and headache were observed as after general anesthesia, the headache lasting in a few cases for days and weeks. Severe collapse was observed in 6 cases, and one patient with ruptured tubal pregnancy succumbed in collapse after eight hours. Abducent paralysis occurred in 3 cases and paralysis of the facial and hypoglossal nerves in another, the paralysis coming on the tenth and third days or after six weeks. The paralysis spontaneously subsided in time, but in 3 cases fatal ascending suppurative meningitis developed. In two of these the operation was for relief of a pyemic or septic process, and the spinal anesthesia may have produced a point of lessened resistance where the germs circulating in the blood settled. In the third case a healthy man of 20, from a healthy family, was operated on for removal of hemorrhoids under spinal anesthesia with stovain-adrenalin. There were no by-effects at first, but then the temperature rose, headache followed, and the patient died on the fourth day of a meningococcus meningitis. This patient must have been a healthy, unsuspected meningococcus carrier, as no possible source of the infection otherwise could be surmised. Forty-seven out of 60 patients examined showed evidences of nephritis, but it soon subsided and no after-effects could be discovered. Spinal anesthesia is used at the clinic principally for operations below the costal arch, as no attempt is made to extend the analgesia higher by raising the pelvis or similar measures. Its main sphere is for chronic intestinal affections. General septic processes are now regarded as contraindications, although in dubious cases the absence of microbes from the circulating blood allows this form of anesthesia to be used in cases of acute osteomyelitis of the legs. Collapse from internal hemorrhage or other cause is also regarded as a strict contraindication. The spinal anesthesia was used in 6 diabetics with excellent results. The experience of others was also confirmed in regard to the fine way in which elderly persons tolerate spinal anesthesia. Its ill effects are undoubtedly due to the toxic nature of the substances used. Oelsner is now experimenting with saline solution at different temperatures. Chilled saline solution injected for spinal anesthesia in animals is giving promising results. He mentions that there are now 32 cases of paralysis following spinal anesthesia on record, but not permanent in any instance.

Monatsschrift für Geb. und Gynäkologie, Berlin.

November, XXVI, No. 5, pp. 645-778.

80 *Etiology and Treatment of Dysmenorrhea. F. Kermauner.
81 Rarer Forms of Genital Tuberculosis in the Female. P. Kroemer.
82 *Postoperative Mesenteric Occlusion of Duodenum. (Postoperative mesenterialer Duodenalverschluss.) H. Albrecht.
83 Experiences with Spinal Anesthesia for Gynecologic Operations. (Lumbalanästhesie bei gynäkologischer Operation.) F. Brunner.
84 Action of Preparations of Hydrastis and Cotarnin on the Uterus and Blood Pressure. E. Kehrer.

80. **Dysmenorrhea.**—Kermauner concludes his article with the statement that there has been no notable progress in the treatment of dysmenorrhea during the last thirty years unless we accept as such the more rational general treatment which is now instituted, as a rule, and the greater number of drugs now at our disposal for symptomatic treatment. Unmistakable practical benefit is sometimes realized from various measures. Among these he mentions dilatation of the cervix with an instrument or tent, introduction of a uterine sound, removal of the ovaries in case they are much enlarged and the uterus is malformed, cocainization of points in the nose, etc. The dysmenorrhea is frequently favorably influenced by considerable exercise before the period, running, gymnastics, etc., with complete repose during the period. He quotes Connel's remark that bicycling has effected a cure in more cases of dysmenorrhea than any other measure. Kermauner regards congenital retroflexion as a negative finding.

82. **Postoperative Mesenteric Occlusion of the Small Intestine.**—Albrecht reports a case of "arterio-mesenteric occlusion" that terminated in recovery. The trouble is constriction of the duodenum at its union with the jejunum by the taut root of the mesentery. The symptoms are those of ileus in general. The uncontrollable vomiting soon brings pure bile, and the vomiting recurs with tormenting regularity and comes in a gush. There is never a fecal odor to the vomit. The vomited fluid consists mainly of bile with transudation from the stomach wall, and with pancreatic juice. The patients complain of violent opppression and pain in the epigastrium with extreme thirst. The pulse rate is much accelerated, but the temperature does not rise at first. The stomach region is distended while the rest of the abdomen is soft and relaxed. Examination of the urine will exclude uremia. Clay-colored stools are an important sign of the obstruction if the bowels move, also the signs of dilatation of the stomach. The first indication, he says, is always for lavage of the stomach, as in every case of persistent vomiting. The patient should then lie prone, thus changing the position of the duodenum, or even assume the knee-elbow posture to reduce the pressure from the stomach. Binswanger recommends in addition bimanual taxis through the rectum or vagina to aid in pushing the loops of the small intestine up out of the small pelvis. In Müller's case the patient was relieved at once by lying on his abdomen, which position he retained for twenty-four hours without injury. The results of this posture in the fourteen cases that have been published have always been striking. The vomiting ceased almost immediately; flatus passed, stool followed and the subjective findings were much improved. In case vomiting recurs, Albrecht advises changing from the abdominal to the knee-elbow position several times. The pulse is liable to remain high for some days, probably from irritation of the sympathetic nerve. The prognosis depends entirely on the early diagnosis. In prophylaxis he advises restriction of intake of fluids by mouth as predisposing to the development of the mesenteric occlusion. In case of prolonged operations he advises spinal instead of general anesthesia, and adds that fixation of the flexure would probably avert all trouble from this source.

Münchener medizinische Wochenschrift.

December 3, LIV, No. 49, pp. 2409-2464.

85 *Artificial Pneumothorax in Tuberculosis, Bronchiectasia and Inspiration Affections. A. Schmidt.
86 *Minimal Physiologic Demand for Albumin. (Zur Frage des kleinsten Eiweissbedarfes.) J. Forster.
87 Passive Supersensitiveness to Injection of Toxins. (Passive Ueberempfindlichkeit.) U. Friedemann.
88 Hemorrhage Into the Fatty Capsule of Kidney. (Apoplexie des Nierenlagers.) Doll.
89 *Serum Treatment of Epidemic Cerebrospinal Meningitis. M. Többen.
90 *General Anesthesia with Ethyl Chlorid. (3,000 Aethylchlorid-Narkosen.) Herrenknecht.
91 The Term "Puerperal Fever" and the Regulations in Regard to Notification of Same. (Der Begriff "Kindbettfieber.") O. v. Herff.
92 Appendix as Sole Content of Hernia. (Processus vermiformis als alleiniger Inhalt des Bruchsackes.) Günther.

93 Old Foreign Body in Jaw as Cause of Acute Conjunctivitis resembling a Gonorrheal Affection. (Fremdkörper im Oberkiefer.) M. Thorey.
94 Apparatus for Vibratory Massage of Prostate. A. Gunsett.
95 *Gauze and Cotton Case for the Office. (Watte- und Gazekästchen.) L. Grünwald.

85. **Artificial Pneumothorax in Treatment of Pulmonary Affections.**—Schmidt has applied in 24 cases "compression therapy," as he calls injection of a gas into the chest to compress and thus immobilize the lung, according to Forlanini's and Murphy's technic. In 13 cases the trouble was a tuberculous process; in 8, bronchiectasia, and in 3, inspiration pneumonia or fetid bronchitis. His experience confirms that of others in respect to the frequency of adhesions which render the procedure impossible in about 23 per cent. of the cases which otherwise indicate it; the adhesions prevent complete pneumothorax, but by repeating the injection at various points it is sometimes possible to induce sufficient compression. In tuberculous cases suitable for this treatment, the results are often surprisingly good, he says, but the patients must be carefully selected, and the compression must be only gradually induced and increased to the indicated degree, and it must be prolonged over years in some cases. The results were negative in the cases of bronchiectasia, the injury of the lung tissue being too severe for repair by this means unless the compression is applied earlier. The conditions are different in pneumonia or fetid bronchitis resulting from inspiration of foreign matter, and it is in this group of cases that the best results are obtainable from artificial pneumothorax. The morbid process began to heal at once as soon as the parts were immobilized by the pneumothorax. He discusses the technic in detail, expressing his preference for sterile air, controlled by Roentgen examination. The air was always compressed to three atmospheres in his cases. The loss from absorption of the oxygen is compensated by the advantages of this simple technic. As a rule, he says, there should be no overpressure of the gas left in the chest, although this is sometimes unavoidable.

86. **Minimal Demand for Albumin in the Diet.**—Forster calls attention to the frequently overlooked fact that the body needs ash elements as well as albumin, fat and carbohydrates. These ash elements are found mostly in the albuminoid elements of the food, and consequently the body suffers from a lack of ash elements if the albumin is cut down to an unduly small proportion in the dietary. Besides this, the body also suffers from a lack of the digestive ferments, internal secretions, etc., which are formed more or less from the products of the decomposition of albumin. For these reasons he advises ample supply of albumin, keeping well above the minimal physiologic demand.

89. **Serum Treatment of Epidemic Cerebrospinal Meningitis.**—Többen reports 66 cases of this disease at Bochum. The mortality in 37 cases treated by lumbar puncture alone was 56.7 per cent., while it was only 16.6 per cent. in 12 cases in which the serum treatment was begun the first or second day of the disease. The death rate grew constantly higher the later the serum treatment was instituted, the total mortality in the 29 serum-treated cases being 34.5 per cent.

90. **General Anesthesia with Ethyl Chlorid.**—Herrenknecht states that he has never had a mishap in 3,000 anesthesias with ethyl chlorid. The course and other details are described and the literature on the subject reviewed, his verdict being very favorable to this method of anesthesia. He always supplements the ethyl chlorid with chloroform or ether for a long operation. None of the mishaps attributed to ethyl chlorid bear investigation, with the exception of one case in which the patient was given 150 grains of ethyl chlorid within three minutes. As the respiration stops first, and the heart keeps on beating for a time, artificial respiration should be the first measure applied in case of asphyxia, with, possibly, massage of the heart, and the patient will be promptly restored, as the extremely volatile drug escapes from the body so rapidly. He regards it as the least dangerous of any anesthetic known to date.

95. **Gauze and Cotton Case for the Office.**—A ten-yard strip of gauze, about an inch wide, is wound on a roll with a strip of paper the same size covering it, as ribbon is put up for sale. This roll fits in one side compartment of a nickel box; the other compartment contains a similar roll with paper, but with cotton instead of gauze. The cotton roll is about two inches wide and is cut across into inch strips, each strip lapping over the preceding strip. The ends of the gauze and protecting paper and of the cotton and protecting paper emerge through slits below, each slit protected by a flap cover. The lower compartment of the box is a drawer that contains material for arresting hemorrhage, etc. By drawing out the drawer the rest of the case can be readily sterilized in steam.

Therapie der Gegenwart, Berlin.

November, XLVIII, No. 11, pp. 481-528.

96 *Treatment of Tuberculous Joint Affections. (Gelenk-Tuberkulose.) M. Martens.
97 Action of Escalin on Gastric Mucosa. (Wirkung des Escalins auf die Magenschleimhaut.) E. Mai.
98 Acute Hemorrhagic Pancreatitis Cured by Tamponing. A. Stieda.
99 Nucleogen for Children with Nervous Affections. (Verwendung des Nukleogens bei nervenkranken Kindern.) J. Hoppe.
100 Endoscopy of the Urethra. (Endoskopie der Harnröhre.) H. Goldschmidt.
101 *Action of Serum from Thyroidectomized Sheep in Diabetes, and Its Sedative Properties. (Wirkung des Antithyreoidin Moebius im Diabetes.) A. Lorand.

96. **Tuberculous Affections of the Joints.**—Martens says that physicians should do their utmost to educate the public to "think aseptic." They should strive to train the public in hygiene from the cradle on, so that it could never happen again that a woman of 80 got a bath for the first time when she was admitted to the hospital, as in a recent experience in his service. He gives an illustrated description of his methods of treating tuberculous joints with the usual measures, adding that an early diagnosis is the main thing, and that cases in which differentiation is impossible at once would better be treated as for tuberculosis rather than by massage and exercise.

101. **Serum of Thyroidectomized Sheep or Goats in Diabetes and in Insomnia.**—Lorand calls attention to the way in which this serum makes those taking it sleep. They sleep almost as if victims of sleeping sickness; a dog fed on the milk from the goats was inclined to sleep all the time. Lorand believes that the thyroid gland is a factor in sleeping sickness, and has used thyroid treatment in some cases of that disease. The patients responded to the treatment as promptly and surprisingly, he asserts, as patients with myxedema. On the other hand, insomnia can be induced by ingestion of large quantities of thyroid extract. He has found the serum from thyroidectomized animals the most effectual of all the remedies he has ever given to cure most sleeplessness. Its prohibitive price has driven him to the milk of thyroidectomized goats, which seems to act in the same way although much less powerfully. In diabetes, symptoms are frequently observed which suggest thyroid insufficiency. The thyroid may at first functionate to excess and then become exhausted, with functional insufficiency as the result, developing later symptoms resembling those of myxedema. It follows, as he shows, that the serum or milk of thyroidectomized animals is contraindicated in severe forms of diabetes with acetone and acetic acid, especially in arteriosclerotics. On the other hand, it may give good results in cases of diabetes free from symptoms suggesting myxedema in any way. In nervous excitement, with inability to sleep, this treatment may give most excellent results.

Hospitalstidende, Copenhagen.

October 16, L, No. 42, pp. 1113-1136.

102 *Blood Pressure in Pulmonary Tuberculosis. (Om Blodtrykket ved Lungetuberkulose.) N. J. Strandgaard. Commenced in No. 39.
103 Extirpation of Lachrymal Sac as Standard Procedure in Treatment of Gonorrhea of Same. S. Schou.

October 23, No. 43, pp. 1137-1160.

104 *Indirect Elicitation of Typical Pain at McBurney's Point. (Indirekte Fremkaldelse af den typiske Smerte paa McBurneys Punkt.) T. Rovsing.
105 Centrifugation in Examining Sputum for Tubercle Bacilli. (Undersøgelse af Opspyt for Tuberkelbaciller ved Anvendelse af Centrifugering.) A. Beyer.

October 30, No. 44, pp. 1161-1192.

106 Trypsin in Treatment of Cancer. (Trypsinbehandling af maligne Nydannelser.) N. R. Blegvad.

November 6, No. 45, pp. 1193-1216.

107 Method of Treating Exstrophy of the Bladder. (En ny Metode til operativ Behandling af Ektopia vesicæ.) T. Rovsing.
108 The Ocular and Cutaneous Reactions to Tuberculin. (Nogle nyere Tuberkulosereaktioner.) H. J. Bing.

102. **Blood Pressure in Tuberculosis.**—Strandgaard reviews the literature on this subject and gives the findings in regard

to the blood pressure of hundreds of patients at the Boserup sanatorium. The findings the first and the last day of their stay in the sanatorium are tabulated for comparison. His conclusions are that the more pronounced and advanced the tuberculosis, the lower the blood pressure, as a rule. A low blood pressure may help to differentiate tuberculosis in dubious cases, and show whether a tuberculous process is active or latent. Determination of the blood pressure may also direct attention to some complication elsewhere, such as nephritis or heart disease. It may also prove useful for the prognosis. In 174 adults and 163 children cured or materially improved, the average pressure was 125, while it was only 121 in 234 patients only moderately or not at all improved, and it averaged 108 in 21 adults and 13 children whose disease continued a progressive course, and in 17 patients who succumbed. In each group there was a wide range of the blood pressure in individual cases, but the general average showed a drop from 125 to 108 between the first and last group. The discovery of unusually high blood pressure suggests the imminence of hemoptysis, and treatment should be instituted to reduce the pressure. The partial dependence of the blood pressure on the conditions in regard to the nourishment confirms the importance of superalimentation. Repeated determination of the blood pressure will also prove a guide as to pushing and continuing superalimentation. The indications to be learned from the blood pressure will be much more exact and instructive, he adds, when our present defective technic is perfected, and when we know more about the physiologic blood pressure. It is not a constant element, like the body temperature, but varies, like the height, weight, etc. A somewhat low blood pressure in one individual may be the physiologic optimum in another. It is impossible at present to say whether the low blood pressure in tuberculosis is primary or secondary, but its rising or falling with healing or progressive lesions suggests that it is secondary. A better oversight might be obtained from the "pulse pressure," as the difference between the extremes of pressure is called, instead of estimating the maximal pressure only.

104. See abstract No. 98 in The Journal, Nov. 30, 1907, page 1822.

Hygiea, Stockholm.

July, LXIX, No. 7, pp. 657-750.

109 *Abdominal Pain. (Smärtor i buken.) K. G. Lennander.
110 Treatment of Syphilis with Mercury Salicylate and "Merculiol" Oil. E. Welander.
111 Three Cases of Cesarean Section. (Tre kejsarsnitt.) O. Lundblad.
112 Treatment of Eclampsia. Id.

No. 8, pp. 753-832.

113 *Temporary Gastrostomy in Case of Ulcer in Stomach or Duodenum or Perforating Ulcer. K. G. Lennander.
114 Mortality and Morbidity of Weakly Infants in Institutions. (Sjuklighet och dödlighet under första lefnadsåret, etc.) H. Ernberg.
115 Abscess of the Liver. (Lefverabscess.) B. Carlson.
116 Gastric Ulcer. Six Cases of Perforation. (Magsår.) G. Naumann.

September, No. 9, pp. 834-934.

117 Vaginal Cesarean Section. (Om det s. k. vaginala kejsarsnittet.) C. F. Josephson.
118 Study of Feces of Sick Infants. (Tarmuttömningarna inom den späda barnaåldern.) W. Wernstedt.
119 Acromegaly. V. Berglund.

109. This article appeared in The Journal, Sept. 7, 1907, page 836.

113. **Temporary Gastrostomy in Perforating Gastric Ulcer, Intestinal Paralysis, Etc.**—Lennander has been teaching for the last two years the great advantages to be derived from a temporary gastrostomy in certain threatening conditions. He here reviews the indications for it and reports in detail an instructive case history to support his assertions. It may be a life-saving measure in case of acute dilatation of the stomach in which the stomach tube has failed to give relief; in perforation of an ulcer in stomach or duodenum if immediate gastrojejunostomy is contraindicated, or there is doubt whether the suture will hold or whether there may not be ulceration at another point, when the peritonitis is so serious as to suggest impending paralysis of the intestines, and in case of paralysis of the small intestine when the upper part is also involved. He adds that the future will show whether gastrostomy may not be preferable to a fistula into the small intestine in all cases of paralysis of this bowel. A temporary gastrostomy with jejunostomy is also indicated in chronic ulcer with stenosis when the patient's strength will not allow the contemplated gastrojejunostomy. The temporary gastric fistula may further serve for feeding the patient when food is refused for any cause.

Books Received

Jahresbericht uber die Fortschritte in der Lehre von den Pathogenen Mikroorganismen umfassend Bakterien, Pilze und Protozoen. By Dr. med. P. von Baumgarten, Professor der Pathologie an der Universitat Tübingen, and Dr. med. F. Tangl, Professor der Allgemeinen und Experimentellen Pathologie an der Universitat Budapest. Einundzwanzigster Jahrgang, 1905. Paper. Pp. 941. Leipzig: Verlag Von S. Hirzel, 1907.

Sulphurous Acid and Sulphides. Part III of Bull. 84, Influence of Food Preservatives and Artificial Colors on Digestion and Health. By H. W. Wiley, M.D., with collaboration of W. D. Bigelow, F. C. Weber and others. Bureau of Chemistry, U. S. Department of Agriculture. Paper. Pp. 1041. Washington: Government Printing Office, 1907.

Minor Surgery. By Edward Milton Foote, A.M., M.D., Instructor in Surgery, College of Physicians and Surgeons (Columbia University). Cloth. Pp. 752, with 407 illustrations. Price, $5.00. New York: D. Appleton & Co., 1908.

Gymnastique Respiratoire Pendant les Mouvements. By Fr. Guermonprez. Cloth. Pp. 470, with 220 illustrations. Paris: J. Rousset, 1, rue Casimir-Delavigne, 1907.

Dieu and les Religions Devant la Science. Albert and Alexander Mary. Paper. Pp. 26. Price 1 Fr. Paris: Jules Rousset, 1, rue Casimir-Delavigne, 1908.

Le Troisième Sexe. les Homosexuels de Berlin. By Dr. Magnus Hirschfeld. Paper. Pp. 103. Paris: Jules Rousset, 1, rue Casimir-Delavigne, 1908.

Traité Clinique des Maladies de l'Estomac. By Dr. Lucien Pron (d'Alger). Paper. Pp. 417. Paris: Jules Rousset, 1, rue Casimir-Delavigne, 1907.

Medical and Surgical Knowledge of William Skakespeare. By John W. Wainwright, M.D. Cloth. Pp. 78. New York: Published by the Author.

Théories Modernes sur la Matière. By M.-Emm. Pozzi-Escot. Paper. Pp. 96. Paris: Jules Rousset, 1, rue Casimir-Delavigne. 1908.

La Radio-Activité de la Matière. By M. Emm. Pozzi-Escot. Paper. Pp. 108. Paris: Jules Rousset, 1, rue Casimir-Delavigne. 1908.

Anemia in Porto Rico. Report of the Permanent Commission for the Suppression of Uncinariasis, 1906-1907. Paper. Pp. 187.

Transactions of the Indiana State Medical Association. Cloth. Pp. 584. Indianapolis: W. D. Burford, 1907.

NEW PATENTS.

Recent patents of interest to physicians:

872217.	Syringe. Arthur E. Bonesteel, Denver.
872126.	Massage implement. Henry G. Hart, Mount Vernon, N. Y.
872148	Electrotherapeutic apparatus. Nelson H. Raymond, Brooklyn, and J. C. Vetter, Coney Island, N. Y.
38898.	Design, sterilizing receptacle. Edward Kronman, New York.
872343.	Speculum. Frank E. Griswold, Geneva, Ohio.
872344.	Speculum. Frank E. Griswold, Geneva, Ohio.
872567.	Curette. Lewis G. Langstaff, New York.
872441.	Bathing and massaging device. Anna Mattison, Kewanee, Ill.
872669.	Soda fountain. Joseph A. McCormick, Chicago.
872448.	Stethoscope. Dunlap P. Penhallow, Boston.
872379.	Receptacle for antiseptic bandages. Otto C. Schulz, Chicago.
872851.	Truss. George Q. Seaman, New York.
873497.	Receptacle for powdered substances. Young K. Buell, New York.
873410.	Indicating device for bottles. Julius Casaccia, San Francisco.
873021.	Electrotherapeutic syringe. Harlow R. Cool, Bradford, Pa.
873028.	Temperature regulator. Verner F. Davis, Orange, N. J.
873123.	Massage implement. Henry D. Gardy, Philadelphia.
873059.	Microtome. Hector Lebrun, Brussels, Belgium.
873076.	Invalid lifter. George E. Olsen and O. J. Johnson, Muskegon, Mich.
873167.	Maternity skirt. Robert H. Peters, Buffalo, N. Y.
873595.	Microtome. Richard H. Pietzsch, Washington, D. C.
873275.	Catheter-users portable mechanical assistant. James F. Spalding, Kansas City, Mo.
873728.	Syringe. Benjamin F. Crisenberry, Elwood, Ind.
874178.	Cautery. Lee De Forest, New York.
874310.	Pharmaceutical coating. Eugene Donard and H. Labbe, Paris, France.
873931.	Register-operating device for massage treatments. John W. B. Faris, Skidmore, Texas.
874092.	Ear-tip for stethoscopes and other aural instruments. Coval H. Liverpool, Boston.
873891.	Production of nitric acid or nitric acid from atmospheric air. Harry Pauling, Gelsenkirchen, Germany.
874251.	Implement for massage, shampooing, and other purposes. Herman F. Schelling Weehawken, N. J.
873904.	Apparatus for measuring the angles of sight. Eugene Schneider, Le Creusot, France.
873961.	Siphon. Wm. S. Shields, Chicago.
873812.	Apparatus for producing sublimed sulphur. Arthur Walter, Naples, Italy.

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Address

A PLEA FOR EARLY EXPLORATORY LAPAROTOMY IN GASTRIC DISEASES OF DOUBTFUL NATURE.*

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At the present time there is no organ in the body whose diseases are more common, and concerning which wider interest is being manifested, than the stomach. The appalling complications of hemorrhage, perforation, hour-glass contraction, disabling adhesions and malignant disease are altogether too frequent and can, I believe, only be prevented by earlier diagnosis of the conditions making them possible, and this can not be done in the present state of our knowledge save by timely exploratory laparotomy. Other means at our command are wholly inadequate, and to depend on them further is needlessly to sacrifice many, I may say thousands, who might easily be saved.

The danger of such an exploration, if done in time, is inconsequential and out of all proportion to the benefits derived therefrom. To those who think differently and overestimate its risk my answer is that he who would keep his life must hazard it. The dangers of hemorrhage and perforation, if not fully appreciated, are at least acknowledged by all to be fairly common. A greater danger than either, possibly than both combined, is just beginning to be appreciated by those having the greatest experience in gastric diseases, yet it is scarcely considered by the average practitioner. All admit that carcinoma of the stomach is a frequent malady and when diagnosticated is generally a hopeless one. Few admit the fact that one-third of the entire number of carcinomata in the body are found in the stomach. Fewer still understand that 80 per cent. of gastric cancers are situated at the pylorus, and that certainly more than one-half of them have their origin in ulcer, which, in the chronic state, is amenable only to surgical treatment. That acute, superficial or mucous ulcers generally heal under proper diet and medical treatment, I have always believed, and I have steadfastly refused to interfere surgically in such cases where they were present or presumably present. I as distinctly believe (and have ever done so) that chronic, indurated or callous ulcer is strictly a surgical affection, yielding only to operative procedure, and that it is not only useless, but extremely hazardous, to treat it otherwise. I speak positively, for I have convictions on the subject which time and experience have served to deepen and render more pronounced. That my views are supported by those having the widest experience in gastric disorders I shall hope to show.

That benign ulcer of the stomach may undergo cancerous implantation is no longer conjectural but a demonstrated fact. Furthermore, it occurs far more frequently than was believed even a few years ago when attention was first drawn to the subject. Then an estimate that 6 per cent. of benign ulcerations in the stomach eventually became carcinomata was considered excessive and out of proportion to the facts. This we now know is much too low a percentage, as is shown by an analysis of the recently published experiences of surgeons doing, perhaps, the largest amount of stomach surgery in the world.

The correct settlement of this question is undoubtedly the most important one connected with gastric surgery, and if the danger of cancerous implantation is so great, as now appears certain, the strongest possible argument for radical treatment in well selected cases is furnished. This position is made stronger by knowledge of the fact that no one, however skilled he may be in diagnosis, can positively and at all times, even after the stomach is examined by sight and touch, differentiate between ulcer and cancer. Unfortunately there are no positive means of distinguishing between them except by the microscope. Gastric analyses have been found unsatisfactory, for, while possessing a certain amount of value, they can not be relied on. The history of the case is at times misleading and often incorrectly given by even the most intelligent patients.

I recently spent a few days at the clinic of one of the most brilliant operators and ablest exponents of gastric surgery in the world. The last two patients he operated on were cases of mistaken diagnosis. One, a man with marked and clearly demonstrable duodenal ulcer, was thought before operation to have cancer of the pylorus; the other, a woman with all the symptoms of gastric cancer, who had been brought a considerable distance for pylorectomy, was found to have an absolutely normal stomach. Not the slightest evidence of any lesion was present, hence the abdomen was promptly and properly closed without any operation on the stomach at all, after the intestines and adjacent viscera had been likewise examined with negative results. The mistake in diagnosis was more than atoned for by the excellent judgment shown in declining to perform an unnecessary operation.

Every man who has done many operations on the stomach has had similar cases, and all, perhaps, have occasionally made a second mistake by doing a gastroenterostomy when it was not only a work of supererogation, but harmful. The surgeon to whom I refer had done so, and that is why he did not do it again.

I have made three such mistakes in diagnosis in my own practice during the past ten years. The first patient was a neurasthenic, operated on seven years ago, with a perfect history of gastric ulcer. She had been in the care of two most competent internists who referred her to me as an undoubted case of ulcer rebellious to all medical treatment and, therefore, suitable for surgery. Although no lesion was found at operation, I did not question the diagnosis and performed a posterior gastrojejunostomy. She improved very much, her vomiting ceased and there was a decided gain in weight. At the end of six months her ulcer symptoms returned, but have never been as bad as they were before the operation.

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* Address in Surgery before the Pennsylvania State Medical Association, Sept. 23-26, 1907.

Three years ago a man, aged 49, was brought to me by Dr. Hollman with every symptom of cancer of the pylorus. Moreover, there was a palpable mass as large as a small fist. He had been in the German Hospital of Philadelphia, a hospital in Baltimore and one in Washington. In each hospital the gastric contents were examined and, showing lactic acid, a diagnosis of cancer of the stomach was made. I unhesitatingly accepted the diagnosis which had been made so often, and sent the man to the Medico-Chirurgical Hospital for a gastroenterostomy. The clinical pathologist found lactic acid present, hydrochloric acid absent, and agreed fully to the diagnosis of carcinoma made in all of the hospitals in which the patient had been treated previously. At the operation an aneurism of the abdominal aorta was found. The stomach was perfecly normal. Strangely enough the man was markedly benefited by the exploratory operation, gaining much in weight and in every way for months afterward. I saw him two years later and was surprised to find him looking so well. In fact, the rest and diet so greatly improved his aneurism that he had few symptoms between the date of the exploratory laparotomy and the visit made to me two years later, when he came to consult me concerning an operation on the aneurism.

Our former belief that gastric ulcers occur most often in women and duodenal ulcers in men has been clearly shown by Mayo's and Moynihan's latest statistics to be unfounded. They are practically on a parity, gastric ulcer being slightly more frequent in the female, duodenal ulcer somewhat more common in males, instead of six to eight times as frequent, as was formerly taught.

Age also is no longer the guide it was previously thought to be, for we now know that old people not infrequently have ulcer and young people cancer. Such occurrences were formerly thought to be most exceptional and were pointed out as clinical curiosities. The truth of the matter is that it is only since these lesions have been studied at the operating table that anything approaching definiteness has been learned concerning them.

It would be fortunate if everything written on the subject of gastric diseases prior to ten years ago could be obliterated, for while there was much truth, there was more error in the literature before the time when the stomach fell under the domain of the surgeon and its several lesions were inspected, palpated and finally submitted to the microscope.

So impossible is it to make an absolute diagnosis from the symptoms, physical signs and gastric findings that it is my belief that more frequent exploration is called for, and until such is the practice we can not hope to avoid the embarrassing and humiliating mistakes that all of us make at the present time. When the time comes that patients with marked gastric symptoms, who have been treated medically a reasonable time without obtaining relief, are subjected to a proper laparotomy so that an approximately accurate diagnosis can be made, the cause of gastric surgery will have been enormously advanced. It is particularly necessary for a more frequent resort to exploratory laparotomy if we are to get the best results in both ulcer and carcinoma of the stomach. No one experienced in gastric surgery can question this statement. One has only to review the records from the largest clinics in the world to satisfy himself that comparatively few gastric carcinomata are operable when they are first sent to the surgeon. To await the formation of a tumor, as many do, is to make a radical operation almost out of the question. To await the appearance of lactic acid in the stomach contents is to allow the propitious time for surgery to pass.

Owing to the impossibility of differentiating between ulcer and cancer in some instances, a more radical treatment of the lesion than has hitherto been customary should be resorted to, inasmuch as such treatment is best in both conditions. In the former hemorrhage, perforation, hour-glass contraction, disabling adhesions and possible malignant degeneration are prevented; in the latter free and early excision is admittedly the only possible hope for the patient.

Anatomically the stomach would seem to be an organ where good results ought to be expected from a more radical treatment of cancer if the operations are done sufficiently early. There is, for instance, no reason why operations on the stomach should not be on a parity with those done on the mammary gland, where it is safe and conservative to count on 33 per cent. of cures, and there are many who claim even 50 per cent. and upward. I am not aware that any one has made such a claim in the operative treatment of gastric carcinoma, nor can it be so long as present conditions obtain. When the surgeon believes it his duty to excise all doubtful masses in the stomach, especially at the pylorus, where malignant disease is so prone to occur in persons approaching or past middle life, he will get much better operative results. Rapid emaciation with gastric symptoms in a person over 40 years of age almost invariably calls for an exploratory laparotomy. If a lesion is found and is not demonstrably benign, either pylorectomy or partial gastrectomy is demanded, according to the location of the growth.

As suggestive of the close relationship between ulcer and cancer, we have only to recall the fact that the topography of both is the same, 80 per cent. of each being found at the pylorus.

I have seen five times, within the past year, cases where it was practically certain that carcinoma has been preceded by long-standing ulcer, in one instance the ulceration lasting twenty-seven years, in another nearly twenty years. Moynihan[1] states that in his "last twenty-two cases of gastroenterostomy for cancer close inquiry was made into the previous history with respect to gastric ulcer." He continues:

> Of the 22 patients, 16 either gave a history of an illness which had been called ulcerated stomach or gastric ulcer. In two cases a history of chronic indigestion extending over more than twenty-five years was given. One of these patients had been operated on for perigastric abscess eighteen years before. From the conditions disclosed at operation it was clear that there had been a subacute perforation of an ulcer near the pylorus, and on the lesser curvature.
>
> The evidence in this series of cases shows that in 16 out of the 22 patients (72.1 per cent.), there had been gastric ulcer

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[1] Brit. Med. Jour., Feb. 17, 1906, p. 370.

many years before. The shortest interval between the attack of gastric ulcer and the onset of the symptoms which led to my seeing the patient for a condition which proved malignant, was three years; the longest interval was twenty-six years. There were two patients who gave a history of less than three months' duration; in both malignant disease, already far advanced, was discovered. Up to the time of the somewhat brusque onset of symptoms, there had never been any suspicion or hint of abdominal disease. One of these cases offered an undoubted instance of ulcus carcinomatosum, one edge of an ulcer being affected by a large mass of exuberant carcinomatous growth.

As to the existence of gastric ulcer as a precursor of malignant disease in the remaining cases, my records show that in 9 cases of gastrectomy there were 6 with such a history; in 3 cases of jejunostomy there was 1 case; in 6 cases of exploration there were 3 cases, and in 5 cases of gastrostomy there was 1 case.

In the whole series of cases a previous history of gastric ulcer was noted as follows:

Gastroenterostomy	22	16 giving such a history.
Gastrectomy	9	6 giving such a history.
Jejunostomy	3	1 giving such a history.
Gastrostomy	5	1 giving usch a history.
	39	24

This is most significant, coming from Mr. Moynihan, who formerly believed that cancer was infrequently preceded by ulcer, as will be seen by consulting his paper,[2] where he estimates that 10 per cent. would cover the cases of carcinoma originating in ulcer.

Mr. Mayo Robson,[3] one of the earliest workers in gastric surgery, who, perhaps, has done more than any one else to place it on the sure footing that it has to-day, speaks quite as positively and to the point:

"The operation of excising the ulcer-bearing area, with the performance of an independent gastroenterostomy will, in the future, be performed more frequently, for, as I tried to show in my Bradshaw lecture at the Royal College of Surgeons, no less than 59.3 per cent. of cases of cancer of the stomach on which I had operated gave a history of chronic ulcer."

Dr. Graham states that a history of ulcer was obtained in 36 per cent. of cases of cancer operated on in the Rochester clinic, and a clear evidence of cancer development on ulcer in 30 per cent. of the last 40 partial gastrectomies. This affords the most potent argument for the radical operation.

Furthermore, of 112 posterior gastroenterostomies performed in Mr. Robson's practice for ulcer, not less than 4 patients died subsequently of carcinoma, the tumor developing in 1 patient at the end of a year after a perfectly successful gastroenterostomy, in 1 after two and a quarter years, in another after two and a half years, and in the other after three and a half years. There are other cases in this series where it seems more than probable that death was due to cancer, but in these there could be no mistake whatever as to the diagnosis.

W. J. Mayo, in his paper before the Congress of American Physicians and Surgeons, May, 1907, states that in 54 per cent. of the cases of cancer of the stomach submitted to resection (69 cases) in 1905-06 by his brother, Charles H. Mayo, and himself, both the clinical histories and pathologic examination of removed specimens made it certain that the cancers had their origin in ulcers. Therefore, we see that the Mayos are finding cancer even more frequently now than they did when quoted by Mr. Robson above.

In the same issue of the *Annals of Surgery*[4] in which Mayo's paper is published there are papers by Munro, of Boston, and Frazier, of Philadelphia, calling attention to the frequency with which cancer follows ulcer and advocating more radical treatment in hard, indurated, or suspicious ulcers at least. Both emphasized the impossibility of a differential diagnosis until the growth has been removed and examined with the microscope.

In a case reported by Frazier the history, symptoms, gastric analyses and appearance at the operation all pointed strongly to cancer, and there was no thought of ulcer before the report of the microscopist, as there were two enlarged lymph nodes in the greater and three in the lesser curvature. I agree with him in thinking that pylorectomy was the proper procedure, even had he known that the lesion was benign, such cases being potentially malignant. The patient made an excellent and prompt recovery and is to be congratulated on having been operated on in what was presumably the precancerous stage.

Munro, in his paper, speaks with characteristic candor and pessimism of his operations for gastric carcinoma. Of 100 cases sent to him and Bottomley at the Carney Hospital for operation more than 90 per cent. were hopelessly inoperable when they were explored. That only 10 per cent. of gastric carcinomata, when referred by internists, should permit of excision is a severe reflection on twentieth century medicine and demonstrates, beyond all possible doubt, the futility of everything short of exploration to make even an approximately accurate diagnosis. The late symptoms of cancer are positive and unmistakable, as a rule, and it is on such cases that the text-books base their classic descriptions. I repeat that the early recognition of cancer is generally impossible without exploration, and may be even with it unless the growth is removed.

Jedlicka[5] states that in our series of apparently inflammatory pyloric tumors there were 26.6 per cent. of ulcer carcinomas demonstrated microscopically. According to Stich,[6] ulcer carcinoma constitutes 30 per cent. of the entire number of gastric cancer. Ssapeshko[7] found that of 100 gastric carcinomas only ten cases did not originate on the base of a peptic ulcer. The same author reports cases which had developed pyloric carcinoma five or six years after a gastroenterostomy had been done for ulcer.

According to Rivière-Jaboulay, 20 per cent. of his cancers of the stomach were preceded by a well-marked history of ulcer. Other French observers, notably Doyen, give a much higher estimate.

I think we have now satisfactorily shown that no one can reasonably question the fact that ulcer frequently undergoes malignant change and that a percentage of carcinomata, varying from 25 to 90, according to the best authorities, have their inception in inflammatory lesions. So much for the cancer end of it.

It would be interesting to know what percentage of ulcers or their cicatrices eventually degenerate into malignancy. I am of opinion that it will not be possible to settle this question for some time, the best way to do it being to follow the cases subjected to gastroenterostomy, excision, etc., carefully for years afterward. Operations on the stomach, in great number, have been done too short a time for the statistics to be valuable just now. We have, however, been able to collect a reasonable number of undoubted cases of benign ulcer which were subjected to gastroenterostomy and which—though the hosts continued in good health for a year or longer after the operation—subsequently became carcinomata.

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[2] The Practitioner, September, 1904.
[3] Brit. Med. Jour., Nov. 17, 1906, 1345.
[4] Ann. of Surg., June, 1907.
[5] Chronische Magengeschwüre, Prague, 1904.
[6] Beitr. zuh Magenchir. in Bruns Beitr., 1903, vol. xl, No. 2.
[7] Annalen d. Russ. Chir., 1900, No. 6 (Centralb. d. Grenzgeb. d. Med. u. Chir., 1902, p. 242).

Another significant fact is that ulcers at the pylorus are pre-eminently likely to undergo malignant change, while there is little tendency for them to do so in other situations. This is easily explained. First, there is considerably more irritation at the pylorus on account of its smaller caliber, and the necessarily greater friction caused by the food in its passage onward to the duodenum. Second, and more important than this, perhaps, is the fact that the acid chyme is thrown against the pylorus in great volume and with considerable force by the intermittent contractions of the stomach during digestion. I was amazed to see, as I was permitted to do in two instances, this process going on in the living subject: one, a case in which gastrostomy had been done; the other, a gunshot wound of the small bowel, high up, enabling me to watch perfectly the intermittent injections of chyme through the pylorus into the duodenum. It seems most reasonable that the effect of this secretion, especially when hyperacid, must be to irritate and partially digest the tissues already markedly impaired in vitality.

I have seen only one instance of an ulcer in any other part of the stomach than the pylorus which underwent malignant transformation. A man, 34 years of age, with a marked history of chronic ulcer resulting in hour-glass contraction in which the stomach was divided into two almost equal halves, was brought to me by Dr. Batroff. He was advised to have a gastrogastrostomy supplemented by a gastroenterostomy. He consented to the operation at first, but afterward was dissuaded by a friend. During my absence in Europe this summer he died of starvation. It was found at autopsy that the partition was near the middle of the stomach, as had been demonstrated by a skiagram, and that there were four healed ulcers in the pyloric portion, three in the cardiac, and on the base of one of the cicatrices a large cancer was growing. In this case there was so little communication between the cardiac and pyloric pouches that we naturally found much the same conditions obtaining as in the normal pylorus. The friends would not permit removal of the stomach by Dr. Batroff.

The history of this patient, as furnished me by his attendant, states that he had been "cured" many times by medical means, and yet he had a degree of hour-glass contraction that made it impossible for him to eat to satiety for several years previous to his death on account of the size of the cardiac pouch and the small communication with the distal or pyloric end of the stomach. He was compelled to eat a little and then wait until the cardiac pouch had emptied itself before taking more food. In short, he took his meals on the installment plan and died of starvation at an early age, when cancer is generally believed not to occur.

A careful investigation of the literature convinces me that there are but a few isolated instances on record in which gastric ulcers—not pyloric in origin—have undergone cancerous degeneration. The case of Cackovic and my own are the only ones thus far discovered by me.

I quote from Jedlicka,[8] who has made a very careful investigation of the subject: "It should be noted that all the ulcer-carcinomas were encountered in the pylorus, whereas ulcers situated in other portions of the stomach and which were examined did not reveal a single carcinoma." Therefore, we are justified in resorting to more radical measures when dealing with ulcers in the pyloric portion of the stomach than in those situated elsewhere.

Believing this to be the case, I suggested in 1900[9] the advisability of pylorectomy, which not only removes the existing lesion, but largely the ulcer-bearing area. This suggestion was renewed in 1903 before the American Surgical Association and the Surgical Section of the American Medical Association and has now been carried out in a reasonable number of instances. It preferably should be supplemented by a posterior gastrojejunostomy, for while pylorectomy removes the lesion with all of its potential dangers, gastroenterostomy corrects any existing functional disorders of the stomach. End-to-end anastomosis between the duodenum and stomach can be practiced if there is not too great disparity in size, but I prefer to close both and perform an independent gastroenterostomy.

That gastroenterostomy is itself able to relieve many cases of simple ulcer I do not question, but its most enthusiastic supporters can not successfully maintain that it removes the dangers of perforation, hemorrhage, hour-glass contraction and malignant disease. While not so pessimistic as Jedlicka, who maintained that he had seen but two instances in which gastroenterostomy had been perfectly satisfactory, yet I am inclined to believe with Montprofit, himself an enthusiast for gastroenterostomy, that the end results of this operation constitute its "black point." A few optimists believe that all fatalities from hemorrhage and perforation following gastroenterostomy occur very soon afterward and are, therefore, due to faulty technic. It is only necessary to give the names of the surgeons who have had fatal cases to successfully controvert this opinion, and if one is sufficiently interested to investigate the subject he will find that deaths from hemorrhage, instead of being due to faulty suturing at the time of the operation, have not occurred for one or more years in many, I may say most, of the cases herewith reported.

Robson in 22 personal cases, where he did gastroenterostomy in interval of hemorrhage, lost one patient on the eighteenth day and one two and one-half months after operation. Montprofit lost one case on the eighteenth day from hemorrhage (there was hemorrhage before the operation), and one two and one-half years after operation. Hofmann, of 37 gastroenterostomies, lost one on the twenty-ninth day after repeated hemorrhages. In Warneck's statistics of 398 cases there were 15 recurrences of severe hemorrhage, of which 5 were fatal. Donati, in 217 gastroenterostomies, found 11 recurrences of hemorrhage. v. Eiselsberg lost three cases, and Körte two. Fatal cases have also been reported by Kocher, Czerny, Mayo, Deaver, Moullin, Connell, Rydygier, Tuffier, Krönlein, Hartmann, Kümmell and many others.

I have encountered and could give the records of scores of fatal cases reported by surgeons from all over the world where death resulted either from perforation or hemorrhage, varying from one to five years after an apparently successful and satisfactory gastroenterostomy. The only reason why pylorectomy has not been more frequently performed is an exaggerated fear as to its mortality. We must admit that it is somewhat more dangerous than gastroenterostomy, for the one is best supplemented by the other. It is unfair to both gastroenterostomy and pylorectomy to measure their dangers at the present time by statistics made when these operations were in the formative stage. The mortality from gastroenterostomy has steadily fallen and is now, instead of being 25 per cent., certainly not more than 5 per cent. with the average surgeon; 2 per cent in the hands of those most experienced.

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[8] Z. Operativen Behandl. d. chron. Magengeschwüre u. dessen Begleitserscheinungen, Prague, 1904.

[9] Paper on Gastric Ulcer, American Surgical Association, 1900.

I have been able to collect 130 cases of pylorectomy for ulcer by American, German, French, Belgium and English surgeons and the mortality has been 6.9 per cent. Will any one maintain that a procedure so ideal in every way—removing as it does the lesion and reestablishing the function of the stomach—would be prohibitory with double or thrice such a mortality when the dangers of the lesion for which it is done are *per se*, still greater without operation? The mortality from perforation alone is 13 per cent., from hemorrhage 8 per cent., while that from malignant transformation is an indefinite, intangible, but an ever-increasing one, for it can not be denied that cancer in all situations of the body is startlingly on the increase.

The German and French schools decidedly favor the radical treatment of the lesion and esteem less highly, apparently, than English and American surgeons the boon which gastroenterostomy confers. Jedlicka speaks of excision as the normal procedure and claims for it a mortality 3.03 per cent. Lambotte reported seventy-two cases of simple pylorectomy with a death rate of 5.5 per cent. According to Rivière, who has made a careful résumé of the subject, gastroenterostomy is only indicated where there is a pure cicatricial stenosis at the pylorus; all other conditions demand pylorectomy.

I regret exceedingly that time limits prevent further elaboration of this subject, as I would like to show (and I will do so in a future paper) that, valuable as it is up to a certain point, gastroenterostomy is far from an ideal procedure; indeed, it is a makeshift, and when apparently most successful it permits the patient—after a period of good health varying from one to five or more years—to succumb to the remote effects of gastric ulcer which could have been prevented by a procedure only slightly more dangerous than itself, but far more beneficent, far-reaching and permanent in its benefits.

Original Articles

ARTERIOSCLEROSIS.

A CONTRIBUTION TO ITS CLINICAL STUDY.*

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AND
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The subject of arteriosclerosis has received much attention of late, both in its pathologic and in its clinical aspects.

There has been a growing tendency to attribute symptoms, particularly nervous symptoms, to this condition. In a person offering almost any syndrome of symptoms referable to the nervous system, the mere presence of sclerotic arteries seems to establish the basis of the complaint without further analysis.

Nor does the tendency stop here; the fact once accepted that all varieties of nervous symptoms may be produced by sclerotic arteries, the next step is to assume, given the symptoms, that this condition must be present, even though no sign appears in those arteries which are palpable. This position is easily fortified by the knowledge that arteries may be hardened in one part of the body and not in another; but before we assume that they are so hardened it behooves us to acquire fairly accurate knowledge of the nature and frequency of the symptoms actually produced by such arteries.

As a step in this direction, taken from a new point of departure, we have examined a series of one hundred individuals presenting marked and obvious sclerosis of palpable arteries, with reference to the presence or absence of the prominent nervous symptoms commonly attributed to this condition. We have incidentally noted the blood pressure and the cardiac and renal conditions, though this branch of the subject has already received a degree of systematic investigation not yet accorded to the symptomatology, real or assumed, of arteriosclerosis.

The majority of the patients were examined in the neurologic department of the Massachusetts General Hospital. Through the kindness of the physicians in charge, a number were taken from the medical department of the same institution, a number at the Chelsea Marine Hospital and several at the Tewksbury State Hospital. The remainder were seen in private practice.

NERVOUS SYMPTOMS.

The nervous symptoms commonly attributed to arteriosclerosis include: (1) Headache (Creery, Rosenthal, von Phul, Stengel, Witherle, Loveland, Leri, Colline, *et al.*); (2) vertigo (Creery, von Phul, Witherle, Leers, Leri, Ayer, Collins, *et al.*); (3) claudication, or epileptiform attacks (Witherle, Langwell, Russell, Surdie, Grasset, Dejerine, Ranzier, Leri, *et al.*; (4) loss of memory (Creery, von Phul, Witherle, Grossman, Leri, *et al.*); (5) insomnia, so-called neurasthenic symptoms, including emotional changes, irritability, etc. (von Phul, Stengel, Loveland, Collins, Creery, Leri, Starr, *et al.*).

(1) *Headache.*—Headache appeared in our series in only 22 per cent. This is a much lower percentage than we have found in ordinary healthy individuals if the young and middle-aged are included. In an investigation by one of us on the results of eyestrain[1] it was found that 69 per cent. of healthy individuals, mostly young and middle-aged, were subject to headaches, frequent in 45 per cent., occasional in 24 per cent.

It appears, therefore, that arteriosclerotics share in the usual lessening of headache accompanying advancing years, largely due probably to the relaxation of accommodation and resulting relief of eyestrain. This lessening of headache is, we believe, universally recognized by oculists, though the widespread skepticism regarding the influence of eyestrain may perhaps retard its acceptance among others.

A number of patients stated that earlier in life they had been subject to headache, but that it had disappeared in late years, in other words, during the development of the arterial hardening. Furthermore, some of those with headache stated it had lessened materially. The comparative immunity from headache in this series is the more striking in view of the fact that signs of degenerative kidney disease were present in 36 per cent. of the cases and that the blood pressure averaged high, facts which preclude the suggestion that splanchnic implication was wanting in our cases.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

[1] Walton, G. L.: Eyestrain, Its Importance and Its Limitations. Boston Med. and Surg. Jour., clii, No. 25, June 22, 1905.

We have, it is true, found headache and sense of pressure in the head during the attacks of claudication, with sufficient frequency to satisfy us that this immediate lesion is productive of extreme cerebral discomfort, but apart from this temporary condition our findings have made us extremely skeptical regarding uncomplicated arteriosclerosis, even with high blood pressure, as a cause of headache. If this symptom appears, therefore, in elderly persons we feel that further search for its cause is required in each case.

The objection may be made that in our series the sclerosis may have been limited to the peripheral arteries, but this objection is met by the fact that we have found a sufficiently large proportion of other cerebral symptoms to establish the fact that the cerebral arteries were frequently included.

(2) *Vertigo.*—We found vertigo in 65 per cent. of the cases. This offers a striking contrast to the infrequency of headache and confirms the supposition that arteriosclerosis is a potent cause of vertigo.

(3) *Apoplectiform Attacks.*—We have found a history of these attacks in 34, in some cases many times repeated. While this is not a large proportion in comparison with the occurrence of vertigo, it is large compared with the frequency of such attacks in nonsclerotic individuals, even in advanced life, and may fairly be attributed to the arterial disease, though even here we must remember that the question is complicated by the frequent occurrence of renal involvement.

The studies of Leri, who suggested the term claudication, have contributed greatly to our knowledge of these attacks. It is important to remember, in view of prognosis, that an apoplectiform attack in an arteriosclerotic does not necessarily mean either thrombosis or arterial rupture. The commonly accepted view of the pathology of these attacks supposes, at least, either a spasm or dilatation of cerebral arteries. It would seem that we need not even assume such immediate vascular changes as these, but that cerebral fatigue and temporary suspension of function, with return after a period of rest, may explain the attacks, especially after undue cerebral effort. In other words, the attack may result from the continued impairment of circulation with attendant faulty nutrition, rather than from a temporary change in the arteries.

The following case offers a striking example of these attacks, besides illustrating the temperamental factor in the so-called neurasthenic symptoms often ascribed to arteriosclerosis.

Patient.—A man aged 65, engaged in literary work, not naturally strong, but of a temperament prompting him to continuous effort, scrupulous, exact in business methods and prone to overdo. He carries his work with him and improves every moment, whether on the train or elsewhere.

History.—In early life, after working his way through college, he wore himself out in one year. At this time he had nervous dyspepsia. He rested from his work for a year in Europe, but overdid at that time physically in tramping and the like.

History of Illness.—Five years ago while dictating he found that he could not articulate. He does not think that he used the wrong words. At the end of an hour he tried again and found no further trouble. Three weeks later, after a strenuous game of golf, which he reluctantly discontinued to give a lecture, he tried to read a paper aloud and found he could not do so. The next morning he was all right. On another occasion some weeks later he had an attack of dizziness and reeling, accompanied by weakness of the left leg. He had taken no vacation for one and one-half years, and had worked nights, as well as days, according to his custom. At this time he was passing water more freely than before, but no definite signs of renal degeneration had appeared. There was no headache, even with the attacks. The arteries were atheromatous, the heart not definitely enlarged, the ophthalmoscopic examination was negative. Four years ago while dictating, he had a similar attack of inability to articulate. This passed off in about an hour and was followed by weakness. There was no headache, but some dizziness. On this occasion his right hand became numb half an hour after the speech defect. During this attack he could not think of the word and was not sure whether the right word was suggested. Two years ago examination of the fundus oculi (by Dr. Williams) showed albuminuric retinitis with hemorrhage, and examination of the urine showed signs of chronic interstitial nephritis. He now experienced exhaustion on playing a few holes of golf, and on one occasion his knees gave out. By this time he had reluctantly given up working under such high pressure, but still carried his bag of papers everywhere. There was some shortness of breath, no edema; occasional headache. During the past year he has had four attacks of aphasia, some lasting a few minutes, others lasting into the night, but disappearing before morning. In each of these attacks he could understand what was said to him, and could answer yes and no correctly, but could not find the words he wished. There has been temporary numbness in the left hand, accompanying the speech trouble, and sometimes a feeling of numbness about the mouth. (He is right-handed.) During the winter two years ago on starting to play golf he felt dizzy and found he could not hit the ball. Another person noticed that his face was very red. He lay down and in an hour was all right again.

Six months ago he came to my office, stating that he had worked very hard the day before, and that the night before he was so tired he could not talk, though he was not aphasic. I noticed that he talked slower than usual and sighed frequently, but he was not aphasic. His blood pressure was 230. His arteries were now markedly sclerotic and the cardiac dulness increased. After reaching home that night he felt dizzy as he entered the house and, on sitting down to supper, found he could not serve the family. Shortly after supper he found himself unable to carry on conversation or follow that of others, though he was conscious of his surroundings. By 9 o'clock he found he could express himself as well as usual.

This patient is still carrying on his extensive affairs successfully and is comparatively vigorous.

These ten attacks are evidently examples of claudication, and it is doubtful if actual rupture or other organic lesion has occurred in any of them.

His disposition has not changed in the least, there is no irritability, no emotional tendency nor other change of character. He is, as he has been all his life, careful, painstaking, perhaps over-methodical and over-conscientious in his devotion to detail.

In view of the recent studies of Marie, it is interesting to note the frequency of speech defect in his attacks of claudication, attacks accompanied in this case by disturbances of function in such varied parts of the body as to preclude any one constant seat of cerebral lesion.

(4) *Progressive Loss of Memory.*—This symptom was complained of in forty-eight of our cases, a sufficient number to place this symptom, like the general physical enfeeblement of involution, in the category of symptoms in the causation of which arteriosclerosis doubtless plays a part.

(5) *Insomnia.*—This has appeared in only thirty individuals, a sufficiently small proportion to place this symptom in the doubtful class and to cause us to look

further before accepting arteriosclerosis as the sole cause.

(6) *Irritability.*—Anxiety, morbid fears and allied symptoms have been present in forty of our patients. In nearly one-half of these cases the statement was made that these symptoms had been present throughout life and had not increased of late; in a number the statement was made that these tendencies had lessened. It was not unusual to find, coupled with a history of recent nervous breakdown, a further history of prior attacks of similar nature dating back even to early life. We feel, therefore, that further study should be given this branch of the subject before drawing final conclusions. When we remember that a majority of the patients examined were from the neurologic clinic, the number complaining of neurasthenic symptoms is not large and by no means establishes arteriosclerosis as the cause.

We feel that the constitutional element has been too little noted in so-called neurasthenia, a disturbance too readily attributed in middle life to overwork and overstress and in old age to such arterial changes as are bound to appear in any series of elderly persons. Careful and intimate study of the mental characteristics of so-called neurasthenics will generally disclose a constitutional tendency to morbid sensations, exaggerated fears regarding internal and external dangers, undue anxiety about trifles, over-conscientiousness in deciding on courses of action, undue insistence on the unessentials of life, intolerance of various sights, sounds and odors, with general incapacity for adjustment to surroundings. Such individuals are already more or less mentally exhausted before even commencing on the overwork to which they are prone and to which is popularly attributed the breakdown. In such cases, while immediate mental or physical effort may be the exciting cause, or rather the occasion, of the collapse, the underlying constitutional tendency, increased in many cases by toxic influences, is the essential cause. In other words, so-called neurasthenics, psychasthenics or phrenasthenics carry their stress with them.

These tendencies, if encouraged, are likely to increase in old age or, on the other hand, they may, and often do, lessen, because increasing experience favors a more philosophical view of life, and growing indifference dulls its irritating features. These are facts to be borne in mind before accepting, without further analysis, arteriosclerosis as the basis for the varied symptoms which have been included under the diagnosis neurasthenia.

Although no cases of senile dementia are included in our series the facts elicited have a certain bearing on this disease. It is obvious that not all the symptoms of senile dementia are traceable to arteriosclerosis, though the apoplectiform attacks and the vertigo may be directly attributed thereto. Arteriosclerosis is doubtless an important factor again in the loss of memory and other symptoms of mental and physical enfeeblement appearing in the period of involution. But the so-called neurasthenic symptoms, the insomnia, the hallucinatory and delusional tendencies, and the headaches if present, require further investigation in each case. In this investigation two important factors are to be borne in mind, namely, morbid constitutional tendency and toxic influences.

The following instances may be cited in illustration of the opportunity for analysis of such cases:

Patient.—A married woman, aged 68, has shown a moderately marked change in disposition for perhaps six months and has seemed more irritable than usual, somewhat suspicious, and inclined to exhibit a form of jealousy contrary to her previous habit. She has all her life been of a high-strung, worrying disposition, and has exhibited during the past year a marked degree of solicitude over a business matter. During the past year she has developed an unusual degree of restless energy, even for her.

Examination.—A week before the consultation she became comatose and remained so for perhaps a day. When seen she was oriented and recognized those about her, but there was distinct confusion and retardation of thought. Asked to add two and two, she makes no reply. The question being asked again, she finally says, "Is that Bessie's sample? I guess I must have forgot. You know they do the samples different from what they did when I was a girl." A coin was placed in her left hand and she was asked if she knew what it was. She made no reply for some time, but, on being urged, said she thought it was her watch. When told to put it in the other hand, no movement was made. Asked in what hand it is now, she did not reply, but finally answered, "I guess it is." Asked if she had headache, she did not answer. Finally she said, "I am not nutty, for I do not belong to a nutty family. Yester—yester—yesterday." The reflexes were normal; there was no paralysis. The pupils were alike, round and reacted to light. The urine was negative. There was no cardiac enlargement. The heart sounds were normal. The temperature was subnormal, 97.2 F. There was decided hardening of the arteries at the wrist. There was no history of dizzy attacks. Further questioning elicited the fact that for a long time she had been in the habit of using drugs for sleeplessness, for example, she is known to have used paregoric and laudanum.

It would hardly be doing justice to this case to attribute all these symptoms to atheroma. The worrying habit was constitutional. The moderate mental changes (suspicion, change of character) preceding the acute attack would indicate a certain degree of senility, perhaps the early symptoms of senile dementia. The attack of unconsciousness may well have been an instance of claudication, and, if so, the arteriosclerosis was its cause, as well as playing a part in the senile changes. But the lowering of temperature and the mental condition at the time of the examination strongly suggested some other etiologic factor, of which the most probable seemed drug poisoning. The suggestion of Leri must here be borne in mind, that certain senile changes represent a summation of gradually accumulating toxic influences. With regard to headache, it is to be noted that she complained of headache at times during this attack for the first time.

RENAL AND CARDIAC CHANGES.

Opportunity was taken to analyze these cases with reference to the presence or absence of renal degeneration and cardiac enlargement, as well as to note the blood pressure under varying conditions.

Signs of renal degeneration (albumin, low specific gravity, increase in quantity, especially at night, with or without signs in the sediment), were present in 36 per cent. of the cases.

Cardiac enlargement was found in 86 per cent. of the cases in which renal involvement was present. In the cases without renal degeneration, cardiac enlargement was found in 36 per cent.

The average blood pressure (taken with the Riva Rocci instrument, 12 mm. band) was 147 in the cases with neither renal degeneration nor cardiac enlargement. In a few scattered cases only of this class the blood pressure was high, whether indicating involvement of the splanchnic arteries without demonstrable signs, we shall not venture to discuss.

In the cases with cardiac enlargement alone the average blood pressure was 168; in those with kidney disease alone it was 173.

In the cases showing both renal degeneration and cardiac enlargement the average blood pressure was 195.

These results show (1) that renal degeneration is the prominent factor in the production of cardiac enlargement; (2) that while either renal degeneration or cardiac enlargement is attended by moderately high blood pressure, the existence of both these conditions is accompanied by very high blood pressure.

CONCLUSIONS.

This study would indicate that while arteriosclerosis is directly productive of apoplectiform attacks and of vertigo and that it plays a part in the loss of memory as well as of other failing powers of involution, it does not produce headache except as the immediate result of apoplectiform attacks.

Arteriosclerosis naturally appears in a certain proportion of elderly neurasthenics as in any group of elderly persons, but our observations fail to establish its causative influence, and we feel that further study of this branch of the question is desirable.

Renal degeneration is a prominent factor in the cardiac enlargement often present in cases of arteriosclerosis.

Arteriosclerosis without cardiac enlargement or renal degeneration is only exceptionally accompanied by a very high blood pressure.

If either cardiac enlargement or renal degeneration is present, moderately high blood pressure: if both are present, very high blood pressure, is the rule.

DISCUSSION.

Dr. Alfred Reginald Allen, Philadelphia, said that the question of high blood pressure in these cases of neurasthenia has interested him considerably. He uses a Stanton apparatus for the determination of the blood pressure, and has never used the Riva-Rocci apparatus. Dr. Allen asked Dr. Walton whether he remembers what was the diastolic blood pressure in his case. In one of Dr. Allen's cases there was a high systolic pressure, with a much higher diastolic pressure than one might expect under the given conditions. In this case the arteries on the wrist were just as pliable as a baby's.

Dr. William M. Leszynsky, New York City, has been using the Riva-Rocci manometer with an 8 cm. armlet for the last four or five years, and he has often found that in the presence of arteriosclerosis there may be either high or low blood pressure. In the majority of the cases, however, high blood pressure was one of the chief contributing causes of the arterial disease. The difference in the clinical manifestations in patients with high pressure and those with low pressure would, he thought, prove a fertile field for further study.

Dr. Bradford C. Loveland, Syracuse, N. Y., thought that the clinical manifestations outlined in Dr. Walton's paper are of great practical importance. The end in view, after all, is to give patients relief, and unless we can get at something which will make that possible we are not getting what we wish. In regard to headaches in relation to these conditions of high blood pressure in arteriosclerosis, he said that arteriosclerosis may or may not produce headache, but his statistics show that there is a peculiar kind of headache associated with high blood pressure, which is sometimes met with in arteriosclerosis and which is relieved by diminution in the pressure. One of his patients had a tolerance for high blood pressure; it had existed for a long time, and was extreme, and was associated with distressing headache, which had existed for three weeks. The blood pressure was 305 on the Riva-Rocci. The patient became perfectly comfortable and remained so, with the blood pressure reduced by arterial dilators to about 285, and the headache did not occur with the blood pressure at 285 for nearly a year. Dr. Loveland has seen other instances, in which he was quite confident that there was arteriosclerosis, but no headache, and when a little complication of the blood pressure produced headache, it was relieved after the pressure had subsided. The character of the headache is different from the headache in eyestrain. It is a persistent headache, and sometimes associated with vertigo. The character of the vertigo does not differ from that occurring in the ordinary neurasthenic. It comes on suddenly and is relieved as soon as the pressure subsides, and it may come on at a time when the patient has been feeling perfectly well.

Dr. C. C. Hersmann, Pittsburg, Pa., for the past several years has been paying considerable attention to the blood pressure in puerperal insanities, where one can generally exclude sclerosis. The machine he uses registers 130 or thereabouts for normal. During the quiescent periods of these cases, the blood pressure was normal, and during the periods of excitement it varied from 170 to 180. So that it seemed to him that sclerosis is not the only cause of high blood pressure.

Dr. John K. Mitchell, Philadelphia, was of the opinion that arteriosclerosis is not the only determining factor in producing increased blood pressure, nor age the chief one in causing arteriosclerosis. Quite recently a German observer was said to have discovered arteriosclerosis to be very common in children two years of age.

Dr. George L. Walton, Boston, said that the diastolic pressure was not taken in his cases, and that it seems generally accepted by those best qualified to judge that arteriosclerosis does not produce high pressure unless the splanchnic arteries are affected.

THE RELATION OF UPPER RESPIRATORY OBSTRUCTION TO ORAL DEFORMITY.

AND SIMULTANEOUS TREATMENT BY EXPANSION OF THE DENTAL ARCH*

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It is with some hesitation that I undertake a consideration of the topic before the foremost medical and surgical body in the land. If the presentation develops valuable discussion, however, to the end that more definite conclusions may be reached, I shall feel that in accepting your committee's invitation to read a paper, I have done what every student should be willing to do, namely, to add my contribution to the interest and possibly to the help of others.

On consulting the literature on this subject as it has appeared in the journals and in the proceedings of societies, from time to time, I became impressed with the fact that I had undertaken a task which might well stagger the bravest.

More than fifteen years ago, some one suggested that dental irregularity might, in some instances, be due to interference in upper respiratory breathing, which results in mouth breathing. This thought formed the basis of an able and complete article by William A. Mills[1] before this Section of the American Medical Association.

The earliest reference to this point which I have, advocating the obstructive factor in the production of dental irregularity, appeared in 1892, in a paper by Norman W. Kingsley[2] where he cites cases in which he performed adenectomy prior to correction of irregularities of the teeth.

Following this, in 1893, A. W. Harlan[3] suggested that all obstructive and chronic catarrhal conditions of the nose and nasopharynx might be contributing causes of dental irregularity, and in his practice, at this time advised their preliminary treatment or removal.

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* Read in the Section on Stomatology of the American Medical Association at the Fifty-eighth Annual Session, June, 1907.

[1] Dental Cosmos, 1897, p. 925.

[2] Dental Cosmos, 1892, p. 16.

[3] Dental Cosmos, 1893, p. 307.

The suggestions have been accepted, applied in the course of practice and the soundness of the doctrine abundantly proven by many practitioners since that time, until now it is natural for the orthodontist to enlist the services of the rhinologist in the treatment of dental irregularity complicated by upper respiratory obstruction. Nevertheless, a few have taken exception to this theory and have suggested the activity of other factors in the production of certain varieties of oral deformity.

In 1891, Wendell Phillips[4] considered heredity to be the chief determining factor in the production of dental irregularity, and stated that, in his experience, the effect of enlarged tonsils and adenoids, in the production of irregularities of the teeth is slight, unless the growths are so large as to cause complete obstruction.

In 1895, E. S. Talbot[5] expressed the opinion that: "Every case of adenoid growth will be found to be a case of degeneracy as shown by the want of development of the bones of the face and jaws." In the same year, George F. Eames[6] stated his belief that mouth breathing does not cause irregularities of the teeth. In 1901, C. S. Butler[7] stated that he has often found irregularities of the dental arches and adenoids coincident but not interdependent.

At about this time the possibility of improving the intranasal condition, through corrective measures applied to the teeth and dental arches was suggested. In a paper by Nelson W. Black[8] are reported cases in which satisfactory relief was obtained by expanding the maxilla in its lateral diameter. By this treatment the distorting force, which was the cause of the deflected septum, was supposed to have been relieved, the septum was allowed to grow straight, and the need for intranasal manipulation rendered unnecessary.

Two years later W. Pfaff[9] in a paper read before the fourth International Dental Congress at St. Louis, August, 1904, concluded after the examination of 2,000 skulls and 1,320 patients, that stenosis of the nasal cavity is practically always caused by contraction of the palate and abnormal position of the teeth. For both prevention and treatment of the intranasal condition he also advocated lateral expansion of the maxilla—conclusions which appear to be devoid of any value whatever.

Further references are unnecessary to show that there is now, as there always has been, marked diversity of opinion on what is practically the key to the whole situation—the relation of upper respiratory obstruction and mouth breathing to irregularities of the teeth and jaws.

Throughout the papers consulted, there runs a constant current of uncertainty, which frequently results in doubtful if not erroneous statements. These include surprising contradictions in the matter of etiology and diagnosis, some of which have been enumerated. Diverse methods of treatment are advocated without apparent regard for the fundamentals involved or the result desired. Thus in one instance we find adenoids and irregularity of the nasal septum referred to as one condition with a common method of treatment.

These and a host of minor errors and uncertainties, led me to formulate a series of questions designed to cover at least a few of the chief points of contention. Accordingly a set of questions, together with a letter requesting personal experience in the study and treatment of these conditions, were sent to a number of orthodontists.

The replies have been very gratifying. The answers, with few exceptions, being fully and carefully prepared, showing a desire on the part of the writers to aid in solving some of these vexing problems. The answers are of extreme practical interest because they represent simultaneous reflection of the present trend of thought toward the study of the interrelation of nasal stenosis and the contracted high arch deformity.

To quote in detail the numerous valuable points contained in many of these replies would far exceed the space at my disposal. I shall confine myself therefore, to the merest outline, giving briefly a few important references, together with some of the conclusions derived from an analytic study of the series of answers.

The first result of this investigation, if it may so be called, has been to prove that but little advance has been made toward developing any very definite principles to serve as a working basis, in the treatment of these conditions, since the subject first attracted general attention. The general leaning seems still to be in favor of the obstructive origin of the contracted arch deformity, through the activity of the process of mouth breathing, and the resulting alterations in muscular antagonism and modifications in atmospheric pressure. In keeping with this belief, about 50 per cent. recommend preliminary or coincident surgical treatment of the obstructive condition as a prerequisite of successful orthodontia.

In answer to the question relative to the age at which it is most desirable to perform this operation, 75 per cent. of the correspondents chose a time between the fifth and seventh years, while the remaining 25 per cent. were willing to wait until early adolescence. In spite of this marked preference we find that circumstances alter cases and that the extremes of age in which successful operation has been accomplished lie between three years, one month, and forty-five years. The general average is approximately sixteen years.

Bearing on the interrelation of the high contracted arch deformity and respiratory obstruction, 73 per cent. of operators have found coincident nasal obstruction in at least two-thirds of the cases while 37 per cent. believe it to be practically constant when properly looked for.

Of particular interest are the answers to the questions bearing on the effect of the expansion operation in the presence of upper respiratory obstruction. Only two correspondents express doubt as to the beneficial effect of such methods on the respiratory capacity of the nasal chambers, unless the operation produces definite separation of the two halves of the maxilla. That this definite separation of the two halves is rarely accomplished is amply shown by the summary of replies bearing on this point. Fifty per cent. of the orthodontists answering do not produce this separation because they deem it unnecessary to the attainment of satisfactory results; 33 per cent. produce such a change only in exceptional cases while from the replies of the remaining 16 per cent. no definite conclusions could be drawn. In spite of this, the majority believe that they have no difficulty in causing separation of the two halves of the maxilla without causing increase in the interproximal space.

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[4] Dental Cosmos, 1891, p. 743.
[5] Dental Cosmos, 1895, p. 864.
[6] Dental Cosmos, 1895, p. 701.
[7] Dental Cosmos, 1901, p. 408.
[8] Am. Med., Feb. 15, 1902.
[9] Dental Cosmos, 1905, p. 570.

I believe such a result to be both anatomically and mechanically impossible. We may liken the palate and alveolar processes, to a plane surrounded on three sides by a ridge through which passes the intermaxillary suture, dividing it into two parts. It will readily be seen that it is impossible to cause separation in the two halves of the plane without carrying laterally the ridge, resulting in separation in the median line at a point corresponding to the space between the central incisors. Any attempt to depress the center or to elevate the sides of the plane must result in some separation in the alveolar ridge.

It seems necessary then, in order actually to increase the nasal capacity, by lateral movement of the two halves of the maxilla, to cause evident and permanent increase of space between the central incisors. Any operation designed mechanically to increase the width of the nasal chambers, which does not show this separation, must of necessity fail to attain the desired result.

In the answers to the questions relative to the coincidence of respiratory obstruction and oral deformity, 50 per cent. have found this coexistence in at least 75 per cent. of cases, while 65 per cent. have found it in more than 30.

The majority believe adenoids to be the offending condition in at least 75 per cent. of cases presenting interference in nasal respiration, with irregularities of the septum, turbinal enlargement and polypi in this order of frequency. These findings are practically in accord with the experience of rhinologists under similar circumstances.

Contracted arch deformity occurs as a result of a variety of obstructive lesions. These differ markedly both in character and location, the most common being adenoid vegetations of the vault of the nasopharynx. This lesion practically never involves the nasal chambers proper.

In the presence of uncomplicated adenoids, any attempt to ameliorate the obstructive symptoms are destined to failure, because such treatment can in no way affect the growths themselves or their containing chamber; and also because any prosthetic result obtained in the correction of the oral deformity, without preliminary removal of the adenoid mass, is likely to be lost by return to the original deformed condition, through the continued activity of the distorting force after the restraint of the corrective appliance is removed.

The treatment of the contracted high arch deformity, in the presence of demonstrable adenoid enlargement, should always be preceded by adenectomy. In the presence of other complicating deformity within the nasal chambers, these should also receive appropriate preliminary treatment.

In considering the effect of expansion methods on deviations of the nasal septum, it does not seem to be definitely recognized that these are really irregularities of only a part of this structure. They usually involve only the cartilaginous portion, and even when the bony part is included in the deflection, this rarely extends throughout the entire width of the bone.[10] This fact has an important bearing on the success of this operation, as advocated by a number of practitioners at this time.

Septal irregularities have been classified in a great variety of ways. For convenience they may be considered as either simple or complicated: Simple, when they occur without appreciable thickening of the tissues; complicated when they combine the conditions of deflection and thickening amounting at times to spur formation of the convex side.

Expansion is believed by many to lower the floor of the nose, and, in so doing to relieve pressure and exert a downward tractive force on the deflected septum. In view of the above facts, it seems almost unnecessary to state that, even if the direction of such a force were possible, it would be effective only in the rare event of a simple complete deflection. For if a part of the septum be already straight, as it usually is, this will effectually resist any straightening force which might reach it through the alveolar and palate processes.

In the light of these facts, we must conclude that the field of applicability of a method simultaneously to correct the oral and nasal condition, is extremely limited, since we must exclude the two most frequent and important causes of upper respiratory obstruction: adenoids and deviations of the septum (90 per cent.).

It must be conceded then, that, in the majority of cases, if not in all, it is useless to argue in favor of any such method unless the definite aim of the operator is to produce separation of the two halves of the maxilla, thereby causing distinct outward movement of the outer walls of the nares and consequent increase in respiratory capacity, irrespective of the origin of the obstructive difficulty.

To accomplish this movement definitely and successfully, it would seem that the expansion arch is entirely inadequate. This arch as ordinarily used, implies a movable attachment to the teeth. This must necessarily allow the force to be largely expended on the crowns of the teeth, which will be moved outward as the bone is gradually absorbed from one side and deposited on the other; the apices remaining stationary or even moving in the opposite direction.

Overcoming in a great measure, this difficulty in the control of the expanding force is the split-plate or the plate with jack-screw attachments. These appliances make pressure more definite and apply it over a larger area of tissue so that the bones will move as a whole, if they move at all. The chief requirement of success in this operation is youth of the patient. With these appliances, undoubted and marked relief from diminished respiratory capacity may easily be obtained but it must be remembered, that such a result is obtained only at the expense of permanent separation between the upper central incisors. Such separation may be reduced or entirely overcome in the eruption of the permanent teeth. This operation is most successfully performed as soon as the existence of the contraction is noted, and is best done at or about the fifth year. Subsequent to the seventh year, as the bones become more fully developed and the suture more firmly united, the possibility of accomplishing this separation will gradually diminish until it becomes impossible through the complete development of the intermaxillary suture. To render this change permanent, existing postnasal obstruction should be removed.

To close this consideration of the subject at this juncture would undoubtedly leave the erroneous impression that most efforts to influence upper respiratory obstruction and mouth breathing favorably, through corrective measures applied to the teeth and dental arches, are of little if any value. This would be the logical conclusion if the process were a purely mechanical one. On the contrary, we are dealing with vital tissues, possessing each a special function and capable of growth, repair and atrophy.

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[10] Bosworth: Diseases of the Nose and Throat, p. 158.

Space will admit only of brief mention of these factors and their relation to the problem of lateral expansion. It is a well-known physiologic fact that one of the most powerful stimuli to the proper development and normal function of any tissue or part, is the exercise of the specific function for which that tissue or part is intended. Conversely, the inability properly to perform this function invariably results in either imperfect development or wasting and atrophy.

It is natural then that we should find various alterations in the structure of parts of the whole upper respiratory tract. Thus may we account for the effect of adenoids, malocclusion, short-lip and tonsillar hypertrophy on normal nasal respiration and the production of the inevitable train of disturbances accompanying imperfect development of the bones of the face, particularly the maxilla and those forming the nasal passages.

This also explains why the removal of exciting causes and the correction of existing deformities of contiguous parts gradually brings about a resumption of growth in these tissues, resulting in the production of normal nasal chambers and the return of normal nasal respiration.

Possibly of equal importance in contributing to improvement after most corrective measures, is cell stimulation and renewed growth in the maxillary bones, through the irritation caused by the varying degrees of pressure applied to the teeth and alveolar arches. The extent to which this process may be operative is a matter not easily determined and how far these two factors influence the conditions in a given case to the exclusion of others, we are, as yet, unable to determine, since up to the present time no practical or sufficiently accurate methods of observing and recording these changes have been devised.

Without doubt, many of the results which have been attributed solely to the effect of definite movement of bone, and the resulting improvement in the respiratory capacity of the nasal chambers, are in reality instances of the beneficial results of stimulation of these vital functions.

From my study of the subject a few points have particularly impressed themselves on my mind:

1. The etiology of the general subject of dental irregularity and particularly the interrelation of such deformity and chronic respiratory disturbances is still lacking a definite basis. This matter should receive particular attention at the hands of every orthodontist.

2. Dental irregularitiy in the vast majority of instances is associated with, if not dependent on, upper respiratory obstruction.

3. Dental practitioners and particularly orthodontists, should be more familiar with the common forms of upper respiratory obstruction, their symptoms, diagnosis and treatment.

4. The comparative study of the changes brought about through corrective procedures, should be more carefully studied, and more accurate methods of measuring and recording them devised.

5. The rational treatment of dental irregularity should include preliminary examination and treatment of the nasal chambers and pharynx.

6. The result of the ordinary expansion operation on nasal conditions is more dependent on vital tissue in the nasal region, than on mere mechanical movement.

7. Operations designed mechanically to increase the respiratory capacity of the nasal passages are practically valueless unless the intermaxillary suture is separated, as shown by increase of space between the central incisors.

8. It is impossible to relieve stenosis due to adenoids or septal irregularities by expansion methods.

9. Adenoids and deviations of the septum should receive the usual treatment at the hands of the rhinologists prior to the correction of dental irregularity.

10. The stimulation of vital forces and renewed growth in the nasal chambers, together with the restoration of normal conditions in contiguous parts are the chief causes of improvement following the expansion operation.

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DISCUSSION.

Dr. G. Hudson Makuen, Philadelphia, said that so far as he understood the subject of orthodontia, he agreed with Dr. Faught's conclusions. His attention, he said, was first called to this subject when he found that the removal of adenoids and nasal obstructions did not always correct mouth-breathing; that after he had made it possible for patients to breathe through the nose, they continued to breathe through the mouth. In these cases the trouble was generally found to be due to some malarticulation of the teeth, which made it difficult for the patient to hold the mouth closed, or made it necessary for him to use semiconscious effort to hold the lips together. Children, or even grown people, if they have to close the lips with a conscious effort, will not keep them closed and mouth-breathing will be the result. In regard to the etiology of dental irregularities and nasal obstructions, Dr. Makuen has often wondered, in many instances, whether it is the nasal obstructions that cause the dental irregularities in young people, or whether it is the dental irregularities that cause the nasal obstructions. However, he is convinced that those persons who find it difficult to keep the mouth closed, or who find it necessary to think about keeping the mouth closed, and who therefore breathe through the mouth, generally have some nasal obstruction; and he has found that adenoids, for instance, will return in mouth-breathers. The adenoid vegetations may be removed, and yet if there is nasal obstruction, or if the patient can not close him mouth on account of dental irregularities, the small remnants of adenoid tissue which always remain will become hypertrophied, and there is a return of the adenoids. The turbinal bones will also become hypertrophied as a result of faulty nasal respiration. There will be, in the case of nasal obstruction, a kind of suction action going on in the nasopharynx, drawing blood to the parts and helping to increase the size of the tonsillar masses behind the palate and in the pharynx, and in this way adenoids will often return if at the time of removing the adenoids it is not made possible for the patient to breathe through the mouth.

Dr. G. V. I. Brown, Milwaukee, Wis., stated that Dr. Nelson M. Black, a rhinologist, and he had expanded those arches, and that Dr. Black has been doing that same thing for about ten years. The case reported in that paper was a very interesting one, but not in accord with Dr. Faught's own conclusions. The patient was 30 years old, and in addition to the nasal and aural complications which had come from nasal stenosis, had certain other associated nervous conditions. She came to Dr. Black from an insane asylum, and from Dr. Black she went to Dr. Brown. They were able in two weeks to widen that nose sufficiently to permit catheterization of the Eustachian tube. The patient also improved otherwise. Dr. Brown suggested that dentists make use of as few appliances as possible in these cases, not cumbering themselves with plates and springs and various other things. Dr. Brown stated that what had been explained by Dr. Makuen as to the tendency of adenoids to recur if there is not proper opportunity for regular nasal breathing and proper oxygenation, is, of course, in line with the experience of many in that respect. But, he continued, if any one will examine the nasal passages in the tonsillar regions of patients with cleft palates, with complete and ample avenue for passage of air, he will find great masses of tonsil tissue and adenoid vegetations distributed throughout that same region. So that there is, primarily, in these cases, a well-developed tendency to irregularity. That tendency, he said, is responsible, alike for adenoids, for enlarged tonsils, for irregularities, and arrest of development, maxillary and dental. All the forces which have to do with the development of that region, are, of course, affected one way or the other. Back of it all there is the primary cause. Dr. Brown has found that in his work he would be helpless without the cooperation of the rhinologist.

DR. J. A. GORMAN, Philadelphia, said that with the modern appliances and treatment, he could see no use of causing a separation of this suture, nor did he believe that it is necessary to obtain it. He asked Dr. Brown how, after he obtains the separation he thinks he has, is he going to retain it. Not only that, but with those outer plates of alveolar process which are very thin and with that immense pressure, he will certainly tip those teeth out, or buccally, which leaves their roots to incline in. But instead, by taking accurate plaster impressions, and making accurate models before and after, and with the use of the modern expansion arch, the crown of the teeth will incline buccally, and then in a few years, the roots of those teeth have certainly tilted buccally and there is no separation of the suture to do it. Dr. Gorman agreed with Dr. Faught that it is most important to consult with the rhinologist. Every orthodontist, he said, ought to know more about rhinology than he does, not to practice it, but to be familiar with it and notice every case that comes to him. And every dentist ought to know a great deal more about rhinology, so they could save children a great deal of their troubles of malocclusion. It is most important always to remove the adenoids or any postnasal obstruction before operation for mal-occlusion.

DR. C. A. HAWLEY, Columbus, Ohio, referring to the separation of the maxillary sinus, said, there can be no question but that we get practically the same result without the separation of the sinus, though it may not be an important matter either way. If it was a matter of appliances, those who work with an expansion arch certainly do get as much improvement in respiration. Probably it is not due entirely to mechanical enlargement, but to a stimulation of the vital functions, and that process is preferable. It is a very interesting thing, he said, to note that the improvement in nasal breathing is not always dependent on the extent of the expansion. That would indicate that it is not entirely a mechanical method, but a stimulation of the vital forces and renewed growth. Dr. Hawley thinks there is an irritation and stimulation that comes from the mechanical means used.

There are some interesting things with regard to the relation of nasopharyngeal trouble to defective arches, that he has noted. In cases where the central incisors are erupted, and where adenoids or nasal obstructions are not very evident, he has been able, in almost every case, to diagnose some kind of nasal obstruction, simply from the lack of width of the dental arches. Almost invariably some nasal disturbance is found by the rhinologist.

DR. E. A. BOGUE, New York City, thought that Dr. Brown and Dr. Faught were both thinking of adult life, while others were thinking of child life. He was convinced that every one has separated the two halves of the maxilla, knowing it would not be a permanent thing, but that in time they would come back again, because if there is complete articulation of the thirty-two teeth in the mouth, or twenty-eight, leaving out the wisdom teeth, those teeth are going to just fit the arches and there is not going to be a great separation in front, as a rule. Certain families, he said, show the distinctive characteristic of the separation of incisors, but he has not yet carefully gone over the measurements to know accurately why those incisors remain separated all through life. He agreed with Dr. Hawley that if the dental arches are found to be very undeveloped, which means narrow, almost always one nearly always finds adenoids in connection with those narrow arches.

DR. FRANCIS A. FAUGHT, Philadelphia, answering Dr. Makuen about etiology and the recurrence of adenoids even after complete removal, said that he did not attempt to draw conclusions in regard to etiology. He merely intended to bring about a discussion, so that some points in doubt and not settled, would be settled. As bearing on some of the remarks made by Dr. Brown, Dr. Faught cited the case of a patient who gave a very full history. He was an active adult, about 26 years of age, who had been in the care of a dentist, his brother-in-law, for about seventeen years. He had models of his teeth at the age of 17, which showed practically normal arches, with normal occlusion. He played football and met with an accident in which there was considerable crushing of the nose and septum. This was treated at one of the hospitals, but the result was a failure. He then had practically complete occlusion on one side, with marked diminution of respiratory capacity on the other. He came to Dr. Faught at the instance of his dentist, who had noted that the patient was developing a markedly contracted upper arch. On examination Dr. Faught found there was a large part of the septum which could be removed with advantage, and which would relieve the nasal occlusion to a great extent. This he removed, with the return of respiration on the one side and some improvement on the other, due, he thought, to alterations in the blood supply and more normal aëration. Here was a case where up to a certain period the arches were normal, and where subsequently contraction developed. Surely, he said, that was because of the obstruction in the nose.

Dr. Faught agreed with Dr. Hawley's remark that he could not see what difference it made whether or not we got separation between the central incisors, so long as we got improvement in the nasal capacity, but he did not believe, that, anatomically, we can improve the capacity of the nasal chambers with expansion, except we separate this suture, for the reason that we are operating on structures, which, as compared with other parts of the jaw, the alveolars, are exceedingly thick. He suggested that the results in those cases were due, not so much to the expansion, as to the restoration of the function of the teeth. By the movement of the teeth themselves, in the alveolar processes and the stimulation of the vital functions in this region, if the nasal chambers perform their function they will be developed along normal lines, even if that had been delayed for a number of years. In regard to the permanence of the separation, he stated that in the first part of the paper he was dealing with adults, although he did not so state. Subsequently he stated that in the case of children, after complete articulation of all the teeth, this separation would be reduced as normal occlusion was developed and the secondary teeth erupted in place of the primary teeth. In this event we have only preceded Nature in an effort to produce proper development of the upper maxilla, which had been delayed by some cause unknown. In other words, we expand the maxilla to make space, and then Nature comes along with the proper teeth at the proper time, when the permanent teeth are developed.

Canaries Are Next Under the Ban.—According to Dr. Tucker Wise of Montreal, tuberculous affections of birds are transmissible to the human subject, and he fortifies his opinion by brief accounts of 33 cases in which infection appeared from pet birds. Caged birds, says Wise, such as canaries, pigeons and parrots, lead a life calculated to render them an easy prey to tuberculosis, and the way in which they are managed in the household conduces powerfully to their spreading the infection to the members of the family. The bird's excrement is disseminated by the fluttering of its wings, and particles of it are carried by flies to articles of food. How widespread is the danger of the conveyance of disease from birds to man may be judged of by the fact that in England 400,000 canary birds are sold annually.—*New York Medical Journal.*

SUBACUTE POLYMYOSITIS, WITH A REPORT OF THREE CASES.

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It was not until the year 1887 that the disease polymyositis was accurately described. In that year Unverricht,[1] Hepp,[2] and E. Wagner[3] described cases which have since served as examples of the severe type of this disease. Many physicians have been slow to accept the fact that inflammation of muscles may occur diffusely over the body and constitute a distinct disease, it being long held that muscle became inflamed only from local causes. The recent accumulation of cases, though not great in number, in which general swelling and tenderness of the muscles was the prominent symptom leaves little room for doubt that they form types of a particular constitutional disease. For some years the severe form of the disease alone was recognized, but more recently attention has been called to milder types which heretofore have probably escaped notice by being designated as rheumatism, synovitis, etc. While this is not strictly a neurologic disease, a considerable proportion of the cases have been brought to light by neurologists.

SYMPTOMATOLOGY.

The onset of the disease is usually insidious and gradual, though rarely a case has been reported where the onset was acute with high temperature. A general feeling of malaise and fatigue composes the typical and early symptoms. Occasionally there are mild gastric symptoms with anorexia, nausea and some headache. Within a few days the symptoms become more localized and the patient complains of soreness in the muscles when the extremities are used, occurring rather earlier in the arms. The soreness increases and is often attended by cramps in the muscles. Movement becomes more difficult and produces great fatigue.

Objective symptoms soon manifest themselves. The subcutaneous tissue becomes swollen not only over the most affected muscles but in any part of the body where the skin is not tightly bound down. This edematous swelling may become very marked, even obliterating the natural contour of a limb. It is usually less toward the extremities of the limbs. Edema of the eyelids and face has occasionally been marked. This edema is apparently of inflammatory origin, for it does not pit on pressure and often shows a marked peculiar redness not unlike that seen in erysipelas.

Palpation of the muscles is difficult when this edema is marked, but on its subsidence it is found that the muscles do not feel normal. Their consistency is either hard and distended, tough and inelastic or, more rarely, soft and doughy. Different parts of a muscle may be of variable firmness, comparable to a hobnail liver. After a time the infiltration and consequent shortening of the muscles bring about an approximation of the two ends. In this manner movable parts like the extremities become drawn up at the joints and we get the characteristic attitude of flexed arms and legs in the later stages of the disease. Atrophy naturally follows the destructive process in the muscle and is a prominent feature in chronic cases.

Tenderness of the muscles to pressure is marked in the acute stage, in fact it is difficult to determine whether there is also involvement of the nerve trunks so general is the tenderness. It is considered that the nerves are not involved in a pure case, though polyneuritis and myositis may occur together. The superficial reflexes are all present unless interfered with by a marked edema. The deep reflexes vary with the severity and locality of the muscular involvement, the later stages of the disease causing greater interference with the tendon reflexes. The same rule holds as regards electrical excitability, the reaction being normal until the muscle has undergone marked change, when gradual diminution and finally abolition of excitability ensue. Fine muscular twitchings are absent. An hyperidrosis of the affected part often occurs.

In general it may be said that the muscles become affected in sequence, the extremities, the muscles of abdomen, neck, chest and finally the throat are involved. The latter paralysis allows the passage of saliva, etc., to the trachea, fostering the development of lung complications which so often form the closing scene in this disease. To the last, consciousness is retained and brain symptoms are absent. The temperature and pulse are both raised, sometimes to high degree during the acute stages, though mild cases may show little or no increase of temperature. The urine shows no characteristic change, though cases with albuminuria have been reported. The blood is usually normal, though there have been several cases with accompanying secondary anemia. The leucocytes are seldom increased in number. There is no eosinophilia.

The course of the disease is very variable, so much so that some authors have made subdivisions into acute, subacute and chronic polymyositis. The subacute course is the most typical. There occur, however, periods of remission in the disease which are apt to deceive the observer. The fatal cases average two or three months in duration, the milder cases may go on for many months before recovery takes place.

ETIOLOGY.

Unfortunately here one can only deal with probabilities. The belief is general that the disease is of infectious origin, but the definite proof is lacking. It must be said that attempts to discover bacteria in the tissues usually meet with failure and cultures taken are usually sterile. Bacialli[4] and Georgievski,[5] however, both report cases where the *Staphylococcus albus* was obtained from cultures either of blood or muscle. Bauer[6] also found the *Staphylococcus aureus* once. The failure to find bacteria has led to the supposition that some toxic substance was the cause of myositis. Definite information for or against this idea is lacking. Pfeiffer[7] believed the cause was a protozoön, a sporozoön of the group *Gregarinæ*. He failed to find it, however, in specimens submitted by Strümpell[8] and Unverricht.

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[1] Ueber eine eigenthümliche Form von acuten Muskelentzündung mit einem Trichinose ahnelnden des Krankheitsbilde, Münch. med. Wochschr., 1887, xxxiv, 488.

[2] Ueber Pseudo-trichinose, eine besondere Form von acuter parenchymatöser Polymyositis, Berl. klin. Wochschr., 1887, xxiv, 297 and 322.

[3] Ein Fall von acuter Polymyositis, Deutsch. Arch. f. klin. Med., Leipzig, 1886-7, xl, 241.

[4] Contribuzione allo studio della patogensi e delle alterazione istologiche del tessuto musculare nella polimiosite acuta primaria, Il Policlin., 1902, ix, 16.

[5] A Case of Acute Hemorrhagic Polymyositis, Bolnitsch. Gaz. Botkina, 1900, xii, 696; also, reference in Boston Med. and Surg. Jour., 1902, cx[illegible]vii, 313.

[6] Ein Fall von acuter hämorrhagischer Polymyositis, Deutsch. Arch. f. klin. Med., 1899, lxvi, 95.

[7] Die Unverricht'sche Polymyositis gregarinosa oder Dermatomycosis acuta. Die Protozoön als Krankheitserreger, Jena, 1891, ii, 208.

[8] Zur Kenntniss der primären acuten Polymyositis, Deutsche Ztschr. f. Nervenh., 1891, i, 479.

The argument in favor of an infectious origin is strengthened by the onset with malaise, the fever and the oft-occurring splenic enlargement. Cases reported by Herz[9] and Lewy[10] suggest not only the infectious but also the contagious nature of the disease. Herz describes two mild cases in girls occupying the same room, one case slightly preceding the other. Lewy made a diagnosis of polymyositis in three members of the same family.

Age and sex apparently have no bearing on etiology. In 1895 Jacoby[11] wrote that two-thirds of the published cases had been males. All ages had been affected except childhood. Since then five cases have been reported in children, two following some infectious process.

PATHOLOGY.

The postmortem findings in these cases are variable, depending largely on the stage of the process. A majority of the cases, however, have reached the later or destructive stage, the early or inflammatory stage being less in evidence except when a specimen of muscle is removed during life. The signs of inflammation, including swelling, infiltration, transudation and hemorrhage, are found early, affecting largely the connective tissue, in part the parenchyma. It is characteristic of the disease that certain bundles and certain fibers of a bundle are unaffected by the process. With the progress of the disease attempts at regeneration are commonly seen in the great increase of nuclei, including mitotic forms, while at the same time the anatomic picture of destruction of fibers is prominently seen. This appears as granular and, later, waxy degeneration of the fibers; vacuolation, a great increase of cells and fat globules, greatly thickened perimysium becoming myxomatous or fibrous in structure, in fact a tendency to the embodiment of the former specific tissue into a connective tissue structure.

The nerves have been shown to be involved in a number of cases, notably those of Senator,[12] but from their distribution and from the considerable number of normal fibers found in the sections it seems probable that the process is not primary in the nerves. The amount of hemorrhage between the muscle bundles is variable. It may be very great, predominating in the sections and giving rise to the name polymyositis hemorrhagica (Lorenz[13]).

DIAGNOSIS.

Once one's attention has been drawn to this disease he will seldom fail to make the diagnosis. The differentiation from trichinosis and from polyneuritis presents the chief difficulties. Other affections that at times resemble this condition are phlebitis, periostitis and osteomyelitis, rheumatism and pyemic abscesses.

Leube[14] and other diagnosticians say that it is impossible to distinguish polymyositis from trichinosis by the symptoms alone, an examination of specimens of muscle being necessary. Since 1897, however, when Brown[15] called attention to the constituents of the blood in trichinosis, especially the eosinophilia, we have had a most valuable yet unheralded aid to diagnosis. The accumulated evidence goes to show that cases of trichinosis have constantly an increase of eosinophiles of from 10 to 50 per cent. with a corresponding decrease of the neutrophiles. I have seen the report of no such blood count in polymyositis, in fact the differential count is usually normal. Leucocytosis, too, is more common in trichinosis. A history of eating uncooked pork, of course, points to trichinosis. Primary gastric and intestinal symptoms and involvement of the muscles of the eye and diaphragm are more characteristic of trichinosis.

As against a polyneuritis the fact which points toward a polymyositis are: Tenderness over the affected muscles rather than along particular nerves. Inflammatory edema involving both the muscles and the cutaneous tissues. Absence of anesthesia or paresthesia. The muscular swelling followed after a considerable time by atrophy, often with contracture.

It happens that the mechanical interference with the reflexes and electric reactions found in polymyositis may at times closely resemble the changes found in polyneuritis, thus rendering them of uncertain value in differential diagnosis. It must be remembered also that the two affections may be associated.

Syphilitic myositis is another rare affection that may be mistaken for polymyositis. It occurs in three forms—the gummous, the diffuse and the combined (Herrick[16]). It is accompanied by evidences of syphilitic infection, usually affects only a small number of muscles, and has not the splenic tumor or the exanthem of polymyositis.

PROGNOSIS.

The prognosis, formerly almost always regarded as fatal, now has to be modified with the recognition of the milder cases. The more general the involvement of the muscles and cutaneous tissues, with a persistent temperature, the graver the prognosis. The most dangerous single symptom is involvement of the muscles of deglutition, whereby the saliva is not diverted from the respiratory tract and lung complications occur. Myocardial involvement, though rare, adds greatly to the danger. Long drawn-out cases tending to recovery are apt to leave some muscles permanently atrophied.

TREATMENT.

Attempts to cut short the course of the disease by any specific form of treatment have heretofore been of little avail. Antipyretics and salicylates have somewhat relieved the pain and soreness of the early stages. Hot baths and fomentations had been moderately used before, but in 1903 Oppenheim[17] came forth with glowing accounts of five cases which led him to advocate confidently the systematic use of diaphoresis. His method is to apply hot air, then wrap in blankets, giving hot drinks and aspirin. The patient is thus sweated for an hour at least every second day. Thermomassage is used on the alternate day. Later simple massage and electricity are used.

Oppenheim considered this treatment a great factor in the recovery of his cases, though it did not serve me as well in the one case on which I had an opportunity to try it. The test of time will alone determine its value.

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[9] Ueber gutartige Fälle von Dermatomyositis, Deutsche med. Wochschr., 1894, xx, 790.

[10] Zur Lehre von der primären acuten Polymyositis, Berl. klin. Wochschr., 1893, xxx, 475.

[11] Subacute progressive Polymyositis, Jour. Nerv. and Ment. Dis., xv, 697.

[12] Ueber acute Polymyositis und Neuromyositis, Deutsche med. Wochschr., 1893, xix, 933.

[13] Die Muskelerkrankungen, Wien, 1898, 120.

[14] Medical Diagnosis, translation of sixth German edition, 1904, 769.

[15] Studies on Trichinosis, Johns Hopkins Hosp. Bull., 1897, viii, 79.

[16] Polymyositis acuta, with report of a case presumably of syphilitic origin, Amer. Jour. Med. Sc., 1896, cxi, 414.

[17] Ueber die Polymyositis, Berlin klin Wochschr., 1903, xl, 381 and 416.

My cases will now be presented in the order of their occurrence:

Case 1.—*History.*—On June 11, 1904, Dr. G. S. Clark asked me to see a boy 15 years old who presented the following history. He was a member of a healthy English family which included nine other children. The family were characteristically small of stature, this boy who had grown rapidly in the last two years being rather the largest of the family. The patient had been well up to six months previously when it was said that he fell on the ice striking the lower end of his coccyx. No particular complaint was made at the time and no paralysis ensued but within a few days it was remarked that the boy was less energetic and more easily tired. Sometime later it became difficult to make the boy do chores as bringing up wood or carrying water, he complaining of soreness in the muscles of the back and arms. Six weeks before I saw him the eyelids began to swell, then the face, especially the upper lip. Both arms and hands then became edematous, stiff and tender to pressure, though there was no real pain. This edema gradually extended to the back, abdomen and legs until at the time of my visit there was practically complete anasarca. Muscular weakness had been progressive so that the boy could sit up but little and could scarcely stand alone. There had been no sphincter disturbance at any time. The knee-jerks were said to have been absent for one month. At no time had there been any gastric disturbance. The appetite had been good and the bowels regular. Slight trouble with swallowing solid food developed a week previously; since then the diet had been liquid and semi-solid. The temperature when taken had been found to be from 99 to 100 F.

Examination.—Physical examination showed the boy to be well developed and apparently well nourished. Anasarca was complete except for the plantar surfaces of the feet. The edema was especially marked over the face and buttock, the projection of the eyelids being fully one half inch and cutting out all light from the eyes. No discoloration or rash was present of the skin. Mucous membranes had fairly good color. On palpation the skin did not pit as was expected on pressure, the muscles were moderately tender and felt boggy. The large flexor muscles especially felt tense and of irregular hardness. The muscles along the upper part of the spine were very tense. There was little or no impairment of tactile sensation. Pain and muscle senses were also normal. There was some hyperesthesia especially along the spine. The right pupil was very slightly larger than the left but both reacted normally to light and distance. The patella reflexes were lost as were also all the superficial and deep reflexes except the plantar which was normal. The Babinski reflex was absent. The heart was not enlarged and the sounds were normal except for a slight bruit in the neck. On exertion the heart became very rapid causing some dyspnea. The urine was normal. The boy was mentally clear. Blood examination showed 60 per cent. hemoglobin. No increase of eosinophiles or white cells and no abnormal forms of red cells.

Diagnosis.—The tentative diagnosis of polyneuromyositis was made and a grave prognosis given.

Subsequent History.—The patient was next seen July 26 During the interval he had been on a liberal semi-solid diet and a preparation of iron, arsenic and strychnin. In good weather, too, he had been carried outdoors and had spent much of the day under a tent. One month ago the edema began to disappear, beginning at the upper part of the body, until four days ago it was absent. There had been marked disturbance with the muscles of deglutition until three weeks previously but since then considerable improvement in that respect. The arms and legs had become more flexed so that walking was impossible. The appetite was still good. Examination of the muscles showed that they had lost their boggy feel and were much thinner than before. The biceps and hamstring muscles, especially, were shortened and felt hard and fibrous. The reflexes were the same as at the last visit. There was now no skin hyperesthesia. There was considerable tenderness of the flexor muscles of the arms and legs and slight edema especially about the ankles. This might possibly have been due to the fact that the attending physician had allowed more vigorous massage for the last three days. At my final visit September 10, I found that during August there had been apparent improvement in the use of the arms but in all other respects the boy had gradually grown weaker. There had been steady and gradual wasting of the muscles and flesh over his whole body. In fact I never saw a more striking contrast than the pathologically plump figure of June 11 and the shrunken skin-covered skeleton of September 10. The legs and arms were drawn to right angles and the affected muscles felt only like shrivelled cords. The patient was scarcely able to move any muscles except those of the neck and face. The scalp and skin were dry and scaly and there was marked alopecia, especially at the sides of the head. Saliva collected and ran out of the mouth for it could not be swallowed. There had been increasing difficulty in nourishing the boy, and now for three days it had been impossible to move the bowels. The heart was rapid, with no murmurs. The lungs were clear. Nothing abnormal was found on palpation of the abdomen. After this visit the patient is said to have failed steadily, retaining his consciousness, until he died of respiratory failure two days later, September 12, 1904. It is to be deplored that the attending physician was unable to get permission for an autopsy.

Case 2.—*History.*—Mrs. O., aged 30, the mother of three healthy children. Her parents both died in late middle life, the father of "brain fever," the mother of pneumonia. She has three sisters who are well and one who has suffered for a year with inflammatory rheumatism. The patient has generally been well except for attacks of diphtheria at 20 years and bronchitis at 25 years. From each of these she made a good recovery. On April 9, 1904, just as her husband was recovering from an attack of the grip which had kept him in the house two weeks, the patient first noticed aching pains becoming general over the body. There was no disturbance of the stomach, and Mrs. O. asserted that she had eaten no pork for a long time. Headache and any marked feverishness were absent. The patient felt tired all of the time but kept about. At the end of a week some swelling occurred about the eyelids and upper part of cheek and rapidly extended over shoulders, back, arms and legs. The swelling was brawny and did not pit on pressure. The feet did not swell but the hands were swollen even to the finger tips, where there was some formation of pus about the nails. Within a few days, the soreness of the muscles persisting, the patient found she was unable to lift up or hold her baby, and if she stooped, bending her knees, she was in danger of falling. Within two or three weeks the swelling had largely disappeared except about the flexor muscles of the arms and legs. At about this time the muscles of deglutition became affected so that only liquids could be swallowed without difficulty. The impairment of function in these muscles did not lead to further serious symptoms and their power gradually returned in a few weeks. Dr. S. B. Woodward, who had charge of the case in June, always found some elevation of temperature, the highest being 102 F., and advised her removal to a hospital. From June 24, to August 16, Mrs. O. was a patient at Memorial Hospital on the service of Dr. R. W. Greene. At Dr. Greene's request I saw the patient early in July.

Examination.—She was of medium height and well nourished, did not appear to be very ill and was not confined to her bed. Color was good. Skin dry and rather scaly. Scalp poorly nourished and hair falling out. Arms were held partly flexed and could not be fully extended. Attempts to do so produced pain and brought into relief the biceps muscles which were of irregular, abnormal hardness. The surface temperature over these muscles was evidently increased. The cutaneous tissues were somewhat swollen. The supinators, especially the left, were similarly affected. The flexors of the legs were also hard, thickened and apparently shortened so that complete extension was painful. There was some swelling and tenderness too, above the knees in front. Sensation was everywhere unimpaired. The pupils were equal and reacted normally to light and distance. The elbow jerk was present but slight. Knee-jerk not obtained on either side. Achilles reaction normal. No ankle clonus. No Babinski reflex. Superficial reflexes were present but not increased. An electrical examination was not made at this time. The affected muscles did not react to mechanical stimuli. There was no paralysis but lessened power in the flexor muscles of the arms and the flexors and extensors of the legs. The urine at this time was normal in color, sp. gr. 1,020. No albumin or sugar. Blood examination showed: Hemoglobin, 80 per cent.; reds 4,365,000; leucocytes 8,000. Differential count normal, no eosinophilia being present. During the patient's stay in the hospital she was under no specific treatment. She was given general tonics and occasionally the static breeze. She took moderate exercise in open air. About a week after entrance the quantity of urine was somewhat less and an occasional hyaline cast appeared in the urine. Probably on this account she was kept on a vegetable diet during the rest of her stay. In August, having made no improvement, she was taken by the interne to consult a leading physician in Boston. This physician wrote his opinion that the case resembled trichinosis, but the course of the disease and the normal blood examination were against this diagnosis. He inclined to regard it as a peculiar type of polyneuritis. He recommended examining a piece of muscle and advised general tonic treatment. Two weeks later the patient was discharged from the hospital unimproved. September 2, Mrs. O. came to the neurologic department of the City Hospital and consented to the removal of a piece of muscle. Under primary ether the House Surgeon removed a piece of the left biceps muscle 2 cm. long by 1 cm. in thickness. In cutting, the muscle felt decidedly tough and it bled more than normal. One catgut stitch closed the muscle edges, and three of silkworm gut closed the skin. Part of the specimen was put in Zenker's fluid and part in alcohol. The gross specimens appeared mottled; gray and red. For the subsequent pathologic report I am indebted to Dr. Hunt.

Pathologic Examination.—In the main the sections showed little departure from normal striated muscle. In several, however, there appeared a few areas of hemorrhage and of round-cell infiltration into the perimysium extending along endomysium into peripheries of the neighboring muscle fasciculi, where the muscle fibers showed varying degrees of disintegration and hyalin change. Many fibers showed a separation of fibrillæ, took the stain poorly and were penetrated by round cells; while others were dense and homogenous, showed no striation, and stained deeply with eosin. Sections stained by Loeffler and Gram-Weigert methods showed no bacteria nor parasites.

Pathologic Diagnosis.—Non-suppurative, hemorrhagic interstitial myositis.

Subsequent History.—The patient was given quinin bisulphate 5 grains three times daily and put on a full nitrogenous diet. The examination at this time showed no marked change from two months before, though the knee-jerks were more easily obtainable. There was very marked alopecia. The wound of the arm healed by first intention and the stitches were removed. I did not see the patient again until October 27. She had been keeping on with the treatment but on account of illness in the family had been unable to follow directions about resting. She was taking care of her house and three children. In spite of this she seemed to have improved. The skin was much less dry. The hair was growing in thickly. The arms could be extended almost fully without pain. The supinators had apparently lost their induration. Flexors of legs and biceps were still involved and were tender to deep pressure. All the muscles reacted readily to the faradic current but there was no abnormal irritability. The patient's appetite improved and she had menstruated for the first time during this illness, except for a slight trace in July. Gradually the stiffness and weakness of the arms and legs disappeared and she was able to attend to her household duties. She passed through a normal pregnancy and had a healthy child born June 28, 1905. There has been no recurrence of her trouble.

CASE 3.—*History.*—The patient in this case was a Swede, 31 years old and married, who was said to have been the strongest man in the wire mill, of which he was foreman. He was referred to me by Dr. W. H. Rose and gave this history. There was no trace of chronic illness in the family and, except for an attack of malaria a year previous, the patient remained well up to August, 1904. At about this time, without any history of digestive trouble, he began to complain of lameness and soreness in anterior aspect of both thighs. A little later a similar condition arose in the calf muscles and, later still, the back became affected. There was some general malaise and the patient felt tired all over so that he left his work. After a three weeks rest he felt somewhat improved and went back to work. During his stay at home a considerable puffiness of the face with redness was first remarked. The lameness when I saw him, extended to the arms and neck, muscular exercise became painful and the muscles were rather tender to pressure. The patient had been at home six weeks and had gradually failed in strength. There had been profuse hyperidrosis with little fever.

Examination.—Physical examination December 17, 1904, a remarkably well developed and muscular man, yet he had considerable difficulty in getting up the steps to my office. Beads of perspiration stood on the face and neck. The face was slightly erythematous and puffed. There was a brawny edema over the neck and arms, also slightly over the thighs. Some tenderness was elicited over the affected parts but this tenderness did not follow nerve trunks. There was no loss of sense of touch, pain, temperature or position. Full extension of arms or legs was difficult and caused pain in the flexor group of muscles. The hand grasp was weak, muscle fatigue coming on rapidly. The pupils were equal and reacted alike to light and distance. The triceps, quadriceps, achilles and plantar reflexes were present. The Babinski reflex was absent. The muscles did not respond abnormally to mechanical stimuli. Irritability to both galvanic and faradic currents was normal except at edematous areas, where it was slightly diminished. The abdomen was full and muscular, making examination difficult, but the spleen seemed to be just palpable. The heart apex was in the fifth interspace on nipple line; there were no murmurs. The pulse was 90 and of fair volume. The temperature was 99 F. The urine was negative. Blood examination: Red cells 4,800,000; hemoglobin 80 per cent.; leucocytes, 9,000; polymorphonuclear leucocytes, 70 per cent.; lymphocytes, 25 per cent.; basophiles, 4 per cent.; eosinophiles, 1 per cent.

Subsequent History.—Aided by my experience with two other cases the diagnosis of polymyositis was readily made and the patient's removal to the Worcester City Hospital advised. The treatment adopted at the hospital was, briefly, rest in bed with a short period of exercise, a diet composed largely of nitrogenous food with a large amount of liquids, diaphoresis, thermotherapy and quinin sulphate, 5 grains after each meal. During the next month there seemed to be a slight improvement, though on some days the edema about the face and neck would be well marked. The biceps and quadriceps muscles felt brawny and inelastic. The patient's appetite remained good and he got normal sleep. Control of the bladder and bowels was normal. Toward the later part of January, 1905, the swelling of the right arm increased considerably and the hand and arm were extremely painful on motion. Hyperesthesia along nerve trunks and functional weakness indicated that the brachial nerves had become involved. The patient had had one or two attacks of epistaxis earlier but on January 22, the flow was so free that the nares had to be sprayed with adrenalin and packed. There had developed a slight systolic heart murmur near the apex but not transmitted outward.

February 9.—Treatment by drugs, diaphoresis, etc., did not seem to stay the progress of the disease. The patient had marked swelling about the throat and began to find it difficult to swallow food. Examination of the throat by Dr. Estabrook showed marked infiltration and weakness of the muscles of the pharynx and larynx. Preparation was made for tracheotomy, if necessary.

February 12.—After progressive difficulty in respiration and swallowing of saliva, the patient suddenly had a choking fit in the night and died before the physician reached his bed. He was practically clear mentally until the end.

Autopsy was not allowed, except the removal of a portion of the right biceps muscle. In removal the subcutaneous tissues were found infiltrated with serum and the muscle was pale, yellowish and friable in places. The excised muscle, when put into alcohol, appeared mottled gray and red on the cut surface. Some of the results of the pathologic examination of specimens from this muscle are shown in the accompanying photographs (Figs. 1 to 8). The specimens were hardened either in Zenker's fluid or alcohol, imbedded in paraffin or celloidin and stained with hematoxylin and eosin, methylene blue and eosin or by the method of Van Gieson. Sections stained by the method of Gram-Weigert and carefully studied failed to give positive evidence of bacteria in the tissues.

Following the classification of Lorenz, the above cases would fall under the head of "dermatomyositis," yet they are so characteristic in their insidious onset and slow course and general involvement of the muscular system that I have chosen the title "subacute polymyositis." Cases 1 and 3 follow out the classical symptoms of the most severe form of dermatomyositis, except that there was little erythema, and both died with the usual respiratory involvement. Circumstances beyond my control prevented an autopsy in Case 1, which is to be the more regretted because in this case the disease ran its full course from the insidious beginning through the fulminating stage with most marked inflammatory edema to the stage of extreme wasting and atrophy. If the theory is correct, which seems to be borne out by pathologic reports, that the disintegration of muscle taking place as a result of invasion by toxemia or other products is followed, with the subsidence of inflammation, by a low grade of connective tissue formation, then in Case 1 I feel confident that practically no normal muscle structure would have been found but scarcely more than strips of connective tissue. At any rate, my last examination by palpation of this case would warrant that conclusion.

We find the patient in Case 3, however, dying of asphyxiation with the muscles about in the middle stage of the slow process. Some bundles show the earlier stage with great infiltration with leucocytes and strange nuclei, some are marked by the excess of serum and areas of hemorrhage, some by granular and hyaline degeneration with vacuolation, but few show any advanced degree of organization of connective tissue. Case 2 shows chiefly the beginning invasion of the bundles by leucocytes and round cells.

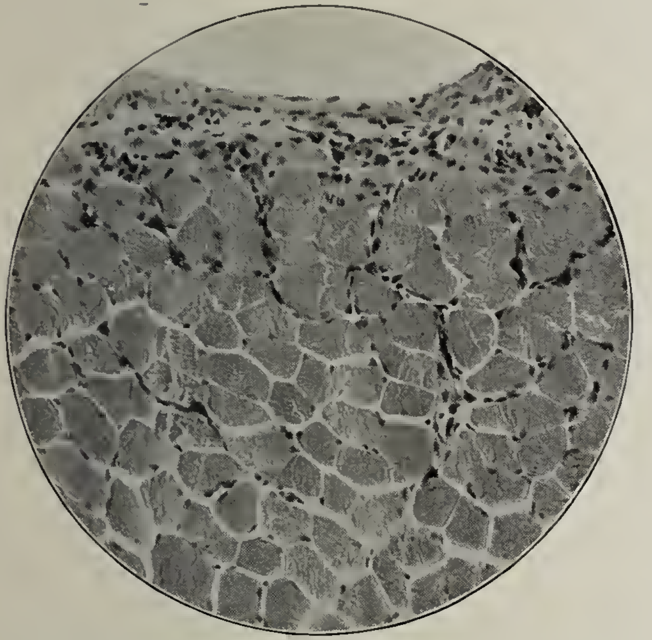

Fig. 1.—Polymyositis, Case 2; Cross-section of right biceps muscle (magnified 150), showing early stage of interstitial polymyositis with invasion of muscle bundles, with many mononuclear cells from the direction of the fascia. Lower part of section shows normal muscle.

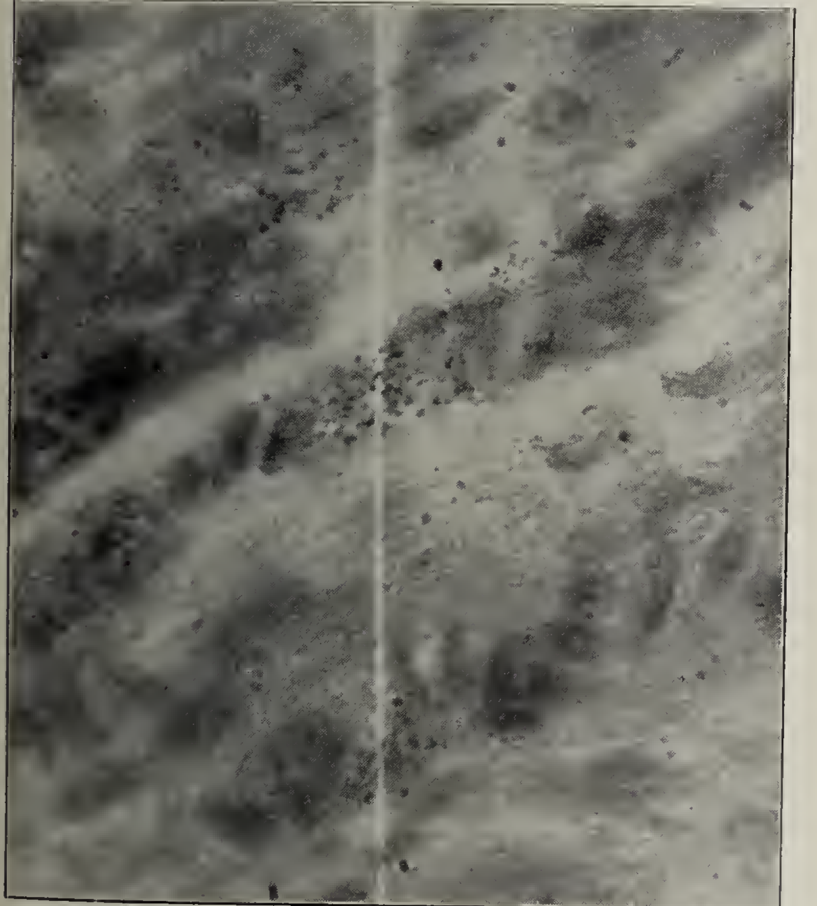

Fig. 2.—Polymyositis, Case 3: Longitudinal section (magnified 1,200) showing clumps of deep-staining bodies (cut by white line) resembling bacteria, but probably the result of granular degeneration of the sarcoplasm.

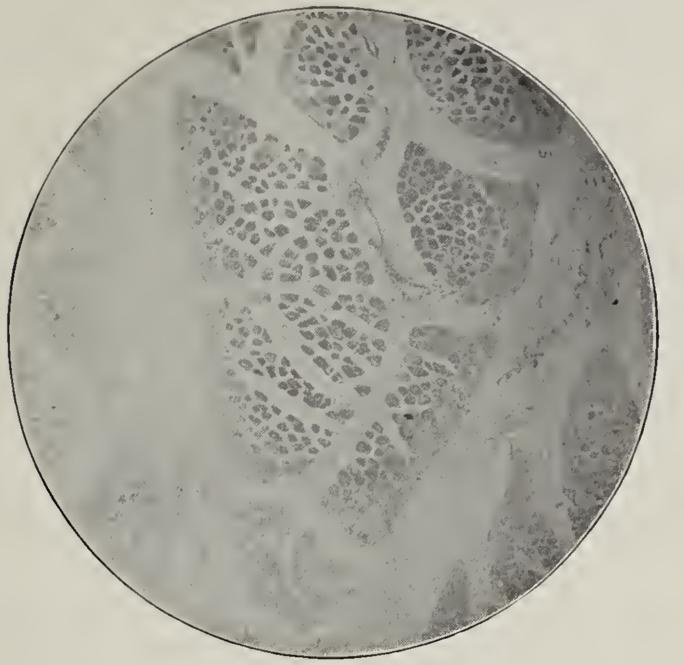

Fig. 3.—Polymyositis, Case 3: Cross-section of right biceps muscle (magnified 40) showing separation of bundles by edema and excess of connective tissue. Pallor and shrinking of fibers at borders of bundles especially.

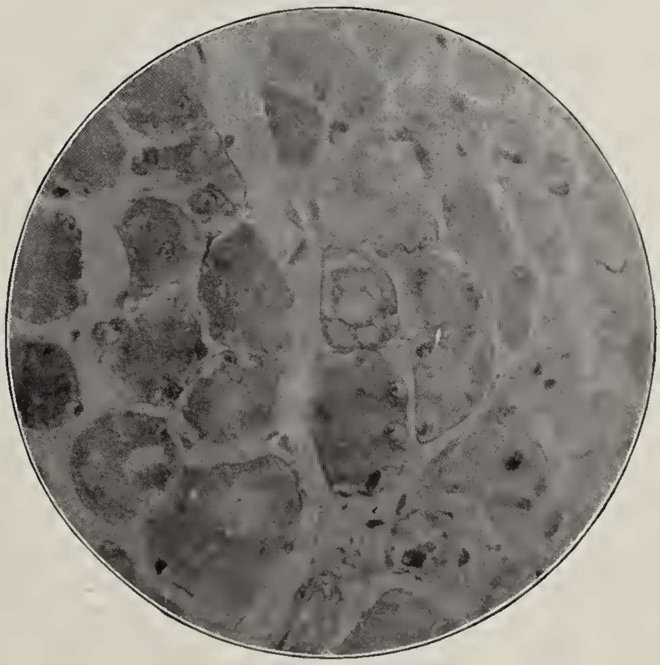

Fig. 4.—Same as Figure 3, only magnified 400, showing varying size of muscle fibers, with marked granular degeneration and vacuolation. Excess of nuclei with occasional mitotic form.

The etiology of these cases is unknown. Cultures taken from Cases 2 and 3 gave no growth on various media and no definite bacteria or protozoa could be stained in the tissues. It is a remarkable coincidence that all these cases appeared in the same city in the same year, but each case was three miles from any other and in no way associated.

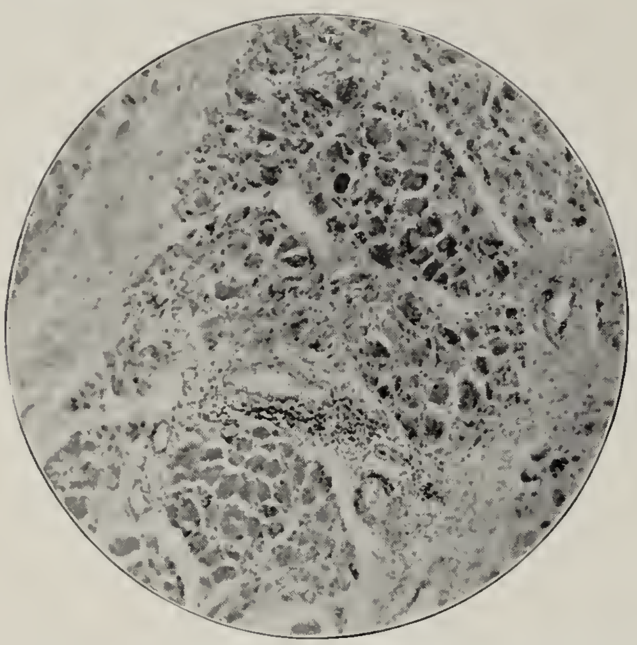

Fig. 5.—Case 3: Cross-section (magnified 60) showing marked infiltration of the perimysium and endomysium with round cells. Disintegration of muscle fibers going on, comparatively few fibers staining deeply.

Possibly, in view of the fact that none of these cases was diagnosed for several weeks until I saw them, and that Case 3 was referred to me only after my report of the others at a medical meeting, the malady may be more common than is supposed. The very small number of typical cases reported, however, bespeaks their rarity. Lorenz could collect from all sources only fifteen cases which he classified as dermatomyositis. In 1904 Steiner[18] had collected twenty-eight fairly typical cases, giving a résumé of the pathologic examinations when made. Since that time several authors have reported cases of some form of polymyositis, but I have been unable to satisfy myself that more than one of these belongs to the type of severe dermatomyositis such as two of my cases present.

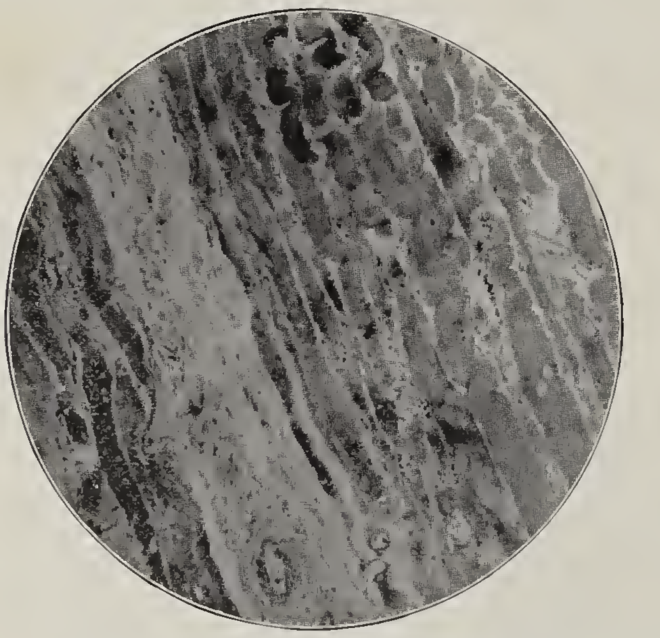

Fig. 6.—Same as Figure 5, only longitudinal section; same magnification, showing narrowing and crinkling of fibers, areas of vacuolation and waxy degeneration; also excess of connective tissue with round-cell infiltration.

This case, the first to be reported from Russia, is by Preobrazhenski and Margulis.[19] The young woman affected had had the disease coming on insidiously for six months when examined. There was some edema and general involvement of the muscles, especially of the arms and legs. Epistaxis was a prominent symptom. A section of muscle was excised from the leg which showed the changes of polymyositis. In spite of treatment the disease progressed and the woman died of laryngeal palsy three months later. There was a complete autopsy report of various muscles and the changes were similar to those described in Case 3.

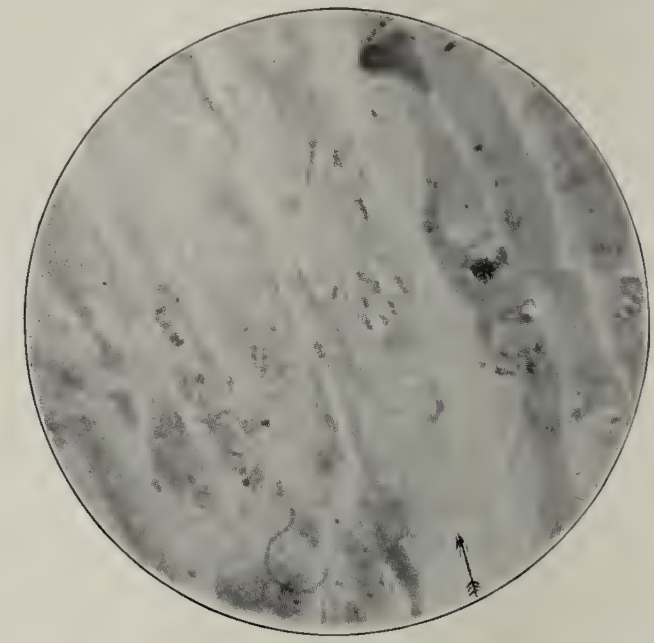

Fig. 7.—Case 3: Longitudinal section (magnified 200) showing longitudinal cleavage at point marked by arrow. Proliferation of nuclei resembling giant cells. Loss of striation in all muscle fibers.

Cases reported by J. Baer,[20] Bevill,[21] Méry, Terrien and Génevrier,[22] Murrell[23] and Sick[24] are in some way atypical. Sick reports three fairly severe and six mild cases with symptoms of polymyositis occurring in the

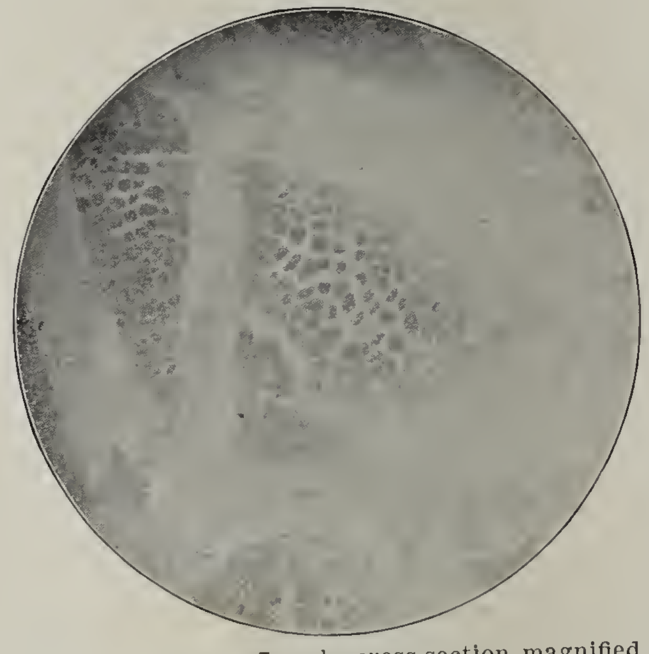

Fig. 8.—Same as Figure 7, only cross-section magnified 40, show ing wide separation of muscle bundles by edema. Apparent disinte gration of peripheral fibers earliest by pressure or toxins. Fiber in center more nearly normal.

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[18] 18. Dermatomyositis, with Report of a Case, etc., Jour. of Exp. Med., vi, 407.

[19] 19. Kuchenigu o poliomiozitie., J., nevropat. i psikhiat., Koss kova, Mosk., 1904, iv, 841; also translation in Rev. de Méd., Pari 1904, xxiv, 765 and 851.

[20] 20. Ueber akute Polymyositis. Münch. med. Wochschr., 1904, li, 15

[21] 21. A Case of Polymyositis with a Rare Complication, Blindnes St. Louis Med. Rev., 1904, i, 290.

[22] 22. Polymyosite infectiouse aiguë bénigne chez un enfant de ne ans, Bull. et mém. Soc. méd. d. hôp. de Paris, 1904, 3 S., xxi, 111

[23] 23. Dermatomyositis or Acute Polymyositis, Med. Press and Cir London, 1905, n. s., lxxix, 207.

[24] 24. Akute rezidevierende Polymyositis in epidemischen Auftret Münch. med. Wochschr., 1905, lii, 1092 and 1152.

epidemic form, but the cases are too acute and short-lived to belong to this group.

Some Japanese authors have written of forms of polymyositis occurring in Japan, but from the literature obtainable I do not find the cases of the subacute type. Ito and Konaka's[25] ten cases of myositis apparently arose from direct infection through the skin or tonsils and caused local suppuration, necessitating operative procedure. Hnátek,[26] among others, has described a case more typical of polymyositis hemorrhagica.

In conclusion I wish to express my indebtedness to the several physicians for referring to me these cases, and especially to Dr. Ernest L. Hunt, assistant pathologist of the Worcester City Hospital, to whom all credit is due for the pathologic and photographic work in Case 3.

A MIXED TUMOR OF THE PAROTID GLAND.

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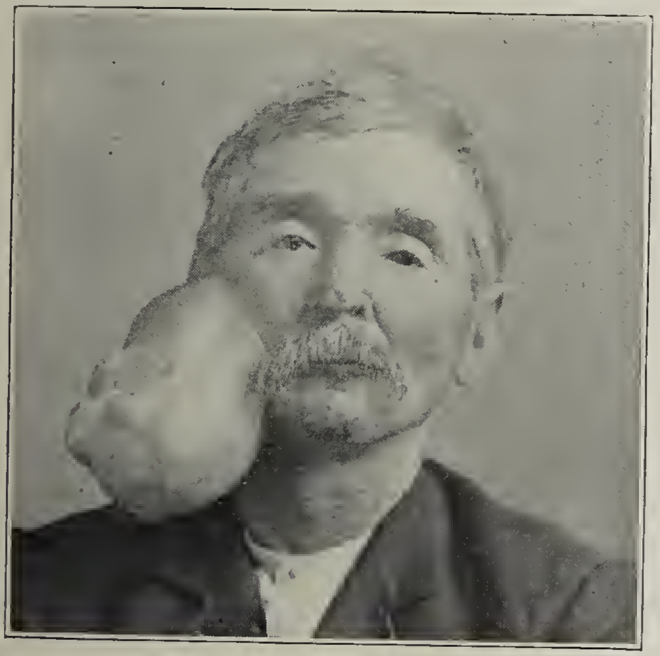
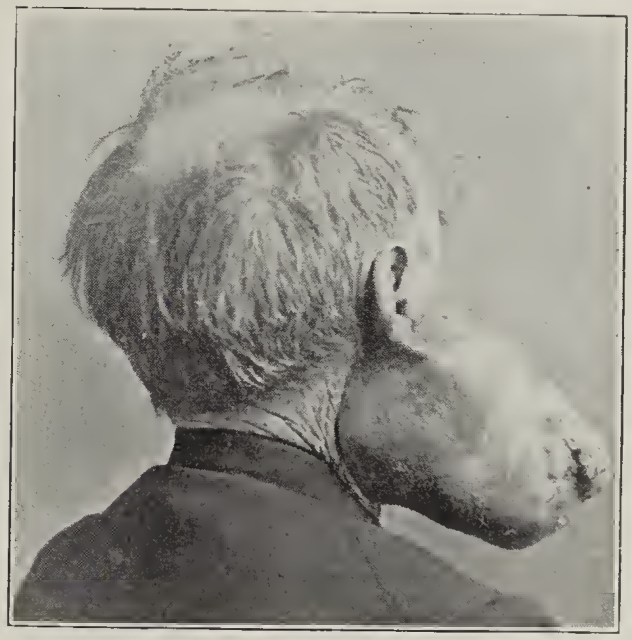
KANSAS CITY, MO.

History.—X. Y., aged 45, consulted me Sept. 1, 1906, with reference to a growth in the region of the parotid gland. His family history was negative. Eight years previously he first noticed a slight enlargement over the parotid gland on right side, this grew slowly for two years until it attained the size of an egg. About this time a physician removed it. A year later the growth made its reappearance and enlarged slowly up to two months ago, then it enlarged rapidly.





Figs. 1 and 2.—Front and side views of patient with mixed tumor of the parotid.

Examination.—It was, when seen, about the size of a large cocoanut (Figs. 1 and 2). No tenderness on pressure nor pain at other times had been noticed. The principal disturbances had been from the size of the growth and the consciousness of its presence. There had been no marked increase in the parotid secretions. The seventh nerve had not been envolved as there was no paralysis; the hearing was good. The growth was freely movable over the ramus of the jaw and had a nodular appearance with numerous erythematous patches over it. Numerous large veins ran in tortuous courses over the growth. Many nodules were firm while others were semi-fluctuating. At several points the growth presented superficial ulcerated spots the size of a finger nail. In general appearance it resembled an inflamed lipoma or a multinodular uterine fibroid.

Operation.—In operating in this case I made the incision from in front of the ear downward and forward along the angle and lower border of the inferior maxilla. The integument at the base of the tumor along this line was seemingly in a healthy condition and was saved to be used to cover the wound after the growth was removed. An incision on the facial side of the growth was made meeting the line of the first. The filaments of the seventh nerve were easily recognized and pulled aside, the capsule of the gland and tumor was left intact during its removal, the dissection was made mostly from the lower side of the growth, the vessels were ligated as soon as cut and very little blood was lost during operation. The facial side of the dissection was made early as the seventh nerve could thus best be discovered and protected. A careful search failed to find any accessory gland structure. The incision was closed with a small drainage inserted at the angle of the jaw. The line of the closure was made to correspond with the natural curve beneath the jaw, thus avoiding an unsightly scar. Recovery followed and now, one year later, there has been no return.

No one characteristic feature of a growth of this kind is of much value in making a macroscopic diagnosis; however, in this case there existed so many traits of a mixed tumor that I felt warranted in diagnosing it as such. Its location (the parotid), its slow primary development, with later more rapid growth, freedom from tenderness or pain, the fact that it was freely movable and that there was no glandular involvement nor constitutional effects, the rarity of other forms of neoplasms in this locality and the contour, consistency and surface markings of the tumor all pointed to its being a growth of that class designated by Bergmann and others as a "mixed tumor."

Growths appearing in the parotid gland as a rule assume the atypical forms, some consisting only of hyaline cartilage and connective tissue. The cartilage frequently undergoes mucoid changes, giving rise to soft spaces in the tumor. These growths of the parotid gland are not very prone to dissemination. In the mixed tumors considerable connective tissue is developed. If slow there may be much connective tissue; if there is rapid cell proliferation the stroma may be choked out. Sarcoma and endotheliomata may both exist in the same tumor. Endotheliomatous elements are usually found in all rapid growing sarcomata. If on serous membrane they are usually multiple. The nature of these growths is not fully settled, as they seem to have both a connective tissue and epithelial elements.

On cutting into this growth after its removal it presented to the eye the character of many growths, one spot looking like a sarcoma, another resembled an enchondroma, again there seemed to be a carcinomatous focus, while scattered through the growth were mucoid or colloid masses. It was connected to the gland by a broad base on its facial aspect.

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[25] Juntendo Iji Kenkin Kwai Zasshi., Tokyo, 1903, 883; also translation in Deutsche Ztschr. f. Chir., Leipzig, 1903, lxix, 302.

[26] Case of Polymyositis with Hemorrhages, translation in Wien. med. Presse, 1905, xlvi, 917.

Valkmann, Nasse and others maintain that the endothelial cells present resemble the epithelial cells very much, but are true endothelial cells, taking their origin from proliferated cartilage cells.

While other pathologists maintain that both epithelial and connective tissue cells may enter into the formation of these mixed tumors of the parotid, von Bergmann pins his faith to the germinal displacement theory and mentions the presence of osseous and cartilage tissue in the parotid as being decidedly foreign.

These tumors may develop at any age from infancy to old age. The theories as to their etiology are purely speculative in the face of the disputed classification of these growths. Neither sex, age, occupation, heredity nor traumatism have been traced as a cause in a sufficient number of cases to be of much value from an etiologic standpoint. These growths may grow to be very large, as the accompanying illustrations show.

These growths are not painful on pressure. There is a peculiar cartilaginous hardness of the nodules between which are soft semi-fluctuating areas; these tumors are freely movable. In the typical mixed tumors of the parotid the diagnosis is usually easy; however, a lipoma or a lymphoma may lead to an error in diagnosis. The prognosis for a patient with a mixed tumor is, if seen early, a favorable one. Many growths of its benign character, however, may by time or injury be changed into one of the most virulent types of sarcomata. The presence of an accessory parotid with a minute growth in its substance or the incomplete extirpation of the original growth may explain why these tumors often reappear and maintain their benign character.

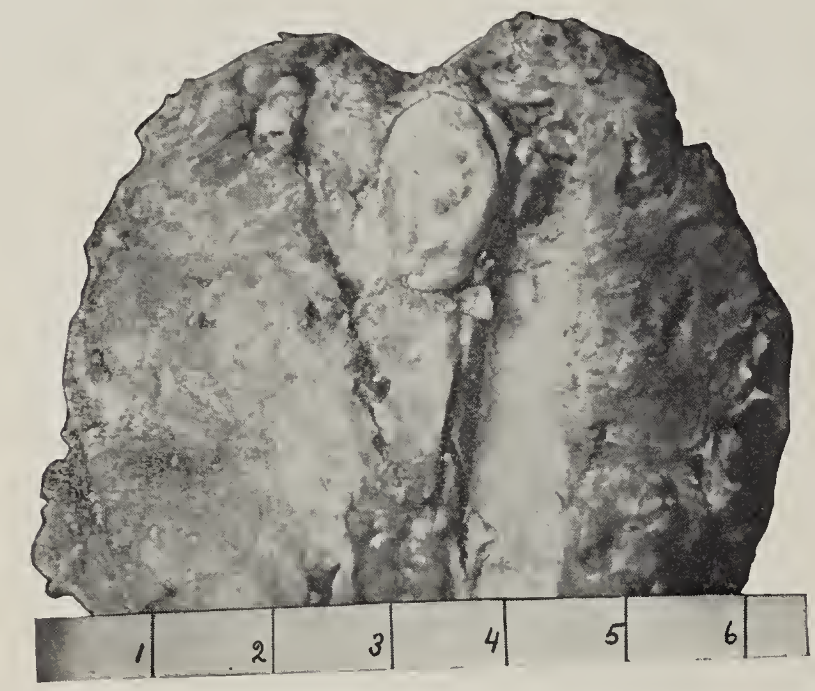

Fig. 3.—Parotid gland tumor of the mixed type, after removal, showing size in inches.

Early extirpation of these growths should be carried out; by this course the greatest percentage of cures will be attained. All precautions should be used in safeguarding the seventh nerve and as thorough, clean extirpation as possible should be practiced.

These growths, like all neoplasms, should be removed thoroughly and early, as only by this method of dealing with them can we expect to save surrounding structures and their functions and prevent widespread dissemination and recurrence. The removal of these parotid gland tumors is often quite difficult owing to their close proximity to the seventh nerve and their deep vascular supply.

A CASE OF SYSTEMIC BLASTOMYCOSIS.*

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The subject of blastomycosis is rapidly gaining the attention of the medical profession, and recognized cases of cutaneous infection are now comparatively common. Greater attention is now being given to the more rare systemic forms of the disease and the varied clinical and pathologic manifestations.

The following case adds not only to our general knowledge, but presents a few additional features of unusual interest:

Patient.—M. L., aged 42, married, native of Poland, laborer by occupation, had lived in United States four years. He was admitted to the Cook County Hospital April 8, 1907, and assigned to the service of Dr. Loeb as a case of acute articular rheumatism. No history having been obtained at that time, this diagnosis was made by the examining physicians because of the obvious swelling of the hand and foot.

History.—After admittance to the ward, the following history was obtained with the aid of an interpreter: About four months before admission patient was taken with a severe cold, associated with cough and expectoration. This interfered but little with his general health. He next noticed a pain in the back, which, at first, was felt only on motion, later when lying on the back. A month later a swelling appeared at this painful area in the dorsal region, at the left of the median line. The cough, which persisted from the onset, became more marked, with abundant expectoration. His appetite began to fail and he noticed that he was losing in weight. About four weeks before admission blood was present in the sputum for several days. It had been present but once since that time. General weakness became so pronounced that he was compelled to stop work six weeks after the onset. Two months before admission painful swellings developed successively on the back of the left hand and foot, and in the chest wall on the left side over the eleventh rib. The next lesion appeared three weeks before admission as a small papule on the right ala of the nose. This was quite painful, and developed slowly into a warty growth. A week later enlargement of the submaxillary glands on both sides of the neck was noticed. He complained of cough, profuse expectoration, night sweats, marked general weakness, and pain in the affected parts. The patient denied previous illness of either a general or specific nature. The family history was negative, except that his first wife died of tuberculosis. Three children borne by his second wife are healthy. The patient had been a coal heaver the past four years, and his habits were moderate in every respect.

General Examination.—The patient was a middle-aged man, considerably emaciated, and very anemic. He lay on the right side and suffered much pain on even slight movements involving the affected parts. The skin was moist, the perspiration being especially profuse on the forehead and in the axillæ. The respirations were free and rapid, averaging thirty per minute. The pulse was full and regular. The temperature was 99.8 F. The scalp was normal, the face drawn, the cheeks sunken, and the eyes were partly closed. The pupils were dilated, equal, and reacted to light and accommodation. There was no nystagmus nor evidence of ocular paralysis. In the middle of the forehead was a small papillomatous growth covered with a thin yellow crust. On removal of this crust a small quantity of pus appeared. The margin was indurated, red and sharply demarcated from the surrounding skin. A the margin of the right ala of the nose was another large growth, which measured 1.5 cm. in length. The papillomatou character was more distinct, and it extended into the nostri for a distance of 0.5 cm., being associated with considerabl swelling of the adjacent tissues. The left ala of the nose wa red, swollen, and indurated, but the overlying skin was smooth. All these areas were very tender. The nasal cavity, mouth and pharynx were much congested with marked formation of mucus. No growths were visible and the tonsils were not enlarged. The tongue was dry, the dorsum being covered with a brown coat, while the margins were bright red. The teeth were in poor condition, many showing marked decay. In the submaxillary region on both sides of the neck was a hard, round, deep-seated swelling, about the size of a walnut. The anterior and posterior cervical lymph glands presented slight enlargement. No cervical rigidity was present. The thyroid was small and irregular. The bony framework of the chest was prominent, owing to the marked emaciation. Over the sixth rib on the left side in the nipple line was a rounded swelling about two inches in diameter. The overlying skin was red and adherent to the mass, and slight fluctuation was present. Posteriorly, on the right side over the twelfth rib, was another swelling of the same size, (Fig. 1), but the skin was not adherent, and it did not fluctuate. Directly over the spine, extending from the level of the eighth dorsal to the first lumbar vertebræ, and measuring three inches transversely was still another swelling (Fig. 1), which showed fluctuation and was also adherent to the overlying skin. Pressure over these areas excited marked pain.

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*A part of the article is omitted from The Journal for lack space. The complete article appears in authors' reprints.

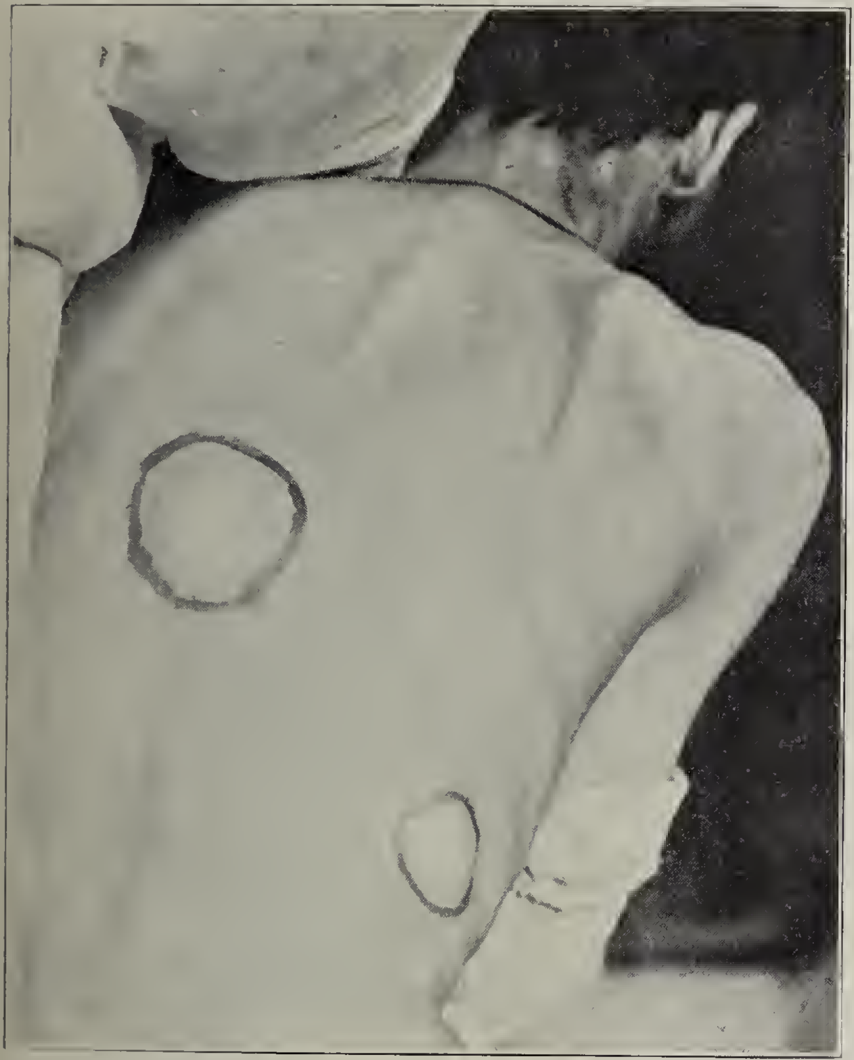

Fig. 1.—Abscesses of the back as they appeared shortly after admission.

Expansion of the chest was slightly retarded on the right side. On percussion the lungs showed no changes anteriorly. Posteriorly dulness was obtained over the lower lobe on the left side, and over a small area below the angle of the scapula on the right side. On auscultation of the lungs anteriorly a few bubbling râles could be heard over the base. Posteriorly on the right side over the above mentioned area of dulness, the breath sounds were loud and harsh, and numerous subcrepitant râles could be heard. On the left side over the upper part of the area of dulness the same findings were obtained and whispered and voice sounds were increased in intensity. At the bases these râles were audible, but the breath sounds were suppressed.

The heart, as ascertained by percussion, was slightly enlarged to the left. The apex beat was palpable in the fifth interspace in the nipple line. A slight murmur could be heard over the apex, but it was not transmitted to the left. Other sounds were normal.

The abdomen was scaphoid. On percussion and palpation no abnormalities were noted. The liver and spleen were not palpable. The genitalia were normal. The lymph glands of the inguinal region were enlarged, forming a continuous chain on each side. On the dorsal surface of the right forearm were two small papillomatous growths, which resembled closely the one on the forehead. Considerable pain was elicited by deep pressure on the muscles of the forearm, but no swellings could be detected.

The left hand and foot presented a diffuse swollen condition, which was most marked on the dorsal surfaces. The middle finger also showed a diffuse enlargement, being nearly twice as large as normal. These swellings were characterized by pain, fluctuation, tenderness, and slight redness of the overlying skin. Examination of the nervous system revealed nothing abnormal.

The case aroused considerable interest and was diagnosed syphilis, pyemia, and tuberculosis by different observers, the growth on the nose being generally regarded as epithelioma.

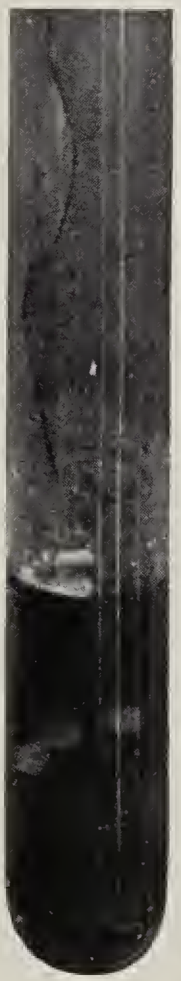

Fig. 2.—Blood culture tube after seven days, showing the two original colonies.

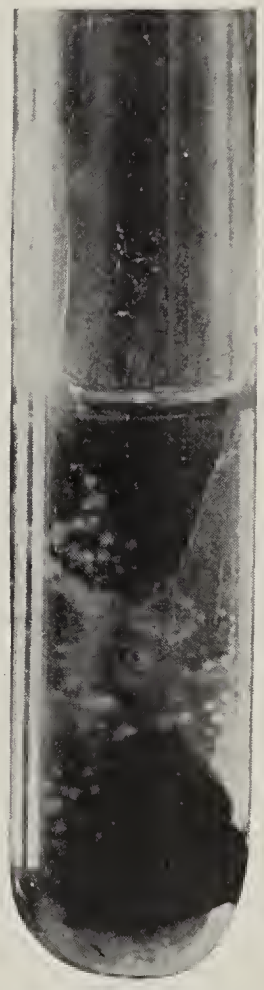

Fig. 3.—Blood culture tube after twelve days, showing numerous secondary colonies.

Treatment.—Inasmuch as the diagnosis of syphilis was regarded as the most probable, the patient was given potassium iodid, 20 grains, and the protoiodid of mercury, 1/5 grain, four times daily, with the effect of marked softening of the swellings. The potassium iodid was continued for a number of weeks, after which quinin and acetylsalicylic acid were administered.

April 19 the character of the nasal growth was recognized and a diagnosis of generalized blastomycosis was made. Blastomyces were then demonstrated in smears of pus from the nasal growth. The organisms were also found in the sputum, urine sediment, and the aspirated contents of the swellings of the left hand and foot. The nasal growth was then excised and sections made after infiltrating with celloidin. Microscopic examination showed changes which are typical of those described as occurring in blastomycosis of the skin. The epidermal layer presented a hyperplastic thickening with marked irregularity of the papillæ. Scattered throughout were numerous intraepithelial abscesses densely packed with lymphocytes, desquamated epithelial cells and polymorphonuclear cells, the latter predominating. Blastomyces were present as round or oval refractile bodies occurring singly, or in clumps of three or four. Budding forms were present. No giant cells were present in the purely intra-epithelial abscesses, but they were quite numerous in the cutis and in those areas formed by cross section of the papillæ. Here the cellular infiltration was dense, and, except in a few local areas, the mononuclear cells predominated. Many plasma cells and eosinophiles were present. In several places the blastomyces were found in the giant cells. Attempts to isolate the blastomyces in pure culture resulted in failure, because of the numerous other organisms present.

Blood cultures made at this time gave some very interesting results. After thorough cleansing of the arm, 5 c.c. of blood were aspirated from the median vein and distributed equally into ten large test tubes, each containing 10 c.c. of ordinary bouillon. After incubation for three days, two discrete white colonies were observed in one of the tubes, suspended in the fibrin meshes which permeated the fluid. These grew rapidly and began to show a distinct radiating structure. From one of these a smaller colony gradually separated by its own weight (Fig. 2), and was later removed for examination and subculture, to which reference will be made later. The removal of this colony, which showed a distinct blastomycetic structure, resulted in the dissemination of organisms in the bouillon, for in a few days about thirty secondary colonies (Fig. 3) were observed scattered throughout the media. By this time the original colonies had attained a diameter of 5 mm., the margins showing a fluffy radiating structure, while the center was becoming clear and indistinct. This is the second case in which the organisms have been recovered from the blood, the first instance having been recorded by Buscke. Pure cultures were obtained in every instance from the pus obtained from the abscesses.

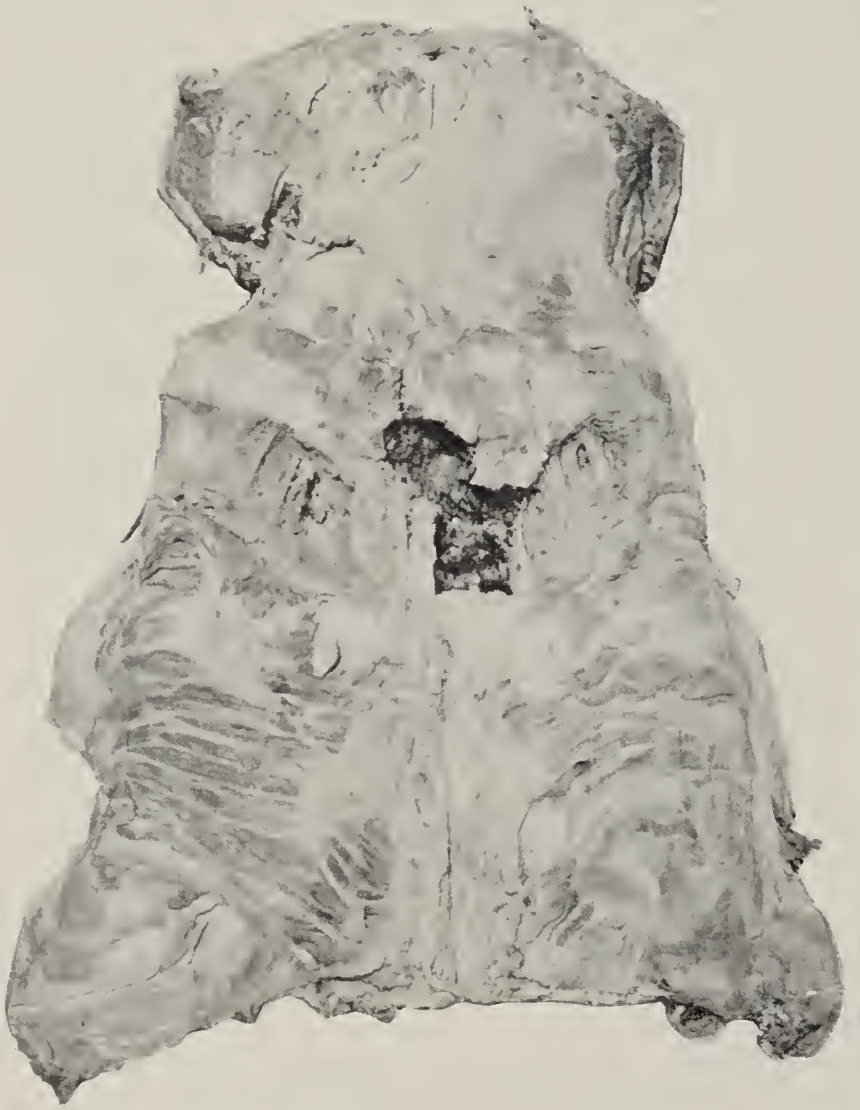

Fig. 4.—Abscess in the sternum. A rectangular portion has been removed, exposing the zone of invasion.

Blood Examinations.—April 24 the red blood cells numbered 2,420,000 per c.mm. The white cells numbered 14,200 per c.mm. A differential count of 200 cells showed polymorphonuclear neutrophiles, 67 per cent.; large mononuclear leucocytes, 9 per cent.; small mononuclear leucocytes, 16 per cent.; eosinophiles, 2 per cent.; myelocytes, 3 per cent., and transitional forms, 2 per cent. May 8 the white cells numbered 22,800 per c.mm. Still another examination on May 16 gave a red cell count of 2,280,000 per c.mm. The hemoglobin was estimated at 70 per cent. (Tallquist). The leucocytes numbered 29,800. A differential count of 200 cells showed 77 per cent. polymorphonuclear neutrophiles, 7 per cent. large mononuclears, 6 per cent. small mononuclears, 1 per cent. eosinophiles, and 8 per cent. myelocytes.

Urine Examinations.—April 4, a. m., specimen; color, amber; specific gravity, 1015. No sugar or albumin present. Diazo reaction negative. The sediment contained a few leucocytes. No red blood cells nor casts were present. An examination on April 25 gave about the same results, except that the sediment contained a few hyalin casts and leucocytes, and a large number of round and oval refractile bodies, possessing a double contour and staining poorly with methyl blue. On May 6 another examination gave the same findings, except that the specific gravity was high, being 1.028. A careful study of the refractile bodies (blastomyces) found in the sediment left no doubt as to their character, as they did not dissolve in a 40 per cent. solution of potassium hydroxid and presented numerous budding forms. They undoubtedly had their origin in the pus from the abscesses in the prostate which were found at the autopsy.

Sputum Examination.—The sputum, which was abundant, was of a yellowish purulent character, with varying amounts of blood, which at times were sufficient to give the sputum a brick-red or chocolate color. It was thick in consistency, but not tenacious. Repeated examinations failed to demonstrate tubercle bacilli. Many blastomyces were found in the potassium hydroxid preparations.

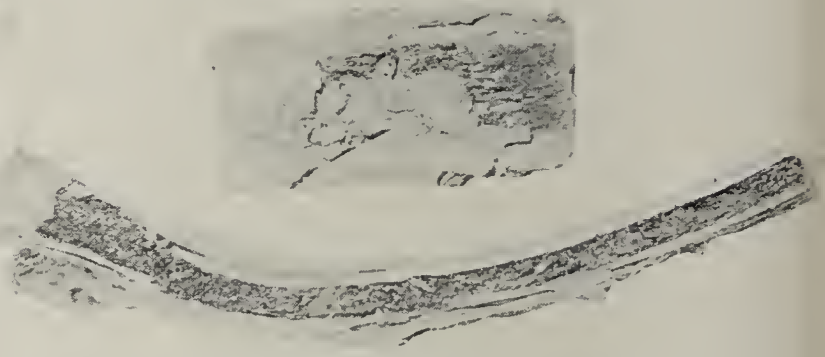

Fig. 5.—Abscess and diffuse osteomyelitis of the seventh rib.

Nothing of importance was found in several examinations of the feces.

Subsequent History.—During the subsequent course the patient became gradually worse and was helpless and bedridden after May 18. He complained bitterly of pain in the affected parts, especially on motion, or when the abscess walls became tense from pressure of the enclosed pus. Evacuation of these gave marked relief.

The appetite continued fair, and he was able to eat ward diet for some time, but, in spite of this, he continued to lose flesh, and the emaciation became pronounced. No nausea or vomiting occurred at any time. The bowels were fairly regular. Urination was normal. His sleep was often disturbed by the pain occasioned by involuntary movements about the bed. Perspiration was profuse and constant. The mental condition of the patient was very good, but he showed marked irritability and became morose toward the end. The cough was not especially marked at any time, but the expectoration was profuse. The local lesions progressed more or less rapidly. The nasal growth was excised April 19 for bacteriologic and histologic examination. The induration extended into the nostril for some distance, and it is probable that all of the infected tissue was not removed, as the wound again took on a papillomatous appearance. The opposite ala also became red and swollen, and the surface covered with a thin brown crust. The abscesses on the hand and foot became more soft and fluctuating, and were aspirated April 19. Marked relief from pain resulted for a few days, but it became necessary to incise and drain a few days later. The pus obtained was thick, varied in color from a light yellow to a dark brown.

The abscesses on the back were also aspirated and the one on the left side of the chest was incised May 15.

During this time new abscesses formed in the right forearm and hand and in the inner part of the left thigh. These were subsequently opened and pus of a similar nature evacuated. With one exception, the discharge from these abscesses had been continuous and profuse and a distinct mouldy growth occurred on some of the dressings in which the discharge had become dried.

The other physical findings changed but little, except for increased dulness with harsh breath sounds and coarse râles over both lungs.

During this illness the temperature curve showed a morning elevation of temperature, with marked evening remissions, the latter often subnormal, at one time reaching as low as 96 F. The high points ranged between 100 and 102 F. until the last two weeks, when temperatures between 102 and 103.8 F. were recorded.

The pulse continued fairly steady between 100 and 120 beats per minute until two weeks before his death, when it began to follow the temperature curve, going as high as 140. During the last four days of his illness it varied between 120 and 160, continuing high, while the temperature became subnormal.

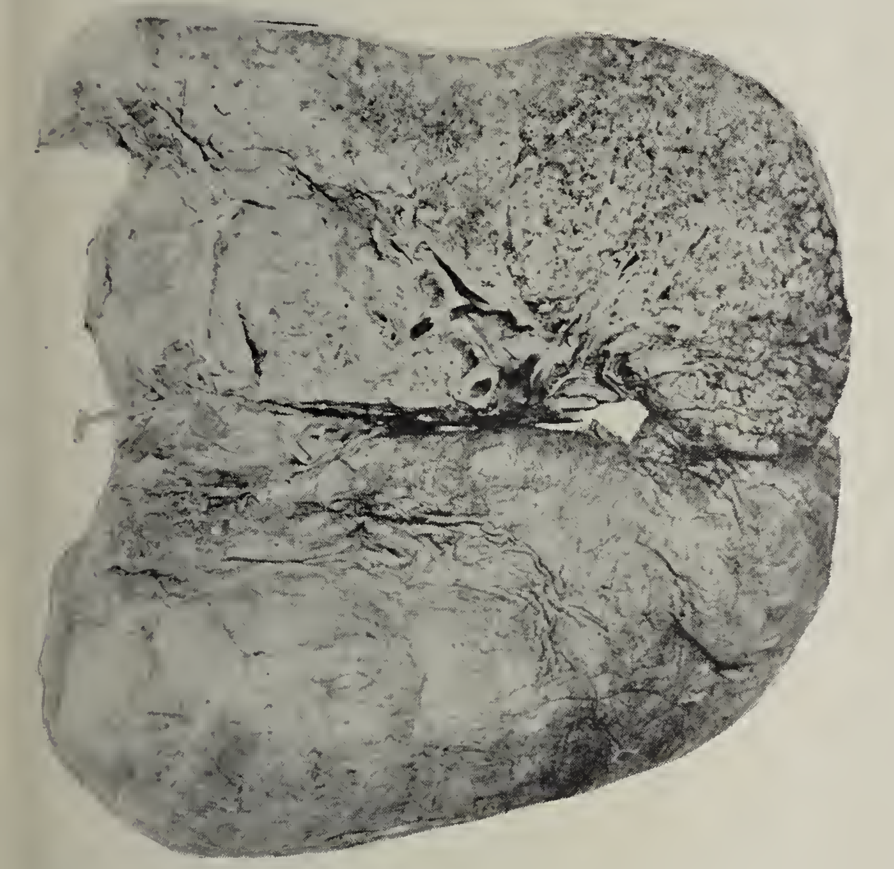

Fig. 6.—The right lung showing pleural and cut surfaces. In the latter can be seen miliary and confluent blastomycotic nodules.

The respirations averaged about 26 per minute and did not show any marked variations until the last week, when they also became more rapid following the general pulse and temperature curve. During the last four days they became more rapid and labored, running from 54 to 60 per minute until the end. Death occurred June 14 and was undoubtedly due to exhaustion.

Autopsy.—Permission for autopsy was secured three days after death and the following anatomic diagnosis was made: Miliary and nodular blastomycosis of the lungs, kidneys, spleen, cerebrum, pleura and lymph glands. Multiple blastomycotic abscesses of the cerebrum, cerebellum, prostate, pleura, skin, osseous, muscular and subcutaneous tissues. Parenchymatous nephritis. Fatty changes, adenoma and angioma of the liver. Adenoma of the thyroid. General lymphatic hyperplasia. Shaven beard appearance of Peyer's patches. Atrophy of the testicles. Fibrous pleuritis.

Pathologic Report (Abstract).—The body was extremely emaciated and some edema of the feet and ankles was present. The surface was marked by a number of skin lesions, fistulæ and swellings representing abscess formations. The skin lesions were more or less characteristic and were distributed over the right upper lip, right eyebrow, knee, elbow and costal margin, the left cheek and both alæ of the nose. The fistulæ were either open and discharging a thin yellow pus or covered with a brown crust. They were located on the inner side of the left foot, dorsal surface of the right hand and radial sides of both forearms. All these were the results of operation, none of the abscesses having ruptured spontaneously. Abscesses confined more or less to the subcutaneous tissue were located as follows: On the left side over the eleventh and twelfth ribs and measuring 5 cm. in diameter; to the right of the spine opposite the fourth and fifth vertebræ; below this directly over the spine extending from the sixth dorsal to the third lumbar vertebra and to either side for a distance of 6 cm. Separated an inch from the above and to the left of the median line was another large abscess measuring 9 cm. in diameter. The abscesses in the muscular tissues were located in the submaxillary region of the left side beneath the platysma and sternomastoid muscles; in the left thigh and right forearm.

Abscesses involving bony structures were either confined to them or communicated with diffuse or circumscribed collections of pus in adjacent soft parts. They were located in the bones of both hands, the left foot, right ankle, sternum (Fig. 4) and the seventh rib (Fig. 5) of the right side.

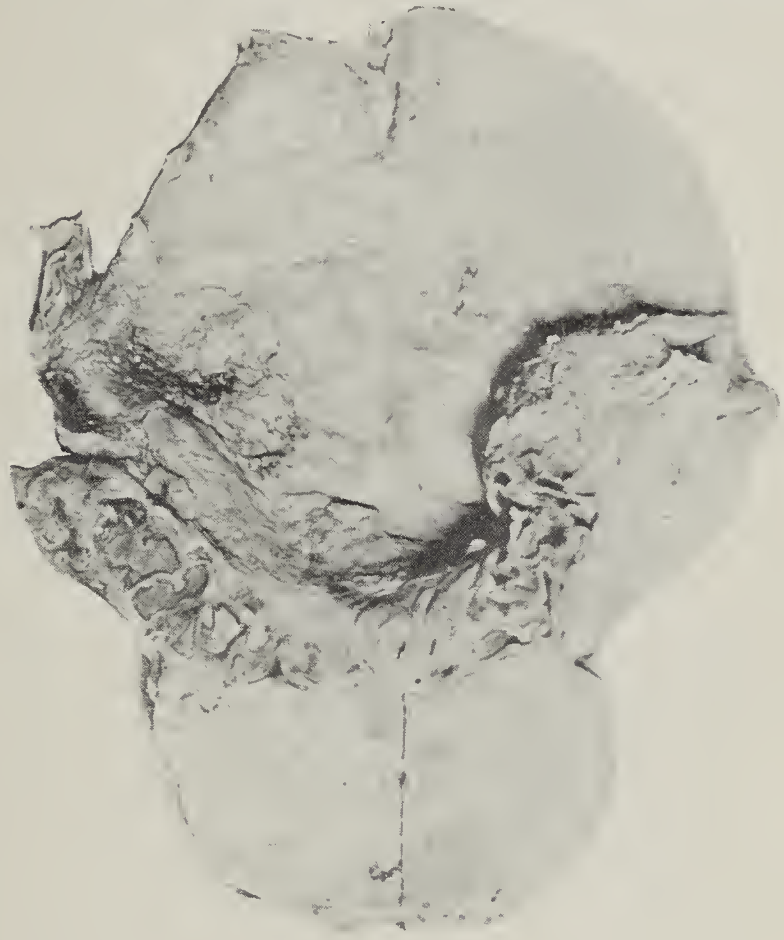

Fig. 7.—The prostate, showing blastomycotic abscesses.

The deep cervical and peribronchial lymph glands were much enlarged and contained some small yellow nodules. The submaxillary, superficial cervical and axillary glands were also somewhat enlarged. Both pleural cavities were obliterated by fibrous adhesions and the lungs were removed with difficulty. The right pleural layers were united into a white fibrous coat and contained a small abscess communicating with an abscess in the seventh rib.

The lungs were large and firm and crepitated feebly throughout. Beneath the pleura and on the cut surface could be seen a large number of small white or gray nodules from 1 to 4 mm. (1/25 to 3/16 in.) in diameter (Fig. 6). In the right lower lobe the nodules had become confluent, forming irregular grayish white areas 1 cm. or more in diameter. The general appearance was not unlike that of tuberculosis. The kidneys presented a parenchymatous nephritis and contained a number of nodules beneath the capsule and on the cut surface. A number of nodules were also present in the spleen. The prostate (Fig. 7) was enlarged and contained a large fluctuating abscess in the left lobe. The right lobe was fibrous and contained a few purulent areas. The brain contained five small abscesses in the cerebrum and two in the cerebellum.

Histologic Examination.—The various lesions presented more or less round-cell infiltration. In the larger foci polymorphonuclear cells and evidences of necrosis (Fig. 8) were present. Giant cells were found in most of the tissues, sometimes very abundantly. Their absence was noted especially in the spleen, bone and joint lesions. Blastomyces were demonstrated in every instance. The viscera not mentioned contained no discoverable blastomycotic changes.

Bacteriologic Examination.—In addition to the cultures obtained during life, material was taken at autopsy from the knee joint and the abscesses of the spleen, pleura and prostate. Pure cultures were obtained from the first three mentioned and a mixed culture from the prostate. The organisms were demonstrated in smears of material taken from the nodules of the kidney and the abscesses in the brain and rib. All the cultures obtained from pus and necrotic material appeared to be similar, but that obtained from the blood shows a few differences. A detailed comparative study of these and other organisms will be presented at a later date.

Since the diagnosis of this case was established three other cases were found in the wards of the hospital, and the reports of these, including one autopsy, are in preparation.

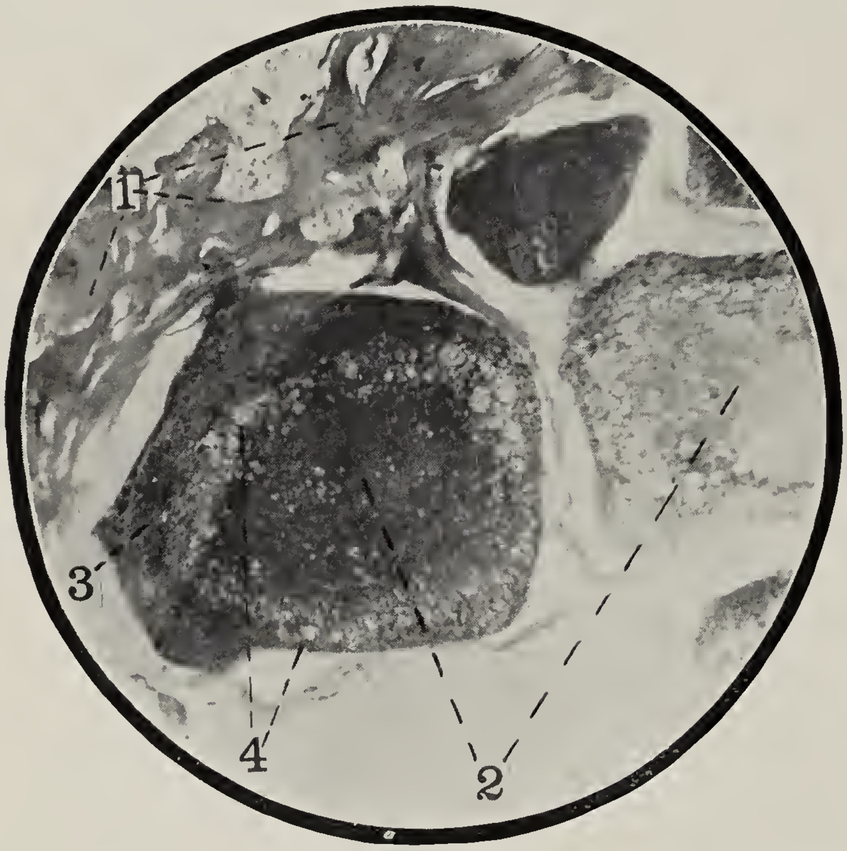

Fig. 8.—Section of sternum showing infection of bone marrow. 1, Bone; 2, central necrotic zone of infected marrow; 3, peripheral border unaffected tissue; 4, light areas representing clumps of blastomyces.

SUMMARY.

Briefly summarized, this case represents a generalized blastomycotic infection. The onset was characteristic of a severe bronchitis and the principal symptoms were cough, expectoration of a purulent and bloody sputum, evening rise of temperature, night sweats, progressive emaciation and pain in the affected parts. The course was of seven months' duration and marked by successive development of numerous skin lesions and superficial abscesses.

The similarity of the clinical course and the pathologic changes to those of tuberculosis has undoubtedly been the cause for a large number of cases having been considered as instances of that disease. The presence of the characteristic skin lesions should be very suggestive, and the diagnosis is easily established by the demonstration of the organisms in the sputum and pus.

In this case, according to the history, the first skin lesion appeared three months after the onset and two months after the development of the abscess in the back. The respiratory tract was, therefore, the first to give evidence of infection with subsequent localization in other parts. The predilection of the organism for the small bones and the ends of the long bones is marked. There can be no doubt as to the etiology of the disease, but our knowledge of its inception and transmission is still limited. Further reports will undoubtedly throw some light on this phase of the subject.

HEART BLOCK AT NINETY-ONE.

CHARLES F. BEESON, M.D.
ROSWELL, N. M.

History.—J. A. P., justice of the peace, aged 91, visited me in March, 1907, for shortness of breath and vertigo.

Examination.—Examination of the heart revealed the following: The systolic contractions were irregular; a pause

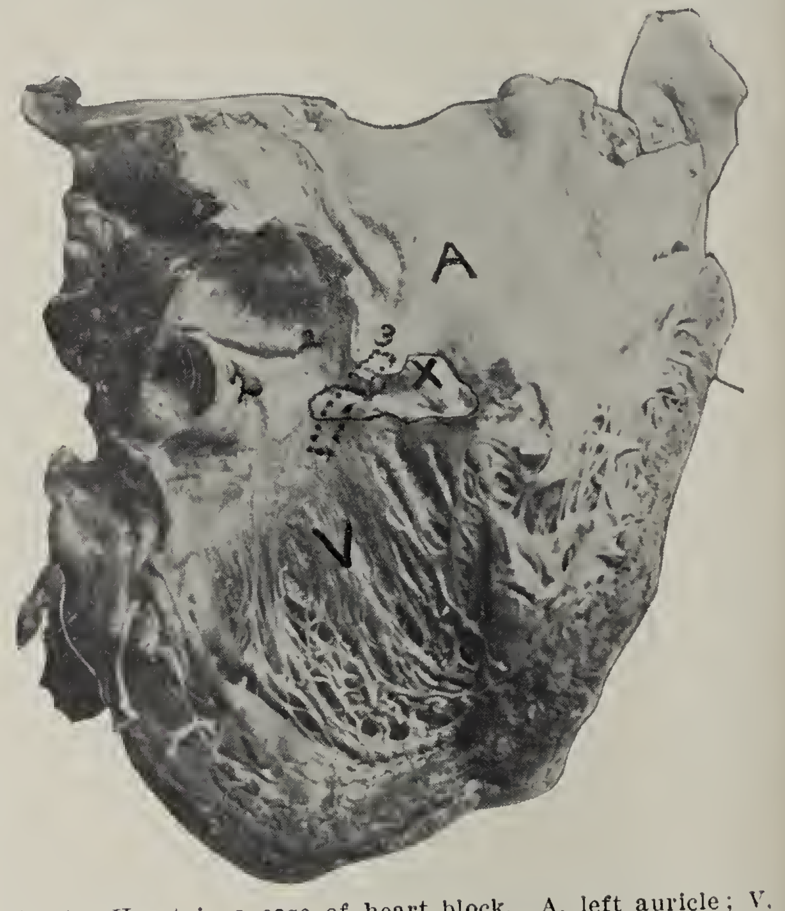

Fig. 1.—Heart in a case of heart block. A, left auricle; V, left ventricle; X, atheromatous deposit; 2, aortic valves; 3, dotted outline of bundle of His crossing tumor.

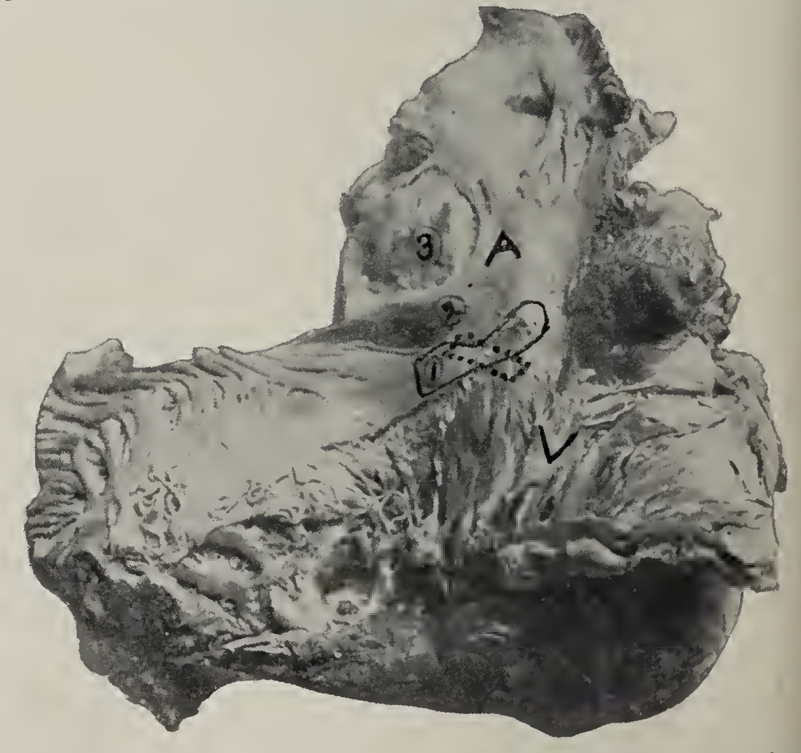

Fig. 2.—Heart in a case of heart block showing right auricle an ventricle laid open. A, right auricle; V, right ventricle; 1, outlin of tumor with bundle of His (dotted area) crossing it; 2, coronar sinus opening; 3, closed foramen ovale.

amounting to the length of three or four contractions would occur following about six normal contractions. During this pause faint contractions could be heard, the pulsations from which did not reach the wrist. No murmurs were heard, but the heart sounds were not pure; they were what would lead one to suspect fatty degeneration of that organ. Pulse, 40; irregular, indicating the pause very plainly. Audible impulses at heart area numbered 66; visible pulsations in the neck, 90. Blood pressure, by the Riva Rocci, 9 cm. cuff; sphygmomanometer was 129 mm. and was peculiar in that some of the pulse beats ceased long before others; the last to stop occurring about every ten seconds before it was finally cut off by the cuff.

Subsequent History.—The patient's condition continued more or less constant, at times showing improvement. He gradually became weaker and finally took to his bed. The attacks of syncope became worse and, as described by the attending nurse three weeks before he died, were as follows: Patient would become delirious, pulseless and soon unconscious; this lasting several minutes. He died in one of these attacks on August 15, just six months after I first discovered the symptoms leading me to suspect the condition of heart block.

Autopsy Findings.—An examination of the heart postmortem showed extreme fatty degeneration with numerous chalky deposits in both heart and vessels. A large deposit producing a tumor 1½ inches long by ¼ inch in diameter and of stony hardness, was found situated in the substance of the auriculoventricular septum in a position anatomically that would lead one to suspect that it interfered with the functionating of the bundle of His. The photographs (Figs. 1 and 2) of the opened heart give an outline of the lesion and its approximate relation to the bundle of His as described and located by Keith and Tawara. The dotted outline represents roughly the region of the bundle; the irregular oblong outline shows the boundaries of the tumor. The microscopic examination will no doubt be interesting.

A CLINICAL STUDY OF THE BROMIN COMPOUNDS WITH SPECIAL REFERENCE TO STRONTIUM BROMID.*

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Bromin is comparatively a new remedy. Seventy-five years ago it was unknown in therapeutics. For instance, if you take Pâris' Pharmacologia, published in 1825, which, by the way, for the breadth of its views, for the philosophic insight into the fundamental principles of medicine, will compare very favorably with the textbooks published in 1907, you will find no mention of the word bromin or bromid. Bromin had not yet been discovered at that date. It was discovered one year later, in 1826, by Balard of Montpellier, who at first named it *muride* (from muria-brine, the source from which he prepared it originally and from which the name muriatic acid is derived); later, at the advice of Gay-Lussac, he changed the name to bromin (from *bromos,* a stench), to indicate its extremely irritating odor.

We will not spend much time on bromin, as it is practically not used as a therapeutic agent at the present time, and there is no reason for its being official. Suffice it to say that during fifteen or twenty years after its discovery it was, on account of its chemical similarity to iodin, considered, therapeutically, the same as the latter. Thus, for instance, Pereira in his "Elements of Materia Medica and Therapeutics" (Edition 1846) says: "It (bromin) seems to possess the same therapeutic influence as iodin, and has been administered in bronchocele, in scrofula, in tumors, in amenorrhea and against hypertrophy of the ventricles. It is usually regarded as possessing more activity than iodin."

This error of considering two substances therapeutically similar or identical, because their chemical properties are similar or identical, is still indulged in by some pharmacologists of the present day, but it is an error against which we should guard most carefully, as it is apt to lead us astray most ignominiously.

For many years after the discovery of bromin, potassium bromid was the only one of its compounds used in medicine. It was introduced into the London Pharmacopeia in 1836, and the reason it was introduced was because Dr. Williams reported great success from its use in a case of enlarged spleen. He thought that it possessed "unusual, if not specific, powers in the cure of diseases of the spleen." As you see, it got into the pharmacopeia under false pretenses, but we have allowed it to stay there because it showed that it possessed decided therapeutic powers in other directions. At first it was simply used as an adjuvant to or a substitute for potassium iodid. It was used in bronchocele (the old name for goiter), scrofula, syphilis, etc. Robley Dunglison says in his "General Therapeuties and Materia Medica" (Lea & Blanchard, 1843): "The effects of bromid of potassium on the economy appear to resemble those of iodid of potassium. It has been used in goiter, scrofulous affections, enlarged spleen, chronic cutaneous diseases, etc., but it is not much prescribed."

It is rather remarkable that it was Ricord himself, the greatest syphilographer of the nineteenth century, who thought favorably of the use of potassium bromid in secondary syphilis. He claimed that it acted similarly to potassium iodid, though more slowly. We know now, as Ricord came to know later on, that the effects of potassium bromid in syphilis are nil; if it does act, it acts injuriously, by deranging the digestion, producing an eruption of its own, thus confusing the physician, etc. And this goes to show that the greatest authority can be mistaken, and that no *ipse dixits* of authorities or text-books must be accepted blindly. For it took quite a few years of useless trials, and of useless injury to patients, before the inefficiency of potassium bromid in syphilis was recognized.

In the fourth decennial revision of the U. S. Pharmacopeia, published in 1864, potassium bromid was the only bromin compound official, and it was in the sixties that the proper status of potassium bromid in therapeutics became pretty well established. Sodium bromid only became official in the sixth edition of our pharmacopeia, published in 1883, and until that year it was, according to some of our friends who tell us to limit ourselves to official preparations only, criminal, or at least highly reprehensible, to employ sodium bromid on our patients. Strontium bromid was made official in the seventh revision of the Pharmacopeia, published in 1894, and the bromid compounds official in the present Pharmacopeia are as follows:

INORGANIC.	ORGANIC.
Acidum Hydrobromicum.	Bromoformum.
Calcii Bromidum.	Camphoræ Monobromidum.
Ammonii Bromidum.	Hyoscinæ Hydrobromidum.
Lithii Bromidum.	Hyoscyaminæ Hydrobromidum.
Potassii Bromidum.	Homatropinæ Hydrobromidum.
Sodii Bromidum.	Quininæ Hydrobromidum.
Zinci Bromidum.	Scopolaminæ Hydrobromidum..

These are the fourteen official compounds, seven inorganic and seven organic. But it seems that in our hustling, restless, nervous and neurasthenic age this number is not sufficient. Our people apparently need sedatives, for the number of bromin compounds is constantly increasing, and only to-day, while writing this paper, a new bromin compound, defined chemically as the mono-brom-iso-valerianate of urea, has come to my attention.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

Having mentioned the official bromin compounds, it will not be out of place to give here a brief enumeration of the non-official bromin derivatives. I shall not attempt to mention every one that has been brought out by the enterprising manufacturing chemists, but only those which have come more or less into use.

Antisepsin, also called asepsin, is chemically bromanalid or bromacetanilid. It is a white crystalline powder, practically insoluble in water, but soluble in alcohol and ether, and is used externally as an antiseptic and to a slight extent internally as a sedative and antipyretic. The internal dose is one to two grains.

Bromacetanilid. See antisepsin.

Bromalbacid. This is an albumin bromin compound. It is a yellowish white powder and is given in doses from 5 to 20 grains. The usual claim is made for it that it is well borne, does not disturb the stomach and does not produce acne.

Bromalin is also known as Bromethyformin. It is a white crystalline powder, soluble in water, and is claimed to combine the actions of both a sedative and a urinary antiseptic. It is given in doses of 15 to 60 grains.

Bromanilid. See Antisepsin.

Brom-eigon is also an albumin bromin compound containing about 10 per cent. of bromin. It is a whitish powder, insoluble in water and practically odorless and tasteless. Dose 15 to 30 grains.

Bromethylformin. See Bromalin.

Brometone is chemically tribrom-tertiary-butyl alcohol. It is a white crystalline powder having a camphoraceous odor and taste. Very slightly soluble in water, but soluble in alcohol. Its good effects in epilepsy and as a general sedative seem to be pretty well established. Dose 5 to 15 grains.

Bromipin is a combination of bromin with oil of sesame. It is marketed in two strengths, one containing 10 per cent. of bromin and one containing 33.3 per cent. The latter product, however, is practically not used in this country. The product is a yellow oily liquid of a slight odor and very disagreeable taste. Some people are utterly unable to stand it, as it sometimes causes unconquerable nausea. In epilepsy its value is pretty well established; but as an ordinary sedative and antispasmodic where quick action is desired it is worthless.

Bromocoll is a compound of bromin with tannin-gelatin. It contains about 20 per cent. of bromin. It is a yellowish powder, odorless and practically tasteless, insoluble in water or alcohol, but soluble in solutions of alkalies. When an aqueous solution of it is desired, borax is the best addition. This compound is used both internally and externally. Internally instead of the alkaline bromids, and externally to allay pruritus. For the latter purpose it is used in the form of a 20 per cent. ointment.

Bromofarina is a flour containing sodium bromid instead of sodium chlorid, and the bread made from it is called Bromopan. It is used in epilepsy instead of ordinary bread.

Bromoprotolin is another of the numerous albumin-bromin compounds containing 10 per cent. of the latter element.

Bromopirin is antipyrin in which one atom of hydrogen has been replaced by one atom of bromin. Unlike antipyrin, it is insoluble in water, but soluble in alcohol. It is claimed to combine the properties of both a sedative and an antipyretic and is given in doses of 10 to 30 grains.

Brompepton is similar to brom-eigon.

Bromprotylin is a combination of bromin with a phosphorus albumin compound said to contain 4 per cent. of bromin. Dose 5 to 20 grains.

Bromural is the latest bromin derivative and is chemically mono-brom-iso-valerianate of urea. It is in the form of white scales, soluble in hot water, alcohol and alkalies. Its taste is slightly bitter, its property is hypnotic, its dose is from 5 to 10 grains. Of course, it is claimed to be, like all new hypnotics are, harmless, free from the danger of inducing a habit, etc., but as I have said many times before, there is no such a thing, and probably never will be, as a perfectly harmless hypnotic.

Monobromphenol is carbolic acid in which one atom of hydrogen has been replaced by one atom of bromin. It was recommended for external use in various skin affections, but it has not gained any ground.

Neuronal is chemically bromdiethyl-acetimid. It is a crystalline powder, slightly soluble in water, but very soluble in alcohol. It has been recommended as an hypnotic in doses of 7½ to 30 grains.

Tribromphenol, also known as bromol, is chemically carbolic acid in which three atoms of hydrogen have been replaced by three atoms of bromin. It is in the form of whitish crystals, generally turning reddish, insoluble in water, but soluble in alcohol and glycerin. It is hardly ever given internally now, but it is still occasionally used externally.

Xeroform is chemically tribromphenolbismuth. It is a yellowish powder, practically odorless and tasteless in water alcohol or glycerin. It is used externally as a surgical antiseptic and internally as an intestinal antiseptic and astringent. The dose for internal use is 10 to 30 grains.

We will now stop for a moment and see what the real therapeutic status of the bromids is. I do not wish to refer to disputed or uncertain points, but only to facts to which I can certify from personal knowledge and experience.

The bromids are positively useful as anaphrodisiacs; that is, they do act as sexual sedatives. They will prevent chordee, they will prevent night emissions, they diminishing the *libido sexualis* in continent people. They are useful in convulsions, in nervous headaches, in general nervous irritability, and in mild insomnia due to excitement or worry, but not to pain or inflammation. They are positively useful in strychnin poisoning, though in one case of strychnin poisoning which I treated—successfully—I used them in conjunction with chloral hydrate. (They are stated to be useful in tetanus if given in very large doses, but I have had no personal experience in this direction.)

In puerperal eclampsia they are, in my opinion, contraindicated. They are useful in diminishing the epileptic seizures in epilepsy—there is no question that they do that, but that does not mean that they are the best remedies to use in epilepsy. They do not cure the disease, and the injurious effects of the potassium, where potassium bromid is the salt employed, overbalances the beneficial effects. Some one has said that Julius Caesar and Napoleon Bonaparte should have thanked their stars that potassium bromid had not yet been discovered in their times. And I agree with him. For I believe that if they had fallen into the hands of a good orthodox physician who had filled them with large doses of potassium bromid they would not have accomplished what they did and their names would not have gone down to posterity.

But I might as well say it now as later on in the paper, that I blame the potassium more than I do the bromin. Potassium is a peculiar element; in organic combinations, such as the acetate, bitartrate and particularly the citrate, it is a mild element. In the haloid combinations it is toxic and irritating, and should be used a little as possible and as seldom as possible. Particularl in diseases in which it needs to be used for a long time such as epilepsy, it should not be used at all. For ther is no question that used for months or years it disor ganizes the blood, weakens the cardiac muscle and permanently affects the mental faculties.

In my practice I have often been in need of a positive sedative—either a general nervous sedative or one with special reference to the genito-urinary system. Of course the first drug used was potassium bromid. It acted satisfactorily as far as the special symptom for which it was administered was concerned, but it did not take me long to notice that the by-effects and undesirable symptoms it produced far outweighed its therapeutic value. And I wish to say right here that the worst effects of potassium bromid, such as acne, furunculosis, ulceration, gastrointestinal irritation, mental and physical depression, etc., are not due to the bromin alone, as is generally thought, nor to the potassium alone, as is thought by some, but to the potassium bromid as a whole, as an entity.

That it is not due to the bromin alone you can convince yourself by giving the same amount of sodium bromid for the same length of time, and you will see that the undesirable symptoms are very much milder. And this is the more convincing from the fact that sodium bromid is stronger in bromin content than potassium bromid is, sodium bromid containing 77.6 per cent. of bromin and potassium bromid only 67.1 per cent. That it is not the potassium alone that does the mischief you can readily convince yourself by giving, say 15 gr. doses of potassium bitartrate for a long period. While we are constantly inculcating in our students' minds that in thinking of a compound we must, so to say, forget the component elements and think of the compound as a whole, still the base or acid radical is often too prominent in the physician's mind. It is true that in many compounds the basic radical overshadows the acid one or vice versa, still we must bear in mind that the compound is an entity and that either radical is strongly modified by the other. And when a patient takes potassium bromid and gets a nasty acne, it is wrong to speak of it as a bromid acne, because it is a potassium bromid acne.

As I said before, potassium bromid was too toxic an agent for me, and the next salt used was sodium. This was more satisfactory than the potassium salt in every way, but it did not fully satisfy me, for while it is much less likely to cause acne and general depression, sensitive stomachs stand it almost as badly as they do potassium bromid. Lithium bromid does not act energetically enough, and this is certainly strange when we take into consideration that lithium bromid contains the largest percentage of bromin of any official salt, namely, 92 per cent., which again goes to prove that you can not judge of the action of a compound by its percentage composition. Ammonium bromid and calcium bromid presented no advantages that I could notice, and they were quickly discarded. Rubidium bromid acts nicely but is too expensive for ordinary use.

My choice finally fell on strontium bromid and, after a most careful and painstaking experimentation, I am ready to declare it is the very best bromid combination. Potassium bromid I have discarded entirely, and in my opinion it ought to be entirely discarded from our therapeutic armamentarium. The question is not whether it acts as a sedative or not; it does. But, as I menioned before, its injurious effects so much overbalance ts value that it is more than unwise to use it and retain t in the Pharmacopeia.

The strontium salts were introduced to the medical profession in 1890 by Professor Laborde, who, I assure you, must not be held responsible for labordine. He has had no more to do with labordine than Lister with listerine or Koch with kochin. The reports of the strontium salts were unequivocally favorable and strontium bromid became official in the U. S. P. in 1890 (published in 1894). A number of contributions have appeared on the superiority of the strontium salts over those of the alkalies and other alkaline earths, the latest being J. M. Bennion's report from the Oxford County Asylum on the superiority of strontium bromid in the treatment of epilepsy.[1] But I will not refer to them, because it is my purpose to detail my own experience and report my own personal results. There is too much copying from other authors and text-books, and thus an error reported by one becomes multiplied a thousandfold. And the exhaustive bibliographies attached to many papers are nothing but useless "show-off" appendages. Bibliographies are in place in articles which are distinctly and frankly résumés of other people's work, but not in original reports.

I have used strontium bromid in about 200 cases, used it skeptically, analytically, using the other bromids at the same time in other patients, as controls, and my results justify me in stating that the real value of strontium bromid is not appreciated by the medical profession. Besides its distinctly sedative (bromid) effect it possesses a soothing effect all its own, for which credit must be given to the strontium radical. It is remarkable that as a urinary-vesical-sedative and anaphrodisiac it is more effective, grain for grain, than potassium bromid, and that, notwithstanding the fact that the latter contains about one-third more bromin than the former (potassium bromid contains 67 per cent., while strontium bromid contains only 45 per cent. of Br).

Strontium bromid does not upset the stomach, nor cause cramps, colic or diarrhea as potassium bromid sometimes does. It does not irritate the kidneys; rather the contrary, it reduces renal irritation, in which property it is similar, to a certain extent, to the lactate of strontium. Under its administration you can often notice a diminution of albumin in albuminuria and of sugar in glycosuria. It never produces acne. I said "never," but I do not like the words "never" and "always" in medicine. Under the administration of large doses over a long period of time, two or three per cent. perhaps will develop some acne pustules, but they are mild and transient.

Not only this, but I have had a number of patients state that their digestion has improved under its use. This is quite possible, if we bear in mind that the strontium salts possess decided, though mild, antiseptic properties. One might suggest that the improvement in the digestive functions might have been due to the general improvement caused by the associate treatment. Perhaps. It is strange, however, that I have never had a patient tell me that his digestion improved while taking potassium bromid.

I can speak with positiveness on this subject because I have had some patients who, for moral or other reasons, had to lead a continent life and who were taking the strontium bromid as an anaphrodisiac for several months at a time. Besides the mild and transient acne, there were no other by-effects that they or I could notice.

I advise you all, whenever you have occasion to administer a bromid, to use strontium bromid in preference to any other. But of one thing you must make sure—that your strontium bromid is *pure*, absolutely pure, or at least of pharmacopeial purity, for commercial strontium salts are contaminated with barium, and barium is a distinct poison. And if you get a strontium salt which contains a large percentage of barium you will get more gastrointestinal irritation and more toxic, depressing symptoms than from potassium bromid. In fact, the reason strontium salts came so late into medical use was on account of their general contamination with barium salts, which made their employment dangerous and gave rise to the idea that the strontium salts were toxic. The strontium salts are not toxic—no more than the calcium or magnesium salts are.

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[1] Lancet, Jan. 5, 1907.

Whenever I had a patient complain of irritation in the stomach, or of nausea, investigation disclosed the fact that he was getting a cheap commercial bromid in which chemical analysis easily disclosed the presence of a considerable amount of barium salt. The test for the detection of barium in strontium salts is easy, and whenever the physician has reasons to doubt the purity of salt he should apply it himself. It is performed as follows: Fifteen grains each of strontium bromid and of sodium acetate are dissolved in 75 min. of distilled water, about 5 to 8 drops of diluted acetic acid are added, and then 5 drops of potassium bichromate test-solution. A cloudiness or precipitate indicates the presence of barium, and such salt should be rejected.

What is the dose of strontium bromid? I have long ceased to go by text-book doses. Each patient is a law unto himself, and so is each condition. But as a general rule I start with 10 to 15 gr. doses, increasing to 30 grains three times a day. In some cases in my practice I find it more advantageous to administer one large dose—60 to 90 grains—at night. I usually give it dissolved in distilled water, without any other addition. But when it is necessary to administer it for a long time it is best, both for physical and psychic reasons, to add a corrigent and change it every two or three weeks. The following are good formulas:

℞.	gm. or c.c.		
Strontii bromidi	30		℥i
Essentiæ pepsini	30	or	℥i
Aquæ menthæ piperitæ ad	180		℥vi

(Vel amygdalæ amaræ.)
M. et sig.: One teaspoonful as directed.

℞.	gm. or c.c.		
Strontii bromidi	30		℥i
Tincturæ cardamomi compositæ	15	or	fl℥ss
Aquæ ad	180		fl℥vi

M. et sig.: One teaspoonful as directed.

INCOMPATIBILITIES.

While strontium salts have several incompatibilities the principal ones are the citrates and sulphates, as illustrated by the following two prescriptions which came to my notice recently:

℞.	gm. or c.c.		
Strontii bromidi	15		℥ss
Lithii citratis	20		ʒv
Tincturæ hyoscyami	5	or	m. lxxx
Syrupi simplicis	20		flʒv
Aquæ	100		fl℥iiiss

M. et sig.: Two teaspoonfuls three times a day.

This makes a nasty mixture, because a double decomposition takes place, with the formation of a heavy precipitate of strontium citrate as shown by the following equation:

$$3SrBr_2+2Li_3C_6H_5O_7=Sr_3(C_6H_5O_7)_2+6LiBr$$

And I might add, by the way, that this prescribing of lithium citrate and strontium bromid in the same mixture is for some reason very common, but the two salts are strictly incompatible and should never be prescribed together.

The second incompatibility is illustrated by the following prescription:

℞.	gm. or c.c.	
Aquæ ad	60|016	gr. ¼
Strontii bromidi	8	ʒii
Atropinæ sulphatis		flʒii
Acidi sulphurici aromatici	8	fl℥ii

M. et sig.: Teaspoonful at night.

This has been given to a consumptive patient for night sweats and insomnia. This is absolutely incompatible, as it decomposes the strontium bromid, forming a precipitate of strontium sulphate.

Strontium bromid is also incompatible with the alkaloids, but this is due to the bromid radical and not to the strontium. As you know, all bromids are more or less incompatible with alkaloids, though the danger of a bromid of the alkaloid being formed and precipitated has been rather exaggerated and is very slight, indeed, if the mixture contains as little as 10 or 12 per cent. of alcohol.

SUMMARY.

To summarize the most salient points that I wish to impress on your mind:

1. The bromids are valuable and sometimes indispensable agents.

2. Potassium bromid is the worst bromid we possess, its undesirable by-effects by far overbalancing its therapeutic value. Whoever administers potassium bromid in large doses for a long time is simply slowly poisoning his patient.

3. Sodium bromid is a much milder bromid, and when chemically pure strontium bromid is not available sodium bromid is the salt of choice.

4. Strontium bromid is the best of all inorganic bromin compounds. It is a positive (a) anaphrodisiac; (b) it is a positive nervous and genitourinary sedative; (c) it does not upset the stomach; (d) it does not produce acne, or if it does produce a few acne pustules they are mild and transient; (e) it often acts as a mild intestinal antiseptic; (f) it does not irritate the kidneys—rather the contrary, and (g) it has a tendency to diminish albumin in albuminuria and sugar in glycosuria.

5. The dose of strontium bromid ranges from 10 to 60 grains three or four times a day. Occasionally it may be given in doses of one or two drams. It is best prescribed dissolved in distilled water with the occasional addition of essence of pepsin, tincture of cardamon, etc.

6. Strontium bromid is incompatible and should not be prescribed with citrates or sulphates, and it is also best to avoid prescribing it with alkaloids.

7. To obtain the good results from strontium the salt must be chemically pure. If contaminated with barium, as the commercial strontium salts not only frequently but usually are, its effects will be disappointing and its untoward by-effects may be more severe than those of potassium bromid.

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DISCUSSION.

Dr. William Stevens, New York City, stated that while he was a student with an old army surgeon in 1873, he became accustomed to ordering bromid of potassium frequently. It seemed at that time to be an invaluable remedy. Since that time a careful investigation of some cases has convinced him that he used it too much, and that it is a very unsafe remedy.

Dr. C. F. Taylor, Philadelphia, thought that the force of habit is well illustrated in the continued large use of potassium bromid to the neglect of sodium bromid, which has long been known to be less injurious and in many respects a better drug than the potassium salt; but, he continued, the strontium salt is superior to either the sodium or potassium salt, and for several years he has been recommending the strontium salt above all others.

Dr. W. E. Robertson, Philadelphia, called attention to the work on diseases of the heart written by Napoleon's physician, Corvisart, in which Napoleon's symptoms are described in such a way as to lead to no more definite conclusion than that his was a case of bradycardia, and probably to-day, instead of receiving bromids, as Dr. Robinson suggests, he would have been subjected to a very careful system of cardio-vascular tracings, where it would probably end.

Dr. W. W. Tompkins, Charleston, W. Va., was convinced that the bromid of potassium is the most toxic of the bromids. Dr. Robinson's paper, he said, went very exhaustively into the use of the bromid of strontium, except that he failed to mention its use in cases of indigestion. In some of these cases it is largely used combined with aromatics, such as peppermint water. Dr. Tompkins thought that there is not very much individual opinion exercised on the part of the individual prescriber. He is so apt to give only those prescriptions that appear in the text-book. He believes, further, that there is a decided idiosyncrasy in bromids, particularly, and that one can get decided beneficial effects with small doses thoroughly diluted. They are also less dangerous than large doses.

Dr. C. B. Lowe, Germantown, Pa., was under the impression that the ill effect from potassium salts is because they act on the heart muscle as strong depressants, and that that is one of the reasons why sodium salts are usually selected.

Dr. W. J. Robinson, New York, City, emphasized the superiority of strontium bromids over potassium bromid. Through force of habit, he said, whenever physicians think of bromid, they think of potassium bromid, and therefore he emphasized the dangers attending its use. He mentioned the fact that strontium bromid acts as a gastric antiseptic, and it is very good in so-called nervous dyspepsia. Dr. Robinson replied to Dr. Lowe that Dr. Bennion reports that they treated one class of their epileptics with mixed bromids and the other class with strontium bromid only, and they reached the conclusion that the strontium bromid is superior to the mixed bromids.

THE INFLUENCE OF THE DUCTLESS GLANDS OVER METABOLISM,

WITH ILLUSTRATIVE CASES.*

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MINNEAPOLIS.

The increasing elucidation of the functions of the ductless glands and their influence on the morphology of the human organism renders their study most fascinating. While much of the ground is still speculative, enough has been established to show that the thyroid is closely correlated in its action with the pituitary body, the adrenals and the thymus gland. And they must be considered together for a rational view in predicating near and remote effects on the functional activity of the organism, most of which have formerly been ascribed to the thyroid alone. The normal and full development of the individual, physical, nervous and mental, and the preservation of cellular activity, depend, in the ultimate, on the integrity of these organs.

Research, clinical observation and experiment have now fairly established that the parenchyma of the thyroid supplies the blood with a secretion which, by selective application, promotes the activities of the anterior pituitary body. The investigations of Baumann, added to by Mabelle and Ewald, go to show that iodin is probably the most active agent in thyroid secretion, with arsenic a subordinate, but still important element. It is difficult, however, to reconcile all phenomena as entirely explained by the action of these metals alone, for their administration in ordinary forms does not give clinical results, such as we obtain from the use of thyroid material itself. The anterior and posterior pituitary bodies differ materially in structure. The posterior is chiefly neural, being made up of neuroglia, nerve cells and epithelial-cell tubules. The anterior is, in the main, glandular, being comprised of vesicular cavities, lined with epithelium and holding colloid material. These are enveloped in a rich mass of capillaries and lymphatics, strongly resembling thyroid structure. But, although there is a close relationship between them, the action of the pituitary is distinctly different from that of the thyroid. Only a light fibrous reticule separates the anterior from the posterior pituitary body and they share the same capillary and lymph supply.

As shown by the work of Berkley, Hirshfeld and others, only sympathetic nerve fibers articulate with the anterior pituitary structure. Through these filaments, coming from the cervical ganglionic supply by way of the carotid plexus, thence, directly through the cervico-thoracic sympathetic chain, the splanchnics and the semilunar ganglia, the pituitary is linked with the adrenals, for the transmission of nervous impulse, and stimulation of their glandular activity. Experiments with pituitary extracts by such observers as Schafer, Howell and Osborne, show clear evidence of stimulation of the adrenal bodies, and both experimental ablation of the cervical sympathetic in animals and the fatal results of their removal in the human subject further prove that the pituitary is the center of energy of the suprarenal glands. Rapid emaciation and death also follow the destruction of the pituitary or the severing of the neural path between these organs.

Further investigation has shown that the pituitary body depends on the thyroid in turn for its stimulus. So when the thyroid is acting in excess, theoretically, it overstimulates this organ, which in turn transmits its added excitation to the adrenals with increased production of the secretion of those organs poured into the blood. When, on the other hand, there is lowered functioning in the thyroid, the hypophysis lacks its normal stimulus, as is also the case when it is inherently weak, or when there is lowered oxidation of the blood from any cause, or when active toxics charge the blood stream.

Although the structure and association of the thyroid and the pituitary would perhaps seem to indicate that their functional product would be identical, close analysis shows that they are not the same, and that phosphorus is the chief element in the activity of the latter, and the fundamental part of both the osseous and nervous systems.

From the beginnings of life to full adolescence the thymus plays the most important rôle. Its evident office is to reinforce the hypophysis during this time of excessive demand, and supplies the major part of the phosphorus to the rapidly building neural and bony structures. It also indirectly stimulates the adrenals in their work as well. Inherent weakness in the thymus, or anything that interferes with its action, impairs the organism's most vital development. In childhood it is normally the most active of all the ductless glands, the thyroids are next and the adrenals last; while in adult life the adrenals are foremost in importance. On this gland (the thymus) the normal unfolding of mentality depends, and statistics like those of Bourneville show that in the great majority of feeble-minded children, not cretins, the thymus is wanting or deficient. It has fulfilled its mission with the completion of adolescence.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

The innervation of the suprarenal bodies from the pituitary through the direct channel of the cervicothoracic sympathetic chain has already been pointed out. The stimulation of their activities, then, depends on the integrity of the former gland, which in turn receives its impulsion from the presence of the thyroid secretion, in normal amount and quality in the blood. In the parenchyma of the adrenals a colloid material, a chromogen, is formed and poured directly into the blood going to the inferior vena cava. Thence it reaches the right auricle, directly stimulates the heart muscle, has a remarkable affinity for oxygen and absorbs this gas in the pulmonary distribution as it floats in the blood plasma. The blood elements are bathed in the oxygenated medium, and the hemoglobin is changed again into oxyhemoglobin. This quality of the adrenal secretion makes it the great oxygenating agent of the organism, and is the final purpose of the great system, made up of these organs together with the thyroid and the pituitary bodies. They sustain the action of the heart, respiration, metabolism and cell nutrition. Overaction or defect of structure or function of any of this group of organs gives rise to one or another of a remarkable series of conditions.

The foregoing outline of the now fairly well-established physiologic action and correlations of these glandular structures opens the way to an analysis of the effects of disturbances in the balance and harmony of their activities. And the thyroid naturally claims attention first. In exophthalmic goiter the thyroid is supposably in a hyperactive condition and contributing an excess of secretion to the blood. This overstimulates the pituitary, which in turn excites the adrenals, resulting in an excess of its product being poured into the blood with hyperoxidation the ultimate result and the basis of the syndrome in the earlier stages, while the later manifestations, such as the emaciation, weakness, bronzing and depression, are indicative of insufficiency of the adrenals, exhausted through continued overstimulation.

Myxedema and cretinism naturally group together for consideration. They are the same in underlying causative factors, but occurring at different stages in organic life. Both of them illustrate the results of deficient oxygenation of tissues from failure of the adrenals, due to thyroid deficiency in proper stimulation of the pituitary. The one affects the mature adult, the other the growing child. Thyroid treatment in both simply supplies to the waiting pituitary the stimulus it needs for renewing its energizing power to the adrenals. And the anterior pituitary is the great energy center of the organism, as the posterior is its ultimate sensorium, where nervous shock and stress have their final effect.

The great solar plexus probably first takes the impact of severe nerve stress of all kinds, the waves of impulse traveling most directly and with greatest force to the hypophysis like an overcharge on an electric wire, while there is, of course, some general diffusion, the entire sensory sphere, and especially the central vasomotor supply, suffers from the sharp irritation. In this connection it is interesting to note the bearing of the effects of sudden and profound shocks, as well as the importance of general wear of the nervous system from any cause, with its accompanying excess waste of phosphor elements and evidence of varying degrees of adrenal overstimulation or failure, with such symptoms as tachycardia, muscular weakness, tremors, pallor, conditions of mental exaltation and depression, and the interesting vasomotor relationship between the sexual organs, other erectile tissues and the thyroid. These will receive further consideration in connection with illustrative cases.

One more set of conditions will claim our attention, acromegaly and gigantism. These are analogous to the last two, i. e., myxedema and cretinism, but while the latter are due to deficient thyroid action, with resulting lowered oxygenation, the former are due to overactivity of the pituitary, stimulating the adrenals, with hyperoxidation as the result. The one occurs in youth, the other in mature life. Toxemias, persistence of the thymus, adding to the phosphoric production—hypertrophy of the pituitary often following—and actual new growths in this gland, are the provoking cause of this overstimulation of the adrenals and the excess of oxidation in the tissues.

Absence of the thymus results in mental deficiency. When such cases, also showing lack of physical development, are given thyroid medication, they respond in body growth, but not in mental improvement, and the bones soften at the same time, for it is phosphorus that is needed for both the nervous system and the bones rather than better oxidation, which is what thyroid stimulation gives.

To summarize, then, the present views of the functioning and results of disturbances of this group of organs: Exophthalmic goiter is overstimulation with altered function of the thyroid gland, with increased impulse from the pituitary through its sympathetic innervation of the adrenals, causing hyperoxidation in the organism by excess production of its secretion in the blood. On this later supervenes failure of those bodies from exhaustion.

Myxedema and cretinism are pure results of deficient oxidation from lack of thyroid activity or from innate lack of power in the pituitary due to insufficient phosphorus elements.

Acromegaly and gigantism result from overactivity of the pituitary acting on the adrenals, with abnormal hypernutrition.

Absence of the thymus always predicates deficient mentality in the subject. Its persistence beyond the time when its activity should cease contributes an excess of phosphorus and its results.

Various systemic conditions show clear indications of lack of sufficient oxidation or of phosphorus in the individual, but without going to the point of the actual picture of any of the above states. Chlorosis and other forms of anemia with diminished hemoglobin, pallor and lowered strength show a degree of failure of the adrenals. The various functional neuroses like neurasthenia, or hysteria, with their tremors, excessive perspiration, diminished mental power, easy fatigue, tachycardia and polyuria, point distinctly to lack both of phosphorus and oxygen radicals in the tissues and body fluids from weakened action of the pituitary and the adrenals, and thyroid functioning is probably also implicated. Some things, too, in the behavior of the thyroid, in goiter, fail of satisfactory explanation on the theory simply of overstimulation in the early stages. It does not explain the fact that medication with thyroid extract in many cases in this stage is signally beneficial. And there is reason to conclude either that there is rather a change in the gland function or that the secretion is altered in composition, becoming toxic, with resulting irritation of the hypophysis, and that thyroid extract contributes the normal agent. The adrenals may, in a measure, be stimulated from other sources than its innervation, and iron and arsenic are of value for this purpose. The iron plays a double rôle, helping to increase the oxygen-carrying capacity of the blood as well as stimulating the oxygenating power from the adrenals.

Case 1.—*History.*—A man, aged 43, of good family and previous health, came under observation on Dec. 24, 1902. Four months before he had what was called a "boil" on the left side of his neck over the left lobe of the thyroid. It was lanced and had continued to discharge freely, pus and a glary fluid. Another opening occurred at the supra-sternal notch, and also one further round on the left side of the neck. All three were connected by sinuses. Irrigation had been kept up all the time by his physician. He was troubled with cold hands and feet, pain in the lower legs, and sweating and hot flashes on the right side of the body. Appetite good, bowels regular. He had been melancholy and much depressed for the past three weeks, with crying spells, and he had lost much flesh.

The left side of the neck showed livid discoloration, the normal outline flattened, and the surface indurated. There were three sinus openings. The pulse was weak and slightly rapid. The left lobe and isthmus of the thyroid had evidently been largely destroyed. He was not getting sufficient thyroid action, and oxidation was evidently suffering. The sinuses were allowed to heal at once.

Treatment.—He was put on such general tonics as organic iron and manganese, and thyroid extract in two-grain doses was given three times a day. Improvement began promptly. He was under observation for about two months. The melancholic condition entirely cleared up, he gained flesh, and the color, which had been dusky, became normal. He went home to South Dakota, continued to use the thyroid for some time longer and has remained perfectly well.

Case 2.—*History.*—A young woman, aged 22, seen in June, 1903, of a very interesting neurologic family history. Maternal grandmother living and has goiter and edema of legs. Maternal grandfather had kidney trouble. Paternal grandmother died of asthma, paternal grandfather was rheumatic. Maternal granduncle had some form of paraplegia. A maternal aunt had goiter, another had anemia, goiter and "sick headaches." A third maternal aunt has a goiter, and another is subject to "fainting spells." Still another had an attack of delirium. Three paternal aunts died of rapid tuberculosis. A maternal cousin died in convulsions and another with chorea. The patient's mother is anemic, has numbness in the right leg, muscular cramps and "sinking spells." The subject herself was frail till 3 years old, rugged from then till two years before coming under control. Then began to feel weak and tired, with peculiar precordial feeling. She noticed beginning enlargement of the neck at the same time. There was insomnia, bowels regular. Prominence of the eyes was noticed. Severe attacks of headache began six months before, sometimes lasting for days. Menstruation normal. Was doing heavy lifting at this time. Free perspiration and easy flushing. She was well developed and nourished, but had a peculiar pallor, a marked goiter, the neck measuring seventeen and one-half inches. Pulse 100, bounding and irritable, slight tremor and very slight prominence of the eyes. There was an area of paresthesia on the right thigh, quite marked edema at times, of the lower legs, and marked general sensitiveness of the body surface.

Treatment.—She was put on thyroids, unguentum hydrargyri oxidi rubrum, galvanism over the gland, the cervical ganglia and the precordium thirty to forty minutes three times a week, and a combination of strophanthus, digitalis and nitroglycerin. There was great difficulty for a time in controlling the attacks of head pain, which had the appearance of being extreme. They were accompanied by writhing and twitching, which had an almost involuntary look, and there was also much cramping of the legs in the attacks. The relationship between these attacks and meteorological changes was very striking.

She was under continuous observation for a year and a quarter. Improvement in all conditions was fairly constant. The goiter diminished in size, the edema improved, the heart action steadied. Gelsemin in 1/134 gr. doses every hour, controlled the head pain most successfully. These attacks came further apart. Strength and endurance improved. The pallor gave way, and she began taking on flesh. Thyroid medication was constant. When dismissed the circumference of the neck had diminished over three inches, and only the isthmus of the gland remained slightly prominent. The heart was normal, the head pain had ceased, she had gained 30 pounds. She has since remained well.

This was a clear case of exophthalmic goiter, with some hysteric coloring. The exophthalmic goiter was evidently in a stage of overstimulation from the thyroid. Theoretically, thyroid medication was contraindicated, but she was kept on full doses for a period of over one and one-half years, with perfect results, and so far I have not seen a single case aggravated by its use.

Case 3.—*History.*—Young lady, aged 24, first seen in February, 1905. Her father was a melancholic and committed suicide. He was also a heavy drinker. Patient has never been strong. Always gloomy, inclined to worry. Did not mature till 17. Had a "blue spell" then, with suicidal impulse, again at 18, and again at 20. Insomnia during the attacks. Began to be despondent a month before coming under treatment. Suicidal impulse. Gloom and abstraction. She was pale and had a depressed expression, was poorly nourished, pulse rather weak and nervous manner, sluggish bowels and sleeping poorly.

Treatment.—She was put on such nerve sedatives as codein phosphate, the valerinates, hypnotics, and nucleins, with heart tonics. Her condition continued in an indifferent way, with slight improvement for some months. In June, 1905, she was put on full thyroid feeding. She immediately began to gain in a remarkable way in general condition, to feel more cheerful, better strength, and putting on flesh. Improvement continued steadily and in about five months she had gained 25 pounds, was in normal mental state, except for the fear that the trouble might come back. Her color did not improve with the gain in flesh, and instead took on a peculiar waxy white look. With the use of organic iron and the phosphates, her color became good.

The peculiar pallor shown in this case has been noted several times in patients on thyroid feeding and is difficult of explanation.

Case 4.—*History.*—Arthur B., a boy, 15 years old, was first seen June 27, 1904. Nervous temperament and rheumatism on father's side. About one and a half years ago he began to be restless, made occasional peculiar remarks, and was careless in his habits. These symptoms disappeared in a short time, similar ones recurring at intervals. He is unusually bright in school, has a ravenous appetite, and does everything in a hurry. He is sturdy looking, well developed and nourished. He is restless and it is difficult to hold his attention. Heart action and pulse normal. Slight reflex and myotatic irritability. Inclined to be surly. He proved rather hard to control, as he was determined to be too active.

Treatment.—Varying combinations of medication were resorted to at times, but the main lines were the use of codein phosphate, trional, nucleins and lecithin, and other forms of phosphorus. Thyroid feeding was begun at once and kept the most constant element of the treatment. He did not do as well when it was suspended. And when it was combined with some form of phosphorus he made the best progress. With some variations he made good gain and reached full recovery after a year and a half of attention, and resumed his school work and all other normal activities.

Case 5.—*History.*—A girl of 22, unmarried; considerable neurophatic taint on the mother's side. The patient was well as a child. Three years ago was overtaxed. Became hyperesthetic, easily startled; dysmenorrhea came on. Marked insomnia, headache, poor memory, easily fatigued. Dysentery for six weeks a year ago, and vertigo. She had nervous "spells" with screaming, palpitation and numb feelings in a hand or foot at times. She was fairly well developed and nourished, pale, nervous manner, reflex irritability. Left eye prominent, with dilated and irregular pupil-old injury, heart regular, pulse 76. Tremor of hands and thyroid slightly prominent.

Treatment.—She was put on accepted lines of control, with ordinary medication, massage, electricity, and the like, making only fairly good progress. After about six months she was put on thyroid feeding, experimentally, with other conditions going on just as before. She soon began to gain rapidly in every way. The capricious appetite became better, she slept well. The nervous storms came at much longer intervals and then ceased. Her nervous tolerance improved, she grew stronger, and began to take on flesh rapidly, gaining over 30 pounds in a few months. The thyroids were then suspended at intervals and reinstituted, always with distinct results. This case also showed the peculiar pallor referred to in another case.

Case 6.—*History.*—A young girl of 17, seen first in November, 1906. There was no material nervous taint. She had never been rugged. About a year ago received a strain of the abdominal muscles; had been studying hard, began to run down, became very restless and fretful, sleeping poorly, constant gnawing of the finger nails. She was very slight, exceedingly restless, with a frightened manner and expression, crying easily, and very excitable. Pulse somewhat rapid and weak.

Treatment.—She was put on hypnotics, phosphorus combinations, arsenic and thyroid feeding at once. Improvement followed with striking rapidity, the nervous agitation subsiding; she began to sleep and eat well, complete recovery of strength and nervous tone followed, with good gain in general nutrition and flesh, although not as notable an amount as in some other cases.

These illustrative cases have been selected to show the application of the deductions in the foregoing part of the paper. Case 1, with partial destruction of the thyroid gland, showed the clear syndrome of adrenal incompetence with deficient oxygenation. The result of thyroid feeding was complete and prompt, and enough of the gland remained to make it permanent. Case 2 was a characteristic one of exophthalmic goiter, with added hysteric coloring. The goiter was undoubtedly in the stage of so-called overstimulation, yet the thyroid feeding gave the happiest result. This case also shows the remarkable effect as a nutrient tonic which it possesses in common with thymus extract. Case 3, one of simple melancholia, shows the indications of suprarenal inadequacy with lowered oxygenation present in other conditions than the organic ones usually considered, and illustrates the value of stimulating this particular glandular system. The power over nutrition is also powerfully shown in this case. Cases 4 and 6, on the borderland of developmental insanity, illustrate its bearing in the conditions of threatening failure of mental evolution. In these cases phosphorus from the pituitary and thymus plays as important part as the thyroid with its iodin, for in these cases the thymus is presumably more at fault, and is not supplying its phosphor product fully enough to meet the demands of the rapidly developing nervous system. Case 5, one of hysteroneurasthenia, shows the evident lack of functioning activity in the thyroid-pituitary-adrenal group. In these cases there is a vicious circle. The condition of nerve exhaustion is accompanied by excessive waste of phosphorus elements, the lowered tone diminishes the adrenal stimulus, and the oxidizing power, with its lessened nutrition of all structures and autointoxication is present. Thyroids and lecithin elements are indicated here, as they are both needed to renew the activity first of the pituitary body, the great energy center of the organism, and through it to increase the secretory activity of the adrenals and the part they play in sustaining the great vital functions.

DISCUSSION.

Dr. J. Madison Taylor, Philadelphia, said that one point that Dr. Crafts in all probability did not have time to bring out is the fact that these glands are classed with organisms which are regarded as primary—the lungs, heart and liver—and that the functions extend throughout the whole length and breadth of the body. The applicability of this principle is very much larger than the cases described by Dr. Crafts, relating largely to the organs of this particular character. The point which Dr. Taylor emphasized is that through a theory which we can not understand this group of organs, which Dr. Crafts has outlined so well, controls practically the whole of the body organisms, more particulary in dealing with the volume of tissue regulation through the volume of the blood, and the regulation of the depressed functional cavities through the body.

ACID AUTOINTOXICATION AND SYSTEMIC DISEASE, THE CAUSE OF EROSION AND ABRASION.*

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The prevailing opinion has been, and is taught to-day, that the cause of diseases of the mouth, jaws and teeth are of local origin. Peculiarly is this true of erosion and abrasion, judging from the literature. It has been my purpose in life to devote my time to researches to disabuse the minds of members of the profession of this dormant notion. While it is possible that local factors may enter into the etiology, yet the great factor in all cases of dental pathology is constitutional rather than local. In this paper I shall furnish another proof of these assertions. No one factor, either local or constitutional, can be accepted as the cause of a given disease. Thus, tooth decay is due to lactic acid ferment; the great cause, however, is evolution and degeneration. Outside of the etiology of tooth decay perhaps no subject has caused so much anxiety to the members of the profession as that of erosion and abrasion. The two terms were used by early writers to designate the destruction of the tooth or teeth, erosion being a gradual wearing away of the grinding surfaces of the teeth, abrasion the destruction of the surface of the teeth in connection with the mucous membranes of the mouth. The two terms employed in the light of my researches really mean one and the same thing, as I shall demonstrate later. It is well, however, to retain the two terms because they indicate to a certain extent the location of tooth destruction.

In my papers, "Pulp Degeneration."[1] "Constitutional Causes of Tooth Decay."[2] "Constitutional Cause-of Tooth Decay, Erosion, Abrasion and Discoloration,"[3] I demonstrated that the teeth at different periods of life soften and discolor in circumscribed areas, or as a whole, as a result of nerve end and artery degeneration, due to disease, especially nerve diseases, neurasthenia, nervous breakdown and faulty nutrition. In many of my earlier papers I have shown that in nearly every diabetic, tabetic or paretic dement, erosion and abrasion are present. These changes in nerve end and arterial degeneration, due to malnutrition and autointoxication, affect the pulps of the teeth and alveolar process and cause destruction of cement substance between the enamel rods and alter the vitality of tooth structure.

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* Read in the Section on Stomatology of the American Medical Association at the Fifty-eighth Annual Session, June, 1907.

[1] The Journal A. M. A., Aug. 6, 1904, p. 385.

[2] Dental Digest, December, 1903.

Prof. James Truman of the University of Pennsylvania did research work on erosion many years ago. He was dissatisfied with the many theories then extant and made some researches along this line. Satisfied that the condition was the result of acid action and had not its origin in the cause of caries, he undertook a series of testing mouths. The result demonstrated that there was no positive reaction in the mouth during the day. The exceptions were not worthy of consideration. He then sought to discover when and where acid was formed, as acid, in his opinion, it must be. Another series of tests were made at night, or rather before rising in the morning. He naturally began on himself and found invariably a distinct acid response. Then he secured the cooperation of a number of students, they to bring the results to him. This confirmed the conclusion that at night, when the secretions are quiet and the alkaline saliva practically ceases to flow, fermentation sets in and a marked acid reaction takes place. It is during these periods of rest, therefore, that the greatest amount of tooth destruction takes place. The mucosa, falling on the anterior teeth and frequently on the buccal surfaces of the posterior, slowly but surely eat a place in the enamel. The polishing is accomplished by the constant passing of lips, tongue, food, etc.

The treatment he adopted seemed to prove the acid theory. He used in all cases a magma of precipitated chalk (chalk and water paste), placing it under the lip at night. The result was a cessation of the destruction. His wife's nephew at eleven began to show destruction of the enamel on both laterals. He was too young to have the cavities assume the phenomena of erosion, but he placed him under the chalk treatment. He is now over thirty and the teeth have remained as they were at that time. Abrasion is due not to mechanical wear alone, but to the combination of acid action and attrition.

Dr. Michaels of Paris has done considerable work on hyperacidity of the saliva and has determined that when the blood becomes of a lessened degree of alkalinity because of the accumulation of acid products not eliminated from the system the secretions and excretions of the glands become acid in reaction.

I accept the acid theories of Truman and Michaels of erosion and abrasion, that the acid is deposited on the teeth from the mucous glands and gums, that the action of acid on the teeth is greater at night than in the day because the saliva practically ceases to flow at night. But does not the saliva which normally is alkaline sometimes become acid? Is the acid from the mucous glands due to "fermentation?" Do chalk preparations or other antacids applied under the lips night or day or both stop the formation of acid and thus prevent erosion and abrasion? Clinical experience says no. That the action of acid on the teeth is retarded when the treatment is faithfully conducted for months and years is true. When occasionally applied or when applied for a short time the results are only temporary.

The causes which produce erosion and abrasion may be one of three factors or all three may be necessary. First, change in tooth structure, due to systemic changes and disease; second, secretion of acid by the mucous glands; third, friction by the action of the teeth of one jaw against those of the other, from foreign bodies or by action of the lip or cheek. Soft areas, due to change in the teeth by systemic diseases may be worn away by the action of acids direct from the glands or by the action of the lips and cheeks or by friction of foreign substances. Acid secretions alone will, in time, destroy normal tissue. Friction by foreign agents or the teeth of one jaw against those of the other without acid will also destroy normal tissue in time.

Since local applications will not destroy the acid mucus or restore acid saliva to alkalinity or its normal condition, the question naturally arises: How is this acidity produced? In my studies on the urine in relation to autointoxication causing interstitial gingivitis I was struck by the coincidence of the abnormal degree of urinary acidity in many cases. In these mouths erosion and abrasion were frequently observed. This important discovery led me to examine the urine in every case in which erosion and abrasion were present in order to discover if acid intoxication was present. One phase of autointoxication, that of acid intoxication, in relation to erosion and abrasion and incidentally interstitial gingivitis is the subject of this paper.

The greatest destruction of the teeth was on the labial, buccal, grinding and palatal surface as observed in diabetics, tabetics, paretic dements and luetics.

The degree of acidity of the urine in my own patients and those of physicians and in public institutions ranged as follows:

I. DEGREE OF ACIDITY IN DIABETICS.

Through the kindness of the Columbus Medical Laboratories I was allowed to make a report of the urine of diabetics sent to them for examination.

Three hundred and ninety-four examinations were made. Two passed 4 degrees, two 6, one 7, two 8, six 10, five 12, sixteen 14, one 15, fifteen 16, one 17, thirteen 18, twenty 20, one 21, twelve 22, one 23, ten 24, two 25, fourteen 26, sixteen 28, one 29, twenty-two 30, seventeen 32, thirteen 34, four 35, twenty 36, two 37, eleven 38, two 39, thirteen 40, one 41, eight 42, seven 44, two 45, eight 46, two 47, five 48, five 50, five 52, one 54, twelve 56, one 57, four 58, five 60, one 62, one 63, three 64, two 66, two 68, two 70, three 72, one 74, one 75, one 100, two 104, one 120.

Acetone.—Of this number of cases, only 19 were examined for acetone. In 11 acetone was present, in 8 absent. Thirty-two were examined for diacetic acid; in 6 it was present and in 26 absent. Twenty-four were examined for B-oxybutyric acid; in all it was negative.

Uric Acid.—The examination for uric acid of 370 patients showed it present to a greater or less degree in 56 and negative in 314, or about 15 per cent. had uric acid.

II. DEGREE OF ACIDITY IN TABETICS.

Of thirty-five tabetics one passed 5 degrees, one 6, four 9, two 10, one 11, one 17, two 19, two 20, one 22, one 46, one 48, one 49, one 50, one 56, one 62, one 73, one 76, one 78, one 81, one 82, one 84, one 97, one 99, one 112, four alkaline. Those patients having the alkaline urine had marked erosion of the teeth, showing that at some time there had been a high degree of acidity. Cystitis caused the urine to become alkaline. All showed indican to a greater or less extent.

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[3] Dental Cosmos, November, 1904.

III. DEGREE OF ACIDITY IN PARETIC DEMENTS.

Twenty-one males and four females were examined. Three passed 5 degrees, one 7, three 8, two 9, one 10, one 11, one 12, one 13, one 15, two 16, one 17, one 22, one 28, one 34, one 38, one 39, one 44, one 51, one 52, one 70. The patients were in a quiet state. If the urine could have been examined after excitement or an explosion, the degree of acidity would have been greater.

IV. DEGREE OF ACIDITY IN LUETICS.

In one it was 24, one 96, one 105, one 116.

V. DEGREE OF ACIDITY OF PRIVATE PATIENTS.

In my own practice 130 patients were examined. Three were also sent to me by Dr. J. F. Keefe, of Chicago. All ranged from 11 to 84 years of age. All showed erosion and abrasion to a greater or less extent. Three had 2 degrees of acidity, three 8, two 10, two 11, seven 12, two 14, two 15, five 16, six 18, two 19, eight 20, five 22, five 24, six 26, four 28, two 29, six 30, two 31, four 32, two 33, three 34, nine 36, two 38, two 40, two 44, five 46, one 47, two 48, two 50, five 52, five 54, four 58, three 60, two 62, five 70, one 90, one 115, one 117, one 132. Only 4, or 3.8 per cent., had uric acid.

I quote here from a previous paper, "Interstitial Gingivitis Due to Autointoxication,"[4] my first fifty patients' degree of acidity: one had 11 degrees, two 12, one 14, two 15, one 16, two 17.5, four 20, one 22, one 24, five 30, seven 36, two 40, two 44, one 46, two 56, one 58, one 59, one 60, two 62. Three per cent. had uric acid, all had indican.

The method of obtaining the degree of acidity of the urine is given by Neubauer and Vogel.[5] The instruments necessary for this work are one burette 50 c.c., one wooden stand, one Barnes dropping bottle, one 10 c.c. graduate and one small glass. Place the burette in the wooden stand in an upright position, fill the tube with the 1/10 normal sodium hydroxid solution to exactly 0. The degree of acidity is obtained by taking 10 c.c. of urine specimen, measured in the graduate glass, then placed in the small glass; add four drops of phenolphthalein solution as indicated, and then add drop by drop the 1/10 normal solution sodium hydroxid until a slight pinkish color is produced. Having noted on paper the number of c.c. of the sodium hydroxid in the burette before and after the pink color is obtained, the number of cubic centimeters displaced multiplied by 10 (in order to find the number c.c. sodium hydroxid necessary to reduce 100 c.c. urine) equals the degree of acidity. Each step in this operation must be carefully performed; instruments and surroundings must be kept perfectly clean in order to get good results.

The normal degree of acidity of the urine is from 30 to 40 degrees. When the degree is below 30 (the difference between the degree indicated and 30 shows the degree retained in the system) it indicates either renal insufficiency or excessive suboxidation products producing renal strain. In cases in which the degree of acidity exceeds 40 there is excessively imperfect oxidation which, irrespective of the types of acid, underlies, as is now pretty generally recognized, severe constitutional stress allied to that of diabetic acidosis.

There are two great functions of the kidney—the excretion and elimination. Excretion does not necessarily imply elimination. Indeed, many of the polyuric states (increased excretion), like diabetes, lues and the states with nervous urine, are attended by decided decrease of eliminatory power. Imperfect oxidation states may act in two ways on the kidney. They may increase its excretory powers at the expense of its eliminatory power, causing what is known as renal insufficiency. In this case a lessened proportion of the substances usually eliminated occurs in the urine, the rest being retained in the circulation. On the other hand, an increased proportion of the products of sub-oxidation beyond normal generally occurs when there is an increased production of these in the system. A decreased degree of urinary acidity is attended by symptoms due to the retained acids. An increased manufacture of acid in the system is attended by an increased degree of urinary acidity, which increased degree, however, very often indicates a disproportionate elimination of the acid products actually present in the system. The degree of acidity must be obtained as soon as possible, since the free acids or alkalies cause fermentation of the urine.

It is claimed that fruit acids are converted into alkaline substances in the system. This is only partially true. The liver and tissues become overworked. Acids which are taken into the stomach as food are in excess and are stored up in the system.

The fruit habit (especially grape fruit) so generally indulged in to excess in America is producing havoc with the alveolar process, gums and teeth.

One case is sufficient illustration of the many I am called on to treat.

Patient.—Woman, aged 27, had her teeth and mouth put in good condition in January, 1907. On February 16 she returned with what she thought a cavity at the cervical margin of the left superior cuspid.

Examination.—I found the gums inflamed and receding, not only at that particular location, but about all the teeth. Previous to this, the gums and mucous membrane were in fairly good condition. The litmus test showed the mucus to be very acid. There was no cavity, only sensitive dentine. Much gas was passing from the stomach. On interrogation in regard to her food she informed me she had been eating grape fruit every morning for three weeks. Urinalysis of a twenty-four-hour specimen showed the degree of acidity to be 14. Sixteen degrees were retained in the system. The recession of the gums and the sensitive dentine were due to the acid retention.

Wherever there is an endogenous or an exogenous poisoning with which the liver is unable to cope and the strain is thrown on the kidney, elimination proceeds through the skin, nasal and buccal mucous membranes and hence through the alveolar process, since the last contains end organs in which useless products settle. This produces, for example, the blue line of lead poisoning, the green of copper and red of mercury.

The tendency to graver diseases as here presented is shown in interstitial gingivitis and absorption of the alveolar process.

The acidity referred to in this paper is not to be confused with uric acid, as I have already shown in this and other papers. In office practice about 3 per cent. of patients have uric acid, while 15 per cent. of patients suffering with disease, such as diabetes, for example, have uric acid. All persons, sick or well, at some period have acid autointoxication.

Dr. J. H. Salisbury[6] in his article "The Alkalinity of the Blood in Its Physiologic and Pathologic Relations" says:

> The alkaline reaction of the human blood is maintained in spite of the constant entrance into the blood of acids, either taken as food or generated by fermentation in the intestine or produced as the result of metabolism in the various tissues. . . . All these acids entering the blood tend to reduce its alkalinity, and if this tendency were not counteracted the reaction of the blood would soon become neutral or even acid. The mechanism by which the reaction of the blood is regulated

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[4] The Journal A. M. A., July 28, 1906, p. 261; Dental Digest, August, 1906.

[5] Guide to the Qualitative and Quantitative Analysis of the Urine. English edition; William Wood & Co., 1879.

[6] Medicine, July, 1899.

and its alkalinity maintained is of the greatest interest and practical importance to the physician. . . . The compensation is mainly secured by the excretion of acid sodium phosphate, which is produced by a reaction between sodium bicarbonate and di-sodium hydrogen phosphate, which results in the passage of the acid phosphate into the urine and the retention of the more alkaline sodium carbonates in the blood.

Since the skin and the mucous glands of the mouth become acid, it is suggested by Brubaker[7] that the waste products of faulty metabolism, occurring in gout and kindred conditions, floating through the capillaries of the labial glands, produce irritation and the production of an excess of carbon dioxid. This exists in the cells of the gland as carbonic acid, H_2CO_3, and, combining with the alkaline salt sodium phosphate derived from the blood, the following reaction occurs:

Neutral sodium phosphate.		Carbonic acid.		Acid sodium phosphate.		Sodium bicarbonate.
HNa_2PO_4	+	H_2CO_3	=	H_2NaPO_4	+	$HNaCO_3$

The acid sodium phosphate formed attacks the phosphate and carbonates of calcium composing the teeth in a double reaction after the manner shown in the following equation:

Calcium phosphate.		Acid sodium phosphate.		Sodium calcium phosphate.		Acid calcium phosphate.
$Ca_3(PO_4)_2$	+	H_2NaPO_4	=	$NaCaPO_4$	+	$2HCaPO_4$

The acid calcium phosphate is further acted on by additional molecules of the acid sodium phosphate (dihydrogen sodium phosphate) as follows:

Calcium phosphate		Acid sodium phosphate.		Sodium calcium phosphate.		Diacid calcium phosphate.
$2HCaPO_4$	+	H_2NaPO_4	=	$NaCaPO_4$	+	$Ca(H_2PO_4)_2$

The diacid calcium phosphate is freely soluble and doubtless washed away.

To note the acidity of the mouth take a strip of litmus paper, hold it over ammonia until it is quite blue and apply it under the lips on the gums, holding it in position for a minute or two. If the mucous be acid it will turn the blue paper red, if it is alkaline the paper will remain blue. This method is only partially satisfactory and means very little so far as the urine is concerned. A more satisfactory method for the urine is that already mentioned.[5] A still more simple method (since the agents are at hand) is to use phenolphthalein as an indicator. Place a small quantity of urine in a glass, add drop by drop the phenolphthalien; if acid it remains colorless, if alkaline it is pink. If the litmus paper shows the mucus to be acid and there is an abnormal degree of urinary acid reaction the chain of evidence is complete. Professor Truman, therefore, is entitled to credit for his early researches in this direction.

The literature on the subject of acid autointoxication is meager and does not extend back many years. Different terms have been substituted for acid intoxication in later years, such as acetonuria, acetonemia, aciduria and acidosis. Acetonuria was first recognized in diabetes by Petters in 1857. Garhardt about 1880 demonstrated acetone associated with diacetic acid, B-oxybutyric acid in the blood in diabetic patients. The so-called acetone bodies, acetones, diacetic and B-oxybutyric acid are symptoms of disordered metabolism. All three of these acids are closely related. According to T. Stuart Hart[8] by oxidizing B-oxybutvric we obtain diacetic acid and when diacetic acid is heated to 100 degrees C. it is easily decomposed into acetone and carbonic acid. Later it has been shown that acetonuria occurs under other conditions and in other diseases, such as scarlet fever, erysipelas, diphtheria and pneumonia. All the depressed mental states, whether occurring singly or in compound psychoses, like paretic dementia, cyclothymia and katatonia, are attended by suboxidation, as Meynert long ago showed, and hence as Coriat[9] has lately proved by acid states, acetone, diacetic and B-oxybutyric acid.

Dr. James Kelly[10] has shown that acetone, diacetic acid, B-oxybutyric acid in the urine have been recognized in the following conditions: (1) In the late stages of diabetes mellitus; (2) in starvation; (3) in malignant growths; (4) in digestive disturbances; (5) in septic processes, general or local; (6) in infectious fevers; (7) in pregnancy, associated with a dead fetus; (8) in certain psychoses; (9) in autointoxications; (10) in chronic morphinism; (11) in phosphorous poisoning; (12) following general anesthesia; (13) in injuries to the cerebrospinal system; (14) in shock due to injury; (15) in cases associated with fatty liver, and (16) probably in cases of uremia.

Research work on acid intoxication and the acetone bodies is in its infancy. Most of the work of value has been done since 1900 and the greater part has been written in the past two years.[11] For our purposes in this paper on erosion and abrasion we must limit discussion to acid intoxication, since examination of urine of ordinary office patients suffering with erosion and abrasion does not contain the acetone bodies.

With the urine, in evolution, comes an increased oxygenation, and with this a decreased acidity in the urine excreted.

The normal degree of acidity in the urine is from 30 to 40. Unnatural methods of living, such as excesses in eating and so-called simple food and alcohol abuse, will cause an excess of the acidity in the system. Disease or pregnancy will also change the degree of acidity. For example, in the simple cold of a child five years of age the degree of acidity was 90. This degree of acidity was readily reduced in ten days; therefore, the effect on the teeth, gums, and alveolar process is *nil*. On the other hand, in a case of pregnancy in which an abnormal degree of urinary acidity may extend over a period of from six to nine months, a destruction of the alveolar process and teeth is bound to occur. Since the alveolar process, gums and teeth are transitory structures, as well as end organs, the destruction is more rapid than in other parts of the body. The gums are especially affected in systemic changes, since they possess sensitive glands.

What then must be the condition of the urine in those persons who have syphilis, tuberculosis, Bright's disease, diabetes and nervous disorders, and in high livers whose abnormal degree of acidity has continued for many years. It will readily be understood how almost instantaneously erosion and abrasion may begin on the teeth and how almost instantaneously the destruction will cease on change in methods of living and a restoration to health. A sea voyage, a trip to hot springs or a complete change in environment will reduce the acidity of the urine to nearly or quite normal. The secretion of acid from the mucous glands and gums will cease. This accounts for the fact that in some of the examinations the urine was normal in acidity. The fact that erosion and abrasion were slight or severe in a given case and uranalysis showed it to be normal does not prove that it had always been so. In some of the patients, especially those with nervous diseases, the urine was found to be alkaline. In these cases the destruction of the teeth was unusually marked. The degree of acidity was not checked in the system, but the patients were suffering from cystitis and the urine became alkaline in the bladder.

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[7] Internat. Dental Jour., December, 1894.

[8] Amer. Journal of the Medical Sciences, August, 1906.

[9] Amer. Jour. of Insanity, April, 1902.

[10] Ann. of Surg., February, 1905.

[11] Ann. of Surg., February, 1905

In any condition in which there is an irregular strain on the heart in circulation as there is in business and other strains there occur imperfect oxidation, imperfect hepatic action and imperfect renal elimination. All these conditions, together or singly, produce metabolic changes underlying acid states.

In the papers mentioned at the beginning of this article a number of patients were described, who, from overwork, grief, mental depression and nervous diseases, had rapid decay of the teeth, destruction of the alveolar process (interstitial gingivitis), erosion, abrasion and discoloration. I have gone into detail as to the cause and demonstrated microscopically artery and nerve end degeneration of the pulp and alveolar process which produce change in tooth structure, softening of the entire structure or areas.

The lessened degree of alkalinity of the blood or acid intoxication of the system causes contraction of the arterioles, lessening the blood supply and causing vasomotor neuroses and arteriosclerosis in end organs, such as the pulp and alveolar process. The teeth change color with age, just as the excretory organs become senile and sluggish and the blood thin, the result of acid autointoxication. In sickness also teeth that were once hard change color, soften and decay. Acid autointoxication is caused by over-production and want of proper elimination. In pregnancy faulty metabolism and acid intoxication are present, the teeth discolor and soften, and decay is rapid, but in most cases the system is restored to normal after childbirth and the teeth, to a degree, recover their color and strength. In close and frequent pregnancies, however, the effect is more demonstrable and lasting. In scarlet fever, Bright's disease often results from kidney insufficiency, the teeth decay rapidly, and interstitial gingivitis is very marked. The system is over-charged with acid autointoxication. It would seem that the acidity of the blood acted directly on tooth structure from without and within, causing discoloration, softening and destruction of cement substance between enamel rods, as particularly observed in diabetics. In luetics, diabetics, tabetics and paretic dements these changes are most marked.

There are many other diseases, particularly those of faulty metabolism, in which similar results are obtained. Pitres and Vaillard have shown that in typhoid fever nerve end degeneration takes place. Later observations have shown changes in nerve ends and arteries in tuberculosis, leprosy, diphtheria, alcoholism, carcinoma, inanition, marasmus and arteriosclerosis, in the so-called rheumatic neuritis of the facial nerve and inflammation due to articular rheumatism, gout, puerperal infection and drug poisons. To illustrate how effectually nervous breakdown will cause nerve end and arterial degeneration, tooth softening and discoloration, I will describe one of my own cases.

History.—Mr. A., aged 60, from mental and physical overwork broke down in August, 1906. He had been a patient for thirty years and had been under constant observation. His gums and teeth were in perfect condition, he had not had a tooth filled or gums treated for twenty years. The teeth were cleaned regularly every six months and were as hard as flint. After the breakdown, severe pains were felt throughout the body, especially in the lower and upper extremities. A space on the left leg above the knee, about the size of the hand, was cold and numb. A gold filling in the mesial surface of the right central incisor (which had been in forty-two years) dropped out without decay. Disintegration of the enamel is taking place about the approximal filling in the left central. The enamel around gold fillings in the left inferior first and second bicuspids, the first and second molars have already commenced to disintegrate and erosion is plainly visible. The gums and alveolar process are beginning to recede about the left superior molars. Litmus tests show marked acidity of the gums and lips. Urinalysis at different periods between Dec. 1, 1906, and Jan. 1, 1907, shows the following degree of acidity: 11, 12, 20 and 32 degrees, and that from 10 to 19 degrees of acidity were retained in the system until it was reduced to normal, above 30. How long the excessive acid state had existed in the patient I am unable to say, probably for some time.

In some patients nerve end and arterial degeneration are so rapid that pulps of the teeth are destroyed and erosion causes exposure of the empty pulp chamber. In others the arteries are destroyed, leaving sensitive filaments of nerve fibers in the pulp chambers. Since the constant use of the tooth brush or friction from other causes, with a slight acidity of the secretions of the mouth, will destroy healthy, normal tooth structure, how much more quickly will it destroy areas or entire tooth structures when changed by disease? When pulp degeneration and destruction of the alveolar process occurs the tooth above the healthy line of the peridental membrane is dead. This accounts for those anomalies referred to in Figures 106, 107 and 108,[12] in which all the teeth are worn to the gums, and in those cases in which the carbonates and phosphates are removed and only the animal tissue resembling horn remains. Nerve end and arterial degeneration only will account for the frequent occurrence of erosion and abrasion of the central incisors, upper and lower, in many cases, while all the other teeth are normal.

The gums, alveolar process and the pulp of the tooth being end organs as well as transitory structures, are the first to feel the influence of metabolic changes and autointoxication. Destruction of tissue is the result.

In these days of prophylaxis the dental profession, therefore, has the advantage over the medical in the fact that the laity seek the services of the dentist two or three times a year and can be forewarned of the approaching storm, while the physician is not called until the storm has already broken. The subject of interstitial gingivitis in relation to acid autointoxication was discussed in a previous paper.[4]

TREATMENT.

The treatment consists in reducing the acidity of the urine to normal—30 to 40 degrees. This is accomplished by giving the patient (an adult) from 10 to 30 grains of sodium bicarbonate or one-half teaspoonful (45 grains) of sodium chlorid after meals, or sodium phosphate, one teaspoonful morning and evening. Calomel, 1/10 grain, may be given every two hours until a grain is given to stimulate the liver and cleanse the bowels. This may require from one to four weeks or even longer. A frequent uranalysis will determine the time. If indican be still present intestinal antiseptics are indicated. From eight to ten glasses of water should also be taken.

I am under obligations to the following physicians for their assistance: Dr. Sidney Kuh, Cook County Hospital; Dr. S. M. Robin, Cook County Hospital for the

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[12] Amer. System of Dent., cxi, pp. 415 and 416.

Insane and Poorhouse; Dr. W. A. Evans, Columbus Laboratories; Dr. Adolph Gehrmann, Columbus Laboratories; Dr. J. F. Keefe; Dr. J. G. Kiernan.

DISCUSSION.

Dr. James Truman, Philadelphia, said that while he has been interested in this subject for the past thirty or thirty-five years, his interest has not been altogether from the standpoint of Dr. Talbot's work. In the earlier period of the consideration of erosion the subject was made a matter of speculation, and men would be found to say that erosion must result either through acid or alkaline action, and no one ever took the trouble to find out whether this is true. Dr. Talbot, he said, stated his views based on certain investigations and a long series of tests made on many individuals, and yet he failed to discover, what has so often been stated, that occasionally the secretions of the mouth are acid. Then, necessarily, it logically followed that examination should be carried to other periods in the twenty-four hours than the daytime. It was then found that an acid reaction was invariably present during the period of rest—the night time. There was no exception in the thirty years that Dr. Truman has been experimenting in this direction—that there was no case of an alkaline or neutral reaction during the day. Therefore, he said, there is but one conclusion to be reached: that in all cases of erosion and of caries, the largest amount of destruction occurs during periods of rest, when the pure saliva, which is alkaline, is absent, resulting in a dry mouth, and conditions which are present only at night. Dr. Truman attributed the change to fermentation.

Later Dr. Kirk called attention to the fact that if litmus paper be taken and placed under the lip, under proper conditions, there would be evidence of acid reaction from the mucous follicles. This seemed to be an additional fact of importance, and Dr. Brubaker, Professor of Physiology in Jefferson College and also in the Dental College, in Philadelphia, made some examinations, through dissections of the upper lip, very perfectly prepared. He demonstrated that the destruction on the labial surfaces of teeth was due, in part, to the action of acid through the mucous follicles of the mouth at night, when the lip was pressing on the labial surfaces of the anterior teeth, or when there was pressure on the buccal surfaces of the posterior teeth, and the destruction of the enamel evidently took place through the double action of local contact and fermentation. Dr. Kirk then demonstrated, somewhat in advance of the essayist, the presence of acid phosphate in the saliva and the changes that take place in the urine. Michaels, of Paris, Dr. Truman continued, gave the first solution of the problems in saliva in its diathetic aspects, and advanced statements that have been confirmed by others. Therefore, honor must be accorded Michaels as being the forerunner of all investigations of the mixed-oral fluids. Dr. Truman said that his own observations were crude, but as far as they went the tendency was to crystallize thought in that direction. In private conversation with Dr. Talbot, he (Truman) has been led to believe that Talbot does not believe in giving credit to the man who comes after the original investigator. Dr. Truman did not agree with that idea. Every man or every woman who has brought out anything that is new has had some one before him or her. Hertz, in a way, brought out wireless telegraphy, the practical work of the electrician developed into a Morse, and Franklin's kite advanced thought in the direction of electricity. Thus it is that ideas are carried from one mind to another, floating through the ether, dropping, as in the parable, on soil that is good and becoming fruitful, in the generations. Fitch originated steamboats on the Delaware River, but they failed of commercial value. Fulton followed him and succeeded. So, while we give full credit to Fitch, we do not forget the importance of Fulton's work. Therefore, Dr. Truman is one of those who ardently support not only the original men, but those who come after the original thinker and make the work practical. He does not know whether acid phosphate, as described by the essayist, produces erosion. He has yet to be satisfied on that subject, but thought that the probabilities are in its favor. Acids produce erosion, and erosion is the destruction or wasting of the teeth on the enamel surfaces, and abrasion is the destruction, through acid, and through the wear of the teeth, one on the other. Both these conditions are, therefore, the result of acid action. He trusts that the future will demonstrate absolutely that the acid phosphates of the saliva and the change in the urine are the producing causes, combined, as they necessarily must be, with local factors. In the variety of researches in this direction may we hope the truth will be demonstrated, but, as yet, much requires proof.

Dr. Talbot asked whether Dr. Kirk has done anything in investigation along the line of urinary acidity?

Dr. Truman said he had, but he could not say to what extent.

Dr. G. V. I. Brown, Milwaukee, said that as far back as he can remember, about twenty-five years or more, Dr. Talbot has been constructing first, if not a steamboat, at least something that is useful. During all those years he has been working on what he calls a working hypothesis. He is rounding out now a complete whole; his steamboat is very nearly finished, and Dr. Brown did not believe that it makes very much difference who casts the rudder or who makes the boiler for that steamboat; whether there was original work in the boiler, or original work in the rudder, or original work in any part of the boat. Surely, the man who did that original work is entitled to credit. But for this structure as a whole, that is where, in his opinion, the originality really lies: the construction, first, of a practical basis, on which all may ultimately stand and be carried forward through those difficulties that have to be met in the treatment of diseases of the mouth. Dr. Talbot, he continued, made no claim for originality, but gave credit for the originality of the idea to Dr. Truman, so that part of the steamboat is Dr. Truman's, and nobody else's. The whole question of erosion is one which is brought up by the fact that some kind of an acid is causing the erosion. That in those conditions of high degrees of acidity or alkalinity of the body there is a lessened resistance of the body, and the erosion occurs.

Dr. Francis A. Faught, Philadelphia, thought that, with Dr. Truman in the beginning and Dr. Michaels and Dr. Kirk working along the same lines, it has taken Dr. Talbot to see the practical advantage of this work and to apply it. Dr. Talbot, he said, has developed the clinical side of the question, which, in the end, is the most important part of the work as applied to dentistry. In regard to the question of testing the saliva, Dr. Faught stated that litmus paper saturated with ammonia gas is sometimes entirely too alkaline for the small amount of acidity present, particularly in salivary secretions. He has been using neutral litmus paper, which reacts equally with acid or alkali. Also, the results of it can be more definitely brought out by first allowing the paper to be moistened in part by the saliva, allowing it to remain for a moment and then wetting the whole in distilled water. This throws out the question of change due to dry and wet paper and gives a definite end reaction.

Dr. Faught asked Dr. Talbot what experience he has had in the study of blood pressure in these conditions, because it has been recently brought out by medical men that all those conditions which have for their basis arterial capillary fibrosis, are conditions in which the blood pressure is abnormally high. Recently, one investigator, having gone over a great many of these conditions, concluded that any case in which the blood pressure is constantly two hundred millimeters or over, is either a case of chronic Bright's disease, or a case which will very speedily develop into it, unless something is done to relieve the blood pressure. He also asked whether Dr. Talbot has used the so-called blood pressure reducers, the nitrites, particularly of sodium, in the treatment of these cases previous to instituting the changes in diet and hygiene.

Dr. V. A. Latham, Chicago, believes that Dr. Talbot was one of the very first to show the changes in the arteries. Dr. Latham was surprised that credit for acidity was not given to the late Dr. William Pepper. One of the first papers Dr. Latham read on coming to these shores was an article where Dr. Pepper announced and literally begged the American people to avoid acids on empty stomachs. He showed the pathological action, on the teeth and on the digestive system. He carried on experiments in Philadelphia, with Dr. Weir Mitchell and others, on lines of work showing and proving very conclusively that the changes that take place in the gastric mucous membrane converted the gastric juice into an entirely new compound, and that seems to Dr. Latham to be the case.

Dr. E. S. Talbot, Chicago, confirmed Dr. Latham's statement that more than fifteen years ago he commenced on this branch of research work. He laid down foundation principles and has been working all these years. It is not an easy thing, he said, to write an original paper. The research work has to be done along with the clinical experience, in order to reach certain results; but he has for years adopted this plan. He hints four or five years ahead, in some paper, at work which he is doing. Thousands of men have investigated the urine and thousands are still at work on it, trying to prove certain things. If Dr. Kirk, he said, has done any research work along the lines of work that he has followed, he will give him credit. There are thousands and thousands of different methods of doing urinalysis, and if Dr. Kirk has done work along this line, and if he can show any clearer evidence than he (Talbot) has shown, he will be glad to do him justice. The one who has done the original work should get the credit. The mere fact that a man is doing urinalysis, does not indicate that he is doing work along the same lines as another. In regard to the remark made by Dr. Faught, Dr. Talbot said that he has done a large amount of work on blood pressure, and has published articles along that line, and has read papers before medical societies as well as dental societies, showing conclusively that where there is a high degree of urinary acidity there is a high blood pressure, and when there is a high blood pressure these changes are taking place in the alveolar processes and in the pulps of the teeth. If such conditions take place in alveolar process, which is an end organ, and in the pulp of the tooth, which is an end organ, why should not other end organs be involved at the same time and under the same conditions? That is to say, why is there not interstitial nephritis as well as interstitial gingivitis. Dr. Talbot believes that the research work which is being done now by certain men will show that this great pressure that is put on the kidneys is the forerunner not only of Bright's disease, but also of heart failure, and that it produces a decay of the arteries. Dr. Pepper, he said, no doubt did considerable work on the degree of acidity. The subject of acidity of the system has been known in the medical profession for a hundred years or more. Physicians have treated acidity in a blind way, without knowing when to commence the treatment, how much to give and when to stop. Dr. Talbot shows, in his paper, a definite, positive method of diagnosis, and when to commence treatment, how much to give, and when to stop, and that is applicable, he said, not only to erosion, abrasion and interstitial gingivitis, but also to every disease to which human flesh is heir.

Physicians at work on this line of research, are getting absolute results. There is no question about it. It is definitely settled that this method of treatment is absolute and to the point. In regard to erosion, abrasion and discoloration, Dr. Talbot said that for more than eight years he has been treating his patients along that line and is getting the results, and every dentist in the country can do the same thing. It is simple and easy. It only requires a minute to make the urinalysis, and it can be done in the office.

Curability of Diffuse Septic Meningitis of Otitic Origin.—P. Laurens recently reported a case of otitic meningitis due to enterococci. The germs persisted in the cerebrospinal fluid after all the symptoms had subsided. The patient recovered after a spinal injection of a silver salt. In the discussion of the case at the Medical Society of the Hospitals, at Paris, Lermoyez urged routine bacteriologic examination of the cerebrospinal fluid in every case of suspicious acute meningitis. If polynuclears are found showing evidences of destructive action, the meningitis should be regarded as septic, and without loss of time a disinfectant should be injected into the arachnoid sac to sterilize the meninges before irremediable lesions have been induced. The meninges should also be drained by daily lumbar puncture. The subdural injection of the silver salt or other disinfectant acts on the meninges much more rapidly and intensely than in intravenous injection.

SOME GENERAL REFLECTIONS ON THE PSYCHOLOGY OF DEMENTIA PRÆCOX.*

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In approaching a subject with so broad a title, it is desirable, at the outset, to outline the limitations of my remarks. I can do so best by setting forth what, for the purposes, is meant by dementia præcox, and secondly, what I mean by its psychology.

I hold no particular brief for the term dementia præcox. As outlined and elaborated by the masterly studies of Kraepelin and his followers, it represents, for me at best, a fairly reasonable entity, so far as psychic combinations, viewed in the light of comparative biologic interpretations, can be conceived of as entities.

Without attempting to elaborate, it is taken for granted that mental disorders, like those of any other organ or organs, represent an adjustment of functions to compensate for, or to correct a disturbance, which has its origin either outside of the organ or organs involved, or within them.

It is an elementary fact that the chief functions of the nervous system are to adjust the relations of the organs of the body, one to another; and to adjust the individual to his physical and social environment. An impairment of the former we speak of in general terms as a nervous disorder; a disturbance of the latter is regarded, in a general way, as a mental disorder. Any wide variation in adjustment of the individual to his social environment, which serves no permanently useful purpose, is evidence, therefore, of disturbance of mental functions.

The gamut of individual reaction,[1] however, is extremely wide, and when it is taken into consideration how little we really know of the sum total of psychical variation, it may readily be seen how difficult it becomes to determine whether a distinct adjustment to a situation is one that is suited to the occasion or not.

Our knowledge of the sound and healthy psyche is still in a very primitive stage; but it seems that, so far as we have gone along modern lines of normal and pathologic psychology, a certain advance has been made.

With this confession of faith in our uncertainties, I can only plunge directly into the subject matter of our topic, and outline very briefly what the particular grouping of adjustments is that, in our present state of knowledge, has led to the conception of the dementia præcox group.

The most striking of these features consist in the following:

1. The occurrence of the reaction, for the most part, in the years about puberty, adolescence and early manhood, i. e., within the years 18 to 28. This simply means that the majority of patients thus far studied, fall within this period of life. There are plenty beyond both extremes, but this is perfectly understandable when it is realized that the development of individuals varies very widely.

2. The gradual development of a psychasthenic state which deepens into the sense of incapacity and in-

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[1] Tiling (Th.): Individuelle Geistesartung und Geistesstörung, 1904.

adequacy, and is but the beginning of a deteriorating process which shows itself in various attributes of the individual's mental powers.

3. Thus a gradual emotional deterioration becomes apparent. This may be an indifference, or emotional stupidity, or may be characterized, as Stransky has so well shown, as an incongruity between the content of ideas and their natural emotional sequences. This incongruity has been compared to an ataxia by Stransky himself, and there may be more complete dissociation between ideas and their usual emotional association. This emotional adjustment, concerning which we shall speak later, is one of the very marked features of the reaction of these patients.

4. Modifications in the so-called intellectual sphere are apparent. While it is recognized that sharp distinctions between intellectual and emotional disturbances can be drawn only with the greatest of reservations,[2] certain changes in the precocious dement are better grouped under this head than under others; thus, lucidity of consciousness, which is so often involved, at times leading to complete confusion; variation in the power of attention, a veritable attention disorder, both voluntary and involuntary; some modification of the faculty of orientation, often not marked; delusion development, often on an hallucinatory basis: the loss of apperceptive power and the development of the sense of unreality, of inadequacy, ideas of influence, of reference, and compulsory ideation. These are some of the more characteristic features in the intellectual sphere.

5. As a consequence of these and a number of other reactions, the details of which I can not here enter into, there results a fairly constant and perhaps distinctive alteration in the character of the individual. Jung,[3] in his most recent contribution to the subject of dementia præcox, thinks that we can speak of an "early dementia" character type, just as we can speak of an "hysterical" character. This is, I believe, to a certain extent true, and in a previous contribution on predementia præcox[4] I have tried to state the problem of such a type of individual which, under the combined stress of heredity and environment, is unable to adjust itself along self-conservation lines, and failing such adjustment goes under. As already held in my former paper, it seems premature to make a hard and fast statement of this nature, yet at the same time I am convinced that the structural defects, which later permit of the crumbling of the intellectual structure, show in many individuals before the breaking down has begun.

Among the more constant and firmly established of the abnormalities of character are affectations, or eccentricities of manner; a tendency to search out striking combinations, neologisms in speech, bizarreness in writing, in artistic production, and unapproachability. The final development of the childish, foolish manner, so frequently seen as an end product, is best considered here perhaps as well. These affectations are particularly common in individuals of lower social strata.

Of the tendency to coin new expressions in conversation and in writing, I shall say something when I discuss the origin of these conditions. The unapproachability of these patients may vary very widely. Whether its development is a result of the disorder of attention, or due to emotional modifications, or to both, and other factors, is far from being certain.

6. Finally, these patients show marked modifications in their motor conduct, i. e., in their general muscular reactions, both in the striped and unstriped muscles. Physical negativisms, stereotypies, affectations of posture and of bearing, catalepsies, automatisms, and a host of sympathetic phenomena are included.

These are, I take it, the more fundamental of the anomalies which make one arrive at the conception of dementia præcox.

On a basis of variation in onset, in development, in the grouping, in intensity, and in persistence of these reactions, clinical psychiatry has erected certain types. Thus, those in whom the elements of early onset, slow advancing dementia, emotional deterioration, and attention disorder enter more slowly and persistently into the picture we speak of as examples of simple dementia, heboids, or hebephrenia. With the introduction of more stormy intervals of great restlessness, much automatism, marked violence with stereotypies, verbigerations, negativism, etc., the group term catatonics is sanctioned; while in the paranoid group, which Kraepelin has so carefully erected are arranged those who deteriorate very slowly; whose character changes take place only after years; in whom the emotional indifference and attention disorder are very slight for years, but in whom the exaggerations and egocentric delusional interpretations eventually transform the character, and the exaggerations and eccentricities may take on a fantastic and almost artistic finish by reason of the very slow decay of the intellectual functions.

As to the psychology. By this I mean simply the interpretations. If these are the features of the group, can they be explained in terms with which normal psychology has made us familiar? It is by means of a positive affirmation of this query that the belief in Kraepelin's generalizations has received so wide and almost universal a recognition.

The term psychology is here used in its widest and most general of senses, as meaning the physiology of mental functionings. I can not understand why, for instance, a modern writer on psychiatry—Bruce—in an introduction to a recent text-book, should say that psychiatry will advance only when we get away from psychologic interpretations. Apart from psychologic interpretations, how can psychiatry advance at all? Certainly the psychiatry of Bruce shows retrogression by reason of this very attitude. Out of the factors of the psychology of everyday life must be built up a knowledge of the mechanism of abnormal mental operations. Without such can we ever hope to gain any true grasp of the very essentials of mental disorders?

So long as symptomatology alone is considered, we are in the position of the internist who sees, for instance, increased urinary secretion as a symptom of nephritis; without a knowledge of the essential factors—it may be increased cardiac tension—it may be alteration in osmotic tension by reason of variations in the inorganic salts—which lead to such urinary increase, a real understanding of the process is impossible and something purely subsidiary is considered as primary. So one might study the symptoms of negativism, but without some idea of the mechanism—such as has been tried by Bleuler—its true understanding, failing a psychologic analysis, is well-nigh impossible.

The problems of onset have only an indirect psychologic interpretation in that we view this period as one of loose aggregation of the psychologic elements.

In a highly suggestive and remarkably stimulating chapter in his recent study of dementia præcox, Jung has drawn a striking parallelism between the psychical mechanism in hysteria and in dementia præcox. He shows, from the viewpoint of interpretation, that practically the entire range of the præcox symptomatology has its analogies in the hysteric syndrome.

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[2] Bleuler: Affektivität, Suggestibilität und Paranoia, 1906.

[3] Jung: Ueber die Psychologie der Dementia Præcox, 1907.

[4] Am. Jour. Med. Sciences, August, 1907.

I have elsewhere developed a like point of view and have chosen to regard the hysterical syndrome, as Freud and Janet have already done, in the light of a loose synthesis, while the dementia præcox reaction is, I believe, the result of a psychical disintegration or analysis. As one obtains identical views on the ascent and the descent of a mountain slope at any one point, so by analogy there may be a point in the synthesis of an individuality which, after later development into a personality, has its almost exact counterpart in the analysis of the same personality, if such analysis proceeds by a like path as the synthesis. This is a common biologic phenomenon. It is seen, for instance, in the stages of synthesis and analysis of all classes of food stufls, carbohydrates, fats and proteids, and it is interesting further to note that even though a strict chemical formula of the synthetic and analytic substânce may be identical, yet the *products* themselves are different. This is seen, for instance, in the synthetic and analytic alkaloidal muscarin; urea and carbamic acid, which, while having the same formula—one building up into a more complex formula, the other breaking down from the more highly developed end product—yet they have different properties, physical, chemical and pharmacologic. So although a parallelism exists in the mechanism of the development of hysteria and dementia præcox, yet the products are quite dissimilar.

The psychologic mechanisms which go to build up personalities are in reality fundamentally similar, notwithstanding their immense complexity and the wide variations in their end products. In some individuals the power of synthesis is uncertain and halting. These individuals are unable, if I may use a crude analogy, to tie their psychical components, or complexes, together into a well-knit individuality; the different constellations which go to make up the individual are, by reason of this loose synthesis, liable, for a number of years at least, to separate, dissociate, and thus is developed in part or in whole the hysteric and the true hysteria syndrome.

On the other hand, other individuals of a different genre do crystallize a personality; they do advance to a more or less perfect synthesis; but this, by reason of factors of which we are at present largely ignorant, commences to be broken down, and the analysis of the previously tied together complexes determines the dementia præcox syndrome. This is at least a point of view that has, it seems to me, excellent justification. Jung's masterly setting forth of the parallelism of hysteria and dementia præcox adds much confirmation to the availability of the analogy for interpretative purposes.

It is, further, highly doubtful if what has been here set forth as a second symptom, i. e., the development of a psychasthenic state, is capable of a single type of interpretation. It is the result of a compound of simples and is not, I believe, capable of analysis *per se*. Depending as it does on a number of other conditions which are contributory to it, these are better brought under review.

Is the emotional deterioration which is so characteristic capable of explanation? A number of students have attempted it. Freud, Kraepelin, Stransky, Bleuler, Neissér, Masselon and others. There is little doubt that the emotions, whatever they may be—and modern thought has demonstrated how difficult it is to formulate precise definitions for this class of phenomena—constitute the groundwork of personality. Modify the emotional life, and the entire social reaction is altered. Bleuler has emphasized the driving element in the "affectivity"[4] of the individual, and Freud has shown how important a place the emotional complex, hidden or superficial, may take in action. The faculty of attention is recognized to be closely allied to the emotional substratum and Bleuler has pointed out that attention is really nothing more than a special case of affect action.

What Bleuler has termed our "affectivity," by which, as I take it, he means the driving force within us, is the most important understructure of our entire personality. Thought and action are in reality purely the outcome or symptoms of this "affectivity."

When brought face to face with an unfamiliar or, in a sense, dangerous situation, our reaction, although accompanied by a swift play of ideas, is determined by the feeling tone that underlies these ideas, and, for the time being at least, a new series of ideas, saturated with and inextricably bound together by the feeling tone—forms the affective complex—which determines our reaction. This new complex retards all others, dominates the attention, and this determines the narrowing of consciousness. The muscle tension and the sympathetic control of our blood vessels is controlled by the new complex or, in the words of the James-Lang hypothesis, *is* the complex or *the emotion.*

If the situation is met with a feeling of adequacy, satisfaction arises, the complex disappears, the narrowing of attention passes, consciousness once more becomes more widespread, the muscular tension relaxes and the altered circulatory mechanism resumes its usual course.

If not met adequately, however, the complex persists. Every time, under such conditions, the situation arises the same complex takes control, until there becomes a condition of hypersensitivity to this complex which is brought forth by the situation, and finally not only may the exact situation call forth all of the discomfort of an inadequate reaction, but allied and associated situations become the starting points for the development of the affective control of the individual.

Are we justified in assuming that the attention disorder in many of our dementia præcox cases is due to a more or less prolonged condition of hypersensitiveness to certain emotional complexes, as Meyer has suggested, a veritable establishment of a habit, whereby consciousness is narrowed and the patient remains under the tension of his affective state?

Stransky has developed an interesting point of view in this same general line of interpretation. As already outlined in the beginning, we have assumed the association of ideas in meeting a situation with an affect aroused by the ideas. In most of us there is a more or less definite relation between the idea and the affect. The smell of dinner brings forth its adequate emotional tone. In more complex situations there is a like adequate relation between idea and emotion—between the noopsyche and the thymo-psyche, as Stransky coins the words. Gradually, however, there develops in the dementia præcox, as with the hysterical, a disorder between these relations, at first an ataxia—to use a neurologic analogy—then later perhaps a true paralysis between the idea and the affect—this is Stransky's résumé of the situation and perhaps offers a clue to the bizarre, irregular reactions of the precocious dements.

The analysis of suggestibility is far from being complete, yet in the recent work from the Zurich school, negativism may have light thrown on it when viewed in the light of an abnormal negative suggestibility.

Negative suggestibility is a physiologic prototype; by it is meant the correction process which arises at the same time that suggestibility is engendered. The impulse to do in response to suggestion has its physiologic corrective—as it were, not to do too much or too excessively. The tendency to react too actively to suggestion leads to evidence of reaction in a given direction, only to be distracted to similar overviolent reactions in another direction when another suggestion supervenes. The negative suggestibility enters as a corrective to excess reaction and thus tends to make performance effective and purpose advantageous. But an abnormal negative suggestibility overcorrects and leads to the phenomenon of negativism.

Although Bleuler's statement of the case can hardly be considered more than the saying of old facts in new language, yet his elucidation of the mechanism of negative suggestibility is illuminatory and progressive.

The time limit of our papers does not permit me to develop the idea further; there does remain, perhaps, a few moments in which to say something relative to the therapeutics of the subjects.

THERAPEUTICS.

Many precocious dements, in fact, the most, are probably doomed from the very beginning. What with bad structure on which to build, bad environment and possibly a toxic factor (only postulated hypothetically), there is little opportunity for some precocious dements.

But a few are worth working for, particularly in the predementia stage. When the diagnosis is more or less patent the process has been too long in the making and the opportunities for repair have usually been neglected. The eccentric, ego-centric child is always a difficult problem, from the standpoint of training. Too many are permitted to go their own way in the hope that all will be well when they mature. A large number of precocious dements are drawn from this class.

I have tried in my paper already cited to indicate the lines along which these children should be trained, if possible. I believe, in the first place, in teaching them the petty conventions of life which make so frequently the oil that reduces social friction; the help in permitting an adjustment to unpleasant situations which thus diminishes the opportunities for affective action.

It is simple to say that a child should be trained to his *métier*, but extremely difficult to determine just what individual capacity is. In an interesting comparison made by Gaupp relative to the psychoses of urban and of rural communities, it appears that the stress of city existence bears particularly on the young mind and determines the hysterical and præcox reactions in the young more frequently, in the city, than in the country. This is a fact worth bearing seriously in mind if heredity and peculiarity are present in a child.

Schooling work does not seem to make a marked difference if it is pursued in moderation. The brighter, eager brains are more often damaged than those less pushing, and each individual child's reaction to its school work is worthy of close observation.

If the reaction to intellectual work is not normal—if fatigue enters as a large disturbing element—care should be exercised in so arranging studies to obviate it. These children need schools in which outdoor pursuits are cultivated and made co-ordinate with or supplemental to more intense intellectual efforts.

There are a large number of ideas of primary importance in the care of this particular type of breakdown. Many are not hopeless by any means; they need the proper type of education, and scientific pedagogy looks to the physician to indicate the lines of development for this class of true mental healers.

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DISCUSSION

Dr. Wm. A. White, Washington, D. C., said that not many years ago all mental cases were placed in large groups, called excitements, depressions and dementias. Later it was found necessary to differentiate still further, and many were going to the opposite extreme. Now we must study the psychologic states in individuals; we must study their course from beginning to end, explaining them on the basis of a biologic reaction of the individual to his environment. When we begin to do that, we find all sorts of symptoms, and when we begin to outline and define these different reaction types or psychoses, as they are called, we find the same sorts of reactions in many forms; for instance, hysterical attacks may occur in different groups. If we are going to define them more accurately, we must study the symptoms from a psychological standpoint, so that we may understand each one. That has been done by Janet by picking out definite so-called functional symptoms, and grouping them from a psychologic standpoint, one result of which has been a new psychoneurosis—psychasthenia. Dr. White believes further very careful study of all mental disorders must be made primarily along psychologic lines. The anatomic lesions of Broca's convolution have absolutely no meaning; they are nothing more than anatomical curiosities, unless the case was studied psychologically before it went to the autopsy table, and unless we know accurately just what the mental condition was during life. We must study the individual symptoms, and understand just what they mean in each separate reaction type. Then we must study the character of the individual, as Dr. Jelliffe mentioned, and in connection with the disorder under consideration endeavor to outline the character of the predementia type.

Dr. L. H. Mettler, Chicago, declared that those who neglect normal psychology in the interpretation of mental diseases are in the position which medicine occupied before the days of Virchow, when diseases were nothing but groups of symptoms, mere unexplained manifestations. Of what use, he asked, is the clinical picture of any disease, except as a guide-post to the underlying physiopathology? It is all very well to talk about the termination of dementia, the beginning and the end of ataxias, etc., but what we want to know is, why these things are so? Why they occur thus? The only way to advance in abnormal psychology is to cling closely to the data afforded by normal psychology And yet, Dr. Mettler has heard confrères say that there is nothing in normal psychology. Such an attitude of mind he regards as unscientific. Psychology has made tremendous strides lately, especially modern physiologic psychology. The psychic states under discussion represent the reaction of the individual, using all parts of his body. His physical organism is being influenced by his heredity and environment. In the study of psychic diseases, we study the reaction of the individual to his heredity and environment. One must consider always what a normal individual would do under the same circumstances. This brings us again to normal psychology. The variations from the normal represent his psychiatric trouble.

Dr. Smith Ely Jelliffe, New York City, said that there is a small percentage of individuals with dementia præcox who by a more healthy and better adapted mental training might have escaped the penalty either of their inheritance or environment. Such pedagogy, true mental science teaching, to be efficient, must begin in the predementia stage, although even some later cases are not hopeless.

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[*For other information see second page following reading matter.*]

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LACTIC ACID AS A CAUSE OF DISEASE.

On account of the valuable observations on the occurrence of acid intoxication in diabetes, and the frequency of the presence of acetone and related bodies in the urine in various conditions of intoxication, the terms "acidosis" and "acetonuria" have become of common usage in medical practice. In many instances, however, the usage of these terms that we hear indicates the existence of a general misunderstanding of the significance of acetone and the organic acids as factors in disease production. Acetone is found in the urine of a sick child, or the acetone odor is noticed in the breath of a patient with some obscure intoxication, whereupon it is at once stated that the patient is suffering from "acidosis" or "acetonemia," and that the observed symptoms are due to intoxication with acetone bodies. Such statements are incorrect to the extent that they imply the production of symptoms or pathologic conditions in these cases through poisoning with acetone or organic acids, for the acidosis or acetonuria is generally but the result of a morbid condition and seldom the cause. We have actually but one good example of a disease condition that is certainly caused by poisoning with the so-called acetone bodies, and that is diabetic coma; and even in this instance it is probable that acidosis is by no means the sole causative factor, or the coma would be much more uniformly and constantly relieved than is the case, by administration of alkalies. It seems still to be necessary to emphasize the fact that the diacetic acid and the β-oxybutyric acid that accumulate in the blood and urine in this disease are only toxic because they are acids, and that their injurious effects are probably solely the result of their withdrawal of the inorganic bases from the blood; they have almost no toxicity other than this, and their neutral salts are practically harmless. Acetone itself is but very slightly toxic, resembling ethyl alcohol in its effects, and the lethal dose for man has been estimated at 500 grams, while seldom more than a few grams are found in the urine in the most profound cases of acidosis or acetonuria. The symptoms that are present in patients with acetonuria and similar conditions are, therefore, not usually due to the acetone bodies themselves, and the presence of these substances in the urine must be looked on merely as one of the manifestations of the disease condition that is producing the other symptoms of intoxication.

There have been a number of articles in the literature of the past few years on paralactic acid as a cause of disease, especially the toxemias of pregnancy. These originated with the studies of Zweifel, who found paralactic acid in the urine of eclamptic women, and also in their systemic and placental blood, and in the blood of their fetuses at birth. He therefore concluded that the acidosis, which can nearly always be found in eclampsia, as shown by the large proportion of ammonia nitrogen in the urine, is the cause of this disease, and that paralactic acid is particularly responsible for the intoxication. Lockmann corroborated these statements, and also found paralactic acid in the cerebrospinal fluid, and several other workers have obtained similar results. In none of these observations, however, were more than minute quantities of paralactic acid isolated; but in a case of pernicious vomiting of pregnancy, the relation of which to acidosis has been particularly pointed out by Williams,[1] Underhill[2] succeeded in isolating about one gram of the zinc salt from the twenty-four hours' urine. On account of the observations and claims of Zweifel there has developed a tendency to attribute many and sundry sorts of convulsive conditions other than eclampsia to intoxication with paralactic acid, without first having demonstrated that paralactic acid is capable of causing any such symptoms.

Paralactic acid, or, as it is more commonly called in this country, sarcolactic acid, is produced under normal conditions and in no inconsiderable amounts in the muscles during muscular activity, and possibly in smaller amounts in other cells and tissues. It differs from the ordinary lactic acid that is produced in fermentation simply in that it is dextrorotary, while ordinary fermentation lactic acid is optically inactive, being a mixture of levorotary and dextrorotary lactic acids. Under normal conditions, the paralactic acid is completely oxidized, and this process seems to occur chiefly in the liver; consequently, it may fail to be entirely oxidized and appear in the urine either when produced in excessive amounts by violent muscular activity, or when on account of degenerative changes in the liver it can not be destroyed as rapidly as it normally is. Puerperal eclampsia, with its combination of violent muscular spasms and extensive necrotic changes in the liver, therefore, offers ideal conditions for the excretion of lactic acid in the urine and other excretions and secretions, and it is not strange that it has been found in this condition; but it does not follow that we should ascribe the eclampsia or any of its symptoms to lactic acid intoxication.

As a matter of fact, the studies of Donath[3] show conclusively that even large amounts of the sodium salt of lactic acid are practically without any effect whatever, intravenous injections of as much as 1 to 1.5 gram per kilo into animals having caused no serious symptoms. We must, therefore, consider that lactic acid is not of itself a cause of symptoms or of disease, except in so far as it may act like other acids by withdrawing bases from the blood; and even this effect is not likely to be considerable, in view of the very small quantities in which this acid is excreted as compared with the large quantities of oxybutyric and diacetic acid that are often found in the urine in various forms of acidosis.

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[1] Bull. Johns Hopkins Hosp., 1906, vol. xvii, p. 71.

[2] Jour. Biol. Chem., vol. ii, 1907, p. 485.

[3] Deut. Zeitschr. f. Nervenheilk, No. 32, 1907, p. 232.

SERUM TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS.

During the last two years efforts have been made to produce effective serums for the treatment of patients suffering from epidemic meningitis, notably by Wassermann, Jochmann,[1] and most recently Flexner and Jobling.[2] While the number of patients treated with serum is still small yet the results on the whole indicate that it may be possible to produce serum that may have more or less beneficial influence on the course of the disease. Of the forty-seven patients with meningitis treated in various places with the serum prepared by Flexner and Jobling thirty-four recovered and thirteen died. Eliminating four cases, in which the disease was either fulminant or the patient's condition so extreme that death occurred in a few hours after the injection of the serum, the death rate becomes 20.1 per cent. This is considerably smaller than the death rate among the untreated cases occurring at the time. In a number of cases the disease with acute and violent onset terminated so abruptly within forty-eight hours of the injection of the serum that the observers could not but be impressed in favor of the serum. Most of the patients who recovered did so completely and without permanent defect, except some deafness in one case.

Többen[3] reports a mortality of only 16.6 per cent, in twelve cases in which the serum treatment was begun on the first or second day; his total death rate in twenty-nine serum treated patients, being 34.5 per cent., while in thirty-seven patients treated by lumbar puncture only it was 56.7 per cent.

Like Schöne,[4] Flexner and Jobling used the intradural method of injection and for two principal reasons, namely, in order to bring the serum into direct contact with the active focus of infection and also because substances are known to pass but slowly and imperfectly from the blood stream into the cerebrospinal fluid. Enough observations are not yet at hand to demonstrate finally which method of injection, the intradural or subcutaneous, is really preferable. The introduction of the serum into the spinal canal seemed in cases which could be followed closely to cause rapid disintegration and arrest of multiplication of the meningococci. There seemed also to be an increased phagocytosis with intracellular destruction. At the same time it is probable that potent serum has some antitoxic action on the meningococcal endotoxins. Without going into further details at this time we think it safe to say that, judging from the experience already obtained, both in this country and in Germany, the data at hand appear fully to warrant a wider trial of reliable serum in suitable cases under proper clinical and bacteriologic control. Of course it would be interesting to know the effect that normal serum may have on meningitis, but so long as immune serum is available, experiments with normal serum would hardly be warranted.

A word or two may be added in regard to the production of the immune serum and the manner of injection as practiced by Flexner and Jobling. Horses are first inoculated subcutaneously with a small quantity of mixtures of cultures of different strains of meningococcus heated to 60 C. for thirty minutes, and subsequently the dose is doubled at each injection, and at present living organisms and autolysates are injected alternately at seven-day intervals. Intravenous injections have been abandoned because of the serious symptoms that they cause. The serum used in the cases discussed at this time was derived from a horse which had been in process of immunization over one year before using the serum; 3 c.c. of the serum are introduced at a single injection after withdrawing from the spinal canal about as much fluid as the amount of serum to be injected. The injection is done slowly and carefully and it is advised that it be repeated every twenty-four hours for three or four days. It goes without saying that the earlier in the attack serum can be given the better the outlook.

A SANITARY ARMY.

Unlimited prodigality of effort and exertion in the acquisition and safeguarding of wealth, of whatever sort, with an almost equally complete lack of energy in the safeguarding of health, seem to be fundamental characteristics of the human race, whether living in aboriginal simplicity or in the decadence of overcivilization.

One need not necessarily confine his observations on this theme to the United States, for the condition is practically universal; only here and there are there communities in which has grown up an appreciation of the value of full and proper sanitary protection, and in which an effort commensurate with the importance of the work is really exerted. These communities, however, are so rare as to excite our wonder no less than our admiration. In the United States, however, taken either as a whole or in part, we find no such condition of vigilant and appreciative sanitary protection as is needed; nowhere proper sanitary laws and with active and intelligent cooperation in their enforcement, and nowhere a cheerful spending of money necessarily required for such protection. Yellow fever in New Orleans, plague in San Francisco, or cholera in New York, are not merely things of local, provincial interest; they are facts of national importance—and of national disregard until within the last very few years. In the Public Health and Marine-Hospital Service we have a handful of competent men, under-officered and underpaid, who are left to struggle as bravely as they may, and too often in the face of active opposition, with the sanitation of the extreme parts of the country. And even these may at any time see their work, which perchance they know to be vitally necessary for the protection of the country against some epidemic disease, frustrated through the lack of support and the withholding of essentially needed funds by the layman who holds the pitifully small purse which our government has assigned for the protection of the health of its people.

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[1] Deut. med. Wochschr., 1906, xxxii, pp. 16 and 20.
[2] Jour. Exper. Med., 1908, x, p. 141.
[3] Münch. med. Wochschr., 1907, xlix, p. 2420.
[4] Therapie der Gegenwart, 1907, xlviii, p. 52.

We spend millions of dollars a year for the sustenance and increase of a navy for the maintenance of peace and guarding our commercial rights and operations. We spend other millions in finding out what is the matter with the cotton plant in Texas, or the peach trees in New Jersey, or the orange trees in California—and practically nothing in protecting the health of our citizens. With a sufficiently large and well-drilled sanitary corps—a sanitary army into which, if you please, we should change our Public Health and Marine-Hospital Service—placed on the same basis of rank and pay as the regular army that we maintain, mostly for the edification of our various aborigines, who can estimate the vast saving, not alone in life and health, but in actual dollars, that would be effected? Consider the possibilities: Suppose that there is smallpox in Tennessee. This is not a matter which concerns that state alone, for we know how the disease travels. With a sanitary army, however, there need be no alarm. At an hour's notice thoroughly trained men, directed by those who know full well every rule of the fight, are sent into Tennessee, and before the disease has spread it is all over and that section has been made clean. Where would be the epidemics of typhoid fever, each taking toll of its quota of human lives—and dollars—every year, with such a sanitary army watching and guarding our sources of water supply? Consider the history of plague in California. With such a sanitary army always on a war footing, the foolish denials of a crooked mayor, or an angry governor, or a venal state board of health, would not be permitted to menace the health of the whole country. A flying wing of veteran fighters would at once close every avenue of rat migration, enforce those measures which alone can spell protection, and save hundred of lives and millions of dollars.

Is it too much to hope that some day we shall have as much regard for our wealth in lives as we have for our wealth in dollars and industries? Or will the primal instinct of disregard for health be always too strong?

DEVELOPMENTS IN MEDICAL DEONTOLOGY.

That good old word economics has been mainly absorbed by those who discuss phases of material and pecuniary interest to people. It must not be forgotten, however, that, according to its original derivation from two Greek words meaning house and law, its real significance is the setting of one's house in order. In recent years there has been a noteworthy series of movements for the setting of the medical professional house in order, and this has included the putting to rights of the relations of the physician to other professions. We have suggested at various times the advisability of meetings of physicians to which at one time druggists shall be invited, at another lawyers, at a third teachers and clergymen, and we have been glad to chronicle the holding of such meetings in various parts of the country.

An interesting development of medical economics in the line of applied ethics as it concerns medical matters was exemplified in a course of lectures held in Brooklyn during October and November. The general subject of the course, which was attended by an audience composed of clergymen and physicians numbering at times over 100, consisted of embryologic questions. Many phases of the ethical problems that have to be discussed in embryology and obstetrics are of interest to clergymen as well as to physicians. The whole subject of abortion is a social as well as a medical problem. All law proclaims the life of even the youngest child as inviolable. The sale of remedies supposed to produce abortion, and the existence of various institutions in which the procuring of abortion is more or less openly advertised, represent social problems that even the combined influence of clergymen and physicians will find a difficult task to solve. Outside of the medical profession there is a general impression that "abortifacient" drugs are effective. The announcements in the newspapers lend color to this false impression. The definite knowledge, then, that there are practically no remedies which produce such an effect unless at the same time the mother's life is exposed to serious danger, is practical information tion that should be widely diffused.

Many of the problems of heredity as concerned with embryology are of interest to clergymen and to educators and other moulders of public opinion as well as to physicians. In spite of the general impression to the contrary, diseases in the proper sense of that word are not inherited, though defects and deformities are the subject of inheritance. Tuberculosis is not directly inherited, the inheritance of direct predisposition to it even is dubious, and other diseases are almost without evidence as to heredity. The communication of disease from the mother to the child in her uterus is not uncommon and so congenital diseases are not infrequent, but they are no more hereditary than are diseases communicated by the mother through her milk. With regard to some diseases the thought of heredity and hereditary influences is extremely discouraging and makes an unfortunate and unfavorable factor as regards recovery, so that the spread of knowledge on this subject is likely to be of the greatest possible good. No better auxiliary for the diffusion of such knowledge is at hand than intelligent clergymen.

The subject of social diseases, or, as they are more frankly called, venereal diseases, has now reached a position and importance in public interest where definite knowledge with regard to them needs to be in the minds of the clergy and educated people generally. Clergymen can be potent factors in educating the rest of the community to a proper realization of the social significance of these diseases, and information imparted to them is likely to be widely diffused. When they receive this knowledge under such circumstances that they are convinced, as is the case when physicians are present, that there is no exaggeration with regard to it, they are likely to be much more impressed than would otherwise be the case.

Finally, there is the question of the general attitude of clergymen and physicians toward each other and of the possibility of such coordination of effort on the part of the cognate professions as shall make for the common weal. The subject, for instance, of "patent medicines" and the ethical position of those who exploit them is one of the most serious of these questions. In the past, unfortunately, only too often, the interest of the clergymen has been exerted on the wrong side. The frank discussion of these subjects with the answering of questions after each lecture, and the expression of opinion and interchange of sentiments in groups afterward, clear the air of many doubts and difficulties and make it clear that the medical and clerical professions, both intent on making men happier so far as possible, have interests in common even in departments of knowledge sometimes unsuspected, but with regard to which their cooperation for the public good will doubtless prove of great humanitarian benefit.

JAPANNED ENGLISH.

In an entertaining article on "Japanned English"[1] Mr. George Kennan discusses the ludicrous mistakes which the Japanese make when they essay to advertise their wares and show their erudition by a smattering of English. The medical reader finds much to interest him. For example, "Fullish Milk," "Fluish Milk" and "Fulish Buttr" represent the endeavors to spell phonetically the word "fresh" as it sounds to the Oriental ear, the letter "r" giving the Japanese a lot of trouble. All sorts of drinks are described in Japanned English as "nourishing." For instance, over a shop in Tokio a sign board bore the words "Nourishing Drugs." Mr. Kennan says that he did not ascertain whether the proprietor sold cocktails or cod liver oil. In a daily newspaper a dealer in coffee declared, "More men is not got dropsy of the legs who use this coffee, which is contain nourish." One can not deny that some definite idea is conveyed, at any rate. A Tokio druggist advertised for months "Invaluable, Fragrant and Nice Pills." The qualities are all desirable, we admit, but the druggist did not inform the public for what the pills were to be used. In this country it is the custom for manufacturers superabundantly to inform the public and physicians what certain pills will "cure." The advertisers of our sanitariums and health resorts might receive suggestions from the artistic writer of a pamphlet, "A Guide on Hakone," prepared for the use of visitors to this beautiful summer resort on the eastern coast of Japan. "Wind proper in quantity, suits to our boat to slip by sail and moonlight shining on the sky shivers quartzy lustre over ripples of the lake. The cuckoo singing near by our hotel, plays on a harp, and the gulls flying about to and fro seek their food in the waves. All these panorama may be gathered only in this place. Forty-five houses among whole machie are the hotels for the cessations of travellers. Breads, fleshes of fowls and animals satisfy the relish of people. The milk is distributed to the hopers by the branch store in Hakone. Streams of water issuing forth in the southeastern valley of Hakone machi are used by whole people. Transparent and delicate liquid is constantly overflowing from the vat and its purity free from deflement so values on the applause of visitors as it is with the air." "Who," Mr. Kennan asks, "after reading this description, would lose a moment in packing his trunk and starting for Hakone? The moonlight shining with quartzy lustre on the gulls, and the cuckoo playing a harp, would alone pay for the journey." Mr. Kennan calls attention to the fact that however ludicrous may be the mistaken use of words, Japanned English is almost invariably intelligible. For instance, "This hot spring is beautiful perspective and a delightful freshness in the air. It is raise up 4,640 foot up the sea surface and the temperature within 75 degrees. Therefore it is most able to everybody sheltering the hot in the summer season. This hot spring is not special virtue that will give the pure and healthy to human heart. Because it is the carbonic acid spring to comprehend many iron. There build the several bathroom to reserve for some person. Half and 6 miles for Tanaka Station at Shinetsu Line." In many parts of Japan, says Mr. Kennan, men and women have been accustomed to bathe together in the same hot spring. When the Japanese found this practice shocked foreigners, the proprietor of a hotel, in advertising a certain bath resort, said: "We have complete separation for ladies and gentlemen so that the disorder is improbable." Mr. Kennan calls attention to the admirable precaution and prudence shown in the word "improbable."

THE USE OF SERUM IN HEMORRHAGIC DYSCRASIAS.

A few years ago P. Emil Weil, of Paris, carried on some interesting experiments on patients suffering from hemophilia, in whom he was able to control the tendency to bleed for a certain time with injections of fresh serum. Since then he has experimented further with other conditions in which there is a tendency to hemorrhage, with an increased coagulation time. Weil now[1] recounts his experience with this procedure in cases of spontaneous and inherited hemophilia, of acute primary and secondary purpura, exhibiting hematuria, epistaxis, hemarthrosis, or other hemorrhagic accidents, of chronic purpuric conditions, and of severe anemias, with tendency to hemorrhage. In nearly every instance he was able to control the hemorrhage, and, although not much can be hoped for it as a curative measure in chronic dyscrasias, it appears to be a valuable aid in certain conditions. Weil states that the "sera of man, the rabbit, horse and cattle have been found equally efficacious, although *in vitro* the action of human serum is more evident in correcting the disorder." He injects 15 c.c. of the serum into a vein or 30 c.c. beneath the skin, and has found the ordinary antidiphtheria serum to be of value, particularly when it is less than two weeks old. Weil does not state in what way the serum is supposed to act. It can hardly be due to the calcium which it contains, as 30 c.c. of serum would contain only about 0.0034 gm. of calcium salts. The hemolytic property of a foreign serum might be supposed to give rise to the freeing of more nucleoproteid and thus increase the fibrin ferment, but in pernicious anemia, in which serum has been shown to have a certain degree of antihemorrhagic power, there is already an aggravated hemolysis. It seems incredible that the human subject could make use of the fibrinogen, as such, of another species, even though enough were added in the 15 c.c. to make up a deficiency, and that for several weeks this foreign fibrinogen should remain in the circulation and play understudy to the ailing human fibrinogen. Whatever the theory, it seems to have been shown that the injection of fresh serum is of service in hemorrhagic conditions exhibiting an increased coagulation time.

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[1] The Outlook, New York, Dec. 14, 1907.

FLIES AND INTESTINAL DISEASE.

A subject of cumulative importance in sanitation is the pollution of the great watercourses by the discharge into them of sewage and the noxious products of industries. A Committee on Pollution, of the Merchants' Association of New York, has taken up the matter with regard to that city, and in its recently issued report[2] details some investigations that are of general interest. The relation between flies and the dissemination of intestinal disease was conclusively demonstrated by the following facts: First, though running water tends to purify itself in a very short distance, nevertheless accumulations of excreta of large extent were constantly found under piers, in slips, backwaters and wherever impediments to the free flow of the tide caused the formation of eddies. It was further found that flies were more abundant where accumulations of floating excreta were greatest, especially at the sewer outlets, and that intestinal diseases which have been endemic for some years were most thickly distributed within a short radius from the rivers along their banks, the interior of Manhattan Island being comparatively free, and that in the vicinity of the sewer outlets such diseases were especially focussed. Flies captured by traps from the excretal accumulation areas were examined bacteriologically, and were found to be swarming with fecal micro-organisms, one fly carrying over 100,000 in its mouth and on its legs. These flies enter houses and crawl over the food, as well as over food supplies exposed for sale, and over the mouth, nose and eyes of infants in their parents' arms on ferry boats or on the piers. A further research, illustrated by a chart, shows in a remarkable manner the parallel between the temperature course, the prevalence of flies, the deaths due to diarrheal diseases and those due to typhoid, thus definitely connecting, in fact, the range of possibilities suggested by the previous findings. A picture showing the colonies of bacteria left by a fly crawling over a gelatin plate affords a striking object lesson to those unacquainted with bacteriology, who may find it difficult to realize the harm that can be effected by a single fly. The work of the committee is worthy of all praise.

SMALLPOX QUARANTINES REMOVED.

In the *Journal of the Minnesota State Medical Association,* January 1, appears an editorial announcing that the Minnesota State Board of Health has withdrawn quarantine from smallpox cases throughout the state, thus throwing on the county boards of health the responsibility of protecting the public from this disease. The editorial says: "The State Board of Health will not object to any township or county providing protection to its inhabitants under the direction of the local boards of health, but it will not enforce quarantine for smallpox because it has been found inefficient, unscientific and unreliable. Other states have tried the experiment and have succeeded in keeping smallpox out of their borders. The antivaccinationists will probably roar with rage at the new order because they believe that under former methods they were protected. Now they may become victims, while the man who is vaccinated will be more surely protected." As the editorial says, it will take time to prove or to disprove the wisdom of this action of the board. Quarantine methods are expensive and cumbersome and are often opposed by local public sentiment. It has been positively proved by the experience of a century that proper vaccination is an absolute preventive of smallpox and that when the entire community is thoroughly vaccinated smallpox need not be feared. It would seem, therefore, that the state had done its full duty when it has provided an opportunity for proper scientific vaccination for each individual, and that if any one refuses to accept this protection he can not in justice expect the state, the county or the city to go to any further expense to protect him from the disease. The result of the abolition of quarantine methods will be that when smallpox appears in any community the vaccinated individual will be safer, while the unvaccinated individual will be liable to contract the disease. Such a demonstration of the efficacy of vaccination may cost the community dear, but it will be convincing and salutary.

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[1] International Clinics, seventeenth series, vol. iv.

[2] "Pollution of New York Harbor as a Menace to Health by the Dissemination of Intestinal Diseases Through the Agency of the Common House Fly." Report by Daniel Jackson, S.B., to the Committee on Pollution of the Merchants' Association of New York, December, 1907. (In the list of members of the committee we note the name of Dr. Albert Vander Veer.)

THE ARMY MEDICAL REORGANIZATION BILL.

The Army Medical Reorganization Bill (H. R. 186) was reported favorably by the committee on Military Affairs of the House January 7, and by the same committee of the Senate January 8. Favorable action by the committees so early in the session is regarded as a good omen and the supporters of the bill have reason to feel encouraged. This question has been considered for so long a time and reported on favorably so often that any protracted discussion on it in either house would seem to be unnecessary. The fact that, under present conditions, two-fifths of the officers of the medical corps of the United States army serve only a single year ought to be in itself sufficient argument to secure the adoption of this measure. The sooner it becomes a law the sooner can the medical service of the United States Army be put on the proper basis. That the bill will pass the Senate there is little doubt. That it will pass the House, if its friends are allowed to bring it up, seems equally certain. It is again up to Speaker Cannon to allow the bill to come up for action in the House. It is to be hoped that all personal motives and prejudices will be submerged in a desire to secure an efficient and adequate body of medical officers for the United States Army.

THE PROPOSED NEW YORK VIVISECTION BILL.

We have received a copy of the bill prepared to be introduced into the New York Legislature for the regulation of vivisection. An examination of this bill indicates that an attempt is being honestly made to satisfy the legitimate requirements of scientific investigation and instruction, and at the same time to prevent the infliction of unnecessary pain on animals. We would suggest that before endorsing this bill, physicians should examine it very carefully, as there are some features of it that look vicious. While we doubt if any such legislation is required, since the infliction of pain on animals during experimentation is not as common as some are led to believe, still if such legislation is enacted, it should be done with care, so that legitimate investigation in behalf of suffering humanity may not be interfered with.

Medical News

ALABAMA.

Found Guilty.—Dr. Charles E. Thomas, a colored physician at Anniston, is said to have been found guilty of criminal malpractice and sentenced to three years' imprisonment, and in addition to have been fined $175.

Personal.—Dr. J. W. Cox has been elected physician of Etowah County, vice Dr. Arthur W. Ralls, resigned.——Dr. Thomas E. Dryer, Huntsville, has been elected jail physician. ——Dr. Milton C. Ragsdale, McCalla, is reported to be recovering from his recent attack of cerebral hemorrhage.

ILLINOIS.

Personal.—Dr. George A. Zeller, South Bartonville, who has been ill, is reported to be convalescent.——Dr. Emil Lofgren, Rockford, tripped over a wire, December 25, breaking his left collar bone.

Would Sell Cocain by the Ounce.—The state board of pharmacy, on December 10, framed a new move in the crusade against the sale of cocain by sending letters to every wholesale drug house in Chicago requesting that the sale of cocain to druggists be limited to one ounce.

Superintendent Exonerated.—Dr. Harry G. Hardt, superintendent of Illinois Asylum for Feeble-minded Children, Lincoln, as a result of a joint investigation conducted at the institution, January 6, regarding the injury to an inmate, Frank Giroux, was acquitted from all blame.

Library for County Society.—Morgan County boasts of having one of the best selected medical libraries in Illinois. A room has been assigned for the use of the society at the public library. The medical books and journals have been completely indexed and a salaried attendant is employed. The leading medical journals are taken and the articles therein classified. During the last year 170 volumes, 103 pamphlets and 40 bound periodicals have been donated to the library.

Communicable Diseases.—Chenoa reports 6 cases of scarlet fever.——Recent reports of smallpox are as follows: Highwood, 2 cases; 17 cases are reported from Kilbourne, and 5 cases from Pleasant Plains, 15 miles west of Springfield, where quarantine has been established.——A case of smallpox is reported in La Salle County jail, Ottawa.——Two houses in Osceola are under quarantine on account of smallpox; 35 cases are reported from Virden; at Bloomington 4 cases are reported.

Occupational Diseases.—The governor has appointed the following members of the committee authorized by the General Assembly to investigate occupational diseases in the state and report to the next General Assembly: Dr. Ludvig Hektoen, Chicago, secretary of the Memorial Institute for Infectious Diseases; Dr. Alice M. Hamilton, Hull House, Chicago; Dr. George W. Webster, Chicago, president of the state board of health, and Dr. James A. Egan, Springfield, secretary of the state board of health.

State Board of Health Meeting.—At the thirty-first annual meeting of the state board of health, held in Springfield January 7, special attention was devoted to the alarming spread of smallpox throughout the state. The board directed that 100,000 copies of the circular on "Consumption" be distributed through the physicians of the state, and voted to establish 200 stations throughout the state where containers for the transmission of sputum might be obtained by physicians. In its annual report the board will again recommend the establishment of a state hospital for the treatment of tuberculosis. The election of officers resulted as follows: Dr. George W. Webster, Chicago, president, and Dr. James A. Egan, Springfield, secretary-treasurer (re-elected for the twelfth time).

Chicago.

New University.—St. Vincent's College has been granted a charter as De Paul University, and the plans for its future embrace the establishment of a school of medicine and a school of law.

Isolation Hospital.—The city is about to begin to build an isolation hospital at Thirty-fourth street and Hamlin avenue. The building is to be two stories in height, 50 by 168 feet, to be heated by steam, lighted by electricity, and to cost about $50,000.

Vaccination Rule Upheld.—The vaccination rule of the board of education was upheld in the Circuit Court, December 23, in the mandamus suit instituted by Mr. B. F. Jenkins to compel the city to allow his daughter to attend the John Fiske Public School, although she had not been vaccinated.

Personal.—Dr. A. I. Bouffleur has been elected a member of the consulting staff of Cook County Hospital, to fill the place left vacant by the death of Dr. Nicholas Senn.——Dr. Lucy Waite was the guest of honor at a banquet given by the professional women of Denver January 1.——Dr. George W. Webster has been appointed a delegate to represent the State of Illinois at the American Medical Association session.

INDIANA.

Protective Association Formed.—The Physicians' Protective Association, with a capital stock of $200,000, has been incorporated in Fort Wayne. B. H. Sommers, formerly of the Physicians' Defense Company, is to be general manager.

Society Meetings.—At the annual meeting of the Indianapolis County Medical Society, held January 7, the following officers were elected: President, Dr. Frank B. Wynn; vice-president, Dr. Thomas W. De Hass; secretary, Dr. Roscoe H. Ritter, and councilors, Drs. Samuel E. Earp and Harry E. Gabe.

Personal.—Dr. George J. Studer, Fort Wayne, has been appointed examining surgeon of the police department.——Dr. William H. Burroughs, Shannondale, who has been seriously ill, is reported to be convalescent.——Dr. William S. Campbell, Lafayette, who is now in California, has been reappointed health officer of Tippecanoe County.——Dr. Union H. Holder, Washington, is suffering from a serious affection of the optic nerve following influenza.

Communicable Diseases.—Churches and schools of Wakarusa have been ordered closed for two weeks on account of smallpox.——At Franklin 4 cases of smallpox have been discovered.——Fort Wayne reports 2 cases of smallpox imported from the country.——Albion and Wolf Lake have both been placed under quarantine on account of diphtheria.——An epidemic of diphtheria is reported from Elnora.——Fountain City reports 5 cases of scarlet fever, which has caused the temporary closure of the public schools.——Measles is reported to be epidemic in Shannondale.

IOWA.

Hospital News.—The State Hospital for Tuberculosis, near Iowa City, will, it is expected, be ready for occupancy this month.

School Inspection.—The physicians of Des Moines will act as health inspectors of public schools and public school children beginning with this month. The arrangements are under the charge of the Polk County Medical Society.

Communicable Diseases.—An epidemic of diphtheria is threatened in Sioux City.——Mason City reports an epidemic of influenza.——The schools of Beaver have been closed on account of smallpox.——There are several cases of smallpox reported from Avoca.——Iowa City reports 7 cases of smallpox, 6 of which are located on the West Side.——Several cases of smallpox are reported from Traer.——Estherville has 6 or 8 cases of smallpox.

Society Meeting—At the annual meeting of the Pottawattamie County Medical Society, held in Council Bluffs, the society established a postgraduate course as suggested by the American Medical Association. The following officers were elected: President. Dr. J. Harvey Cole. Council Bluffs; vice-president, Dr. Grant Augustine, Minden; secretary-treasurer, Dr. Daniel Jackson. Council Bluffs, and delegate to the state society. Dr. Henry B. Jennings, Council Bluffs.

Personal.—Owing to the mysterious disappearance of Dr. George W. Jones. Keokuk, Christmas night, Dr. Charles E. Ruth, formerly of Keokuk, but more recently of Denver, has been recalled to his college work in the former city.——Dr. John Skinner. Des Moines. said to be the oldest practitioner of Des Moines. is reported to be failing gradually.——Dr. Channing E. Dakin, Mason City, has been appointed medical member of the Insane Commission of Cerro Gordo County.

MARYLAND.

Smallpox on a Steamer.—On the arrival of the North German Lloyd steamer *Cassel* at Baltimore, January 5, a Russian steerage passenger was found to be suffering from smallpox. He was placed in quarantine together with the attendants and the ship was fumigated.

Large Mortality.—The mortality of Baltimore for the week ended January 11 was the largest in its history. There were 294 deaths, equivalent to an annual death rate of 21.70 per 1.000. Pneumonia was the cause of death in 49 cases, influenza in 31 and bronchitis in 14.

Cornerstone Laid.—The cornerstone of the Dr. Samuel Leon Frank Memorial Hospital, adjoining the Hebrew Hospital, was laid January 8 with appropriate ceremonies. Dr. Harry Adler, president of the Hebrew Hospital, presided. The new structure will consist of three buildings.

Personal.—Dr. Marshall L. Price, Baltimore, has been appointed secretary of the State Board of Health.——Drs. Thomas S. Cullen and Frank D. Gavin, Baltimore, have returned from a trip to the western coast of Florida.——Dr. C. Z. Wingard, Funkstown, was thrown from his sleigh in a runaway accident in Hagerstown recently and severely injured, his shoulder being dislocated.

School Inspection.—The medical inspectors of the Baltimore health department, during October, November and December, inspected 34 schools and 23.416 children; 10.396 were found to be suffering from ailments of some kind; 468 were excluded from school and 447 were ordered to be vaccinated. The chief ailments were as follows: Mouth, 3,106; throat, 2.606; nose, 2.105; hair, 1,799; eyes, 1,471; nervous system, 173, and ears, 104.

MASSACHUSETTS.

Epidemic Diseases.—Measles is reported to be epidemic in Beverly, where more than 40 cases have occurred.——Pneumonia is reported to be prevalent in Boston, where during the week ended December 21, 60 deaths were attributed to the disease.

Communicable Diseases.—A nurse in Worcester City Hospital died from cerebrospinal meningitis, January 4, after an illness of a few hours.——Dr. C. E. Richardson, an interne at the Worcester City Hospital, a ward master and a nurse at the hospital were removed to the Isolation Hospital, January 6, suffering from scarlet fever.

Personal.—Dr. Michael H. Lynch, Chicopee Falls, has been appointed city physician, vice Mayor-eleet Joseph O. Beauchamp.——The trustees of Springfield Hospital, at their meeting January 7, added the name of Dr. Walter R. Weiser to the surgical staff and that of Dr. George D. Weston to the consulting staff, and Drs. Howard A. Lanpher and Benjamin F. Janes, Jr., were elected house physicians.——Dr. Robert A. Rice has been elected city physician of Fitchburg.

State Sanatorium for Tuberculosis.—The committee of the Essex North District Medical Society on the location of a state sanatorium reported to the society that the commission provided by the legislature of 1907 the members of which were appointed by the governor, had voted to recommend the purchase of a tract of 186 acres in the town of Georgetown, about 15 miles north of Boston. The site is admirably situated and bordered by a railroad. The present legislature will be asked for an appropriation to complete the work. The estate has been taken on an option of $18,000.

Opposes Publishing of Names in Lay Press.—Resolutions were adopted by the Essex North District Medical Society deprecating the appearance of names of physicians in the lay press, in connection with operation cases and other professional work as being opposed to the best interests of medicine and public good, and stating that it was the duty of every physician to protest against such use of his name, and also that the publishers of newspapers in the district should omit such mention. It was voted to send a copy of these resolutions to each physician in the district, to the publishers of newspapers in the district, to the secretary of the district society and to The Journal of the American Medical Association.

Public Medical Lectures.—The Faculty of Medicine of Harvard University announces the following course of free public lectures at the Harvard Medical School on Sunday evenings and Saturday afternoons:

January 4—"Some Recent Discoveries in the Physiology of Digestion" (illustrated), Dr. Walter B. Cannon.

January 5—"Human Gait" (illustrated), Dr. Edward H. Bradford.

January 11—"The Modern Crusade Against Typhoid Fever," Dr. Elliott P. Joslin.

January 12—"Common Salt," Dr. Lawrence J. Henderson.

January 18—"The Causes of Nervous and Mental Disease," Dr. Philip Coombs Knapp.

January 19—"Fatigue, Its Effects and Its Treatment," Dr. George A. Waterman.

January 25—"Nervous Disorders of Children," Dr. William N. Bullard.

January 26—"Nervous Breakdown During Adolescence and Adult Life," Dr. James J. Putnam.

February 1—"Some of the Nervous Disorders of Adult Life, with Especial Reference to 'Habits,'" Dr. Edward W. Taylor.

February 2—"Popular Fallacies Regarding Insanity and the Treatment of the Insane," Dr. Henry R. Stedman.

February 8—"Alcoholism and Insanity," Dr. Charles P. Bancroft.

February 9.—"The Ear and the Telephone," Dr. Clarence J. Blake.

February 15—"The Interest of the Public in Surgical Progress." Dr. James G. Mumford.

February 16—"The Sick Child," Dr. Thomas Morgan Rotch.

February 22—"The Causes of Disease in Infants and Children," Dr. Charles Hunter Dunn.

February 23—"Rational Infant Feeding," Dr. John Lovett Morse.

February 29—"Syphilis, Its Nature and Dangers," Dr. James C. White.

March 1—"Smallpox and Vaccination," Dr. John Hildreth McCollom.

March 7—"The Problem of the Nervous Temperament in Children," Dr. George A. Craigin.

March 8—"Florence Nightingale and the Beginning of Surgical Nursing," Dr. J. Bapst Blake.

March 14—"Modern Methods for the Cure of the Insane" (illustrated), Dr. Owen Copp.

March 15—"The Relation of the Hospital to the Community," Dr. Abner Post.

March 21—"Mental Hygiene and the Prevention of Insanity." Dr. George T. Tuttle.

March 22—"Psychic Treatment of Disease: Its Limitations and Uses," Dr. Richard C. Cabot.

March 28—"What the People Should Know About Tumors," Dr. Howard A. Lothrop.

March 29—"The Development and Maintenance of Good Teeth," Dr. Charles A. Brackett.

April 4—"The Inflammations Due to the Commoner Pus Germs: Their Local and General Effects; Blood Poisoning," Dr. Charles A. Porter.

April 5—"Certain Dangerous Popular Delusions Concerning Grave Surgical Diseases." Dr. Maurice H. Richardson.

April 11—"Foods in Health and Disease," Dr. Maurice Vejux Tyrode.

April 12—"The Development of the Microscope," Dr. Harold C. Ernst.

April 18—"Some Preventable Diseases of the Skin," Dr. Charles J. White.

April 19—"The Relation of Animal Life to Human Diseases," Dr. Theobald Smith.

April 25—"The Cocain Evil." Dr. Charles Harrington.

April 26—"Tumors," Dr. William T. Councilman.

MISSISSIPPI.

Smallpox.—The discovery of two cases of smallpox among white people at Hattiesburg, one patient being a schoolgirl, has caused the city authorities to take under consideration the closing of public schools and the ordering of compulsory vaccination.

Personal.—Dr. W. H. Doty, Hattiesburg, was severely injured in an elevator accident recently.——Dr. Joseph A. Tabor, Scranton, has been named by the Jackson County Medical Society as representative from the sixth congressional district on the State Board of Health.——Dr. Robert L. Turner, Meridian, is reported to have declined the professorship of surgery, tendered him by the Mississippi Medical College.

Hospital News.—At the annual meeting of the North Mississippi Conference of the Methodist Episcopal Church South, held December 7, resolutions were adopted endorsing the proposal to erect, at a place considered most eligible, a Methodist hospital, to cost, when completed, not less than $200,000.——The board of trustees of the Mississippi State Charity Hospital, Vicksburg, asked that the appropriation for the support of the institution be increased to $25,000 a year, on account of the increase in the number of patients treated and the increase in the cost of supplies. During the biennium just passed 4,075 patients were given treatment at the institution.

NEW JERSEY.

Personal.—The Dover Township Committee has appointed Dr. Frank Brouwer, Toms River, township physician, vice Dr. Ralph R. Jones.——Dr. Andrew F. McBride assumed his duties as mayor of Paterson January 1.——Dr. Archibald F. Alexander has been appointed as a member of the Paterson Police and Fire Board, and Dr. John L. Leal, a member of the Board of Health.

December Vital Statistics.—During the month ended Dec. 15, 2,745 deaths were reported; of these, 455 were of infants under 1 year, and 862 of individuals under 60 years and over. Chief among the death causes were: Diseases of the nervous system, 352; diseases of the circulatory system, 318; tuberculosis, 302; diseases of the digestive system, 301; pneumonia, 216; nephritis, 203; diseases of the respiratory system, 175; cancer, 112, and suicide, 36. Of the communicable diseases, diphtheria caused 52 deaths; typhoid fever, 39; scarlet fever, 26; whooping cough, 19, and measles, 8.

NEW YORK.

Tuberculosis Camps.—The Red Cross anti-tuberculosis work in this state involves the formation of day camps for tuberculosis patients. Dr. Samuel W. Lambert is opposed to this form of concentration of energies.

Personal.—Dr. Hal B. Brownell was recently operated on at Buffalo General Hospital for appendicitis.——Dr. Eugene E. Hinman, Albany, has been commissioned first lieutenant and assistant surgeon, N. G., N. Y., and assigned to Company C of the Tenth Infantry.——Dr. Ira A. Hix has resigned as health officer of Binghamton.——Dr. Earl G. Danser, Buffalo, medical examiner, is confined to his house as the result of being run down by an automobile, January 2.

Communicable Diseases.—Measles is still prevalent in Buffalo.——Owing to an epidemic of smallpox in Kingston, the board of health on January 5 ordered all places of amusement and public halls closed for two weeks, and also the closure of the schools for a further period of two weeks. There are about 80 cases of the disease, mostly of mild type.——Typhoid fever is reported to be epidemic in Putnam, where 16 cases have been reported.——An epidemic of diphtheria at Cameron has compelled the closure of the schools.

New York City.

Hospital Improvements.—A four-story tuberculosis pavilion, with roof gardens, solarium and verandas, to cost $180,000, as well as a two-story pathologic laboratory to cost $40,000, and a residence for the medical staff to cost $80,000, are to be built on Blackwell's Island, plans for which have already been filed.

Resignations.—The following members of the medical board of the Sydenham Hospital resigned December 27: Drs. Edwin Beer, Herman J. Boldt, Charles G. Kerley, Linnaeus A. La Fetra, Seymour Oppenheimer, Gustav Seeligmann, Alfred N. Strouse and Alfred Wiener. The following adjunct members of the staff have resigned: Drs. Richard Weil, Richard Lewisohn, Arthur Stein, Joseph E. Fuld, De Witt Stetten, A. Richard Stern and Ernst Danziger.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended January 4, 478 cases of scarlet fever, with 33 deaths; 581 cases of measles, with 32 deaths; 344 cases of tuberculosis, with 158 deaths; 308 cases of diphtheria, with 36 deaths; 37 cases of typhoid fever, with 8 deaths; 25 cases of whooping cough, with 1 death; 11 cases of cerebrospinal meningitis, with 8 deaths, and 98 cases of varicella—a total of 1,882 cases and 276 deaths.

Personal.—Capt. James P. Warbasse, assistant surgeon, Thirteenth Infantry, N. G. N. Y., resigned December 30, and Dr. Eliot Bishop, Brooklyn, has been recommended as his successor.——Dr. John P. Moore, Astoria, in charge of the Queens Borough office of the New York Department of Health, Jamaica, has resigned and will resume private practice.——Dr. Peter Hughes, surgeon-in-chief of St. Catherine's Hospital, Brooklyn, was presented with a solid silver service containing 300 pieces on the occasion of his silver wedding anniversary.

Death Rate Decreases.—The death rate for the week ended January 4, was 18.46 per 1,000 per annum, as against 20.95 for the same week of last year. There were 1,565 deaths for the week, as against 1,721 for the same week of 1906. Heart disease showed a decrease, as there were 170 deaths from this cause, as compared with 186 for the corresponding week of last year. Deaths from pneumonia decreased to 329, as against 358 for the corresponding week of last year. The deaths from tuberculosis dropped from 181 of the corresponding week of 1906 to 329.

Rockefeller Withdraws Support from Charity Committee.—Last year Mr. Rockefeller gave $7,500 to the Committee on the Prevention of Tuberculosis of the Charity Organization Society, with the stipulation that $20,000 should be raised. The contributors were Robert S. Brewster, $2,500; Andrew Carnegie, $1,000; Harvey S. Fisk, $500; Edward S. Harkness, $5,000; John S. Huyler, $500; V. Everit Macy, $1,000; Grant B. Schley, $2,500, and John D. Rockefeller, $7,500. When Mr. Rockefeller failed to renew his subscription it was impossible to ask the others for their support. The relief work of this committee will in all probability have to be discontinued.

Amendments to Sanitary Codes.—At the last meeting of the board of health two sections of the sanitary code were amended. First, the section which provided that no unwholesome food should be brought into, stored or offered for sale in the city, was amended by adding that "any foods offered for sale anywhere in the city by dealers in foods shall be deemed as offered or held for sale as food." Second, the section which required all physicians and midwives to report all births at which they assisted is changed to read, "They shall file with the board of health reports of all births at which they assist, within ten days of the same." This amendment was necessary because many physicians and midwives when called to account for unreported births asserted that they had mailed their reports which must have gone astray. Now it will be necessary for all birth reports to be filed in person.

School Hygiene.—The superintendent of public schools, Dr. Maxwell, in his annual report which has just been submitted to the board of education, urges the formation of a department of school hygiene which would be under the direction of a medical man who would rank as an associate superintendent and who should have a sufficient number of physicians to examine all the children at least once a year. He should also have a sufficient number of nurses to visit the homes of sick children and to care for slight ailments in schools. He suggested that the charter be so amended that parents would be obliged to put children in proper medical condition to profit by public school education, and suggested also that the proposed medical officers would prosecute such parents as failed to comply with this requisition. The report says that there are 158,466 pupils in the schools who are backward because of physical defects.

Governor Hughes' Message.—In his message to the legislature, Governor Hughes said that reports would soon be submitted by the commission appointed to select a site for a hospital for the insane in the southeast part of New York State. He recommended that the appropriations for the purchase of adequate sites and for their improvement be made as promptly as possible. He suggested that the lease to the state of Ward's Island (the site of the Manhattan State Hospital), which will expire in 1912, should be extended if satisfactory arrangements can be made with the authorities of New York City. He recommended that in order to obtain desirable uniformity and to provide a method whereby necessary changes may be effected with due regard to the entire service of the state, provision shall be made for the classification and fixing of the salaries in the charitable institutions, in the hospitals for the insane and in the prisons by a board of control on which the supervisory boards and officers of the various institutions shall have representation. Purchases of provisions and supplies can be made for the institutions by this same board, which would be much simpler and more economical than under the present methods. In regard to public health, he said that the waste of life and productive energy which result from the prevalence of tuberculosis required that every effort be made to limit, if not to destroy, this scourge. He recommended that the legislature adopt such measures as would tend to prevent the spread of this disease. Provision should be made for the notification and complete registration of cases and for the dissemination of necessary information. There should be suitable appropriations made to permit systematic effort under the direction of the Commissioner of Health. In regard to the laws relating to pure food, he said that these should be codified and presented in a single comprehensive statute. He recommended also a law which would prevent the sale of adulterated or improperly branded foods. He could not approve the law passed at the last session, as it contained provisions which would have made its provisions inoperative. It is important that such a law should be clear and precise, and make evasion difficult, if not impossible. With regard to the quarantine commissioners and health officer of the Port of New York, he said there was a divided authority. This division answered no useful purpose. By far the most important duties are performed by the health officer, and it would not add much to his duties or responsibilities nor require any increase in his compensation if he were charged with the duties now devolving on the commissioners. These offices seemed unnecessary and should be abolished.

NORTH CAROLINA.

Personal.—Drs. Arthur P. Willis, Canton; Andrew J. Crowell, Charlotte; Nicholas G. Moore, Mooresville, and Guy S. Kirby, Marion, are taking postgraduate work in the East.——Major Charles S. Jordan, surgeon N. C. N. G., has been commissioned surgeon of the First Brigade with the rank of colonel.——Dr. Robert J. Gill, Henderson, is reported to be seriously ill with septicemia.——Dr. W. L. Blalock of Wake County has removed to Oklahoma.

Insane Colony to be Established.—At the meeting of the State Hospital Commission, held in Raleigh, January 2, it was decided to establish a colony capable of accommodating 100 patients of mildly insane type in connection with the State Insane Hospital, Raleigh, as soon as the necessary buildings may be erected. A small addition to the hospital for negroes at Goldsboro was ordered made. Also a new nurses' building to be added to the present buildings at the Morganton Hospital. When completed the present nurses' building will be used for the accommodation of nearly 100 additional patients.

New Tuberculosis Sanatorium.—Work on the new building at Greensboro for the proposed sanatorium for the treatment of tuberculosis has been suspended by the issue of a restraining order by the Superior Court of Guilford County. The order is only temporary and was heard on motion to make the same permanent at a special date of January 15. The injunction was secured at the instance of a number of citizens of Greensboro, who in their formal application allege that the defendant, Dr. Williams, is "erecting pest houses for the treatment of consumption and other dangerous diseases." The local press states: "The case will be bitterly fought to a finish, as the irate citizens are determined to leave no stone unturned to prevent the location of such an institution in their midst." On the night of January 8 a large portion of the foundation was secretly destroyed. Affidavits from a large number of leading physicians engaged in the treatment of tubercular disease will be submitted to the court to show that the community at large will in no wise have its relative healthfulness adversely influenced by the establishment of such an institution in Greensboro.

OHIO.

Personal.—Dr. Stephen B. Marvin has been elected president of the Cincinnati Board of Education and Dr. Gustave L. Krieger president of the Board of Education of Norwood.——Dr. Louis Ransohoff has been elected assistant surgeon to the Cincinnati Hospital and Dr. Jesse Wyler assistant ophthalmologist at the same institution.

Ohio Medical Teachers Meet.—The third annual meeting of the Ohio Association of Medical Teachers was held in the afternoon and evening of December 27, and was the most successful in the history of the organization. About seventy-five members were present, besides a number of visitors, among them the presidents of several literary colleges of the state. Interest in this organization has increased, and its members feel that much good has been accomplished.

Medical Members of Cincinnati Health Department.—The medical members of the Health Department who took office January 1, are as follows: Health Officer, Dr. Mark A. Brown; chemist and bacteriologist, Dr. Frank H. Lamb; medical inspector, Dr. Benjamin F. Lyle; physician to the Tuberculosis Dispensary, Dr. Oscar W. Stark; milk inspector, Dr. J. Stewart Hagen, and assistant health officers, Drs. William L. Brodberger, Ernest O. Pucklitsch, Schuyler B. Tuthill, Frank C. King, Gerritt J. Fredericks, Thomas H. Forster, Joseph W. Hall, Edward H. Moss, William T. Lindsay, Thomas W. Hays, Joseph S. Podesta, Arnold G. Webb, Albert E. Hussey, Louis A. Molony, F. H. Bierbaum, Mitchel Fernberg, Sebastian A. Allgeier, Raphael W. Miller, William Stephan, Frank E. Kugler, Charles L. Wertheimer, Arthur Vos, John J. Conzett, T. D. Megure and J. W. Dodds.

PENNSYLVANIA.

Charitable Bequest.—A bequest of $2,073.97 to the Allentown Hospital is contained in the will of the late Barbara Schaadt.

Deaths by Violence.—According to the bureau of vital statistics of the State Bureau of Health, there were 10,180 deaths from violence in the state in 1907. This gives a rate of 146.9 per 100,000 of population. The deaths were distributed among the principal forms of violence as follows: Suicides, 780; fractures, 537; burns and scalds, 847; drowning, 155; accidental gunshot wounds, 149; mine injuries, 983; railway accidents, 2,387, and homicides, 365. Of the total suicides 605 were male and 175 females. Of the various forms of suicide 24 were by gunshot wounds, 183 by poison and 150 by hanging. Of the suicides 7 were less than 15 years of age, the youngest being 12 years. The suicide rate per 100,000 of population was 11.2. In comparison with other cases, railroad accidents contributed the largest number of violent deaths. Of this number 228 were the result of street car injuries and 2,159 from steam railroads. The rate per 100,000 of population was 34.4.

Philadelphia.

Money for Charity.—From a bazaar held for the benefit of the Frankford Hospital, $4,163.63 was realized.

New Tuberculosis Dispensary.—The Commonwealth of Pennsylvania Dispensary for Tuberculosis No. 21 was opened at 12 South Seventeenth Street, January 6. The institution will be under the supervision of Drs. Alfred Stengel and Albert P. Francine.

New Hospital Ambulance.—The first electric automobile ambulance to be used by a hospital in this city was placed in service January 3 by the Jefferson Medical College Hospital. The machine will cary 1,000 pounds and has a speed of 15 miles an hour.

Influenza Situation.—Influenza is widely prevalent throughout the city. About 16,000 pupils and 8 per cent. of the instructors in the various schools are suffering with the malady. Reports show that the outlying districts are affected to as great an extent as the central section of the city.

Officers Elected.—At the annual meeting of the College of Physicians January 1, the following officers were elected: President, Dr. James Tyson; vice-president, Dr. George E de Schweinitz; censors, Drs. Richard A. Cleeman, S. Weir Mitchell, Horace Y. Evans and Louis Starr; secretary, Dr. Thomas Neilson, and treasurer, Dr. Richard H. Harte.

Hospital Reports.—The report of the Germantown Hospital for December shows that 132 patients were admitted to the institution and that 1,218 patients were treated in the dispensary department.——The report of the American Hospital for the Diseases of the Stomach for 1907 shows that more than 1,500 persons applied for treatment.

Nurses for Schools.—The work of improving the physical condition of school children in the tenement part of the city which has been conducted by the Visiting Nurses' Society will be continued next year under the direction of the board of education. Council's finance committee has recommended an appropriation of $5,700. A chief nurse and five assistant nurses are to be appointed.

Personal.—Dr. B. Franklin Roger, who has served for several years as chief resident physician of the Municipal Hospital, has resigned.——Dr. Archibald G. Thomson, who was struck in the eye by a stray shot two weeks ago, while hunting in Georgia, is now able to go out and the sight of the eye will be saved.——Dr. E. G. Klopp has been appointed chief resident physician in Jefferson Medical College Hospital.——Dr. J. Stewart Rodman sailed for Europe January 3.

Health Report.—The total number of deaths reported for the week ended January 4 was 688, an increase of 87 over those reported in the previous week and of 54 over the number reported in the corresponding week of 1907. The principal causes of death were: Typhoid fever, 13; diphtheria, 10; influenza, 28; consumption, 72; cancer, 21; alcoholism, 4; apoplexy, 37; paralysis, 9; heart disease, 7; acute respiratory disease, 147; gastritis, 5; enteritis, 14; cirrhosis of the liver, 6; appendicitis, 4; acute nephritis, 5; Bright's disease, 45; premature birth, 14; congenital debility, 12; old age, 13; suicide, 3; accidents, 16, and marasmus, 5.——There were 270 cases of contagious diseases reported, with 26 deaths, as compared with 188 cases and 23 deaths reported in the preceding week.

SOUTH CAROLINA.

Increase Payment to Medical Society.—The City Council of Charleston has approved the amended contract between the city and the Medical Society of South Carolina, increasing the annual payment to the Society for the Treatment of the Pauper Sick and Injured to $28,800.

Antituberculosis League.—South Carolina has organized an antituberculosis league, with Dr. A. Bethune Patterson, Barnwell, president; Dr. William P. Porcher, Charleston, vice-president; Dr. C. Fred Williams, Columbia, secretary-treasurer, and Drs. Orlando B. Mayer, Newberry, chairman of the board of councilors of the state medical association; Theodore G. G. Croft, Aiken, and C. Fred Williams, Columbia, legislative committee.

Memorial Infirmary.—At the last meeting of the board of trustees of the University of South Carolina, provision was made for the erection of the new Wallace-Thompson Memorial Infirmary, for which $15,000 was given by Mrs. Anne Jeter. The building is to be one-story in height of brick with tile roof, and, in addition to the rooms for surgeons and living rooms, will contain a medical ward with a capacity of 12 beds and a contagious isolated ward to contain 6 beds.

Hospital News.—The Rock Hill Private Hospital has been sold by Dr. William W. Fennell to the physicians of Rock Hill, and will hereafter be conducted as a public institution.——The Union Hospital Association will erect a hospital in that place at a cost of $5,000.——Anderson is to have a hospital completed early this year to cost about $32,000.——The Aiken County Medical Society has decided to establish a hospital to be known as the Aiken County Hospital with a capital stock of $5,000, divided into shares of $25 each, to be erected in the city of Aiken.——The Columbia Hospital, Richland County, contemplates erecting a medical and surgical building, two stories and basement in height, to accommodate 72 patients, at a cost of $30,000.

Society Meetings.—At the annual meeting of the York County Medical Society, held in Rock Hill, December 5, the following officers were elected: President, Dr. J. Roddey Miller, Rock Hill; vice-president, Dr. William M. Love, McConnellsville; secretary, Dr. Ebenezer W. Pressley, Clover, and delegate to the state society, Dr. Isaac A. Bigger, Rock Hill.——Spartanburg County Medical Society, at its annual meeting, December 20, elected the following officers: Dr. James L. Jefferies, Spartanburg, president; Dr. S. T. D. Lancaster, Pauline, vice-president; Dr. W. G. Sexton, Spartanburg, secretary, and Dr. William J. Chapman, Lamar, treasurer.——The Clarendon County Medical Association, at its annual meeting, December 19, elected the following officers: President, Dr. A. S. Todd, Manning; vice-president, Dr. George L. Dickson, Manning; secretary-treasurer, Dr. Charles B. Geiger, Manning; delegate to the state medical association, Dr. W. Hagard Woods, Turbeville, and alternate, Dr. W. Muldrow Brockinton, Manning.——At the annual meeting and banquet of the Medical Society of the State of South Carolina, held at Charleston, December 9, the following officers were elected: President, Dr. John L. Dawson; vice-president, Dr. Archibald E. Baker; secretary, Dr. Allen J. Jervey; treasurer, Dr. Rowland Alston; censor, Dr. Charles W. Kollock; delegate to the state association, Dr. Thomas P. Whaley, and commissioners of Roper Hospital and trustees of the Roper Hospital fund, Drs. Henry P. Jackson, A. Johnston Buist and Edward F. Parker.——At the annual meeting of the Greenville County Medical Society, held December 2, the following officers were elected: Dr. J. Wilkinson Jervey, Greenville, president; Dr. L. L. Richardson, Simpsonville, vice-president; Dr. W. W. Monett, Greenville, secretary, and Dr. R. Emmett Houston, Greenville, treasurer.

WISCONSIN.

Communicable Diseases.—Influenza is epidemic in La Crosse, where at least 500 cases are said to exist.——Several cases of scarlet fever have broken out in Sparta.——A large number of cases of smallpox are reported at Algoma.

Personal.—Dr. John R. Goodfellow, Superior, was operated on for appendicitis at St. Mary's Hospital recently.——Dr. John C. Adams, Superior, has been appointed local surgeon to the Great Northern Railway, vice Dr. William E. Ground, resigned.——Dr. and Mrs. Walter H. Nielson, Milwaukee, have sailed for Europe.——Dr. F. Gregory Connell, Oshkosh, has been appointed first lieutenant and assistant surgeon, Wisconsin N. G., and assigned to the Second Infantry.——Dr. Wendell D. Neville, Eagle River, has gone to southern California for the winter.——Dr. John R. Minahan, Green Bay, has been appointed surgeon of the Superior Division of the Chicago, Milwaukee & St. Paul Railway, vice the late Dr. Hans M. Beck.——Dr. Robert E. Minahan, Green Bay, has been appointed local surgeon to the Chicago & Northwestern Railway.——Dr. Ira M. Martin, Green Bay, has been appointed oculist to the Chicago, Milwaukee & St. Paul Railway.——Dr. Richard C. Buchanan, Green Bay, has been re-elected city physician.——Dr. Robert B. Clark, Monroe, has been appointed local surgeon of the Illinois Central Railway, vice Dr. F. W. Byers, resigned.——Dr. John W. Coon, retiring superintendent of the Milwaukee County Hospital, Wauwatosa, will take charge of a sanatorium for tuberculosis near Milwaukee.——Dr. Ferdmann M. Schulz has assumed his new duties as superintendent of the Milwaukee County Hospital.——Dr. Sherman E. Wright, Marinette, has returned from Austria.——Dr. Arthur T. Holbrook has been elected president and Dr. Gerhard A. Bading secretary of the Milwaukee Emergency Hospital.——Dr. Julius L. Schauer, Milwaukee, has been committed to the County Hospital for the Insane on a temporary writ.

WYOMING.

Smallpox.—At Cheyenne, 7 cases of smallpox have appeared and the patients have been placed under strict quarantine.

Hospital Notes.—A hospital is to be established at Keystone, in the heart of the Douglas Creek tie camp, where attention is to be given to the ill and injured employés of the Carbon Timber Company.

Society Meeting.—The Sheridan County Medical Society, at its annual meeting, December 16, in Sheridan, elected the following officers: Dr. Charles E. Stevenson, president; Dr. William H. Roberts, vice-president; Dr. Frederick A. Hodson, secretary; Dr. Anna G. Hurd, treasurer, and Dr. T. E. Marshall, censor, all of Sheridan.

State Medical Society.—The Wyoming State Medical Society elected its officers by mail, official ballots being mailed to every member of the society. The following officers were elected: President, Dr. Charles E. Stevenson, Sheridan; vice-presidents, Drs. William A. Burgess, Cheyenne; Charles D. Bodine, Douglas, and Neil D. Nelson, Shoshoni; delegate to American Medical Association, Dr. George L. Strader, Cheyenne, and alternate, Dr. T. E. Marshall, Sheridan, the secretary and treasurer holding over. Sheridan was selected as the next place of meeting, and by a vote of 53 to 6 the society decided to adopt the *Western Medical Review* as the official organ of the society.

CANADA.

New Building at Kingston.—The new building for Queen's University, Kingston, toward which the Ontario government donated $50,000, was opened January 14. Dr. Llewellys F. Barker, Baltimore, was present and delivered an address.

College Officers.—The following are the officers of the Manitoba College of Physicians and Surgeons for the current year: President, Dr. William Rogers, Winnipeg; vice-president, Dr. Murrough C. O'Brien, Dominion City; registrar, Dr. John S. Gray, Winnipeg, and treasurer, Dr. James Patterson, Winnipeg.

Personal.—Dr. Adam A. Beatty, Toronto, has returned from graduate work in England.——Dr. Donald J. Armour, Toronto University, 1904, has been appointed Hunterian professor of surgery in the Royal College of Surgeons, London, Eng.——Dr. F. E. Etherington has resigned from the secretaryship of the medical faculty of Queen's University and will devote all his time to the department of anatomy of which he is professor.

Many Births in Montreal.—According to statistics prepared by the health official of Montreal, Dr. Joseph E. Laberge, the birth rate of Montreal for 1907 was about 44.20 per 1,000 of population. The average birth rate of that city for a period of 19 years is put down at 37.92 per 1,000. That was for all nationalities, but the French-Canadians can be accredited with about 40 per 1,000. The birth rate of Montreal is higher than that of Toronto by 13.21 per 1,000. Comparison with other cities shows an excess as follows: Breslau, 5.61; Prague, 13.18; Munich, 5.5; Vienna, 6.5; Milan, 10.0; Rome, 12.3; St. Petersburg, 6.5; London, 8.7; Paris, 16.4; New York, 10.0, and Philadelphia, 13.0.

FOREIGN.

Hospital Food Strike.—The patients at the hospital in Orlau, Austria, recently became so disgusted with the food given them that they protested and struck, all of the patients refusing all food for one day. Investigation revealed numerous abuses, which were remedied, and a better table provided.

Appropriations for Preventive Medicine in Germany.—The last German budget contains an appropriation of $50,000 for repression of typhoid fever, $14,000 for a bacteriologic station near Berlin, and $1,250 for compilation of the vital statistics in tabulated form. A million dollars were also appropriated for improving the housing of the poor.

By-Effects of Vaccination at Vienna.—The mayor or bürgermeister of Vienna not long ago stated, in referring to the recent smallpox epidemic there, that more persons had died from the vaccinations than from the smallpox during the epidemic. The local medical societies have been collecting data since, and have been unable to learn of any death or serious injury in consequence of vaccination. The mayor, however, will not retract his words.

Hospital Abuse by the Well-to-Do.—The *Klin.-therap. Wochschr.* states that a court at Prague recently had a case before it in which a hospital physician sued a wealthy man for payment for an operation which had been performed by the former in a public hospital. The court asked advice from the local medical chamber, which stated in its response that the fee asked was the usual one under the circumstances, but that a wealthy person should not be admitted to the hospital nor operated on there, as the public hospitals are destined solely for the poor. The hospital physicians should, therefore, turn away persons known to be well-to-do. In case of doubt as to the applicant's financial standing, they can perform the needed operation, but have no right to ask a fee for operations or attendance in the public clinic or hospital.

LONDON LETTER.

(*From Our Regular Correspondent.*)

London, Jan. 1, 1908.

Improvements in Hospital Management.

At the annual meeting of King Edward's Hospital Fund this great charitable agency was reported in a highly satisfactory condition. The income for 1907, after deducting expenses, was $735,000, which allows a distribution of $600,000—a sum larger than has yet been divided—and $250,000 in excess of last year. Ninety-nine hospitals applied for grants this year, as against 105 last year, the difference being due to amalgamations brought about largely by the pressure which the fund has been able to bring to bear in the interests of economy. It has also established a uniform system of keeping accounts at the different hospitals which renders comparison easy, and the hospitals have been found very willing to make use of the information provided as to the lowest cost at which materials can be bought. A system of visitation has been established by which every participating hospital is inspected and reported on each year by physicians and laymen, and no grant is made unless the circumstances and needs of each one are before the committee at the time the matter is considered. Founded by King Edward when he was Prince of Wales, to help the voluntary hospitals of London, the fund has proved of immense benefit to every hospital. Its authority is undisputed and its financial strength is remarkable in the history of charity.

A Plan to Check Infant Mortality at Oxford.

People who know only the ideal side of Oxford—its magnificent pageant of colleges and churches—might imagine that it was one of the healthiest, as it is one of the fairest, of towns. But it contains certain unhealthy spots where infant mortality is high. The health committee of the corporation, inspired by the successful campaign against the infant mortality inaugurated at Huddersfield (previously described in The Journal), has inaugurated a similar scheme. As soon as the birth of a child is reported in the insanitary areas a woman health visitor calls at the house to give advice, if needed. In many cases none is needed and no more visits are paid, but in others the reverse is true. The results obtained from this simple procedure are astonishing. In two of the worst areas the death rate among infants under one year has been reduced by 40 per cent. and brought down to 97 per 1,000, as against 133 for England and Wales, and 146 for the six largest towns. So satisfied was the health committee with the first fruits of its labor that it enlarged the scope of its work in a novel way and embraced the whole city of Oxford (containing 50,000 inhabitants) in its infant visiting scheme, and went a step farther by organizing its infant milk supply on a scientific basis. By means of the regular supply of humanized milk to mothers unable to suckle, a great change has been wrought in the health of their babies. In many cases the cost of the milk is paid by the parents in full; in others partly so. Thus the cost of the experiment has been small. Public recognition of the success of the experiment has taken a novel fashion. A reception has been given by the health committee to the parents of the children who have participated in the milk cure. Thriving infants were exhibited who, under previous circumstances, would have been the most miserable specimens of humanity in the city. Dr. Omerod, the health officer, has pronounced the experiment to be most encouraging and expressed the hope that the scheme will work in with the medical inspection of school children and raise the physique of the next generation.

Medical Inspection of Schools.

The board of education issued a memorandum on the medical inspection of children, which may be described as the first step toward giving practical effect to the education act of 1907. The act imposes on every local authority on and after Jan. 1, 1908, the duty of providing for the medical inspection of school children at or about the time of their admission to a public elementary school, and on such subsequent occasions as the board of education may direct. It also empowers these authorities to make such arrangements as may be sanctioned by the board for attending to the health and physical condition of the children. The memorandum is intended to lay the foundation of a new system on a broad basis, so as to allow for future expansion under the guidance of experience. School inspection must be carried out in conjunction with the existing public health authorities and under the supervision of the health officer of each locality, but subject to the control of the medical department of the board of education instead of the medical department of the local government board. Thus school hygiene will be treated as an integral portion of the sanitary administration of the country. The education board will collate the records made by the local authorities and will present an annual report to parliament. At recent health conferences various speakers have assumed that inspection of school children should be annual, but the view is expressed in the memorandum that three inspections during school life will, for the present at least, be sufficient. The first inspection will take place on admission to the school; the second about the third year (about the seventh year of age), and the third about the sixth year of school life. A further inspection before departure is said to be desirable where practicable. In some areas it is thought that it may be best for this to take the place of the third inspection. The local authorities are asked to keep in view the desirability of formulating and submitting for approval of the board schemes for amelioration of evils revealed by medical inspection, including in centers where it appears desirable, the establishment of school surgeries or clinics, such as exist in some cities of Europe, for further examination and the specialized treatment of ringworm, dental caries and diseases of the eye, ear or skin. The board has under consideration such questions as school ventilation, the curricula of infants' departments; the training of crippled, feeble-minded, blind, deaf, or mentally deficient and epileptic children; special schools for other types of afflicted children; physical culture for pupil-teachers; the standard of medical examination for pupil-teachers, for training-college students and for teachers. Further, the board urges the necessity of instruction in the principles of hygiene of all students in training colleges so that they may be able to deal profitably with the subject in schools.

A Record in Quackery.

Truth relates a story which constitutes a record in quackery. The victim was a man suffering from consumption who, when he recognized that he had been taken in all round, pleaded in extenuation that he was ready to catch at any straw. In 1903 he was treated by the notorious Drouet Institute for the Deaf for catarrh, though his case had been officially reported as one of tuberculosis. Finding out the fraud of this establishment, he fell into the Weidhaas Institute of Burgess Hill, where he paid $15 a week. His treatment included among other features the Weidhaas star tea. The only result was that he lost five pounds in one week. He next experimented with the Herne treatment, which has its headquarters at Leeds, for which he was charged $25 for a consultation and first installment of treatment. After this he consulted a "blind specialist," and after spending some dollars on him, he got a relative who was partly paralyzed to consult him and found that the "specialist" treated both consumption and paralysis with the same remedy, quinin and iron.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Acute Laryngitis.

To abort this condition the same methods advised to abort an acute coryza (The Journal, Dec. 21, 1907, page 2100), may be inaugurated, or perhaps better, a combination of tartar emetic, as:

℞.	gm.			
Antimonii et potassii tartratis		05		gr. i
Pulveris opii		10	or	gr. ii
Hydrargyri chloridi mitis		20		gr. iii
Sacchari lactis	1			gr. xv

M. et fac chartulas, 10.

Sig.: A powder every hour until nausea, purging, or drowsiness occurs.

[The above prescription, made into tablets, is best dispensed by the physician.]

Cold compresses about the throat are valuable in this inflammation. Inhalations of steam, or the insufflation of sedative powders, as bismuth subgallate, may be given as needed. If the inflammation tends to persist, ammonium chlorid preparations are valuable.

Edema of the glottis should always be considered as possible, and is by no means an infrequent occurrence. Such a condition being diagnosed, or even suspected, should call for expert treatment by a laryngologist.

In acute laryngitis watery sprays should generally not be employed, although inhalations of steam are of benefit. Mild oil sprays, on the other hand, especially after the acute stage is passed, are of benefit, and something similar to the following is useful:

℞.	gm. or c.c.			
Thymolis		20		gr. iii
Mentholis	1			gr. xv
Eucalyptolis		50	or	m. x
Olei pini sylvestris	1			m. xv
Petrolati liquidi	ad 100			ad, fl℥iv

M. et Sig. To use in an atomizer.

The patient should inhale the vapor from the above every three or four hours, or a teaspoonful of it may be inhaled, from hot water, through a cone.

Or,

℞.	c.c.		
Olei pini sylvestris	10	or	flʒii
Tincturæ benzoini compositæ,	ad 100		ad fl℥iii

M. et Sig.: Inhale a teaspoonful from boiling water three or four times a day.

Painting the upper part of the chest and throat with iodin has been recommended in this inflammation, but as the skin is very tender in this part, considerable irritation may readily be caused, and quite a lasting stain of the part may occur, hence it would better not be used, especially in girls and women. An iodin ointment is sometimes used, as:

℞.	gm.		
Unguenti potassii iodidi	25	or	ʒv

Sig.: Use externally as directed.

Or,

℞.	gm.		
Unguenti iodi	25	or	ʒv

Sig.: Use externally as directed.

Either of the above ointments rubbed into the larynx region two or three times a day is of some value. Any stimulating liniment will do almost the same amount of good, as:

℞.	c.c.		
Spiritus ammoniæ aromatici	25		fl℥i
Olei terebinthinæ	25	or	fl℥i
Linimenti saponis	ad 100		ad fl℥iv

M. et Sig.: Use externally. (To be thoroughly shaken before using.)

If some stimulant is to be used on the throat of a young child, either camphorated oil or the simple soap liniment is strong enough.

In young children it is sometimes best, even if membrane is not believed to be present, especially when there is a croupy cough, to give sufficient ipecac to cause vomiting, best in the form of the syrup.

Various combinations of eucalyptol and menthol (other than the above) may be used for inhalation. The main point is that these should not be made too strong or too irritant. Camphor is also sometimes used for this purpose, as:

℞.	gm. or c.c.			
Mentholis		50		gr. x
Spiritus camphoræ	20		or	flʒvi
Tincturæ benzoini compositæ	ad 100			ad fl℥iv

M. et Sig.: Inhale a teaspoonful from a bowl of hot water three or four times a day.

If there is congestion in the lingual tonsil region or in the throat, as well as in the larynx, either a potassium chlorate gargle or an astringent gargle, as the following, may be used:

℞.	gm. or c.c.		
Acidi tannici	3		gr.xl
Glycerini	10	or	flʒii
Aquæ	ad 200		ad fl℥vi

M. et Sig.: Use as a gargle three times a day.

Also there are various official troches that may be allowed to dissolve in the mouth to aid in relieving this congestion or stop the chronic inflammation. These are:

℞. Trochiscos acidi tannici No. 20.

Sig.: Let a troche dissolve in the mouth every three hours.

[Each troche contains .06 gram (1 gr.) of tannic acid.]

Or,

℞. Trochiscos ammonii chloridi. No. 20.

Sig.: Let a troche dissolve in the mouth once in three hours.

[Each troche contains .10 gram (1½ grs.) of ammonium chlorid.]

Or,

℞. Trochiscos cubebæ, No. 20.

Sig.: Let a troche dissolve in the mouth once in three hours.

[Each troche contains .02 gram (⅓ gr.) of oleoresin of cubebs.]

Or,

℞. Trochiscos gambir, No. 20.

Sig.: Let a troche dissolve in the mouth once in three hours.

[Each troche contains .06 gram (1 gr.) of gambir (catechu).]

Or,

℞. Trochiscos krameriæ, No. 20.

Sig.: Let a troche be dissolved in the mouth once in three hours.

[Each troche contains .06 gram (1 gr.) of krameria (rhatany).]

Troches or tablets of potassium chlorate should *never* be allowed to dissolve in the mouth, as concentrated potassium chlorate, even if dissolved in saliva, swallowed into the stomach can be the cause of local irritation, gastritis, and a future gastric ulcer. Potassium chlorate dissolved, gargled, and spat out is useful, harmless, and sedative to inflammations of the mouth and throat. Potassium chlorate swallowed, except in minute doses, is poisonous, and can do serious harm.

Hyposulphites in Dermatology.—Hyposulphites, especially the sodium hyposulphite, is an invaluable remedy in parasitic disease of the nail substance, in the form of a solution about half an ounce of the salt to a pint of tepid water; the affected nail to be immersed therein twice daily, for ten to fifteen minutes.—N. E. Aronstam, in *Central States Medical Monitor.*

Correspondence

Race Suicide for Social Parasites.

DAVENPORT, IOWA, Jan. 7, 1908.

To the Editor:—In Dr. W. T. Belfield's recent Chicago address on the above subject, an abstract of which appeared in THE JOURNAL, January 4, he is credited with views which, it apears to me, should not pass unchallenged by the medical profession. His advice, if generally sanctioned by reputable physicians, would tend strongly to race suicide not confined to the parasitic classes, and would leave the spread of the venereal diseases unchecked. It can not have been carefully considered by THE JOURNAL, I think, or it would hardly have been published without comment.

That it is both the right and the duty of the state to restrict the breeding of confirmed criminals and other defectives in every practicable way is not questioned; and, as I see it, castration for such would be a practicable and wise provision both for the safety of the state and for the physical and moral advancement of the people. But when it is proposed, by cutting the vas, to put a stop to procreation while purposely leaving to the brute his impelling desire, his potency and "pleasure," it is hard to conceive of a course of unwisdom more blind. Rape and the spread of the veneral diseases would remain unchecked, and adultery, including miscegenation, and all forms of consenting vice, would be encouraged, the fear of telltale progeny being removed.

Strong as are these objections to Dr. Belfield's dangerous proposition—and they are sustained by his own statement that in Indiana, where the process has been legalized, hundreds of criminals have been sterilized at their own request—an even stronger one is suggested by his further statement that, within his own personal knowledge, married men have chosen this means of prevention as preferable to criminal abortion. He seems not to perceive that it is no less culpable for the physician to lend his aid to the one measure than to the other, or to realize the encouragement to race suicide in this all too convenient means of sterilization without loss of power.

When, too, the husband and the illicit lover are told that they can play fast and loose with their vasa deferentia, cutting off and on the testicular secretion by an operation "less serious than the extraction of a tooth," it would be hard to conceive of a recommendation fraught with more far-reaching evil and disaster. I trust THE JOURNAL, as the exponent of the profession, will present this measure in its true light.

C. H. PRESTON.

[COMMENT:—The above letter was referred to Dr. Belfield and we print below his reply.—ED.

"The worthy critic laboriously constructs formidable demons of straw, and then demolishes them with great fury and success. By similar reasoning he can prove that arsenic and strychnin should never be prescribed, because they have often been used in perpetration of murder; that labor should never be induced to save the life of mother and child, because criminal abortion is so common. In short, he condemns the intelligent, lawful and beneficial use of sterilization, because it can be prostituted to harmful and objectionable abuse."]

Death Following Injection of Diphtheria Antitoxin.

WAKE FOREST, N. C., Jan. 9, 1908.

To the Editor:—The sudden death following an injection of diphtheria antitoxin, reported by Dr. Gillette, Cuba, N. Y., in THE JOURNAL, January 4, page 40, is worthy of general notice. The case in question was one of bronchial asthma and the antitoxin was administered for its relief. Since several other fatal cases similar to this one have come to light it would appear possible that there is a connection between this disease and a grave susceptibility to diphtheria antitoxin.

Cases of sudden death following small injections of diphtheria antitoxin have been recorded—though death from this cause is a very rare occurrence. Certain of these cases have undoubtedly been due to the status lymphaticus. Osler reports two such cases in his "Practice" (Ed. 1901, p. 827). One of the individuals was the son of Professor Langerhans of Berlin and excited considerable attention at the time.

Park, in his Harvey Society lecture, Jan. 20, 1906, mentions several fatal cases in which it was probable that the status lymphaticus existed. He also mentions other cases in which death seemed imminent, but the patients were saved by the employment of emergency measures. These patients described sensations very similar to those which occurred in Dr. Gillette's case.

In regard to Dr. Gillette's tentative explanation that the status lymphaticus was present in his case, it appears that that explanation would be improbable for two reasons. First, on account of the age of his patient. The condition obtains almost exclusively in children and young adults. Second, in the autopsy record there is no mention of hyperplasia of the lymph tissue of the body, which anatomic feature is usually marked in this condition.

I have the temerity to suggest a connection at least between the asthmatic condition and the possible action of the antitoxin. The respiratory center in chronic asthmatics is in a constant state of pronounced irritability due to the accumulation of carbon dioxid in the blood at frequent intervals. It is thus in a condition to be easily acted on by further irritants, one of which we may presume is diphtheria antitoxin. It is well known that excessive irritation leads to depression which in case of the respiratory center would lead to severe or fatal results. This hypothesis would explain the symptom of dyspnea of which the patient suddenly complained just before death. Further, if this be true, it should lead to extreme care in the administration of diphtheria antitoxin to all patients in whom there is an accumulation of carbon dioxid in the blood.

LEWIS M. GAINES, M.D.

The "Hyoscin-Morphin-Cactin" Anesthesia.

REPLY OF THE ABBOTT ALKALOIDAL COMPANY.

CHICAGO, Jan. 6, 1908.

To the Editor:—In your issue of December 21 you devoted some four pages to the discussion of the following subject: "The 'Hyoscin-Morphin-Cactin' Anesthesia. An Interesting Example of the Subordination of Science to Commercialism."

The most striking thing on the first page of your presentation is the reproduction of two paragraphs, without context, from an article of mine appearing in the *Chicago Medical Recorder*, in which I call attention to the favor which the remedy is winning in the field of obstetrics, because it has reduced the pain and consequently the fear of childbirth. I can not, of course, read beneath the troubled surface of your mind as to just what impression you intended to convey by this truly sensational presentation. I assume, however, that you wished to question the truth of my statements. It may be of interest to know that the opinion concerning the sociologic value of hypodermic anesthesia and its effect on race suicide did not originate with me, but was first expressed concerning scopolamin-morphin and most strongly voiced by Holt, writing from Gauss' clinic at the University of Freiburg. It does correctly express, however, the sentiments of hundreds of physicians who have used H.M.C. (Abbott), as shown in their letters to me, an exhibit of any reasonable number of which we will gladly show you.

I wish first of all to deny *absolutely* the statment made in THE JOURNAL article concerning hyoscin-morphin-cactin anesthesia, that "everything connected with its promotion has conveyed the impression that this method of anesthesia is entirely new," or as otherwise and elsewhere stated in the same article: "It is evident that it has been the intention of the manufacturers to convey the impression that this method of anesthesia originated with them." Nothing can be farther from the truth. As a matter of fact there have appeared in our literature numerous references to the use of scopolamin and morphin for anesthetic purposes. The *American Journal of Clinical Medicine* has contained fully as many abstracts of the European literature on this general subject as any other medical journal—more, we believe, than has your own, which has been so utterly closed to anything favoring or fairly discussing the American side of the movement while wide open to the wildest, most prejudiced criticism.

The longest contributed article on hypodermic anesthesia ever published in *Clinical Medicine* was on "Scopolamin-Morphin in Obstetrics," which gave a detailed account of Gauss' work in the University Women's Clinic at Freiburg, published in May, 1907, this article being written by Dr. William Holt, an American, at that time studying at Freiburg. What we have claimed—and we still maintain it—is, that our hyoscin combination is superior to the scopolamin combination which was used by early investigators, with unfortunate results in some cases, said gruesome statistics being erroneously held to apply to improved conditions as they now exist. *Priority* of suggestion of hypodermic anesthesia we have never claimed.

In one sense, however, hyoscin-morphin-cactin anesthesia certainly is new. Scopolamin-morphin anesthesia, in spite of its eight years of history, was "new" to the doctors of America when we first manifested an interest in it. There had been a number of deaths reported, mainly abroad. It was discredited by the journals, and only a few American surgeons, perhaps a dozen or two, had had the courage to try it. We took it up, sought to discover its defects and remove its dangers—to convert it, if possible, from a merely experimental procedure into a reasonably safe and satisfactory aid to the work of surgeon and obstetrician, as well as to the internist in colics, spasms, etc., and in all those efforts we have succeeded, if sales to some 20,000 American physicians and surgeons and thousands of ringing testimonials are worth anything.

More than two pages of The Journal article are devoted to an attempt to prove the identity of hyoscin and scopolamin. Our advertising literature is extensively quoted and every effort made to show that our expressed preference for hyoscin to scopolamin is an evidence of purposeful deceit or of ignorance. We shall not repeat these quotations, though they are garbled, and in one instance at least a word is omitted from the body of a sentence written by me which *completely changes its meaning*—this without any mark to show that such omission has been made. It makes quite a difference in your favor to say: "It's the synergistic which produces the result." instead of "*It's the synergistic whole*," (referring to the published formula) our claim and text.

We do not purpose to enter with detail into a controversy on this point, which, as we shall endeavor to point out a little later, is not the main and centrally important point at issue. But it is noteworthy that The Journal admits that "the German literature, until recent years [very recently, in fact.—W. C. A.], furnished an abundance of material from which to quote to prove that the alkaloid as made from hyoscyamus is different from that made from scopola," and that "there have been echoes of the old controversy until recently." This does not quite accord with the statement made in the next sentence, that the identity of the two substances "was settled long ago." We might even quote the following statement by Prof. John Uri Lloyd (*Eclectic Medical Gleaner*, January, 1907): "In our opinion, one has no more the right to dispense scopolamin for hyoscin than to label hyoscyamus as belladonna."

The chemical identity of pure hyoscin and scopolamin no one disputes. For argument's sake let us pass for the present —admit, if you prefer—the pharmacologic identity of the two substances—provided we can be sure that in both cases we are dealing with a substance of absolute purity. If when pure they are therapeutically identical, we are content; satisfactory therapeutic result and the safety of the clinician is our only desire.

Your article says: "The pharmacopeia of a nation is the standard according to which drugs are manufactured and by which they are judged. In all countries these standards are recognized by law; *they are the highest authority*." (Italics mine.) Let us examine the German and the United States Pharmacopeias, which are quoted extensively to prove the identity of hyoscin and scopolamin and see if they are a sufficient and safe authority for us to depend on. Pharmacopeias are guides by which the pharmacist is supposed to serve the doctor, provided the doctor chooses to be so served, the right of choice and specification being vested in him.

I know I am antagonized on this point by you, but the fact remains, as voiced by Hatcher in your issue of January 4, who, in his excellent paper on "The United States Pharmacopeia," says: "It is obviously not the province of pharmacists to decide for physicians what remedies they are to use."

While pharmacopeias are officially accepted as "authorities" no reasonable man has ever asserted that they are flawless. Indeed, no sooner has a pharmacopeia appeared than it has ever been made the immediate object for attack. This has been the case in Germany even more than in the United States. This criticism of "official statements" is true to-day concerning scopolamin.

While there may be little discussion over the identity of absolutely pure hyoscin with absolutely pure scopolamin, it has been pointed out—and especially in Germany—that the official (pharmacopeial) tests for purity are entirely inadequate. In the United States Pharmacopeia the tests for hyoscin hydrobromid (or scopolamin hydrobromid) are, from a practical viewpoint, for identity only; as regards impurities they are worse than weak, and you ought to know this to be a fact.

Indeed, the only tests of this character distinctly given are for carbonizable impurities (sugar, gum, etc.) and morphin, the grossest of adulterants! There is no mention of the optical rotation tests; no suggestion of the possibility of the presence of the really common and as regards the second often exceedingly dangerous impurities, atroscin and apoatropin. Indeed, a sample of scopolamin which apparently perfectly satisfied pharmacopeial requirements might be loaded with these substances and be correspondingly dangerous.

The same is true of the German Pharmacopeia; and in Germany much more has been said on this subject than in America. Says Kobert (*Riedel's Berichte*, November, 1904). "The commercial preparation (scopolamin) are obviously a mixture of active scopolamin with some other base. Hence, there should have been introduced into the latest German Pharmacopeia tests that would assure the purity of the active scopolamin hydrobromid. This requirement was aimed to be fulfilled by demanding about 12 per cent. water. But this criterium is not worth very much. About optical activity the book unfortunately says nothing, and about the melting point, not the right thing, so that a *slightly hydrous atroscin might even be preferred to the true active scopolamin.* It is not strange that many practitioners have not been and are not giving their patients the active, but a nearly inactive (optically inactive) article." A powerful article, thus unknown, may, therefore, conceal any degree of danger.

The impurities above mentioned, and which as we have shown, have been common in scopolamin are, in the main, atroscin and apoatropin. Neither of these is readily detectable by purely chemical tests, the optical rotation being depended on to determine their presence. Pure scopolamin and pure hyoscin are levo-rotatory; atroscin and apoatropin are optically inactive—do not cause deviation of light rays. Atroscin is not toxic; apoatropin is toxic and it is now believed that the deleterious side-effects occurring when impure scopolamin is given are due to the presence of this very toxic alkaloid. Its exclusion, therefore, as we have claimed, is a matter of the utmost importance, especially when the remedy is to be given to its maximum effect, as in the induction of hyoscin-morphin anesthesia—hypnotic narcosis.

Says Kobert (*Riedel's Berichte*, November, 1904): "Since the presence of inactive scopolamin (atroscin) is without deleterious influence, there necessarily must be contained in the scopolamin of commerce some other substances, optically inactive, but pharmacologically very active and very toxic." Again he says: "Scopolamin in general, or at least that of particular factories, is a most questionable preparation, the use of which not only can not be recommended with a clear conscience, but it must be warned against." These deleterious and dangerous effects he ascribes to the presence of apoatropin, saying: "The presence of this base, therefore, in the scopolamin of commerce would in man give rise to precisely the same side-effects as observed by Lewin and Guillary (local irritation, psychic excitation, spasms, delirium, dizziness, cyanosis). Hence I venture to contend that all commercial specimens of scopolamin hydrobromid which have produced (and are so doing to this day) the above deleterious effects were contaminated with this base."

This is practically the same conclusion reached by other German investigators, and men like Gauss, who have used scopolamin with the greatest success have insisted most strongly on the necessity of having a drug of the utmost purity—one entirely free from this toxic base, apoatropin. And it is a striking fact that the men who have had the highest success with scopolamin and have become enthusiastic in its use (and are now largely using pure, hyoscyamus-derived hyoscin) are those who have insisted on the use of something better than commercial scopolamin; while those who have condemned it are men like Hocheisen, who have been careless in this most important matter, a carelessness little short of culpable, which our chemical critic, oblivious to therapeutic result, would commend.

In striking contrast with Kobert's broadly scientific insistency for purity is the position of certain members of the Council, and the pronounciamento in The Journal, in which the most sweeping statements have been made concerning the danger of scopolamin (likewise hyoscin) while not a word has been said concerning variations in the quality of scopolamin, and the possibility that impurities in the drug (our contention) are a factor in the early reported mortality and present bad side-effects. Apoatropin is ignored and rotation tests apparently undreamed of. Why? The writers of the attacks on us have leaned heavily on the "authority" of the Pharmacopeia as all-sufficient—in this case a feeble if not "a broken reed."

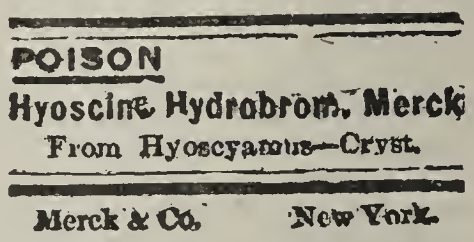
A word concerning the source of apoatropin: This substance seemed to be formed in part in the process of manufacture; in part to preëxist in the solanaceous plants. Whether it is equally abundant in scopola and hyoscyamus we have not as yet sufficient data to determine accurately, but there are certain facts which at least point towards its greater frequency in the former, and its presence or absence should always be and is determined by the conscientious, profession-protecting pharmacist by proper tests of each individual specimen.

There is unquestionable evidence enough of the necessity for the surgeon or obstetrician who desires to secure safe and satisfactory results, using a preparation of hyoscin (or scopolamin) which is free from apoatropin. The question naturally arises: "Are the preparations of this remedy offered to the profession satisfactorily?" Since the Abbott Alkaloidal Company has been probably the largest purchaser and dispenser of this alkaloid for the last two years our opportunities for investigation have been pretty good. Regarding scopolamin (from scopola) we find that there is the widest variation as to quality. Samples have been obtainable giving optical rotation tests varying all the way from —2 to —23. We have in our possession at the present time a sample of scopolamin, made by one of the great German chemical houses, giving a test of —9. Some months ago we had another testing —7, this test being verified by Mariner and Hoskins of this city. Within the past week we have obtained another in the open market of this city (also the product of one of the great German houses) giving only —9. All of these samples, however, would apparently satisfy the pharmacopeial requirements as to purity—likewise our critic, and raise the very mischief at the clinical end. This is the "stuff" the doctor doesn't want.

We have not found the same degree of variation as regards hyoscin from hyoscyamus. Within the last two years we have used a very large quantity of this alkaloid. The lowest degree of optical rotation we have found in true hyoscin was —16, the highest —22, the average being in the neighborhood of —20. In other words the hyoscin obtainable by us has been of remarkably uniform quality—this in striking contrast with the exceedingly variable quality of the scopolamin on the American market during the same period.

You insinuate that we ourselves may not use hyoscin *from hyoscyamus*, and, to bolster up this covert but perfectly obvious slur, you quote from letters received from the representatives of prominent German manufacturing houses. It is true that it would be exceedingly difficult to prove by any chemical test the difference between the hyoscin from hyoscyamus and the scopolamin from scopola; and it is also true that we have not rested our confidence on any such tests. But we are none the less assured that we have not been deceived.

Hyoscin is not made in America. We have bought it (the genuine, subject to all tests for purity) very largely, as The Journal correctly assumes, from Merck & Company, their label, under which we have bought it, our critic to the contrary, being as follows (reproduction from photograph):



POISON

Hyoscine Hydrobrom. Merck

From Hyoscyamus—Cryst.

Merck & Co. New York.

When we first put out this anesthetic tablet we had no difficulty in obtaining the true alkaloid, labeled "from hyoscyamus." Appreciating from its prompt acceptance by the profession what the demand would be we promptly took all we could get. Later the New York representatives of the firm found difficulty in furnishing us with this product in the quantities desired (which is natural enough when it is remembered that the proportion of hyoscin in hyoscyamus is very small, and the true alkaloid, therefore, correspondingly more expensive to produce). We insisted, and Feb. 14, 1907, wrote them as follows:

> We desire to know, positively and definitely, from you if the hyoscin hydrobromid that we are getting from you is true to its label—if it is made direct from hyoscyamus and not from scopola. Answer positively and by wire with confirmation and details by letter. As to the claimed chemical identity of the two substances we are familiar and we do not want the scopola product. Kindly advise us, and promptly.

In reply to this letter we received the assurance that their sales of hyoscin to us were "from hyoscyamus," though in the same letter they wrote us "we can not promise to keep you supplied with hyoscin from hyoscyamus. Later lots may be made from one of the other sources according to the exigencies of the market on raw material." Now we either did receive true hyoscin from Merck & Company or they deliberately deceived and misled us as to its source, fraudulently labeling their product "from hyoscyamus," under the U. S. guarantee No. 7—which we do not for one minute believe.

Our orders for hyoscin from Merck & Company practically exhausted their supply of this (hyoscyamus-derived) alkaloid, and in the summer of 1907, while they would give us all they could get, they notified us of their inability to supply us longer. We confess that this "stumped" us, and, fearing that we might be compelled, though yet well in stock, to resort to scopolamin, we at that time purchased a supply of the best we could find in the market (optical rotation —23). This supply, however, we are glad to say, is as yet practically intact in our hands; a small amount only having been used for experimental purposes. In November, 1907, a special representative was sent abroad by the Abbott Alkaloidal Company and was able to find a sufficient supply of hyoscin "from hyoscyamus," added to what we are able to obtain from other sources, to supply even our rapidly increasing needs for some time to come.

Now, some may ask, Why not use and recommend high-rotation scopolamin instead of hyoscin? It is probable that if the best quality of scopolamin were always forthcoming this would prove reasonably satisfactory, perhaps quite so. But I think I have shown that a scopolamin even sufficiently pure to meet pharmaceutical requirements, likely to be dispensed by retail druggists and made into tablets by many purely commercial manufacturers, runs great danger of being really impure and dangerous, from the unsuspected presence of apoatropin. Furthermore, we have found true hyoscin very uniform in quality and the results obtained from its use have been so good that we do not feel justified in making a change; and finally, in spite of "authorities," we remain of the opinion that true hyoscin and scopolamin, or "hyoscin from scopola" as obtainable on the market, are not of identical quality and action. Our results with true hyoscin have more than justified our confidence in it and our preparation of "hyoscin, morphin and cactin compound" containing it has been endorsed by the profession in no uncertain way.

We drop the question of "identity" here. At this time when we are contending for truth and right as against misrepresentation and fraud, we object to the foisting of hyoscin from scopola or other mydriatic sources onto the profession. If it is scopolamin say so and let us use it as such if we desire. To do otherwise and to sustain the practice is both to perpetuate and to countenance, aye, to uphold a fraud. Give us a scopolamin equal to and identical with true hyoscin from hyoscyamus, such as we are using, call it scopolamin, not hyoscin, and the fight is off. Purity of drug to produce best therapeutic result is our only contention.

And now a few words concerning cactin—or cactus. This is not a "new" substance. Cactus has been before the profession for forty years. The eclectic literature is full of it, the first studies I have found concerning it dating back to 1864. I might quote extensively the literature on the subject, but it is hardly necessary. The fact is that it is hardly possible to pick up an eclectic publication without seeing something concerning it. The regular text-books have also taken it up, took it up years and years ago, and praise of its action may be found in the works of Hare, Potter, Shoemaker, Butler, Solis-Cohen and others. Thousands of physicians, of all schools, have testified to its therapeutic activity—to its unmistakable, and unquestionable value in properly selected cases. Preparations from cactus are made by many houses.

Cactin, you insist, is a "secret" "nostrum"—because identifying chemical tests were not available—and because only we made it. You question the truth of our statements concerning it; apparently even questioned its source. At a time when split-hair technicalities were not insisted on as now, and on what we then considered good authority, we did years ago list cactin as a "glucosid," to the tests for which it in a large measure reacts; when this technical error (theoretically true, but not entirely so) was called to our attention we corrected it in our lists and literature as promptly as possible, and so announced through the columns of *Clinical Medicine*.

We certainly endeavored to put ourselves right just as soon as the point was raised, although the truth was, and is, as we then believed and still believe, though seeking "light," that the glucosidal principle predominates in cactin.

When we were carrying cactin as a glucosid in our list you were still carrying the advertisement of antikamnia. Your Pharisaism concerning past "sins," therefore, becomes the more nauseating. [The Antikamnia advertisement has been refused by The Journal since 1895; cactin was called a glucosid in the 1906 price-list of the Abbott Alkaloidal Company.—Ed.]

Finally, in an effort to satisfy, we called and still call cactin a concentration, which is, we believe, as correctly descriptive of the preparation as any term available. The term is used by practically all drug manufacturers: John Wyeth & Co., Sharp & Dohme, and others, including Parke, Davis & Company, in whose catalogue an excellent definition may be found.

Now, as we have repeatedly said, there is nothing secret about cactin, and it is in no sense a "nostrum." We have freely given to interested doctors coming to our laboratory any information available concerning it; and have invited members of the Council to come and investigate for themselves. They will not come. We will do more.

We have carried cactin in our list for more than ten years. We first made it from the excellent eclectic liquid preparations available, buying them in the open market and concentrating them ourselves. I tried the products of various houses and was best satisfied with that put out by the William S. Merrell Chemical Company, of Cincinnati. I therefore entered into a trade arrangement with them, they agreeing to collect for us large, definite, contracted-for-in-advance quantities of true cactus (there are hundreds of varieties), for which their facilities were unexcelled, and also to prepare, from our specifications, a special concentrated liquid preparation, from which certain known-to-be inert portions of the plant were excluded, this liquid being cask-stored in their laboratories in adequate quantity and shipped to me as required, when final concentration is made in our own plant.

All the details of the method employed by the Merrells I do not know myself, hence could not and can not possibly give them to others. On that point the house writes me as follows:

> So far as the process of manufacture is concerned, that brings up an entirely different question, and one which we were obliged to answer the Council with regard to our normal tinctures and green drug fluid extracts: that our process of manufacture and extraction was the outgrowth of nearly 75 years of labor, study and experience, and it was not reasonable for them to ask us to publish, for the benefit of our competitors, information which it has cost us so much to obtain.

When this highly concentrated liquid cactus (five times fluid extract strength) is received by us from Merrell, it is slowly concentrated at a very low temperature and with extreme care, so that the activity of the drug can not possibly be impaired, the resultant retaining all the active ingredients of the green drug. The points to be remembered are: 1, that cactin is no more a "secret" remedy than is cactus itself; 2, the therapeutic action of cactin is believed to be identical with that of cactus; 3, that it is in no sense a "secret nostrum," and that any statement to this effect is unfair, unjust and untrue.

Considerable chemical study of cactus has been made in my laboratory, and we have determined the presence of a glucosid, although I am not as yet assured that this is the active or at least the only active medicinal principle contained therein. Mr. R. W. Proctor, chemist for the Merrell Chemical Company, assures us that they have determined the presence of both an alkaloid and a glucosid, but so far we have not been able to obtain from any single principle the desirable and definite results obtainable from the concentration of proximate principles we market as "cactin." There is room here for work by our erudite critic. Why not get busy?

It will be noted our critic says the word "cactin" should designate a glucosid or some other active principle ending in "in," with "e" final it should designate a glucosid or a resinoid, and may (and does in this instance) designate a concentration or other as yet indefinite proximate principle, but the unfortunate omission of "e" final in many alkaloids, as well as other definite principles, adopted by The Journal and some others, has so broken into and broken up efforts at exactness and consistency that one must now know the principle and all about it before he can know what is meant by the names used in your pages.

I must dissent from the theoretical conclusion that because cactin is devoid of a digitalis-like, strychnin-like, or of any toxic action for that matter, it is therefore therapeutically worthless. Clinical reports from real workers in the field are far too numerous and too uniformly favorable to the preparation to be dismissed by unnecessarily inconclusive laboratory experiments, that would deny to the doctor his ability, even his right to judge. Pharmacologic investigations of products of this class are still in their infancy. Practically nothing satisfactory to the clinician has been done along this line. As regards cactus, no manufacturer, so far as I know, has initiated such experiments. My failure to experiment along this line is therefore neither strange nor unusual. Like others, I have had confidence in the clinical results reported by hundreds of competent and distinguished physicians, and in my own experience.

Right here I want to say that you fail to inform your readers that the experiments of Professor Matthews of Chicago University (whose report you say you have in hand ready to publish) were commenced at my initiation and made at my expense. I met Professor Matthews, after arranging for an interview by letter, and it was agreed that he was to make tests of various preparations of cactus, and of cactin alone and in various combinations. I freely gave him permission to publish his studies, he suggesting at the time the *American Journal of Physiology* or *Science* as proper media. Does this look as though I was afraid of publicity?

As material I supplied him with samples of cactin, both in liquid form and trituration, and also samples of the fluid preparations of cactus of two standard houses. A few days later he telephoned me, "Doctor, you have a remarkable preparation"—telling me some very interesting and flattering things about its action, which, he said, were revealed in his first experiments. That was early in November. November 13 I got a letter reporting negative results, but without details; December 16 I received one more letter (in reply to one of my own) with more negative results—each letter less than a sheet of writing paper, with still no details, no report on anything but cactin—nothing about the other cactus preparations.

That's the last I heard from him. At the time his second letter was received, his work, for which I paid, must have been in the hands of the editor of The Journal of the Association, who, he must have known, was attacking me and my product. Although I paid for these studies, although they were taken up at my request in my desire to learn all possible concerning cactin, I never received a detailed report of his experiments; have had no opportunity to discuss them with him. Instead of helping me to make my product better, if possible, his secret work, if he did any, is given freely as a further club to my enemies. Is this honorable? Is it worthy of a great university?

Language somehow seems inadequate to express my opinion of a scientific "worker" of this character. I hope I may be excused if I feel some doubts as to the value of reports from such a source.

Meanwhile, I am having careful studies made of this product, both pharmacologic and clinical, by men whose standing and attainments cannot be questioned, broad in scope, and I believe trustworthy in character. I regret that the rapid growth of my business, the limited room as yet available, and the small number of my scientific helpers have made it impossible to do full work of this character in my own laboratory. I shall get to it in time. But in the meantime I do not propose to be stampeded into undue haste by your unfriendly attitude. I have confidence in cactin, and before I get through I propose to know all there is to know about it; to prove that I am right or to acknowledge that I am wrong. I can afford to bide my time—and the multitude of friends who have confidence in my integrity will stand by me, will wait with me till the problem can be worked out. Cactin is one criticized, questioned, product among over six hundred against which it is not dared to raise a hand.

Hyoscin, Morphin and Cactin Compound ("H-M-C, Abbott"), is a good preparation; explain it as you will, it is impossible to "go behind the returns," to deny results—for no preparation offered to the profession within recent years has received such uniform tributes of praise from those who have used it as has this. I have on file letters testifying to its worth from hundreds, yes thousands of members of the American Medical Association, men of the highest standing, who know that I am telling the absolute, unadulterated truth! It is non-secret. The trademark, to which you object, is one of brand only, to designate our preparation. Every manufacturer is free to put up a hyoscin, morphin and cactin compound, leaving off my name and trademark—and indeed, several are already offering such a product. My special claim rests, primarily, on the superior quality of my product, which my brand-trademark designates.

The Abbott Alkaloidal Co.,
By W. C. Abbott, President.

[Comment.—We have omitted from the above communication considerable matter that refers to the Council on Pharmacy and Chemistry, as it is entirely beside the question, since our article was not inspired by, or submitted to, the Council.[1] We have also eliminated remarks regarding the motives prompting our exposure, as they, too, are irrelevant. In spite of this, we feel that we owe an apology to our readers for printing as much of this "reply," with all the irrelevant matter it contains, as we have done. It is never satisfactory to discuss purely scientific questions with those who are financially interested in the subject-matter under discussion; their solution depends on scientific evidence and not on vehement protestations, assertions of individual integrity or personal reflections on others. What our readers are interested in is the answer of the company to the *facts*, the direct accusations in our article, which were mainly:

1. That the Abbott Alkaloidal Company's anesthetic contains nothing new in any scientific sense.
2. That there is no difference between hyoscin-morphin-cactin anesthesia and scopolamin-morphin anesthesia, for the reasons that "hyoscin" and "scopolamin" are merely synonymous terms for the same alkaloid.
3. That "cactin" is a nostrum and is practically inert.

In its reply, the Abbott Alkaloidal Company seems to have been at great pains to obscure these, the main questions at issue, by irrelevant matter and ambiguous verbiage. The predominant impression created by reading this reply is one of "it is and it isn't"—"now you see it and now you don't—mostly you don't." Nevertheless, we shall attempt to analyze what is said.

1. *The Abbott Alkaloidal anesthesia contains nothing new in any scientific sense.*—This is met by the assertion that this claim was never made; nevertheless, we read again, "our hyoscin combination is superior to the scopolamin combination"—presumably through the substitution of hyoscin and the addition of cactin. The words "new" and "our" occur repeatedly in the literature. No one ever accused the company of having invented "hypodermic anesthesia" in general.

2. *Hyoscin and scopolamin are merely synonymous terms for the same alkaloid.*—The reply to this statement is most interesting from a psychologic standpoint:

We quoted the pharmacopeias as final and legal authorities for the use of these terms. This meets with the reply that the purity tests of the pharmacopeias are not what they ought to be—"do you see it?"

Now, as to the most important question: Is the "scopolamin" identical with "hyoscin"? the company has this to say: "The chemical identity of pure hyoscin and pure scopolamin no one disputes." So this point is conceded with truly remarkable candor. The company is somewhat less clear as to the pharmacologic identity, but does not seem to feel quite safe in challenging, so admits it "for argument's sake." The heavy ordnance is reserved for the "therapeutic identity" in the same paragraph as follows:

"If when pure they are therapeutically identical, we are content; satisfactory therapeutic results and the safety of the clinician is our only desire." Do you see it? If not, peruse the following:

"The men who have had the highest success with scopolamin and have become enthusiastic in its use . . . are those who have insisted on the use of something better than commercial scopolamin." Then they are therapeutically identical? But wait. . . .

"It is probable that if the best quality of scopolamin were always forthcoming, this would prove reasonably satisfactory, perhaps quite so." Then it is conceded that they are identical? Not so fast!

"Finally, in spite of 'authorities,' we remain of the opinion that true hyoscin and scopolamin, *as obtainable on the market*, are not of identical *quality* and action." (Italics ours.) Do you see it? When you read this sentence without emphasizing the italics, it sounds like a bold Abbottesque statement that, therapeutically, they are not identical, whatever the facts may show. Then if you read it, emphasizing the italics, it ——but oh, fudge! What's the use! *Mir wird bei alledem so dumm, als ging mir ein Mühlrad im Kopf herum!* This is enough; especially since we feel quite safe in leaving to our readers the question whether two substances, conceded to be chemically and pharmacologically identical, can be judged to be therapeutically different on the strength of this kind of medieval logic.

If the company's only or main reason for preferring hyoscin to scopolamin is that the former is apt to be more pure, let it say so frankly, and the subject will become one for intelligent investigation, were it worth while. At present we know nothing about this purely commercial question, except what the Abbott Alkaloidal Company tell us.[2] This is interesting enough, but what it tends to show is, not that hyoscin should be preferred, but that only the pure alkaloid should be used; if the associated apoatropin or atroscin is really as dangerous as is made out, then the commercial hyoscin could not be safely used; and, according to the company's own figures, it has obtained commercially an even purer scopolamin than hyoscin.

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[1] Incidentally, with all that has been said by the Abbott Alkaloidal Company, especially in its journal, the *American Journal of Clinical Medicine*, regarding the treatment it has received from the Council on Pharmacy and Chemistry, it might be stated that the company has submitted to the Council just two products—Nuclein and Neuro-Lecithin—and after a large amount of correspondence between the Council and the company, the Council has finally been able to approve only one of these—Neuro-Lecithin.

[2] The fact that a year ago it was possible to find on the market the alkaloid as made from hyoscyamus is not strange, nor does it alter the facts. It is quite possible that this supply had been on hand one, two or even more years, for a few grains would last a long time when there was as little call for it as was the case before the artificial demand was created in this country by advertising. Possibly the manufacturers would still be glad to make the alkaloid from hyoscyamus on a special order; and it would not be necessary to send a man to Europe to place such an order.

One more thought! This company has been dogmatically asserting that hyoscin is safer than scopolamin. This has been the keynote, the central thought, in the advertising literature. What evidence has it on which to base such assertions, or to assume that there have been fewer deaths from the use of its H-M-C than from the recognized scopolamin-morphin combination? What are the mortality statistics? How many deaths have occurred from the use of the tablets? And especially, what has been the infant mortality from the use of so much morphin in obstetrics? We have seen no statistics published on the subject.

Passing now to the last point:

3. *"Cactin" is a nostrum and is practically inert.*—Abbott replies, "There is nothing secret about cactin." Then he proceeds to describe it as the evaporated residue from a liquid preparation of cactus, from which certain inert portions of the plant are excluded, by a process which is so much a secret that he does not even know it himself! "Do you see it?" What class of constituents is extracted—whether those soluble in water or alcohol or ether or gasolin; what is the relation of the strength of this product to the crude drug—these very interesting data, all of the greatest importance to the scientific prescriber, are veiled in mystery—but not in secrecy!

Finally, as to the action of "cactin."

As we understand it, the company now acknowledges that it has no reliable evidence regarding the activity of "cactin," and is "having careful studies made of this product, both pharmacologically and clinically, by men whose standing and attainments can not be questioned."

Would it not have been better for the company to have had these investigations made, and have found out whether or not this was a valuable product before advertising it in such an extravagant manner as it has been doing for so many years? Would it not be advisable, also, for this company to await the results of this investigation before repeating these extravagant claims?

After carefully reading the communication from the Abbott Alkaloidal Company, we see no reason for changing the statements made four weeks ago, and reiterate the conclusions then reached.—ED.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

LEGAL MEANING OF VACCINATION.

BOSTON, Jan. 9, 1908.

To the Editor:—In THE JOURNAL, Dec. 7, 1907, page 1936, Dr. Bradford A. Booth, of Pittsburgh, asks: "What is the legal meaning of vaccination? (If possible cite decision giving such definition.)"

In answer to Dr. Booth, you said: "We know of no legal decision giving the meaning of vaccination."

In "Commonwealth v. Pear," and "Commonwealth v. Jacobson," (183 Mass. 242), the Supreme Judicial Court of Massachusetts decided: "A defendant charged with violation of a requirement of the board of health of a city or town that all its inhabitants shall be vaccinated, can not introduce evidence to show what a vaccination consists of, this being a matter of common knowledge; or of the grounds of his refusal to comply with the requirements, this involving a matter of opinion, and also being immaterial; or of the alleged injuries or dangerous effects of vaccination, the legislature being the judges of what the welfare of the people demands."

CHARLES HARRINGTON.

PHENOLPHTHALEIN.

AUGUSTA, ME., Dec. 12, 1907.

To the Editor:—1. Can you tell me how phenolphthalein produces catharsis? 2. Is it a safe drug? 3. Do the combinations with menthol, salicylic acid and soap work better than phenolphthalein alone?

S. J. BEACH.

1. Our available knowledge respecting phenolphthalein was given in THE JOURNAL, March 30, 1907, p. 1133; January 5, pages 64 and 70; April 20, 1907, p. 1351. Its physiologic action has not so far been experimentally determined. 2. No untoward results seem to be reported from physiologic dosage. 3. We think that clinical experience has so far been insufficient to warrant a definite reply to this question.

WATER AS A THERAPEUTIC AGENT.

DEVON, PA., Jan. 3, 1908.

To the Editor:—Your most excellent article on "Internal Use of Water as a Therapeutic Agent," in THE JOURNAL, Nov. 30, 1907, p. 1854, has been read with much interest and profit, and I thank you for it. Your list of qualifications regulating its use is very complete. One must think that had pure water been rather freely used before the conditions which forbid and also those which call for its use had developed, the conditions would probably never exist. One may question whether even in inflammation of the kidneys, weakness of the heart muscle, and insufficiency of gastric secretions, a reasonable use of pure water would not benefit by its solution, and consequent diminution of waste lodged in tissues—either muscular or nervous. Gentle exercise after ingestion of water aids its efficiency. Your suggestion of distilled water is good, yet I remember that J. M. Da Costa in discussing this point once claimed that he was curiously and unaccountably disappointed in the use of distilled water.

WILLIAM M. CAPP.

GERMAN MEDICO-THEOLOGICAL JOURNAL.

CHICAGO, Dec. 30, 1907.

To the Editor:—Some time ago there was an item in THE JOURNAL relative to the establishment in Germany of a journal to discuss borderland questions about religion and medicine. As I can not find it now, I ask you to let me know in what manner it was published or the name of the journal.

DANIEL S. HAGER, M.D.

ANSWER.—The *Zeitschrift für Religionspsychologie* is published by K. Marhold, Halle, Germany. As stated in THE JOURNAL, June 1, 1907, the aim of the new journal is to discuss the borderland questions of theology and medicine, to develop a healthy religious life—the "psychagogics of practical theology," and to study the development of the religious life under various influences. The list of contents of the first number included "Biblical Religious Psychology:" "Religious Conscientiousness" and "Obsessions and Religious Practices." The editors are a clergyman and a physician.

BRUSH TREATMENT OF DIABETES?

A PENNSYLVANIA SUBSCRIBER asks where he can find reference to the Brush treatment of diabetes.

THE VON RECKLINGHAUSEN TEST OF HEART FUNCTION.

NEW YORK, Dec. 30, 1907.

To the Editor: Has the v. Recklinghausen method for testing heart function been reviewed in THE JOURNAL at any time? If not, will you give the technic?

N. B. F.

ANSWER.—The method of von Recklinghausen was published in 1901 in *Archiv. f. exper. Path. u. Pharm.*, vols. lv and lvi. It depends on the proposition that the product of the frequency of the pulse by the amplitude of the blood pressure is equal to the amount of blood expelled by the heart in a second divided by the distensibility of the circulatory system or the relative increase in contents of the blood vessels. These relations must be found by determining the systolic and diastolic blood pressure and their difference (the pulse pressure) and also the rate of the pulse. The method appears to be defective because it gives no reliable method of determining the distensibility of the circulatory system; as this is unknown, it is impossible to calculate from it the second's volume, which is the measure of the heart's work. It can not be determined with certainty from the average blood pressure, as has been proposed, because the distensibility of some of the vessels may be increased, while the average blood pressure is maintained at a high level by contraction of other areas of the circulatory system. Some investigations indicate, however, that the distensibility of the circulatory system can not vary greatly, so that the product of the pulse pressure by the pulse frequency may be taken as practically a measure of the heart's activity, especially when it is desired to compare the functional power of the heart at different periods in the same person.

TREATMENT OF LEUCOPLAKIA.

KANSAS CITY, KAN., Jan. 2, 1908.

To the Editor:—Will you kindly publish the most satisfactory treatment for syphilitic leucoplakia of the fauces. In a case I now have it covers the entire tonsils, uvula, back of pharynx and tongue. My medical literature is silent on this subject, and so far I have been unable to stop the progress of the disease.

WM. H. WALKER.

ANSWER.—In most cases, leucoplakia occurs in syphilitics, but this is not by any means always true. Even when occurring in syphilitics, however, it is not a manifestation of active syphilis, even tertiary, but is a parasyphilitic affection and does not yield to specific treatment. It is a chronic inflammatory process with hyperkeratosis of the horny layer of the mucous membrane and treatment is directed to the relief in every possible way of irritation of the patches. After syphilis, the most important factor in the production of the patches is tobacco smoking, and this is the first thing which should be prohibited. Drinks and foods of all sorts which are so hot or so highly seasoned as to be at all irritating should be avoided. Further the mouth should be rinsed at least twice a day with a bland alkaline solution, like Dobell's solution, after which the patches should be painted with tincture of myrrh or tincture of benzoin. The chief benefit arising from these is probably due to the precipitation of the myrrh or benzoin on the patches, which forms a sort of varnish. Under these measures the condition will frequently disappear, but in many instances, if the patches have become well established, they persist in spite of such treatment. When that is the case more radical measures must be used if the patches are to be gotten rid of. In many cases they may be made to disappear by persistent exposures to *x*-rays, just short of the point of producing a reaction. Where it is feasible a good plan of treatment is to strip off the mucous membrane from the patches or destroy the patches by actual cautery. The patches should be given serious attention, because they are not infrequently followed by epithelioma.

IS SACCHARIN HARMFUL?

Evanston, Ill., Dec. 7, 1907.

To the Editor:—In the Physician's Manual of the Pharmacopeia and National Formulary (Hallberg & Salisbury), at the bottom of page 20, under head "Benzosulphinidum" I read: "Caution. Since it is a powerful antiseptic, arresting the digestive process, it is not recommended, and should be used, if at all, with care." In the last edition of the United States Dispensatory, under the same head is the statement: "It is a very feeble antiseptic, but appears to have no action on gastric digestion." Such diametrically different statements need explanation.

Henry B. Hemenway.

Answer.—Experiments on artificial digestion, undertaken by A. Stutzer and A. Stift for the agricultural and sugar industries in Germany during 1885-1889, reported in "Die Menschlichen Nahrungs und Genussmitteln" by Dr. J. Koenig (1893) show that the presence of benzosulphinidum (saccharin) markedly interfered with the action of all the three classes of digestive ferments, especially the amylolytic, viz.: ptyalin and diastase, and the fat splitting ferment of the pancreas. Stift confirmed these results by experimenting on dogs and rabbits. Plugge's report that 3 parts in 10,000 of saccharin (about 2 grs. in 1 pint) would inhibit the action of the ptyalin, having been contradicted by Petschek and Zerner (1889), Salkowski showed that when saccharin was neutralized with ammonia or other alkali it did not impair the action of the salivary ferment.

The following quotations are submitted:

Dujardin-Beaumetz, in *Progrès Médical*: "The use of saccharin in aliments presents danger to the public health. Saccharin is not an aliment but a medicament." The committee of the Seine Council of Hygiene. Messrs. Polegot, Gautier, Jungfleisch, Proust and Riche expressed the same opinion at the same time.

Sollman, Text-Book of Pharmacology (1905), states: "Saccharin has the properties of the coal-tar group and is, therefore, antiseptic and irritant. It is sometimes given in fermentative dyspepsia (0.1 to 0.3 gms.). Its long-continued use interferes with to nephritis." Again: "This substancedigestion and may lead acts as a protoplasmic poison and restrains all ferments, especially the salivary and pancreatic, and probably the oxidations within the body. Large doses cause headache, depression, stupor, convulsions and nephritis. It is promptly and completely excreted unchanged.—Matthews and McGuigan." ("Influence of Saccharin on the Digestive Enzymes," Journal A. M. A., Sept. 16, 1905, page 844).

Based on the first-named investigations, for the purpose of controlling or prohibiting the use of saccharin in alimentary substances, France, Italy and Portugal interdicted its importation, the academies of medicine of Madrid and Rio de Janeiro declared its addition an adulteration and its importation in Belgium became subject to a heavy duty.

That this coal-tar derivative should ever have been used as a sweetening agent in food for diabetic patients is incomprehensible since its derivation is sufficient to characterize it. Since the monopoly ceased with the expiration of the patent a number of years ago, competition has greatly reduced the price, as is customary with these chemicals "made in Germany," and but little effort is now made to exploit it as a "sweetener" in food products. Since dishes and menus sweetened with saccharin are yet offered diabetics, however, the fact that saccharin is harmful should be more widely recognized.

The statement in the Physicians' Manual that: "saccharin should be used if at all with care" is, therefore, believed to be correct, and, under the circumstances, conservative.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 11, 1908:

Raymond, H. I., surgeon, granted two months' leave, with permission to apply for another month.

Ford, J. H., asst.-surgeon, granted 30 days' leave of absence.

Shaw, H. G., asst.-surgeon, ordered to accompany 14th Infantry from Vancouver Barracks, Washington, to San Francisco, on completion of this duty granted 10 days' leave of absence.

Schreiner, E. R., asst.-surgeon, on arrival at San Francisco, Cal., will report in person to the commanding general, Department of California, for assignment to duty at the General Hospital, Presidio of San Francisco.

LaGarde, L. A., deputy surgeon-general, relieved from duty in the Philippines Division, and on arrival at San Francisco, to report to the Adjutant General of the Army for further orders.

Ashburn, P. M., asst.-surgeon, leave of absence extended one month.

Gunckel, G. I., dental surgeon, ordered to Fort Oglethorpe, Ga., for duty for four weeks.

Hussey, S. W., dental surgeon, left Fort Snelling, Minn., for duty at Fort Lincoln, N. D.

Coffey, A. McD., contract surgeon, relieved from duty at Vancouver Barracks, Wash., and ordered at the expiration of his present leave to duty at Fort Sam Houston, Texas.

Parkman, W. E., contract surgeon, ordered to Fort William Henry Harrison, Mont., for temporary duty.

Suggs, Frank, contract surgeon, left Fort Niagara, N. Y., on leave of absence for one month.

Hutson, T. O., contract surgeon, killed near Gordon, Ga., by falling from railroad train.

Halliday, C. H., contract surgeon, arrived at Fort Sam Houston, Texas, for duty.

Freeland, H. L., contract surgeon, returned to Fort Leavenworth, Kans., from leave of absence.

Whiteley, J. H., contract surgeon, relieved from duty at Fort Sheridan, Ill., and ordered to Fort De Soto, Fla., for duty.

Griffis, F. C., contract surgeon, relieved from further duty in the Philippines Division, and ordered at the expiration of his present leave of absence to Fort Sheridan, Ill., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 11, 1908:

Jacobson, L. C., acting asst.-surgeon, appointed acting asst.-surgeon from Jan. 3, 1908.

Stokes, C. F., surgeon, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to command the *Relief*.

Spear, R., surgeon, detached from the Navy Yard, League Island, Pa., and ordered to the *Relief*.

Baker, M. W., P. A. surgeon, when discharged from treatment at the Naval Hospital, New York, ordered home and granted sick leave for one month.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 8, 1908:

Wasdin, Eugene, surgeon, granted seven days' extension leave of absence.

Williams, L. L., surgeon, directed to proceed to Crisfield, Md., for special temporary duty, on completion of which to rejoin his station at Baltimore.

Gardner, C. H., P. A. surgeon, leave of absence granted for 1 month from Dec. 6, 1907, revoked.

Sprague, E. K., P. A. surgeon, leave of absence granted for 7 days from Dec. 31, 1907, revoked.

Wickes, H. W., P. A. surgeon, detailed as member of Revenue-Cutter Service retiring board, New York, N. Y., Jan. 9, 1908.

Goldberger, Joseph, P. A. surgeon, directed to proceed to Reedy Island Quarantine Station for special temporary duty, on completion of which to rejoin his station at the Hygienic Laboratory.

Amesse, J. W., P. A. surgeon, temporarily relieved from Havana, Cuba, and directed to proceed to Washington, D. C., for assignment to temporary duty in the Hygienic Laboratory.

Ward, W. K., P. A. surgeon, granted leave of absence for 2 days from Dec. 30, 1907, under Paragraph 191, Service Regulations.

Herring, R. A., asst.-surgeon, granted leave of absence for 3 days from Dec. 29, 1907, under Paragraph 191, Service Regulations.

Scofield, R. B., asst.-surgeon, detailed as member of Revenue-Cutter Service retiring board, New York, N. Y., Jan. 9, 1908.

Krulish, Emil, asst.-surgeon, granted leave of absence for 3 days from Dec. 9, 1907, under Paragraph 191, Service Regulations.

Atiles, P. de, IV, acting asst.-surgeon, granted leave of absence for 30 days from Jan. 6, 1908.

Barnes, W., acting asst.-surgeon, granted leave of absence for 9 days from Jan. 1, 1908.

Frick, John, acting asst.-surgeon, granted leave of absence for 5 days from Jan. 1, 1908.

Light, S. D. W., acting asst.-surgeon, granted leave of absence for 8 days from Jan. 1, 1908.

Linley, W. J., acting asst.-surgeon, granted leave of absence for 30 days from Jan. 2, 1908.

Lyall, R., acting asst.-surgeon, granted leave of absence for 6 days from Dec. 23, 1907, under Paragraph 210, Service Regulations.

McConnell, E. F., acting asst.-surgeon, granted leave of absence for 13 days from Jan. 1, 1908.

Simonson, G. T., acting asst.-surgeon, granted leave of absence for two days from Jan. 14, 1908.

Thomas, J. N., acting asst.-surgeon, granted leave of absence for 26 days from Dec. 3, 1907, on account of sickness.

Thompson, W. R. P., acting asst.-surgeon, granted leave of absence for 9 days from Jan. 1, 1908.

Wetmore, W. O., acting asst.-surgeon, granted leave of absence for one day, Dec. 20, 1907, under Paragraph 210, Service Regulations.

Wilson, J. G., acting asst.-surgeon, granted leave of absence for one day, Dec. 17, 1907, on account of sickness.

BOARD CONVENED.

A board of medical officers was convened to meet at the Bureau in Washington, D. C., 10 o'clock a. m., Monday, Jan. 20, 1908, for the purpose of examining candidates for the position of assistant surgeon. Detail for the board: Surgeon D. A. Carmichael, chairman; P. A. Surgeon H. S. Mathewson, and P. A. Surgeon J. F. Anderson, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 10, 1908:

SMALLPOX—UNITED STATES.

California: Berkeley, Dec. 14-21, 1 case.
District of Columbia: Washington, Dec. 14-28, 2 cases.
Illinois: Springfield, Dec. 19-26, 8 cases.
Indiana: Elkhart, Dec. 21-28, 3 cases.
Kansas: Galena, Dec. 21-28, 17 cases.
Louisiana: New Orleans, Dec. 21-28, 2 cases.
Minnesota: Winona, Dec. 21-28, 5 cases.
Missouri: St. Louis, Dec. 21-28, 7 cases.
New York: New York, Dec. 21-28, 2 cases.
South Dakota: Sioux Falls, Dec. 21-28, 1 case.
Tennessee: Knoxville, Dec. 21-28, 1 case; Nashville, 13 cases.
Washington: Spokane, Dec. 14-21, 2 cases, 1 death.

SMALLPOX—FOREIGN.

Argentina: Rosario, Oct. 1-31, 1 death.
Brazil: Para, Dec. 14-21, 16 cases, 11 deaths; Rio de Janeiro, Nov. 24-Dec. 8, 31 cases, 14 deaths.
Canada: Winnipeg, Dec. 21-28, 1 case.
Cape Colony: Cape Town, Nov. 16-23, 1 case.
China: Hongkong, Oct. 26-Nov. 16, 1 case, 1 death.
France: Paris, Dec. 7-14, 9 cases.
India: Bombay, Dec. 3-10, 2 deaths; Madras, Nov. 8-Dec. 6, 2 deaths.
Italy: General, Dec. 5-12, 143 cases.
Japan: Kobe, Nov. 23-Dec. 7, 66 cases, 20 deaths; Yokohama, Nov. 2-9, 1 case.
Java: Batavia, Nov. 8-23, 3 cases.
Malta: Dec. 5-12, 1 case.
Mexico: Aguas Calientes, Dec. 15-29, 6 deaths; Mexico City, Nov. 16-30, 2 deaths.
Peru: Lima, Dec. 4, 32 cases.
Portugal: Lisbon, Dec. 17-21, 7 cases.
Russia: Moscow, Nov. 30-Dec. 14, 19 cases, 3 deaths; Odessa, Nov. 30-Dec. 7, 2 cases; Riga, Nov. 30-Dec. 14, 5 cases; St. Petersburg, Nov. 30-Dec. 7, 30 deaths.
Spain: Valencia, Dec. 8-15, 36 cases, 3 deaths.
Turkey: Constantinople, Nov. 24-Dec. 15, 5 deaths.
Venezuela: Caracas, Dec. 30, present.

YELLOW FEVER.

Brazil: Manaos, Nov. 23-Dec. 14, 9 deaths; Para, Dec. 7-21, 23 cases, 14 deaths.
Cuba: Cienfuegos, Jan. 4, 1 death: Santa Clara, Jan. 6, 1 case.
Guatemala: Chiquimula, December, present; Zacapa, December, present.
West Indies: Trinidad, Jan. 6, 1 death.

CHOLERA.

China: Hongkong, Oct. 28-Nov. 16, 3 cases, 7 deaths.
India: Bombay, Dec. 3-10, 1 death; Madras, Nov. 16-Dec. 6, 11 deaths.
Japan: Kobe, Nov. 23 Dec. 7, 7 cases, 3 deaths; Yokohama, Nov. 2-9, 4 cases, 3 deaths.
Russia: General, Nov. 13-19, 202 cases, 115 deaths; Kief, Nov. 24-Dec. 7, 24 cases, 4 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Nov. 4-Dec. 8, 17 cases, 5 deaths.
China: Hongkong, Oct. 26-Nov. 16, 3 cases, 3 deaths.
Egypt: Alexandria, Nov. 28-Dec. 8, 3 cases, 1 death; Provinces: Oskalieh, Dec. 4-11, 1 case, 1 death; Garbieh, Dec. 4-5, 3 cases, 2 deaths.
India: Bombay, Dec. 4-10, 5 deaths; Rangoon, Nov. 8-24, 12 deaths.
Japan: Osaka, Nov. 23-30, 70 cases, 62 deaths.
Peru: Lima, Nov. 29-Dec. 4, 4 cases, 2 deaths: Chesica, 1 case; Matucana, 2 cases; Trujillo, 9 cases, 6 deaths; Paita, 10 cases, 7 deaths; Piura, 4 cases, 2 deaths.
Straits Settlements: Singapore, Nov. 8-16, 2 deaths.

Marriages

Lee Hunt, M.D., Anderson, Ind., to Miss Martha Carr of Orford, N. H., recently.

Arthur R. Sholars, M.D., to Miss Fanny Baker, both of Orange, Texas, December 27.

Eugene St. Clair Beadles, M.D., to Miss E. Baker, both of Berkeley, Cal., December 25.

Percy J. Farmer, M.D., Romeiro, N. M., to Miss Mabel Sanders of St. Louis, January 1.

Charles A. Clark, M.D., Onawa, Iowa, to Miss Grace Fagen of Des Moines, Iowa, January 1.

Bayard T. Crane, M.D., Baltimore, to Miss Kathleen Miller, at Worcester, Mass., December 25.

E. W. Jones, M.D., Mt. Vernon, S. D., to Miss Laura Page of Correctionville, Iowa, January 1.

M. T. Dalton, M.D., Sumas, Wash., to Miss Ella M. Rehberger, at Baltimore, December 31.

Nelson Case Morrow, M.D., Altamont, Kan., to Miss Grace Todd of Manchester, Iowa, January 1.

Joseph F. Messenbaugh, M.D., to Miss Laura Whisler, both of Oklahoma City, Okla., December 24.

Christian Frederick Grimmer, M.D., to Miss Louise M. Warner, both of Pekin, Ill., December 31.

William Francis Wakefield, M.D., San Francisco, to Miss Mary Stadler of Oakland, Cal.; January 1.

John Andre Fuller, M.D., Uehling, Neb., to Miss Clara Mabel Davenport of Omaha, December 24.

Frank P. Bayliss, M.D., Whitesboro, N. Y., to Miss Eva M. Wheatley of Syracuse, N. Y., December 28.

De Forrest C. Walters, M.D., McKeesport, Pa., to Miss Jane Moore of Saginaw, Mich., December 25.

Walter Robert Parker, M.D., Detroit, Mich., to Miss Margaret F. Watson of Evanston, December 28.

Clarence Kluttz, M.D., El Paso, Texas, to Miss Josephine Branch Craige of Salisbury, N. C., December 18.

Emil Windmueller, M.D., Woodstock,. Ill., to Miss Helen Howden Armstrong of Kenosha, Wis., December 28.

Bennett W. Dewar, M.D., Cooperstown, N. Y., to Miss Fanny L. Stringham of Unadilla, N. Y., December 30.

Justin Edward Hayes, M.D., Chesterfield, Mass., to Miss Josephine Eileen Canavan of Holyoke, Mass., January 2.

R. Lee Maloney, M.D., Anacortes, Wash., to Miss Maude von Kleinsmid of Chicago, at Corvallis, Ore., December 25.

Albert L. Laing, M.D., Rapid River, Mich., to Miss Mildred McLean of Rudyard, Mich., at Gladstone, Mich., January 3.

Deaths

Thomas H. Craven (Years of Practice, Colo., 1881); a veteran of the Civil War; for more than 20 years local surgeon at Canon City, Colo., for the Denver & Rio Grande Railroad; a member of the Colorado and Fremont County medical societies and of the National Association of Railway Surgeons; for two years mayor of Canon City; for more than four years a member of the city council, and for five years treasurer of Fremont County; died at his home in Canon City, January 2, from cerebral hemorrhage, aged 70.

Edward J. Brobst, M.D. Pennsylvania Medical College, Gettysburg, 1853; surgeon of the One Hundred and Forty-third Pennsylvania Volunteer Infantry during the Civil War; a member of the Medical Society of the State of Pennsylvania and Berks County Medical Society; for more than half a century a practitioner of Berks County; died at his home in West Leesport, December 31, from cerebral hemorrhage, after an illness of ten days, aged 74.

Charles Henry Taylor, M.D. Rush Medical College, Chicago, 1903; a member of the American Medical Association, and one of the best known younger practitioners of South Bend, Ind.; formerly superintendent of La Grange (Ind.) high school and a member of the faculty of the State Normal School of Wisconsin; died in St. Joseph's Hospital, in South Bend, January 8, from pneumonia, after an illness of five days, aged 38.

William H. Wagner, M.D. Pennsylvania Medical College, Gettysburg, 1853; a member of the American Medical Association; president of the board of trustees of the Emergency Hospital of Frederick County; at one time president of the Frederick Medical Society; president of the Woodsboro (Md.) bank: for 45 years a practitioner of that city; died suddenly from heart disease, at his home, December 28, aged 77.

J. Adelphi Gottlieb, M.D. National University, Medical Department, Washington, D. C., 1891; a member of the American Medical Association, American Public Health Association, and American Association for the Advancement of Science; a member of the staff of Chambers Street Hospital and Bellevue Hospital, New York City, and a professor in the Medicolegal Institute, New York City; died December 28, aged 37.

Joseph Ryers Waln, M.D. Jefferson Medical College, Philadelphia, 1884; a member of the Illinois State and Peoria County medical societies; a prominent specialist on diseases of the eye, ear and throat, of Peoria: for two years first assistant in that specialty at the Medico-Chirurgical Hospital, Philadelphia; died suddenly in Davenport, Iowa, from angina pectoris, December 29, aged 49.

Philip John Strathy, M.D. Toronto University, 1883; M.C.P. and S. Ontario, 1894; M.R.C.S. England, 1883; a member of the Toronto Clinical Society, and at one time a demonstrator of anatomy in the Trinity Medical College, Toronto; a member of the staff of the Toronto General and Grace hospitals; died suddenly from heart disease at his home in Toronto, January 2, aged 44.

Parks L. Kabler, M.D. Missouri Medical College, St. Louis, 1879; a member of the Missouri State Medical Association and Marion County Medical Society, and for many years local surgeon of the Burlington System, and secretary of the district board of pension examiners; died at his home in Hannibal, Mo., December 28, from tuberculosis, after a prolonged illness, aged 54.

Louis R. Pierce, M.D. Long Island College Hospital, Brooklyn, 1889; a member of the American Medical Association and the New York Academy of Medicine; obstetrician and assistant physician to St. Luke's Hospital, Newburgh, N. Y.; died at his home in that city, December 29, from pneumonia, after an illness of two weeks, aged 41.

William H. Giddings, M.D. University of Vermont, College of Medicine, Burlington, 1866; for several years superintendent of the State Hospital for the Insane, Waterbury, Vt.; a member of the legislature in 1880, and senator from Franklin County in 1888; died suddenly at his home in Bakersfield, January 2, from heart disease, aged 67.

John Perry Gale, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1887; a member of the Association of Southern Pacific Railway Surgeons, and district surgeon to the Southern Pacific Railway at Arbuckle, Cal., for several years; died suddenly at his home in Berkeley, Cal., January 3, aged 55.

Julian W. Jenkins, M.D. Beaumont Hospital Medical College, St. Louis, Mo., 1888; division surgeon of the St. Louis, Iron Mountain & Southern division of the Missouri Pacific Railway at Little Rock, Ark.; died at his home, November 17, after an illness of more than a year, from cerebral hemorrhage, aged 63.

John M. Waters, M.D. Jefferson Medical College, Philadelphia, 1868; a pioneer physician of Bozeman, Mont.; a member of the Montana State Medical Association and Gallatin County Medical Society; died at his home in that city, November 27, from nephritis, after an illness of six months, aged 68.

Joseph Julius Oppenheim, M.D. Northwestern University Medical School, Chicago, 1907; of Chicago; an interne in Cook County Hospital; while delirious from typhoid fever, jumped through a third-story window at the Presbyterian Hospital, December 31, and died from his injuries, January 4, aged 23.

John K. Smalley, M.D. Medical College of Indiana, Indianapolis, 1882; Jefferson Medical College, Philadelphia, 1887; at one time a member of the county board of pension examining surgeons; president of the First National Bank of Hartsville, Ind.; died at his home recently, and was buried January 3, aged 58.

Ferdinand Gordon Morrill, M.D. Medical School of Harvard University, Boston, 1869; a member of the Massachusetts Medical and Suffolk District medical societies; prominently connected with the Children's Hospital, Boston; died suddenly at his winter home in Assouan, Egypt, December 27, aged 63.

John R. Briggs, M.D. Missouri Medical College, St. Louis, 1880; a member of the American Anti-Tuberculosis League; for two terms a member of the city council of Dallas; died at his home in the Briggs Sanitarium, Dallas, Texas, from nephritis, after an illness of several months, aged 56.

Mareen D. Humes, M.D. University of Virginia, Department of Medicine, Charlottesville, 1873; resident physician at Bay View Hospital, Baltimore, in 1873 and 1874, and thereafter a practitioner of Baltimore and Upper Marlboro, Md.; died at his home in the latter city, December 24, aged 56.

Charles A. Geiger, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1857; of Beaufort, S. C., while temporarily insane from loss of money in stock speculation, shot and killed a New York broker, December 20, and afterward killed himself, in New York City, aged 45.

Edward Homer Gee, M.D. Rush Medical College, Chicago, 1889; a member of the Ohio State Medical Association and Muskingum County Medical Society; while making a professional call near Zanesville, January 6, was struck by a freight train and instantly killed, aged 38.

David Hale Gregory, M.D. Western Homeopathic Medical College, Cleveland, 1859; of Newark, Ohio; surgeon of the One Hundred and Thirty-fifth Volunteer Infantry during the Civil War; died suddenly from heart disease, December 31, while sitting in his buggy, aged 71.

John J. L. Boice, M.D. Detroit (Mich.) Medical College, 1880; a member of the American Medical Association; a member of the faculty of Gross Medical College, Denver, for several years, died at his home in Denver, from influenza, December 28, after an illness of ten days, aged 67.

Frederick Swartz Kohler, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1860; surgeon of the Twenty-first Pennsylvania Volunteer Cavalry during the Civil War; died at his home in Nampa, Idaho, January 1, from senile debility, aged 71.

John C. Graham, M.D. Starling Medical College, Columbus, 1889; lecturer on bacteriology in Starling Medical College from 1893 to 1894, and lecturer on histology in Denver Medical College from 1896 to 1898; died at his home in Denver, December 25, aged 44.

Thomas W. Nichols, M.D. Shelby Medical College, Nashville, Tenn., 1859; surgeon in the Confederate service during the Civil War; died at his home in Erin, Tenn., December 31, from pneumonia, several weeks after a fracture of the hip, aged 72.

Thomas E. Williams, M.D. George Washington University, Department of Medicine, Washington, D. C., 1859; a surgeon in the Confederate service during the Civil War; was burned to death at his home in Peake's Turnout, Va., December 31, aged 72.

Charles Smith, M.D. Jefferson Medical College, Philadelphia, 1853; a surgeon in the Confederate service during the Civil War; from 1892 to 1900 a member of the state legislature; died suddenly at his home in Frankton, Va., December 30, aged 73.

Clarence Eugene Stroud, M.D. Detroit Homeopathic Medical College, 1872; of Sandusky, Ohio; died at a hospital in that city, January 2, as the result of injuries to the skull, received three weeks before by the explosion of a vulcanizer, aged 61.

Benjamin Franklin Arrington, M.D. Transylvania University, Medical Department, Lexington, Ky., 1848; died at his home in Goldsboro, Tenn., October 29, from jaundice with heart complications, after an illness of eight weeks, aged 80.

Robert Carr Block, M.D. Hahnemann Medical College and Hospital of Chicago, 1893; of Ferguson, Mo.; died at a sanatorium in Jacksonville, Ill., January 5, from locomotor ataxia, after an illness of two years, aged 46.

Alva Albert Hoag, M.D. New York Homeopathic Medical College and Hospital, New York City, 1888; died from pneumonia at his home in Bridgeport, Conn., December 30, after an illness of one week, aged 48.

J. W. Gray, M.D. University of Louisville, Medical Department, 1844; for 55 years a practitioner of Marshall County, Miss.; died at the home of his daughter in Holly Springs, December 28, aged 84.

Samuel Levin, M.D. Cornell University Medical College, New York City, 1906; died in the Presbyterian Hospital, New York City, July 19, from acute cholangitis, after an illness of sixteen days, aged 34.

John S. Cron, M.D. Hahnemann Medical College and Hospital of Chicago, 1884; health officer of Gladbrook, Iowa; died in Roswell, N. M., from tuberculosis, January 1, after a long illness, aged 51.

Harlan H. Pillsbury, M.D. Medical School of Harvard University, Boston, 1859; formerly of Auburn, Cal.; died at the home of his son in Hollywood, Los Angeles, December 26, aged 76.

Eugene St. Clair Beadles, M.D. Louisville (Ky.) Medical College, 1886; of San Diego, Cal.; a member of the American Medical Association; died at Berkeley, Cal., December 27, aged 41.

John Chris Wessels, M.D. Western Pennsylvania Medical College, Pittsburg, 1905; died at his home in Allegheny, December 27, from pneumonia, after an illness of a few days, aged 26.

John C. Miller, M.D. Bellevue Hospital Medical College, New York City, 1865; of Nicholasville, Ky.; died January 4, in Umadilla, Fla., where he had gone for his health, aged 66.

W. A. Moore, M.D. Medical College of Georgia, Augusta, 1861; of Milledgeville, Ga.; surgeon in the Confederate service during the Civil War; died at Sharon, Ga., December 28.

A. Smith Carr, M.D. Jefferson Medical College, Philadelphia, 1879; died at his home in Clarksburg, W. Va., December 21, from locomotor ataxia, after a prolonged illness, aged 51.

Arthur E. Gresham, M.D. Cooper Medical College, San Francisco, 1885; died at his home in Long Beach, Cal., December 30, from pneumonia, after an illness of five days, agd 42.

James Wells Moliere, M.D. Detroit Homeopathic Medical College, 1874; of San Francisco; died from pneumonia, December 27, at the home of his sister in Oakland, Cal., aged 81.

James Mitchell, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1883; of Lancaster, Pa.; died at the Westmoreland Hospital, January 6, aged 48.

John C. Mason, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1878; of Prairieton, Ind.; died in Ravenswood, December 23, aged 59.

Edward D. Messinger, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1887; a veteran of the Civil War; died at his home in Chicago, January 8.

John D. Scott, M.D. Washington University School of Medicine, Baltimore, 1868; of Roanoke, Va., was found dead in his office in that city, January 4, aged 79.

Herman V. Nichols, M.D. Kansas City (Mo.) Medical College, 1898; formerly of Liberal, Kan.; died in Fairbanks, Alaska, November 3, aged 56.

Albert P. Hesterly, M.D. Barnes Medical College, St. Louis, 1902; died suddenly at his home in Gurton, Ark., December 29, from pneumonia, aged 34.

M. J. C. Naftel, M.D. Toronto University, 1905; of Toronto; died at Goderich, Ont., December 13, from typhoid fever, aged 29.

F. J. C. Walker, M.D. Missouri Medical College, St. Louis, 1861; died at his home in Cretcher, Mo., January 1, aged 81.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

A Sample District Program in Utah.

The Third Councilor District Society, Utah, publishes a bulletin, which goes to all members. Under the leadership of the councilor, Dr. Frederick Clift, of Provo, the society has taken up the work of securing the cooperation of the public through meetings for the discussion of sanitary subjects. The program for the second semi-annual meeting of the district society includes an address on "The Physician in Politics," by Dr. Edward M. Conroy, mayor of Ogden; an address by Gov. John C. Cutler, and a visit to the State Mental Hospital at Provo, and a special program on school hygiene were arranged for this meeting, taking up the problems of tuberculosis in schools, gymnasium training, instruction in hygiene, medical examination of school children, and the lighting and ventilation of school buildings. Besides members of the society, place is given on the program to the president of Brigham Young University, to judges of the juvenile courts of Salt Lake City and Provo, to county and state superintendents of schools, as well as to architects and business men. In connection with this meeting there was arranged a convention of state school teachers, in connection with which it was planned to interest many of those present in the work of the district society.

Progress in Ohio.

The Mahoning County (Ohio) Medical Society celebrated its twenty-fifth anniversary recently with a banquet, which was attended by over 200 members. Dr. John MacCurdy, the oldest member present, responded to a toast in which he discussed medical organization. According to newspaper reports, he said that, previous to the reorganization movement, the medical profession was held together by a rope of sand and that the county organizations were then without any great value or service to the profession. The state society in Ohio, as shown by the old volumes of transactions, had 572 members in 1870 and 627 members in 1880, an increase of 55 in ten years. To-day the Ohio State Medical Association has nearly 4,000 members in good standing. Dr. MacCurdy also congratulated the present-day organization on the superior ability to transact business as compared with the "committee of the whole, go as you please" method. He also congratulated the state association on having established a state journal, which he regarded as the longest step forward which had been taken.

Society Bulletins.

The Washington County (Pa.) Medical Society issued on January 1, the first number of the *Medical Program* of the Washington County Medical Society, which is hereafter to be published bimonthly. This bulletin is a neat leaflet containing society announcements, names of new members, extracts from various journals, etc. This enterprise is highly commendable; medical societies are learning that bulletins and journals sent regularly to members are of the greatest value in promoting good work.

The Howell County (Missouri) Medical Society and the Hamilton County (Ohio) Medical Society (Cincinnati Academy of Medicine) have adopted the nostrum resolutions promulgated by the Kentucky State Medical Association.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month.

FOURTH WEEKLY MEETING.

Pleurisy.

Varieties.

Acute and Chronic. Acute plastic, sero-fibrinous, purulent, tuberculous, hemorrhagic. Chronic with effusion, chronic adhesive.

Etiology.

Acute Plastic: Primary—Age, sex, cold, injury, diathesis. Secondary—Acute and chronic inflammations of lungs, pneumonias, tuberculosis, acute rheumatism, nephritis, hepatitis, alcoholism, by extension through lymphatics.

Sero-fibrinous: After acute plastic, tuberculosis, primarily and secondarily, infectious diseases.

Purulent: Secondary to sero-fibrinous, after infectious diseases, malignancy, tuberculosis, through lymphatics, injuries, in children.

Hemorrhagic: Tuberculosis, carcinoma, chronic nephritis, hepatic cirrhosis, malignant infections.

Chronic with Effusion: After acute variety.

Chronic Adhesive: After sero-fibrinous, idiopathic.

Pathology.

Acute Plastic: Extent of lesion, surface, blood vessels, exudate, adhesions, terminations.

Sero-fibrinous: Extent of, involvement, fibrinous exudate, character and amount, serous exudate, physical, chemical and microscopic characters, location of exudate, changes in pleuræ.

Coincident pathology, mediastinum, lungs, heart, abdominal viscera.

Purulent: Character of exudate, pleuræ, microscopic and gross changes.

Hemorrhagic: Physical and microscopic character of exudate, changes in pleuræ.

Emphysema.

Compensatory Emphysema: Usual causes. Manner of its production.

Hypertrophic Emphysema: Etiology. Theories as to causation. Bearing of heredity.

Pathologic Anatomy: Changes in air cells, in bronchi.

Symptoms: Characteristic symptoms. Physical signs.

Gangrene of Lung.

Etiology: Most prominent causative factors. Pathologic anatomy. Mechanism of production. Pathologic changes. Symptoms. General symptoms. Diagnostic symptoms. Course and termination.

Abscess of Lung.

Etiology: Local conditions. Manner of production in pyemia.

Society Proceedings

COMING MEETING.

Med. Society of the State of New York, Albany, Jan. 28.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Public Health Discussion in Section I, Jan. 2, 1908.

Federal Regulation of Public Health.

In connection with the annual meeting of the American Association for the Advancement of Science, held in Chicago, December 31 and January 1, there was a discussion Jan. 2, 1908, on "Federal Regulation of Public Health," a number of physicians and laymen who were not members being present by invitation and taking part.

The chairman, in calling the section to order, said that this is a medical, economic, civic, sociologic, and comprehensive international problem, in which Americans are asked to do their part. The catholicity of the movement is one means by which a more perfect type of individual manhood, womanhood and childhood can be brought about in our national life.

Dr. William H. Welch, president of the association, said that he knew of nothing that is more significant and more hopeful for the promotion of the interest of public health than a gathering of this kind under the auspices of this association. The significance lies in the fact that the movement is no longer confined to medical men and professed sanitarians or hygienists, but it has become a great civic movement. The other class of experts who have interested themselves in this subject next to medical men and sanitarians are the economists and sociologists. It is most significant because approaching the same problem from a different point of view from that of the physician, they have come to the same conclusion as to the predominant importance of public health to the welfare of the community, as well as its industrial, commercial, physical, social, moral, political importance. There is no force in the community, educational, political or social, which is not concerned with the great problems which are to be discussed.

Numberless efforts have been made to secure a department of public health, those efforts originating always on the part of physicians who have received little or no attention from those who have had the power of instituting such a department. Doctors, individually and in committees, have made their appearance before the committees of the Senate and House, but deaf ears were turned to their appeals. When one states that public health is essential to the welfare of the community there is, of course, no dissenting voice, but it can not be that those who have the authority to institute measures to check this preventable waste have no realizing sense of what it signifies. The state does not do its duty in the matter, because, possibly, it does not often know what its duty is. When they are told that the death rate can probably be cut in two if adequate measures, which are well within the possibilities of realization, are inaugurated, it does not seem to make any definite impression on their minds. They have got to be informed in detail as to exactly how these proposed measures are to accomplish this desired result, and if they are so informed, can we doubt for a moment that the appeal will be heard? The waste is incalculable, which results from the prevalence of diseases which we know can be prevented. The measures which should be adopted to prevent this waste are based on a knowledge of the origin and mode of spread of preventable diseases. That knowledge is, to a very considerable extent, of recent origin, but the movement to protect the health of the public is by no means of recent origin. Possibly the greatest single incentive to stir up the mind of the public to do something in this direction has been the outbreak of some strange, unusual devastating pestilence.

The beginning of public health reform in England can be traced to the outbreak of Asiatic cholera, about the year 1830. Nothing since the days of black death had aroused such fears and terrors in the minds of the public as the appearance of this disease, previously unknown in Western Europe. There were other causes at work, great ills resulting from the large industrial developments, and factories and conditions of the poor were operative. All of them were important factors. But it was, above all, the appearance of Asiatic cholera which started the movement in England. While Great Britain possibly has not contributed most of our knowledge to the origin and spread of infectious diseases, it has been the country most interested and most effective in applying that knowledge. It was conceded that most of the prevailing epidemic diseases were the result of contaminations of water, soil, air, due to filth. They were spoken of as filth diseases, and, on the whole, that was probably the most fertile idea. It led to a general cleaning up of habitations and surroundings. It led to the introduction of public water supplies, the establishment of suitable systems of sewerage and drainage. But it is to be regretted that they allowed so much of the filth to escape into running streams at that time, and that they did not earlier see that this was a source of great danger.

Possibly the greatest single triumph in the direction of reform was the extermination of that disease which is most directly traceable to filth—typhus fever. We can hardly realize at this time the extent and mortality of typhus fever in those days. The real knowledge on which modern sanitation is based as to the prevention of infectious diseases came from the discovery of the causes of these diseases by such men as Pasteur and Koch.

Professor Welch emphasized the point that the governments of France and Germany were actively concerned in the promotion of the investigations which led to the great transformation in the facts of modern medicine. Pasteur was called from his work by the government of France to investigate such matters as the rescue of the silk-worm industry and the other industrial diseases. After Koch had made his great research on anthrax, which led to discoveries which we now recognize as the starting point of the great science of modern bacteriology, he was summoned from a very obscure position by the national government to Berlin to take charge of the first laboratory for the study of infectious diseases in the newly formed Imperial Health Office in Berlin. The governments of France and Germany laid the foundation, and the discoveries which led quickly to the finding of the organisms which cause Asiatic cholera, tuberculosis, typhoid fever and diphtheria have been influential in arousing public sentiment in this matter. Preventive medicine and public hygiene are based now on a large mass of ascertained facts which can be applied in the most direct and effective manner toward the prevention of these diseases and to the improvement of public health.

One of the most important and interesting outcomes is the measures that have been adopted for the prevention of most of these diseases, increasing the material prosperity and commercial development of the country. Take, as an illustration, the measures necessary for the eradication of malaria. The most effective measures are to drain lands, to drain the swamps and destroy the breeding places of the mosquito. That in itself, quite apart from the prevention of malaria and the destruction of the mosquito, leads to great enrichment of the material resources of the country. Take the measures essential for checking the spread of tuberculosis. This disease is now an economic and social problem, as well as medical. Everything that pertains to the improvement of the living conditions of the individual bears on the great problem of the eradication of tuberculosis; better houses for the poor; better ventilation; public parks, playgrounds, everything of that kind which relates to and is essential to the improvement of the material conditions of the community, particularly of that class who are most in need of such improvement. We have ascertained the nature of the micro-organisms causing a number of infectious diseases, and even where the particular micro-organism has not been discovered, we can by analogy, from what is previously known concerning the infectious diseases, draw inferences as to the mode of spread of the other infectious diseases.

To what extent is this new knowledge applied in public hygiene and preventive medicine? Only to a limited extent anywhere in the world. Any one who is familiar with what is actually known to-day regarding this class of diseases, is aware of the fact that even in the most enlightened countries there is not more than a fraction of that knowledge applied. It is here, as is so often the case, that knowledge outstrips application.

But in Germany, and particularly in France and England, so much of this knowledge has been applied that the results are very apparent. The death rate has been reduced two-thirds, in many places to one-half, of the mortality which prevailed at that time, and it is mostly in the direction of checking the spread of the infectious diseases.

In America this new knowledge is applied to a lamentably small extent. We are a reproach to the civilized world, by our inattention to matters of public health and the prevention of disease. Can we conceive of our national government, if a Koch or a Pasteur should make his appearance in this country, calling him to Washington, giving him a laboratory and opportunities to confer inestimable benefits on mankind? Incredible! Under existing conditions our government would do nothing of the kind. Into whose hands has been placed hitherto the application of this knowledge in the administration of matters of public health? It has been in the hands, where it should be to a large extent, of the towns and cities of the state, but only to a small extent has that knowledge been applied in a systematic and intelligent way. The reason is because there is no national co-ordination, no national head in this matter to indicate in what direction money, which has been so wastefully applied in many instances, can be applied most effectively. In England every little town and city has a trained expert in matters of sanitation, one who has a diploma of doctor of public health, indicating that he has a knowledge beyond that of the average physician.

Dr. Welch said that this meeting is being held under the auspices not only of the Committee of One Hundred, but of the American Health League, a great civic organization, which is spreading over this country with incredible rapidity, stirring up interest on the part of the public and pointing out how absolutely essential it is to get adequate reform. It is also held under the auspices of the legislative committee of the American Public Health Association, the American Medical Association, and other great organizations.

Is it not true, he asked, that the health of the people is of as much importance as the health of animals? Consider the millions of dollars the national government spends for the health of animals. If a tithe of what, for instance, is expended in efforts to control hog cholera, pleuro-pneumonia and other diseases of animals, is spent for improving the health of the nation, we should not stand where we are and be a by-word for the nations of the world in consequence of our ignorance and indifference in this matter. We have precedent enough in the direction of the control of animal diseases to justify making the strongest possible appeal for the government to do something for the control of human diseases.

What can it do? Numberless things. It is not so much the merely executive administrative part of the work which interests those who are engaged in this movement; it is the educational, the cooperative side of the work. Just think of what can be done in the way of collection of vital statistics. It is difficult to make the public understand how vital statistics lie at the basis of it all, just as an intelligent system of bookkeeping does in any business. We must know the incidents of disease, what its death rate is, before we can intervene with any intelligence. Only a very limited part of this country has what may be called technically a registration area. In other words, there are few cities, very few communities, that know anything intelligently and exactly about the health conditions in their respective localities. There are many ways in which our government can prove of great efficiency in this co-ordinating, educational and harmonizing work in the interests of public health. There is no system of economy, apparently, at Washington, and the opportunities are probably greater to-day than ever toward doing something for the promotion of the welfare of the people of this country by the co-ordination of the forces which already exist there, but back of it must be an educated, intelligent, public sentiment. Under our form of government educated sentiment can be secured by the support of this civic, medical and sanitary movement.

JUDGE GEORGE L. SHIRAS, Washington, D. C., said that the United States Public Health and Marine-Hospital Service is regarded as the nucleus of the movement looking toward the creation of a centralized bureau of public health. The present bureau is under the Treasury Department, and under the supervision of the Secretary of the Treasury, whose training and duties ordinarily do not bring him into close contact or sympathy with work of this character. It is recognized that medical and sanitary research is the first duty of such a bureau, and that its most active function finds expression in interstate and international quarantine regulations, whereby the conditions which result in the transmission of epidemics from one nation to another or from state to state, can be brought under federal control. At present the federal quarantine for Porto Rico, for instance, belongs to a bureau of public health; in Cuba the War Department is supreme; in the Panama Zone the canal commissioners prescribe all quarantine regulations, and the Navy Department prescribes its quarantine regulations. This ought not to be the case, as the more dangerous forms of epidemic diseases, which always come from foreign countries, such as cholera, yellow fever, and the plague, can not be controlled effectively when there are four distinct bureaus or departments that have these matters in charge.

Reference was made to a bill which will be introduced in Congress, creating a standing committee on public health, composed of broad-minded men, who will cooperate in the most effective manner with the federal authorities and citizens at large in all measures to improve the health conditions of the country. The President of the United States, under the existing laws, should by executive orders transfer and consolidate the many divisions and bureaus scattered at present through the various departments of the government. When this is done, laws will have to be passed which will still further extend the jurisdiction of the central bureau of health and providing it liberally with means to carry on its many and varied functions.

DR. J. N. MCCORMACK, Kentucky, has been surprised at the existence of the widespread interest of the people in this movement. He has insisted in every community in which he has spoken that to merely arouse public sentiment, to appear before state legislatures or municipal councils, and begin agitation for local, state or national reforms would accomplish little, unless there is established in each community in each state a permanent office in charge of trained men, where facts may be gathered, and where the existing medical knowledge may be collected and presented to teachers, to leaders of public thought in civic, political and other organizations. To secure this, a campaign of education is needed. He thinks the time has gone by when men should be sent to represent the people in our legislatures or in Congress, who are not informed on these great questions. It is no longer the medical men who are interested in this great movement, but the lay people, the leaders of public opinion, the press, the teachers, the great university leaders, should be induced to take up this work and to see that in the political primaries men who do not possess the intelligence to comprehend this movement are antagonized on the ground that human life and human health are far more important to people than the question of who shall be President of the United States, or what political party shall predominate. Partisan politics has no place in municipal health affairs, and it should occupy a far more subordinate place in state and national affairs than heretofore has been the case. The teachers, the newspapers, the great lay leaders of public opinion, should endeavor to create a public sentiment in this country which will make it impossible for a man to secure the support of intelligent people unless he comprehends and makes as one of the planks of his platform, as Gladstone and Disraeli and other great European leaders did, the care of the public health the first and most important duty of a statesman. He believes that by co-ordination of interests, both medical and lay, there is promise of the dawn of a new day for the promotion of this great movement.

DR. F. F. WESBROOK, Minnesota, referred to the importance of promulgating accurate information concerning the cause and prevention of disease. He does not think America is behind other nations as regards the prompt application of new facts that are of importance, but we have no governmental recognition. From a governmental standpoint, we are behind Germany in the prevention of tuberculosis. Suitable bulletins are issued by the Bureau of Animal Industry and by other departments of state concerning the stock industry; how to protect cattle from disease; how to improve the live stock of the country; how to improve the wheat-raising industries, dairy products, etc. This is done by federal teaching and by federal publications, in combination with the state experiment stations throughout the country; but of publications which relate to the economic importance and protection of human life, there are very few, if any. The Committee of One Hundred has begun to place before the public the latest information bearing on sanitary problems, the protection of human life, the way disease is spread, etc.

Sanitation to-day is a profession. No ordinary medical practitioner knows all about sanitation. To-day it is necessary to have trained engineers, who know the cost of material, so that foolish expenditures may not be recommended. It is necessary to have people who know something about geology and botany; also to have mathematicians and statisticians. We must have trained social workers, and physicians to make early and accurate diagnoses. Furthermore, we must have the necessary laws and regulations, all of these things being matters of proper federal legislation. In his judgment, it is just as important to have a proper federal department to protect the people against invisible foes, like bacteria and protozoa and their harmful effects, as it is to have a department of war to protect us against human enemies.

Dr. Edward T. Devine, secretary of Associated Charities, New York City, said that what we need to-day in this country is to create a conception of physical well-being which can be applied to the child throughout its school-days and college life, and that can stay with a man, to his advantage, through the whole of his life. Cleanliness and personal habits are more important in lowering the death rate than anything the medical profession, in its strictly professional capacity, can possibly do. He heartily favored the federal regulation of public health matters.

Prof. Irving Fisher, Yale University, said the Committee of One Hundred was launched a year ago through a paper read by Professor Norton. He outlined the work that is being done by this committee. The subcommittees of this Committee of One Hundred are: A committee on finance; committee on legislation; committee on newspaper publicity; committee on magazine publicity; committee on research. The cooperation of the Committee of One Hundred has been largely with philanthropic associations throughout the country, and also with various other organizations, particularly labor organizations. Cooperation with universities is needed. There are some universities in America that contemplate developing courses which will prepare persons as expert hygienists who intend to enter the federal or state government offices, granting them the degree of doctor of public health, as is now done in England, after they have pursued a certain curriculum. He read a letter from President Roosevelt, who said: "The aid of the federal government is necessary to supplement the work of state and local boards of health. Federal activity in these matters has already developed greatly, until it now includes quarantine, meat inspection, pure food administration, and investigation of child labor." Whatever further cooperation and co-ordination is desirable toward the promotion of national health and vigor should command the support of all thoughtful citizens.

In order to get practical measures through Congress it will be necessary to begin work in the different states. The first step will probably be the appointment in the House of Representatives of a committee on public health. There is no such committee there now, but there is one in the Senate. A second step will be the redistribution of the existing health bureaus of the government. It is hoped that this will be accomplished through the endorsement of the Committee of One Hundred. Another step will be taken to increase the appropriations for the existing bureaus and to enlarge and co-ordinate their powers, and finally to establish new bureaus to make the system complete.

As to the future plans of the Committee of One Hundred, the executive office is engaged in organizing a legislative council of persons who can advise with the legislative subcommittee as to the measures to be brought before congress.

There is a plan on foot to establish a health magazine. An editor has been selected provisionally, and it is intended that this magazine shall cover the field of personal as well as public hygiene. Through publicity the Committee of One Hundred hopes to establish in the minds of the American people a national consciousness of the importance of health ideals. Whether the health problem be viewed from an economic or spiritual standpoint, it is certainly true, as Emerson said, "the best wealth of a nation is its health."

Prof. Charles R. Henderson, University of Chicago, said that medical men should have the first word in all questions of hygiene, but students of social institutions and movements also have a rôle in making ideas about health effective in conduct and law. The general public must be taught and be reminded when they forget, that many diseases which originate with the neglected, are spread by infection and contagion; that the common air we breathe, the dust of the street, domestic animals and insects, clothing from sweat-shops, cigars of rich aroma, may be vehicles of death. Even the despised prostitute finds her revenge in mansions and palaces where the highest medical skill fails to save purest women from sterility or death. But even when disease is not contagious, it enfeebles the noblest machine of capital, the human body. It makes investment barren, while the costly plant waits for the return from hospital of skilled workmen. Rent, interest, profits, taxes and wages, all forms of income of all classes, leak away in sickness; while disease itself produces dependence and burdens charitable societies and public relief with enormous costs. With weakness of body comes the feeble will, the nerveless conscience, the stolid and hopeless heart. Character is the result of habit, and habit of repeated explosions of energy; and so on the physical side the condition of efficient moral character is power to will, a product of force assimilated from food and conserved by hygienic living. The seeds of disease are often brought from areas beyond our vision or control—the plague from India, the yellow fever from the West Indies, tuberculosis from everywhere.

Those who can be producers of wealth we need to keep at their highest point of industrial efficiency. The victims of bad sanitary conditions are not always the degenerates. Often they are the vigorous, the skilled, the competent, whose death is a universal loss. The local and federal governments are essential factors in any adequate effort to investigate the causes and origins of industrial maladies, and we must invoke the most energetic and careful activity of the bureau of labor, the census agencies, and state commissioners of health and of labor in the inquiry. In the sanitary measures to prevent disease and the protective laws to avoid accidents, the power of the legislatures is rightly made tributary to our policy of maintaining the industrial and spiritual efficiency of the people. But when we ask ourselves where we can secure money for affording prompt medical and surgical care, support of families during tedious illness and convalescence of bread-winners, and opportunities of open-air life so necessary to restore impaired strength, we find but two sources, humiliating charitable relief or workingmen's insurance funds. Fairly facing this issue, the ultimate course can not be doubted. The American people, the speaker said, will never consent to reduce its sons of toil to beggary. America will yet outstrip the other nations of the civilized world in building up accident, sickness, invalid and old-age insurance funds, based on just contributions of all parties in interest and obligation, and to such a fund any wounded or sick man can resort in the hour of trial without shame and without dishonor. The fund will be his own by right, for it was built out of the product of his labor when he could labor, and it will be adequate when states and nation perfect the legal arrangements for its creation, maintenance and wise administration. Then, also, members of the medical profession will be paid for the prevention of disease and for increasing the physical, industrial and moral energies of the nation. At present their pecuniary interest is in conflict with their social function, and their desire to be useful to the race. This conflict should be averted so far as possible, and when physicians are paid from funds of insurance associations, according to rates equitably fixed, they will be more directly free to put forth all their powers to further the higher interests of mankind.

Dr. George H. Simmons, Chicago, said that the work that is being carried on at Washington in the various departments is gradually broadening and becoming more scientific and more valuable in every way. Few really know how much work is being done. Much scientific work is being done in the Department of Agriculture, where there is the Bureau of Animal Industry, but this work, however, relates only indirectly to public health. Meat inspection indirectly pertains to the public health of both this and foreign countries. Excellent work is being done under Dr. Wiley in the Bureau of Chemistry and in the Drug Laboratory, relative to the investigation of frauds in foods, "patent medicines," etc., all relating indirectly to the public health.

Vital statistics do not properly belong to the Department of Commerce and Labor, but to the bureau of health, if it should be organized. This country has practically no morbidity or mortality statistics. A majority of the states do not report the births or deaths, much less the morbidity or mortality rate.

Splendid work is being done in the Hygienic Laboratory of the Public Health and Marine-Hospital Service at Washington. Dr. Stiles is now in the South, investigating hookworm disease, and no doubt will show that some of the terrible afflictions which we are told result from child labor, weakened conditions, etc., really come from hookworm disease. Good work is being done in the various departments of this service directly in the interest of public health.

Dr. Simmons thinks that the Committee of One Hundred should appoint a committee to investigate what the national government is doing in the various departments, to find out the cost of various enterprises, and to show how much is spent for protecting animals against disease, and what an infinitesimally small amount is expended for the health of the people. Congress should be furnished with definite data and facts as to what is being done, so that congressmen may have something tangible to work with.

Dr. Craig, representing the National Association of Fraternal Societies, said the association of fraternities of America comprise fifty fraternal beneficiary associations, with a membership of 2,000,000. The committee on contagious, hereditary and infectious diseases is now making an effort to secure the cooperation of the papers. Each organization already has an official organ, and these papers or organs are read by approximately 5,000,000 readers monthly. An effort is being made on the part of this committee to secure the cooperation of the editors of these papers to devote a column or two columns to the subject of public health, articles to be contributed by medical men and laymen, and to appear simultaneously in these various papers monthly. In the course of a year or so, with these articles appearing monthly, they hope to be able to launch an effective campaign of education among the different members.

Major Louis L. Seaman, New York, said the unnecessary loss of human life in war from preventable causes constitutes its most frightful aspect, as is proved in the recent war of Japan with Russia, the statistics having been absolutely reversed simply by the application of the principles advocated at this meeting. In all the records of histories of wars there has scarcely ever been one of any magnitude in which five lives have not been sacrificed to disease for every legitimate death as a soldier. The difference between a martyr and a victim is as great as the difference between the diameters of the celestial hemisphere, and a government that does not take advantage of the simple laws of sanitation is reprehensible for its action. In our late war with Spain, which occurred long after the discovery of modern medicine, as it is understood now on the theory of bacterial development, fourteen men were lost from disease for every one that was killed in battle. He thinks it is a disgrace to any government to permit such a condition of affairs to exist. On the other hand, in the Japanese war the figures were reversed, namely, five men were killed in battle for every one who died from a preventable disease. The Japanese accomplished this simply by the application of modern sanitary regulations and the regulation of the dietary of the soldiers.

Dr. Edwin B. Tuteur, Chicago, referred to the pollution of streams and rivers, and said that streams should not be converted into open sewers, as they are a menace to life and health. Polluted waters convey virulent bacteria, and all waters once contaminated are dangerous to use by any community. It is well known that waters are subject to self-purification to a degree, but one can never tell when a contaminated water again becomes fit for domestic use. Sewage and waste products from factories, etc., should not be allowed to enter water supplies that are intended for consumption. This is one prolific source of disease. The United States government is not sufficiently solicitous as to the health of its first and most valued asset—the citizen. A second cause is lack of education on the part of the public as well as the representatives of the public. A third cause lies in the fact that in this country trade and commerce overshadow all else without exception. A fourth cause is self-consciousness on the part of specific individuals or communities. A fifth cause is carelessness and failure on the part of the government to recognize and apply the results of the valuable hygienic work of the scientific physician or bacteriologist. Some of the causes enumerated suggest their own remedy. The treatment of these evils resolves itself practically into a well-directed, steadily progressive, persistent campaign of education. Every channel, from the great daily newspaper to the weekly and monthly periodical, down to the handbill, can be used with advantage. Public meetings, addressed by public-spirited individuals of prominence, men and women, who understand what they are talking about and whose words will carry conviction, should be held in school houses, churches or suitable places Sundays or evenings. When this is done, the movement for the federal regulation of public health will sweep on with increasing momentum until our fondest hopes of securing good effective laws will be realized.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, held at St. Louis, Dec. 30-31, 1907.

The President, **Dr. Charles W. Oviatt**, Oshkosh, Wis., in the Chair.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. W. W. Grant, Denver; vice-presidents, Drs. Willard Bartlett, St. Louis, and Harry A. Sifton, Milwaukee, Wis.; secretary-treasurer, Dr. Arthur T. Mann, Minneapolis; executive council, Dr. C. H. Mayo, Rochester, Minn., and Dr. J. F. Percy, Galesburg, Ill.

Minneapolis was selected as the place for holding the next annual meeting, Dec. 29-30, 1908.

Largest Common Duct Stone on Record.

Dr. Willard Bartlett, St. Louis, Mo., reported the case of a man, 46 years of age, who gave a history of gallstone disease extending over twenty years, which was referable to the common duct. The stone could be palpated through the abdominal wall; still the man was jaundiced only at times. The stone measured 4 inches in length by 1½ inches in diameter and weighed 2½ ounces. The duct was partly sutured and drained for one month. Five months later the patient was in better condition than he had ever been in his life before.

The Pathologic Gall Bladder.

Dr. B. B. Davis, Omaha, said that because a patient has lived through an operation, it does not necessarily mean that he is cured. Unless the gall bladder continues to functionate normally and painlessly, the patient is not willing to consider himself cured. Many of the patients in whom drainage is instituted have a recurrence of the symptoms and a secondary cholecystectomy becomes necessary. This usually produces a relief of all symptoms.

The following conditions, in Davis' experience, call for extirpation: (1) Adhesions between the gall bladder and the stomach, colon or omentum. (2) Stenosis, or even narrowing of the lumen of the cystic duct, due to old inflammation or pressure necrosis from an impacted stone. (3) Gall bladders with thickened walls due to long-continued cholecystitis. (4) When external fistulas or fistulas between the gall bladder and the stomach or colon are present. (5) When the gall-bladder wall is made up of scar tissue largely displacing the normal muscular coats. (6) When the gall bladder is found filled with mucus, clear or tarry, and there is no fresh bile. (7) In gangrene, perforation and empyema of the gall bladder.

Cholecystostomy in the presence of the conditions given, as a rule, does not relieve, and extirpation has to be done later. In most cases the cholecystectomy can be done as a primary operation, without adding to the operative risk. The author believes in the retention of every gall bladder that will not be a menace to future comfort.

Differential Diagnosis of Duodenal Ulcer from Gallstones.

Dr. W. D. Haines, Cincinnati, Ohio, said that the prominent symptoms in common are pain, vomiting and gas, pain in the upper right quadrant of the abdomen. While in cholelithiasis, the pain, which is sharp, decisive and of sudden onset, is referred to a point opposite the right ninth costal cartilage, it may radiate over the entire right side of the abdomen, and not infrequently to the right shoulder joint or to the region of the tenth dorsal vertebra. Vomiting, if present, is characteristic in that the ejected matter is bile stained, consisting largely of mucus, and affords no relief to the patient. Hot fomentations may give temporary relief, but full doses of morphin are usually required.

In duodenal ulcer the pain recurs at intervals, is less sudden of onset, and severe in character. It is described as a burning or gnawing sensation, which may last a few days or continue for months after the primary attack. Some relief invariably follows the ingestion of a full meal, lavage of the stomach, or the drinking of a quantity of alkaline fluid. The spasm of the pylorus is a frequent accompaniment of ulcer, but wholly unknown in early gallstone cases. Spasm of the diaphragm is evidence of severe pain, which, if referred to the region under consideration, indicates gallstones, as ulcer pain, in the absence of perforation, is not of sufficient severity to produce this symptom. Gaseous distension speaks for ulcer, and the accompanying pain quickly subsides after expulsion by eructations or vomiting. Muscular rigidity and local tenderness are present in both ulcer and stone cases. The slight transitory disturbance of the one, and the invalid-dealing influence of the other, will materially assist in putting one right in the diagnosis. Hemorrhage occurring during an attack of gallstones is accidental, but it is prominent as one of the late manifestations in ulcer. Jaundice, like hemorrhage, is a late symptom and may be present in either of the conditions under consideration. Jaundice following lancinating pain of sudden onset, localized in the upper right quadrant of the abdomen, radiating over the right chest wall or accompanied by pain in the right shoulder, will warrant a conclusion of the presence of gallstones. Constipation is one of the early effects of duodenal ulcer. In a certain percentage of the chronic and some of the acute cases of stone and ulcer, differentiation will be reserved for exploratory incision.

Peptic Ulcer of Jejunum.

Dr. F. Gregory Connell, Oshkosh, Wis., reported one case of this character in which a secondary gastroenterostomy was performed three years after anterior gastroenterostomy for pyloric ulcer with stenosis, and presented an analysis of thirty-nine cases found in the literature. He concludes that: (1) Peptic ulcer of the jejunum is a possible result of gastrojejunostomy. (2) It is probably of more frequent occurrence than the thirty-nine reported cases indicate. (3) It follows the long loop operation more often than the no loop operation. (4) The symptoms may be latent until either acute hemorrhage or perforation occurs. (5) The symptoms may be chronic and simulate those of gastric or duodenal ulcer. (6) Peptic ulcer of the jejunum should be considered in all cases of return of symptoms after gastrojejunostomy. (7) A symptomless period after the operation is necessary to eliminate a continuation of the condition for which the gastrojejunostomy is performed. (8) A differential diagnosis can rarely be made before operation. (9) Prophylactic treatment, aiming to reduce the excess of acidity, should be instituted after all gastrojejunostomies for benign conditions, and should be continued for at least six months. (10) Treatment is either medical or surgical, similar to that for gastric or duodenal ulcer. (11) The possible occurrence of ulcer of the jejunum is an additional reason for performing gastrojejunostomy only where it is positively indicated, namely, by pyloric obstruction.

Removal of Gallstones in Common Duct Through the Lesser Omentum.

Dr. M. L. Harris, Chicago, said that the gall bladder and its contained stones may be enucleated without much difficulty, but if the common duct harbors stones, it may be impossible to reach them by the usual route. He referred only to those cases in which the stone is in the upper part of the duct or movable within the duct, and which, owing to the pyloric end of the stomach having been drawn to the right by the adhesions, lies behind this portion of the stomach as well as the duodenum. In two cases of this kind which have come under his care, after a somewhat prolonged, fruitless effort to reach the common duct in the usual way, he succeeded in reaching and removing the stones by following a new route through the gastrohepatic or lesser omentum above the pyloric end of the stomach. These two cases he reported in detail. The advantages of this route in these cases are the great saving of time over attempting to work one's way through an almost impossible mass of adhesions, and the lessened dangers of injuring the duodenum or other structure.

(To be continued.)

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Twentieth Annual Session, held at New Orleans, Dec. 17-19, 1907.

(Continued from page 149.)

Treatment of Fractured Femur.

Dr. W. P. Carr, Washington, said that results can be obtained in nearly all cases of simple fracture that are both functionally and anatomically perfect if the following points are carefully observed: Extension by weight and pulley or other efficient means must be used daily. The shortening must be absolutely overcome in the first twenty-four or at most thirty-six hours, or it can never be entirely overcome. From ten to twenty-five pounds' weight will be required to do this, and great care to see that the weight is effective. Shortening is due to faulty application of the weight or too little weight. Catching of some part of the apparatus on the foot of the bed or in the mattress or bed clothing, and slipping down in bed, are the most common defects. The traction should be applied so as to tend to lift the heel and not pull it down against the mattress as so commonly happens. Slipping down is best prevented, not by elevating the foot of the bed, but by elevating the lower half of the mattress to an angle of 20 degrees. In fractures just below the lesser trochanter, the elevation should be 35 or 40 degrees, flexing the thigh to that extent, and the limb should be abducted slightly. Compound fractures should, as a rule, be wired, as the wound is usually contaminated and chances of suppuration are lessened by open operation and thorough cleansing of the parts. Children are best treated by vertical extension. All shortening can be absolutely avoided by care during the first few days. Careful measurements should be made and skiagrams, when possible. Any case not in satisfactory position at the end of a week should be wired. If simple rules of mechanics are observed, a single small loop of soft iron wire is all that will be needed to prevent shortening, lateral displacement or rotation. Iron wire is much stronger than silver. Angular deformity must be prevented by traction, plaster-of-Paris cast, or splints, no matter what method of fastening the bones be used.

Three instruments were shown that have proven very useful in resecting and wiring bone. First, a modification of Wyeth's bone saw, much simpler and more effective than Wyeth's. Second, a bone drill made like a small brace and bit, to be used in one hand while the other hand is free to hold the bone. Third, a very small, thin, grooved director, small enough to pass through the drill hole and guide the wire. This is very useful in passing the wire from within outward through the second fragment, especially when oozing of blood obscures the opening of the drill hole.

Treatment of Relaxed Knee-Joint.

Dr. Albert H. Freiberg, Cincinnati, Ohio, said that (1) many cases of so-called functional knee symptoms are due to reflex atrophy of the quadriceps following injury. (2) The term relaxed knee-joint should be reserved for such cases. (3) The injury may be so slight that its etiologic relation is overlooked. (4) The atrophy following injury can in many cases not be explained by the theory of inactivity. (5) Cure of these cases will be brought about by the restoration of the normal volume and strength of the quadriceps extensor. (6) In some cases recovery is so protracted as to warrant belief in material damage to the central nervous system. While in such cases endeavors are necessarily limited to treatment at the periphery, ultimate recovery may be expected to follow persevering and well-directed effort.

Treatment of Diffuse Suppurative Peritonitis.

The paper by Dr. Stuart McGuire, Richmond, Va., will appear in full in The Journal.

Pulmonary Embolism.

Drs. Willard Bartlett and R. L. Thompson, St. Louis, Mo., reported 22 cases, 16 of them surgical. Autopsy was performed on the majority of the 22. Pulmonary embolism occurred in these cases at intervals varying from one to twenty-eight days. Two of their patients recovered, but twenty died, the interval being the onset of pulmonary symptoms and death varying from a few seconds to twelve hours. The symptomatology is considered, as is also the prophylactic treatment.

Diagnosis of Extrauterine Pregnancy.

Dr. H. J. Boldt, New York, included under the term extrauterine pregnancy all fecundations which were situated outside the uterine cavity. He said that uninterrupted extrauterine pregnancy is but rarely recognized, and then usually by mere accident. He had never palpated a tubal pregnancy prior to the occurrence of symptoms due to the pathologic implantation of the ovum, except in one instance, a double tubal gestation. In this case, however, the right tubal gestation gave rise to symptoms and was diagnosed. On the opposite side a tubal enlargement was felt, the nature of which was not diagnosed, but on operation the tubal distension proved to be due to a tubal pregnancy which had not begun to be interrupted by bleeding within the tube, or by any inflammatory process about the tube. The distension was limited to the outer two-thirds of the tube, which was freely movable and did not possess the doughy feeling of a pyosalpinx, or the tense elasticity of a hydrosalpinx, which he had supposed to exist on that side.

The absence in the history of the passing of a decidua does not, however, exclude the presence of ectopic gestation. In the large number of extrauterine pregnancies the author had seen, nearly three hundred, less than one-half gave an affirmative history on this point. A decidua might be passed unnoticed, or it might remain in the uterus and eventually be transformed into normal endometrium. Dr. Boldt pointed out that after the second half of the gestation period the diagnosis depends on one's ability to determine the presence of a fetus outside of the uterus, which is, as a rule, not very difficult, unless the fetus is located between the folds of the broad ligament, and the woman has thick abdominal walls, or the fetus has been dead for some time, and is not in close contact with the abdominal parietes or the cul-de-sac of Douglas. At this period of gestation the history will aid very much.

The greatest difficulty in making a correct diagnosis is in differentiating an ectopic gestation in its early stages from purulent inflammatory conditions of the adnexa, or of mistaking ectopic gestation for early abortion.

Appendicitis may sometimes be mistaken for extrauterine pregnancy, or the opposite error may occur.

Renal Decapsulation for Chronic Parenchymatous Nephritis.

Dr. J. C. Oliver, Cincinnati, presented a full report of the case of a young man on whom decapsulation of both kidneys was practiced Dec. 9, 1905, for the relief of chronic parenchymatous nephritis. The first favorable sign following operation was an improvement in vision on the sixth day. The average secretion of urine prior to operation was from 4 to 15 ounces in twenty-four hours. He passed 19 ounces the day following operation, and by the end of a week this amount had increased to 50 ounces. The pre-existing general edema diminished rapidly; the percentage of urea excreted was increased, but the percentage of albumin remained high. This period of improvement was followed by one of relapse. The edema increased rapidly, and repeated tappings were necessary. The heart exhibited symptoms of gradual dilatation, and there were almost nightly attacks of severe dyspnea. The patient became so desperately ill that his demise was looked for almost daily. A marked improvement took place in his condition about the first of April and the patient was able to get up and walk about. He continued to improve, and he gained in strength to such a degree that he was able to do some light work. There was but little further gain in the eyesight after the primary improvement. The patient was suddenly taken ill during the first week in October. He became comatose, remained in that condition, and at the end of three days expired. There was no return of dropsical conditions. The death was in all probability attributable to the deranged heart.

Inoperable Sarcoma of the Neck.

Dr. Oliver also reported a case of inoperable sarcoma of the neck, which was apparently cured by a combination of Coley's toxins and exposure to the Roentgen ray. The treatment extended over a period of five months, at the conclusion of which the tumor masses had entirely disappeared. Nineteen months after the apparent cure a small nodule appeared in the right parotid region. The patient is now receiving injections of the toxins in the hope that these newer manifestations may also prove amenable to the treatment.

Traumatic Epilepsy.

Dr. E. Denegre Martin, New Orleans, called attention to the importance of examining all scalp wounds immediately after injury to determine whether or not fracture might be present and to the need of operation at any time that symptoms of cortical irritation are manifested, whether due to or suspected to be of traumatic origin. He reported 3 cases.

(To be continued.)

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Nevada State Board of Medical Examiners, Carson City, February 3. Secretary, Dr. S. L. Lee, Carson City.

New York State Board of Medical Examiners, Albany, February 4-7. Chief of Examinations Division, Charles F. Wheelock, Albany.

Nebraska State Board of Health, State Capitol Building, Lincoln, February 5-6. Secretary, Dr. E. J. C. Sward, Oakland.

Kansas State Board of Medical Registration and Examination, February 11. Secretary, Dr. D. P. Cook, Clay Center.

Wyoming State Board of Medical Examiners, Laramie, February 12-14. Secretary, Dr. S. B. Miller, Laramie.

Oklahoma Reorganization.—The Oklahoma State Board of Health met in Muskogee, December 16 and 17, to formulate and suggest to the legislature medical laws for the new state. They will suggest one central board of medical examiners for all classes of physicians. Every physician in the new state not presenting proper qualifications will be required to pass an examination before the new state medical board in the near future. The date has not been named. At present the Board of Health also acts as the examining board, and at this meeting several licenses were issued.

Utah July and October Reports.—Dr. R. W. Fisher, secretary of the Utah State Board of Medical Examiners, reports the written examinations held at Salt Lake City, July 1-2, and Oct. 7-8, 1907. The number of subjects examined in was 22; total number of questions asked, 100; percentage required to pass, 75.

At the examination held July 1-2, the total number of candidates examined was 4, all of whom passed. One candidate, a graduate of Washington University, 1907, was licensed through reciprocity with Missouri. The following colleges were represented:

PASSED.	Year. Grad.	Per Cent.
College of P. and S., San Francisco	(1907)	84
Northwestern Univ. Med. School	(1907)	87.5
University of Louisville	(1906)	84.1
Medico-Chirurgical College, Philadelphia	(1907)	85

At the examination held October 7-8, the total number of candidates examined was 5, all of whom passed. Two reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.	Year. Grad.	Per Cent.
Rush Med. Coll	(1907)	85.8
University of Louisville	(1907)	78.6
Washington University, St. Louis	(1906)	87.1
University of Buffalo	(1904)	88.3
University and Bellevue Hosp. Med. Coll	((1905)	86.6

LICENSED THROUGH RECIPROCITY.	Year Grad.	Reciprocity with.
Northwestern Univ. Med. School	(1907)	Illinois.
Medico-Chirurgical College, Kansas City	(1905)	Kansas.

Georgia Homeopathic October Report.—Dr. R. E. Hinman, secretary of the Homeopathic Board of Medical Examiners of the State of Georgia, reports the examination held at Atlanta, Oct. 1, 1907. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. Only one candidate, a graduate of Howard University, 1880, appeared for license and was successful.

Montana October Report.—Dr. W. C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written examination held at Helena, Oct. 2-4, 1907. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 24, of whom 14 passed and 10 failed. The following colleges were represented:

PASSED. College.	Year. Grad.	Per Cent.
Rush Med. Coll.	(1904)	80.1
Chicago Coll. of Med. and Surg.	(1907)	75.7
Chicago Homeo. Med. Coll.	(1902)	79.4
College of P. and S., Chicago	(1904)	76.4
Northwestern Univ. Med. School	(1906)	81
University of Iowa	(1907)	75.5
Baltimore Med. Coll.	(1903)	82.3
College of P. and S., Baltimore	(1903)	83.7
Woman's Med. Coll. of Baltimore	(1906)	78.2
Hamline University	(1906)	84.2
University of Minnesota	(1904)	85
University of Michigan	(1907)	85.2
University of Missouri	(1903)	78.4
Manitoba Med. Coll., Canada	(1907)	78.3
FAILED.		
University of California	(1906)	74.6
Bennett Coll. of Ecl. Med. and Surg.	(1879)	35.9
Illinois Med. Coll.	(1900)	66.5
Sioux City Coll. of Med.	(1906)	66.9
Hospital Coll. of Med., Louisville	(1895)	66.8
University of Minnesota	(1905)	71.7
University Med. Coll., Kansas City	(1893)	47.4
Marion-Sims Med. Coll.	(1895)	*66
Columbus Med. Coll.	(1889)	71.9
University of Turin, Italy	(1899)†	

* Third examination.

† Papers in Italian and not rated.

Texas October Report.—Dr. G. B. Foscue, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Fort Worth, Oct. 22-23, 1907. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 24, of whom 19 passed and 5 failed. The following colleges were represented:

PASSED. College.	Year. Grad.	Per Cent.
Columbian University, Washington, D. C.	(1903)	91.4
Denver and Gross Coll. of Med.	(1902)	83
Colorado School of Med.	(1901)	89.7
Northwestern Univ. Med. School	(1907)	83.5
College of P. and S., Chicago	(1905)	83.6
University of Louisville	(1907)	94
Maryland Med. Coll.	(1905)	83.3
Louisville Med. Coll.	(1906) 90.8; (1907)	81, 89.2
Leonard Med. School	(1906)	80.7
University of Pennsylvania	(1902)	82
University of Nashville	(1907)	75.8, 79, 82.5
Memphis Hosp. Med. Coll.	(1906)	92.9
Southwestern Univ. Med. Coll., Dallas	(1905)	85
University of Virginia	(1907)	95.4
McGill University, Quebec	(1904)	94.8
FAILED.		
Maryland Med. Coll.	(1907)	70.4
Kansas City Med. Coll.	(1903)	62.1
University of Tennessee	(1894)	50.7
Meharry Med. Coll.	(1907)	72
Baylor University, Dallas	(1907)	73.3

Florida November Report.—Dr. J. D. Fernandez, secretary of the Regular Board of Medical Examiners of the State of Florida, reports the written examination held at Jacksonville, Nov. 20-21, 1907. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 38, of whom 32 passed and 6 failed. The following colleges were represented:

PASSED. College.	Year. Grad.	Per Cent.
University of Alabama	(1905) 84.2; (1907)	79.5
Birmingham Med. Coll.	(1905)	88.7
Georgetown University	(1907)	83.2
Atlanta School of Med.	(1906)	77.1
College of P. and S., Atlanta	(1904) 84.2; (1907)	83.5, 89
Atlanta Med. Coll.	(1894)	75
Northwestern Univ. Med. School	(1902)	94.2
College of P. and S., Chicago	(1907)	83.8
Louisville Med. Coll.	(1907)	90.2
University of Louisville	(1907)	86.4
Tulane University of Louisiana	(1887)	92.7
University of Michigan	(1905)	90.3
University of Maryland	(1906) 94.2; (1907)	82
Washington University, St. Louis	(1875)	75
St. Louis Med. Coll.	(1873)	75
University and Bellevue Hosp. Med. Coll	(1907)	94.4
University Med. Coll., New York City	(1878) 75; (1896)	93
University of North Carolina	(1907)	93.2
Jefferson Med. Coll.	(1902)	94.8
Philadelphia Coll. of Med. and Surg.	(1857)	75
University of Pennsylvania	(1900)	93
University of Tennessee	(1889) 75; (1907)	84.2
Columbus Med. Coll.	(1886)	75
Med. Coll. of Virginia	(1907)	80.8
University Coll. of Med., Richmond	(1905)	81.8
University of Virginia	(1903)	92.8
FAILED.		
Atlanta Med. Coll.	(1869)	.5
Medical College of Georgia	(1902)	19.5
Louisville Med. Coll.	(1875)	22
University of the South	(1906)	71
Vanderbilt University	(1898)	67
Medical Coll. of South Carolina	(1904)	64

Delaware December Report.—Dr. P. W. Tomlinson, secretary of the Medical Council of Delaware, reports the written examination held at Dover, Dec. 10-12, 1907. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 3, of whom 1 passed and 2 failed. The following colleges were represented:

PASSED. College.	Year. Grad.	Per Cent.
Jefferson Medical College	(1906)	87.9
FAILED.		
Maryland Medical College	(1907)	66.5, 74.6

New Jersey Reciprocity Report.—Dr. J. W. Bennett, secretary of the Board of Medical Examiners of New Jersey, sends us the following list of reciprocal licenses issued during the year 1907:

LICENSED THROUGH RECIPROCITY. College.	Year Grad.	Reciprocity with.
College of P. and S., Chicago	(1905)	Illinois
Hahnemann Med. Coll., Chicago	(1906)	Illinois
Medical School of Maine	(1897)	Maine
Johns Hopkins Med. School	(1905)	New York
Baltimore Med. Coll.	(1901), (1906)	New York
College of P. and S., Baltimore	(1904)	New York
Baltimore University	(1899)	New York
Detroit Coll. of Med.	(1907)	Michigan
University of Michigan	(1887)	Maine
University of Minnesota	(1894)	Minnesota
Boston University	(1906)	Maine
Dartmouth Med. School	(1904)	New Hamp.
Syracuse University	(1905), (1906)	New York
Bellevue Hosp. Med. Coll.	(1897)	New York
N. Y. Med. Coll. and Hosp. for Women	(1905), (1906)	New York
University of Buffalo	(1893)	New York
N. Y. Homeo. Med. Coll	(1900), (1899), (1902)	New York
N. Y. Homeo. Med. Coll.	(1905), (3, 1907)	New York
Long Island Coll. Hosp.	(1899), (1903), (3, 1905).	New York
Long Island Coll. Hosp.	(1906)	New York
Coll. of P. and S., N. Y.	(1889), (1894), (2, 1900)	New York
Coll. of P. and S., N. Y.	(2, 1901), (2, 1903), (5, 1905)	New York
Coll. of P. and S., N. Y.	(6, 1906), (3, 1907)	New York
Univ. and Bellevue H. M. C.	(1905), (3, 1906), (1907)	New York
Cornell University	(2, 1906)	New York
Eclectic Med. Coll., of New York	(1904)	New York
University of Pennsylvania	(1903), (1904), (1905)	New York
Jefferson Med. Coll.	(1905) New York; (1906)	Maine
Medico Chirurgical Coll., Philadelphia	(1900)	Delaware
University of Vermont	(1895)	New York
McGill University, Quebec	(1903)	Maine
University of Rome, Italy	(1896)	New York
University of Munich, Germany	(1898), (1904)	New York
University of Naples, Italy	(1899), (1905)	New York
University of Würzburg, Bavaria, Germany	(1906)	New York

Arizona October Report.—Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, Oct. 7-8, 1907. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 5, all of whom passed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Southern California	(1907)	87.2
Johns Hopkins Med. School	(1906)	85.9
University of Michigan	(1904)	87.5
Medical Coll. of Ohio	(1883)	75.2
University of Cambridge, England	(1881)	77

South Carolina Homeopathic 1907 Report.—Dr. J. A. Whitman, chairman of the South Carolina Homeopathic Medical Examining Board, sends us a report of one reciprocal license issued during the year 1907. The candidate, a graduate of Dunham Medical College, 1902, was licensed through reciprocity with Illinois.

Medicolegal

Opinions of Physicians on Possible Consequences of Injuries.

The Court of Appeal, Second District, California, says, in the personal injury case of Cordiner vs. Los Angeles Traction Company, that it is often impossible to show by positive proof whether or not an impairment of health or faculties will follow as a result of injury. Hence, of necessity, in determining the question, courts and juries must rely on the testimony of properly qualified physicians for such testimony as will in the minds of the jury establish the fact in issue to a reasonable certainty. Such evidence must be clearly distinguished from conjecture, or that which merely establishes a possibility of future trouble. As a rule, the physician whose opinion is most reliable is loath to give an opinion as to what consequences will or will not follow as a result of an injury in a certain case, but at the same time willing to state the result of his own professional experience and observations in treating cases where like injuries have occurred, and as a result of that experience say that we might or might not expect like results to follow in this case. Testimony of duly qualified experts which shows that in a majority of cases, where the injury consists of a fracture at the base of the brain, such injury results in future epilepsy, paralysis, or mental deterioration, tends to prove the reasonable certainty that such consequences will follow in any given case of like injury.

Taking of Medicine Evidence of Injury.

The Supreme Court of Alabama holds, in Southern Railway Company vs. Cunningham, a personal injury case brought by the latter party, where one of the contested issues of fact was whether the plaintiff was injured at all, and, if injured, whether the injury was temporary or permanent, that, as shedding light on this issue it was entirely competent for the plaintiff to testify that after the alleged injury he took medicine to cure or relieve his suffering. So, likewise, there was no error in permitting witnesses for the plaintiff to testify that he "was apparently suffering pain."

List of Analyzed Alcoholic Medicinal Preparations.

The United States Commissioner of Internal Revenue publishes, in Internal Revenue Circular, No. 713, under date of Dec. 3, 1907, for the guidance of collectors of internal revenue and revenue agents, a list of alcoholic medicinal preparations which have been analyzed by his office and classed as compound liquors under the ruling in treasury decision No. 1251, and for sales of which the special tax of liquor dealer is required.

It must be clearly understood, however, he says, that the list given is not exclusive, and does not purport to give the names of all the preparations for the sale of which special tax is or may be required, but embraces only those which have been analyzed by this office and held to be insufficiently medicated to render them unsuitable for use as a beverage. The names of a number of preparations which have been held in previous rulings and letters to be suitable for such use, the manufacture of which has been discontinued or the formulas so modified as to change their classification, are omitted.

For the sale, subsequent to Jan. 1, 1908, of any of the preparations here given, or of any other preparations which do not come within the requirements of the law as to medication, as interpreted in Treasury Decision No. 1251, special tax will be required, even though such sale is made in good faith for medicinal purposes.

The question of the proper classification of the various malt extracts now on the market is still under consideration.

The list given is:

Angostura Aromatic Tincture Bitters.
Aroma Stomach Bitters.
Atwood's La Grippe Specific.
Augauer Bitters.
Augauer Kidney-Aid.
Belvedere Stomach Bitters.
Bonekamp Stomach Bitters.
Bonekamp Bitters.
Brown's Aromatic Cordial Bitters.
Brown's Vin Nerva Tonic.
Botanic Bitters.
Cinchona Bitters.
Clifford's Cherry Cure.
Cooper's Nerve Tonic.
Cuban Gingeric.
Dandelion Bitters.
De Witt's Stomach Bitters.
Dick's Nutritive Elixir.
Dr. Dade's Blackberry Cordial.
Dr. Bouvier's Buchu Gin.
Dr. Fowler's Meat and Malt.
Dr. Gray's Tonic Bitters.
Dr. Hortenbach's Stomach Bitters.
Dr. Worme's Gesundheit Bitters.
Dr. Rattinger's Bitters.
Duffy's Malt Whiskey.
Ducro's Alimentary Elixir.
Gilbert's Rejuvenating Iron and Herb Juice.
Ginger Tonic.
Ginseng Cordial.
Green's Chill Tonic.
Harrison's Quinine Tonic.
Jerome's Dandelion Stomach Bitters.
Jones' Stomach Bitters.
Juni Kola.
K. K. K.
Katarno.
Kudros.
Lemon Ginger.
Laxa Bark Tonic.
Magen Bitters.
Meta Multa.
Obermueller's Bitters.
Old Dr. Scroggin's Bitters.
Panama Bitters.
Rockandy Cough Cure.
Royal Pepsin Tonic.
Scheetz Bitter Cordial.
Smith's Bitters.
U-go.
Uncle Josh's Dyspepsia Cure.
Warner's Stomach Bitters.
Westphalia Stomach Bitters.
William's Kidney Relief.

Unskilful Treatment as Defense in Homicide Case.

The Supreme Court of Washington holds, in the homicide case of State vs. Baruth, that where one unlawfully inflicts on the person of another a wound calculated to endanger or destroy life, it is no defense to a charge of murder where death ensues to show that the wounded person might have recovered if the wound had been more skilfully treated. Even unskilful or negligent treatment of the wound on the part of the wounded person or his physician which may have aggravated the wound and contributed to the death does not relieve the assailant from liability. He must show that the negligent and unskilful treatment was the sole cause of death, before he can escape the consequences of his unlawful act on this ground. In this case the evidence did not tend to show that the subsequent treatment of the wound was the sole cause of the death, but that the treatment was unskilful, and, at most, only contributed thereto. This did not constitute a defense.

Physician's Right of Action Against Company for Breach of Contract.

The Court of Civil Appeals of Texas says, in Texarkana Lumber Company vs. Lennard, that the company operated a sawmill, employing a large number of men who were required to and did reside at and near the mill with their families. There was no town other than the mill settlement, and no physician resident there. It was necessary, and the custom in the operation of such mill was, to employ a physician to reside there, or be near at hand, to give medical aid and attention to the employès, and pay such physician either a salary or certain fees apportioned per capita among the employès The company through its superintendent and authorized agent, wrote to Dr. Lennard: "Will say we will collect for you $1.00 from all single employés, and $1.50 from all employés with families on the mill grounds, employés living in the country you will receive $1.00 from head of families, and for services for balance of families you will only charge half regular rates. We will furnish you with office building and barn and lot . . . If these terms suit you, you can come over and see me and make your arrangements to come with us." The physician accepted the proposition, entered on the performance of his duties, and continued to render medical services to the employés of the company, receiving from the company his compensation therefor under the terms of the letter or contract mentioned, until the company refused to longer pay him for his services or furnish him an office and discharged him.

The court affirms a judgment in the physician's favor. It says that the contract did not simply bind the company as an agent to collect from its employés and pay over to the plaintiff monthly, the sums therein specified. The language of the letter: "We will collect for you $1.00 from all single employés and $1.50 from all employés with families on the mill grounds," etc., properly and fairly construed "in the light of the evident intention of the parties" and the purpose of the company to subserve its own interest, as appeared from the whole letter, clearly imported an absolute promise on the company's part to pay such sums. The benefits to accrue to the company from the plaintiff's medical services to its employés furnished a good reason and ample consideration for the assumption by it of the obligation claimed, the breach of which by the wrongful discharge of the plaintiff rendered the company liable for such damages as he sustained thereby.

On the question of the amount of damages recoverable, the court says that the physician proved that his services, under the contract, would have been required for not less than 18 months after his discharge, and that his average earnings, exclusive of the office and stable, per month for the six months he was at the mill, measured by the number of men employed, and the proportion that were married and single, was $90.20. His gross average earnings per month for the 18 months succeeding his discharge by the company was $56, out of which he had to pay office rent $15 per month, leaving $41 per month net. This latter amount deducted from $90.20 showed that his loss per month for the 18 months was $49.20. The judgment rendered allowed him $849, or a little over $47 a month, and was not too great.

Revocation of License Procured on Pretended Diploma.

The Supreme Court of Oklahoma affirms a judgment for the territory in Gulley vs. Territory, which was brought by the territory to cancel a license to practice medicine issued on February 11, 1902, by the then superintendent of public health to the said Gulley, on the ground that the license was procured by fraud and deception. The court holds that a license to practice medicine procured through the presentation of a pretended diploma from a fraudulent medical college, without an examination, will be revoked and canceled in a proper proceeding in the district court. Also, that an action to cancel a license on the ground that it was fraudulently obtained is an equitable proceeding, and the licensee is not entitled to a jury trial as a matter of right.

The so-called diploma in this case was one purporting to have been issued by the Independent and Metropolitan Medical College, located in Chicago, November 4, 1896. The court says that the record disclosed a flagrant case of fraud, deception, and misrepresentation in the procurement of the license. And this was not all. The applicant knew, at the time he made his application and verified the same, under oath, that he was not a graduate of a reputable medical college, within the meaning of the statute. He knew that the pretended diploma which he held from the college was a mere sham and fraud, well calculated to mislead and deceive the territorial board of health. He knew that the obtaining of the diploma was a mere pretense and fraud, and he knew that the Supreme Court of the state of Illinois had, long prior to his application for license to practice in this territory, forfeited the charter of this pretended medical college and declared "that the corporation is a mere diploma mill, designed wholly for issuing diplomas to practice medicine, for a consideration, to persons wholly unqualified for such practice." In this case of Independent Medical College vs. People ex rel Akin, Attorney General, 182 Ill. 274, the right of this medical college to transact business in the state of Illinois was directly involved, and this was the college from whence the defendant represented that he was a graduate.

It was argued that the court erred in admitting in evidence the records of the Illinois courts showing the actions brought by the state of Illinois to revoke and cancel the charters of the Illinois Health Institute, and the Independent Medical College, its successor, and the record of the conviction of Armstrong, the head of these institutions, for the fraudulent use of the mails in operating the same. Clearly, this evidence was competent and material for the purpose of showing that these pretended colleges were fraudulent institutions, and that the pretended diploma was procured from a fraudulent institution.

Did the court err in refusing the defendant a jury trial? This question must be answered in the negative. This was not one of the actions in which the party is entitled to a jury trial as a matter of right. Trial by jury is guaranteed only in those classes of cases where that right existed at common law. The case at bar fell under the well-recognized rules of equity jurisprudence to cancel a license on the ground of fraud, and hence the defendant was not entitled to a jury trial as a matter of right.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

January 2.

1 Renal Tuberculosis; Diagnosis and Indications for Operation. L. Davis, Boston.
2 *Value of Vaccine Therapy to the General Practitioner in Treatment of Bacterial Diseases. C. Floyd and A. M. Worthington, Boston.
3 *Personal Experiences with Specific Vaccines in Treatment of Bacterial Disease. M. W. Richardson, Boston.
4 *Treatment of Infections with Bacterial Vaccines. R. I. Lee, Boston.
5 *Vaccine Therapy: Report on Sir Almroth E. Wright's London Clinic. H. C. Putnam, Providence, R. I.

2. **Vaccine Therapy.**—Floyd and Worthington describe the method of utilizing vaccine therapy, reporting eighteen cases. They have seen benefit in osteomyelitis, empyema, old appendicular sinuses, acne, generalized kidney infection, boils, puerperal sepsis, carbuncles and secondary infections of the lung, and consider the method of considerable benefit to the physician and surgeon in a large majority of suitable cases when used intelligently. In some cases there will be brilliant results, in others a safe cure, and in still others only some improvement. They draw the following conclusions: 1. Each new method in medicine should have a thorough trial before it is rejected. 2. A non-attenuated specific vaccine, given in proper doses, is esssential to success in the treatment of cases with vaccines. 3. To control the amount and frequency of the dose of a vaccine, either the opsonic index or general clinical symptoms may be the guide. 4. Localized infections of moderate duration offer the best field for treatment. 5. The vaccine treatment, when used in conjunction with medicine or surgery, may lessen suffering and deformity and frequently save life.

3. **Specific Vaccines.**—Richardson makes a communication supplementary to one appearing in the *Boston Medical and Surgical Journal*, Oct. 3, 1907, and abstracted in The Journal, Oct. 19, 1907, page 1400, concerning the treatment of typhoid with specific sera. His conclusions are as follows: 1. Bacterial inoculation can not accomplish the impossible. It presupposes that the patient has, still in reserve, forces to be called into action. It must be employed as early as possible. 2. Physicians intending to make use of this method of treatment must make original cultures from septic operations. Otherwise, valuable time will be lost, as in this case, with the study of organisms invading secondarily open wounds. 3. In this connection, too, it is perhaps well to emphasize the importance of blood cultures in cases of general bacterial invasion. This procedure gives at once, if successful, the kind of organism concerned and the material for an autogenous vaccine. Blood cultures have proved their worth, especially in typhoid fever in the early days of the disease, when the Widal reaction so often fails. In a certain German clinic, Richardson has heard it is a routine procedure to make blood cultures from any patient showing a temperature.

4. **Bacterial Vaccines.**—Lee emphasizes the fact that with bacterial vaccines we are dealing with a new therapeutic agent different from anything yet employed. While antitoxins and antisera themselves neutralize bacterial toxins, the bacterial vaccine depends for its effect on a response of the organism to stimulation. The action is entirely specific. Not only the species but the variety of the organism must be known: in regard to this the author refers to illustrated cases. In acute

generalized septic conditions the subject of bacterial vaccine treatment is still *sub judice*. Before the use of bacterial vaccines, bacteriology was of little or no use to the surgeon or obstetrician. The treatment was practically the same no matter what the organism. Now, however, the nature of the infecting organism does make a difference in the treatment.

5. **Wright's London Clinic.**—Putnam describes interestingly a visit to Wright's laboratory at St. Mary's Hospital, and prophesies that in 1917 clinics generally will resemble his in definiteness of diagnosis and remedy; that central laboratories will identify micro-organisms for the general practitioner as to-day they identify the Klebs-Loeffler bacillus; and that, as antitoxin and vaccine points are to-day obtainable by the family physician, so also these other vaccines will be furnished from some central laboratory.

Medical Record, New York.

January 4.

6 *Anterior Poliomyelitis as an Epidemic Disease. H. W. Berg, New York.
7 Bacterial Vaccines and Curative Sera. C. Bolduan, New York.
8 *Early Diagnosis and Treatment of Pulmonary Tuberculosis. J. H. Pryor, Buffalo.
9 Points in Medical Education Considered from the Standpoint of the Student. B. Michallovsky, New York.
10 *The Term "Stauungs Hyperaemie." A. R. Allen, Philadelphia.

6. **Anterior Poliomyelitis.**—Berg details the result of his experience of anterior poliomyelitis and discusses the literature of the subject. His own belief is that sporadic anterior poliomyelitis is entirely distinct from the so-called epidemic anterior poliomyelitis, more properly designated; that the sporadic disease is not infectious, and that the epidemic disease is n all probability infectious but not contagious.

8. **Pulmonary Tuberculosis.**—Pryor says that the decrease in he death rate from tuberculosis during the past thirty years as been relative only, not actual, so far as New York State s concerned. Ultimately the problem of tuberculosis will ave to be solved by the health officer. The problem involves ot a mere bacteriologic question, but a sociologic reform, ot mere sunlight and fresh air, but food, sunlight and fresh ir. Eighteen meals of oxygen a minute must be accompanied by three square meals of food a day. We may save ime by admitting that the public is not properly protected nd that the death rate is not diminished by nearly so much s it might be by the early recognition of the consumptive nd the adoption of well-known measures for relief. The public has been inoculated with phthisiophobia, and hysterical fear as added hardship to affliction, but there are signs of returning sanity. He discusses the results of the treatment of incipient tuberculosis at Ray Brook, and emphasizes the importance of investigating the possible or probable opportunity or infection, and also of learning if the patient's history reveals evidence of a preceding attack. The lesion under observation may be secondary and due to an autoinfection. The opinion that all pleurisies are tuberculous in origin is in process f revision, but the history of attacks not accompanied by neumonia may be included as suspicious testimony. He discusses in detail the various points in the definition of incipient uberculosis adopted by the National Association for the Study nd Prevention of Tuberculosis. At one time most consumptives died because they were poor; now most of them die ecause of ignorance and apathy.

10. **Stauungs Hyperaemie.**—Allen criticises on philologic rounds all the terms so far suggested as English representatives of the mental picture evoked by the German term *tauungs Hyperaemie*, and he suggests the adoption of this erm bodily into English, in place of attempting to find an nglish equivalent for the Bier constriction method.

New York Medical Journal.

January 4.

11 *A Study of Sour Milk. H. G. Piffard, New York.
12 Presence of Spirochetes in Pseudoleukemia, Acute Lymphatic Leukemia and Lymphosarcoma. W. C. White and F. Proescher, Pittsburg, Pa.
13 Surgical Technic in Diseases of Gall Bladder and Biliary Passages. J. F. Erdmann, New York.
14 Diagnosis of Unilateral Tuberculous Nephrocystitis, with Report of Six Operative Cases. M. W. Ware, New York.
15 *Pathogenesis of Stump Hallucination. A. Gordon, Philadelphia.
16 *Potassium Iodid in Mental Diseases. J. M. Walker, Dubuque, Iowa.
17 Glaucoma in the Very Young. C. A. Veasey, Philadelphia.
18 Case of Typhoid and Tetanus. G. V. R. Merrill, Elmira, N. Y.

11. **Sour Milks.**—Piffard quotes a recent pronouncement of the present head of the health department in New York City to the effect that sour milk is a menace to health and that he will prosecute any one having it in his possession or offering it for sale, and supporting this position by the fact that sour milk is a product of bacterial action and that bacteria gather nourishment from the substances in which they develop and transform what they take into their bodies into useless or poisonous products. Piffard demonstrates the absurdity of this position by an appeal to the patriarchal practice, from the time of Abraham, of regarding sour milk as excellent food, and the patriarchs were not remarkable for the shortness of their lives. Sour milk has been an essential portion of the daily diet for many centuries of the peoples of eastern Europe, western and middle Asia and a part of Africa. Its use has been supported, especially in intestinal disturbances of infants, by medical authorities of the highest standing everywhere. The health officer's condemnation would necessarily include such well-known and widely used products as kumyss, kefir and the various other forms of especially prepared milks, and even the use of ordinary buttermilk. Piffard concludes his article as follows: The assumption by the president of the health department of New York City that sour milk is a menace to health is wholly without scientific foundation, and is opposed to common experience in many parts of the world during a period covering thousands of years. Sour milk is wholesome and nutritious, and is probably more easily digested than sweet milk. In certain derangements of health it is an important direct remedial agent. The present most available souring agents are special bacteria in common use among certain European and Asiatic peoples. The essential organisms as they reach us are frequently contaminated with unessential and possibly undesirable organisms. The proprietary sour milks should be prepared with laboratory pure (streptococci free) cultures of the desired organisms. The proper organisms preserved in some suitable liquid or solid medium can be readily standardized and administered direct. Whether the bacilli derived from kefir are to be preferred to those from mattzoon, or *vice versa*, can not at present be dogmatically asserted. The organisms when placed on the market should be under their proper scientific names and not under a proprietary or trade name. The guarantee behind them should be the reputation of the concern that prepares them. They should be advertised to the profession only and not to the public. It is more than possible that some domestic organisms may be isolated in the future that will prove more desirable than those of foreign origin.

15. **Stump Hallucination.**—Gordon remarks on the commonness in cases of amputation of the limb with which the sensation of the latter remains for a more or less prolonged period of time. The patient feels every segment of the absent limb, either spontaneously or on pressure of the stump. The spontaneous sensations disappear sooner than the sensation provoked by irritation of the terminal ends of the resected nerve. Gordon reports a case and concludes that the question of the pathogenesis can not be decided in exclusive favor of either a central or peripheral origin. Both elements play an important rôle in producing the stump hallucination. His case is peculiar in that the hallucination has persisted for 27 years.

16. **Potassium Iodid.**—Walker believes that potassium iodid has a much wider use than is generally accorded to it in mental diseases other than those due to syphilis, but that it has not hitherto been given in sufficiently large doses. He refers to the dosage as given by various authorities, and points out that very few authors in materia medica and therapeutics advise more than one dram doses three times daily. He reports a series of eleven cases under his care at St. Joseph's Mercy Asylum, in which, by gradually increasing the dose, quantities varying between 15 and 33 drams daily were used with excellent results. He insists that enormous doses should be given only when the patient is on a full diet, and then immediately after meals. He uses the saturated solution in

water or given in milk; but he holds that a saturated solution contains 40 grains to the dram, not 60, as is commonly computed. He has yet to find a person, especially of the class of cases cited (cerebral syphilis, melancholic frenzy, depressive melancholia, alcoholic insanity, puerperal insanity), who is unable to take very large doses of potassium iodid. A primary eruption, principally on the chest and face, with some nausea, almost always occurs when a dose of from 300 to 500 grains is reached, but these conditions disappear on further increase of the dose. His experience in cerebral syphilis is that if treatment is begun within three months after mental impairment is first noticed the patient invariably regains his normal mental faculties. He has had trouble in a few cases in getting the dose above 300 or 400 grains, but that has been when the patients could not eat heartily. He believes that the drug is worth trial in selected tuberculous cases; that the drug is digested and does not pass through unchanged he considers proved by the steady gain of flesh, the marked improvement in mental condition, and the positive test for iodin in the urine in every case.

Lancet-Clinic, Cincinnati.

December 28.

19 Some Brain Landmarks, with Consideration of the Neuropore, Nose, Hypophysis and Mouth. H. Ayres, Cincinnati.
20 *Further Report on Deep Injections of Alcohol for Facial Neuralgia. H. T. Patrick, Chicago.
21 *Everyday Lessons from Everyday Cases. C. A. L. Reed, Cincinnati.
22 Unsuspected Pregnancy. C. E. Houston, Rushsylvania, Ohio.

20. **Alcohol Injections in Neuralgia.**—Patrick reports seven cases additional to those given in his paper in THE JOURNAL, Nov. 9, 1907. He also describes the technic in brief, and states that in future he thinks he will omit the cocain from the solution injected, as it seems unnecessary. He believes the injections the best treatment at our command for the great majority of cases of trifacial neuralgia.

21. **Everyday Lessons.**—Reed's lesson this week is the mischief that is done by the masterful person wise in his own conceit, who thinks he knows it all much better than the doctor or any one else.

Medical Fortnightly, St. Louis.

December 25.

23 *Disposition of Criminal Epileptics in Missouri. S. G. Burnett, Kansas City, Mo.
24 The Distal Mesenteric Artery. B. Robinson, Chicago.

23. **Criminal Epileptics.**—Burnett discusses the relation of epilepsy to crime, especially to murder, and asserts that every state enforcing capital punishment has executed its quota of epileptics. He details the history of three cases of presumably epileptic criminals executed in Missouri and Kansas, and suggests the general use of state asylums for the criminal insane.

The American Journal of Medical Sciences, Philadelphia.

December.

25 *Medical vs. Surgical Treatment of Gastric Ulcer. J. H. Musser, Philadelphia.
26 *Indications for, Methods of, and Results to be Expected from, the Medical Treatment of Gastric Ulcer. C. G. Stockton, Buffalo.
27 *Arteriosclerosis with Special Reference to the Radial Artery. W. S. Thayer and M. Fabyan, Baltimore.
28 *Significance of Tubercle Bacilli in the Feces. R. C. Rosenberger, Philadelphia.
29 Acute Intussusception in the Adult. G. G. Ross and H. F. Page, Philadelphia.
30 *Primary Carcinoma of Urinary Bladder. B. H. Brown, Chicago.
31 Incomplete and Complete Hypothyroidea or Myxedema. R. L. Pitfield, Germantown, Pa.
32 Method of Obtaining Cultures from Human Blood. E. C. Schradieck, New York.
33 *Certain Blood Pressure Lowering Reflexes that Arise from Irritation of Inflamed Pleura. J. A. Capps and D. D. Lewis, Chicago.

25. **Gastric Ulcer.**—According to Musser, gastric ulcer is a medical disease, but with complications and sequels it sometimes becomes a surgical one. If the ulcer is productive of perversion of secretory function alone, it remains a medical affection. Inasmuch as hyperchlorhydria is in part a neurosis, the secretory function can be balanced chiefly by medical, dietetic and hygienic measures. Even if pyloric spasm attends the hypersecretion and hyperacidity, it does not necessarily make the case beyond medical care. It is wrong to submit such patients to operation unless motor disturbances become prominent. But if the symptoms and physical signs of retention from obstruction, dilatation, hour-glass contraction or adhesions supervene and persist; if the symptoms of gastric ulcer become continuous in spite of medical treatment and incapacitate or threaten life; and if hemorrhage occurs and secondary anemia arises, it is a surgical disease. Such cases, however, are always attended by organic sequels. The extraordinary frequency of chronic gastric ulcer with sequels requiring operation is due to neglect of the treatment of an ulcer in its incipiency. Statistics show that most patients are operated on between the thirtieth and fortieth year and have an ulcer history of five or ten years' duration. A surgeon who has good technical ability and has had considerable experience in gastric surgery should be selected. The operation, even of gastroenterostomy, is not trivial, and requires the best service at command. After the surgical procedures of necessity are carried out the patient must be treated medically for a period of four months at least; hygienic and dietetic treatment must be carried out over a period of years. A patient who has had gastric ulcer should observe for all time the hygienic and dietetic rules which keep digestion to an approximately normal state, which prevent anemia, and which, above all, so conserve the nervous system as to prevent neurosis.

26. **Id.**—Stockton summarizes the medical treatment of gastric ulcer as follows: Attempt to secure a calm mind, a quiet nervous system, and improvement of the general health. Make a positive diagnosis, begin treatment early, and carry it out with a painstaking attention to details for a long time. Obtain general rest. In some cases feed the patient sufficiently but discreetly; in others, starve the patient for a period, depending for support on frequent small enemas of normal salt solution. For the control of hemorrhage, in addition to rest, one may succeed by local treatment through the stomach tube, using ice water or adrenalin solution, followed by gelatin water. In irritating hyperacidity one should use local general sedatives and antacids. To relieve hypertension and spasm of the stomach, in addition to suitable drugs, external applications should be used according to the method of von Leube, or the equivalent of these. Finally, treatment should be continued long after apparent cure, and the stools studied for occult blood; the dictum of Bettmann should also be remembered that: "It is not alone the question of how long treated, but how well treated." Statistics mean little, because of the uncertainty of the method and the faulty detail so often observed in the treatment of this disease.

27. **The Radial Artery in Arteriosclerosis.**—Thayer and Fabyan consider the character of the normal radial artery and the common changes that take place during the various decades of life. In old age, a thickened radial artery represents conditions whch are normal and to be expected, not only in peripheral but in central vessels. An unduly thickened radial at an earlier age may mean one of two things: (1) The vessel has been subjected to unusual and exceptional strain, or (2) it is a vessel which, from inherent weakness or other individual circumstances, has been unable to cope with conditions which might ordinarily be regarded as normal. In either case, the result has been the same; the artery has been obliged to fortify itself by progressive thickening of its walls, especially by a connective-tissue sclerosis of the intima and media. As a rule, although there are striking individual exceptions, when the thickening of the radial artery is unduly marked, similar changes occur in the intima of the mesenteric artery and aorta. The distribution of such changes is irregular and too often not to be determined *intra vitam*, but the unduly palpable radial artery indicates a strong possibility of their existence in some part of the body at least, and may thus reasonably be regarded as a signal of danger.

28. **Tubercle Bacilli in the Feces.**—Rosenberger describes the technic of examining the feces for the tubercle bacilli, and states that in a number of examinations no acid-fast bacillus other than the tubercle bacillus was found in the feces. The

presence of the tubercle bacillus in the feces means that active tuberculosis exists somewhere in the body. In acute miliary tuberculosis the bacillus is always present in the feces. In all cases of chronic diarrhea and in cases of general glandular involvement, the feces should be examined for tubercle bacilli. The finding of tubercle bacilli in the feces does not mean intestinal ulceration in all cases. In arrested or healed pulmonary tuberculosis no tubercle bacilli are found in the sputum or the feces. The feces should be studied for tubercle bacilli as a part of the routine examination, especially in suggestive cases and when no expectoration can be obtained.

30. **Primary Carcinoma of the Bladder.**—Brown concludes that the most frequent seat of carcinoma in the bladder and the direction of its extension are still debatable questions; that metastasis is much more frequent than is conceded by many clinicians; that a malignant growth in the bone may occur from a primary carcinoma of the bladder; that the most frequent cause of death in vesical carcinoma is a secondary affection of the ascending urinary tract, and that the diagnosis is always difficult, especially after the onset of complications.

33. **Blood Pressure Lowering Reflexes.**—Capps and Lewis detail a series of experiments made for the purpose of establishing the mechanism whereby the marked fall of arterial blood pressure with unfavorable symptoms, noted in aspirating pleural effusions, was brought about. Their experiments demonstrated the induction, under certain circumstances, of a blood pressure lowering reflex, the course of which they describe and illustrate diagrammatically. The reflex conforms to two types: (1) A reflex, cardioinhibitory type, in which the heart is slow and the pulse tracing makes violent expulsions with a great range between systolic and diastolic pressure; respirations are also usually slow and may be inhibited. This type, occurring alone, is rarely fatal. There is also (2) a vasomotor type, the pulse tracing showing a steady rapid decline of pressure, without a great difference in systolic and diastolic pressure. This type frequently terminates in death; respirations are usually shallow and may be rapid. The cardioinhibitory reflex is central. The vasomotor dilator reflex may be either central or peripheral. The authors draw from their investigations the following conclusions of import in regard to operative procedures on inflamed pleura: These types of reflexes occur also in man during operative procedures on the inflamed pleura. The cardioinhibitory type is manifested by a slow, intermittent pulse, with a great difference between systolic and diastolic pressures; the vasomotor type by a steady fall in blood pressure, without a marked difference in systolic and diastolic pressure and by a pulse that grows steadily weaker until it can not be felt. For emergency use in case of falling blood pressure and symptoms of collapse adrenalin intravenously is indicated. Atropin is of little service and may even do harm. Preventive measures come readily to mind. The instrument used in thoracentesis should not irritate the visceral pleura any more than is absolutely necessary; therefore, the trocar is preferable to the needle. The trocar should not be inserted to a greater depth than is necessary to obtain fluid. Great care should be employed during the drainage of an empyema, especially to avoid a long projection of the drainage tube inside the cavity. Swabbing the pleural surface is attended with danger. Finally, they emphasize the clinical importance of taking blood pressure readings at the beginning of and during all operations in the pleural cavity, in order to foresee, and thereby prevent, the development of a dangerous blood pressure lowering reflex.

Journal of Nervous and Mental Disease, New York.

December.

34 Chronic Anesthetic Acrocyanosis with Gangrene; Its Relations to Other Diseases, Especially Erythromelalgia and Raynaud's Disease. L. F. Barker and F. J. Sladen, Baltimore.
35 *Postapoplectic Tremor. J. H. W. Rhein and C. S. Potts, Philadelphia.

35. **Postapoplectic Tremor.**—Rhein and Potts report a case presenting a tremor of the right arm resembling posthemiplegic tremor and ataxia of the arms and legs, and pathologically the presence of symmetrical lesions of the putamen. There was an area of softening in each putamen, which caused degeneration in the fasciculus of Turck on the right side. There was no degeneration in the motor fibers of the internal capsule, pons, medulla oblongata or spinal cord. The association of the tremor of the right arm and ataxia of the arms and legs with these pathologic findings is discussed, and the authors conclude: (1) The lesion in the left lenticular nucleus may have been responsible for the tremor of the right arm in this case, and the association of unilateral tumor with bilateral lesion may be explained by the fact that the lesion in the right putamen was not extensive enough to set up sufficient irritation to cause this symptom on the left side. (2) Postapopletic disturbances of motion may be due to lesions of the lenticular nucleus, the optic thalmus and the pons in the region of the superior cerebellar peduncles, and of the cerebellum, the cause being, in all instances, a disturbance of co-ordination. When the lesion is extracerebellar the cause of this disturbance is possibly an indirect result of destruction of fibers related to the cerebellum directly or indirectly through the red nucleus. (3) The ataxia in the case reported may have been indirectly of cerebellar origin.

Bulletin of Lying-in Hospital of the City of New York.

September.

36 Advanced Broad-Ligament Pregnancy. R. W. Lobenstine, New York.
37 *Tumors of Ovary Complicating Pregnancy and Labor. Id.
38 *Management of Umbilical Stump. J. A. Harrar, New York.
39 Forty-seven Cases of Premature Separation of Placenta. R. W. Lobenstine and J. A. Harrar, New York.
40 *An Aid to Complete Dilatation of Cervix. J. A. Harrar, New York.

37. **Ovarian Tumor and Pregnancy.**—Lobenstine considers ovarian tumors in relation to pregnancy. He divides treatment into (a) during pregnancy; (b) during labor; and (c) during the puerperium. In regard to the first division, he advocates operative intervention as soon as convenient after diagnosis because the material mortality is less, the fetal mortality at least not greater, and the technic of operation is increased in difficulty in the latter months of pregnancy. During labor, if the tumor does not descend into the pelvis, it requires no treatment. If it presents, efforts should be made to return it, but with great gentleness. If the tumor can not be displaced and the child is alive, a vaginal ovariotomy, with subsequent delivery *per vaginam*, or a Cesarean section with ovariotomy, or an abdominal ovariotomy with delivery *per vaginam*, according to circumstances, may be done. A dead child with little dystocia may be dealt with by craniotomy and extraction gently performed; with great dystocia, an abdominal or vaginal ovariotomy is indicated and then a craniotomy. Lobenstine does not believe in puncturing the tumor if it is cystic, and does believe that in every case the abdomen should be opened at once if the cyst is ruptured during delivery. In the third division, the probability of trouble arising in the early puerperium if the tumor is not removed, either during pregnancy or later, indicates, according to this author, that early operation should be resorted to whenever possible, even if no serious symptoms supervene.

38. **The Umbilical Stump.**—Harrar describes the technic of dealing with the umbilical stump at the New York Lying-in Hospital, and insists on the following points: 1. A permanent dressing applied by the surgeon at the time of delivery, which remains undisturbed for five days. 2. The subsequent treatment to be carried on by the surgeon and not by the nurse. 3. The use of sterile spuds at subsequent dressings to avoid handling the stump. 4. The use of dry dressing whenever possible.

40. **Dilatation of the Cervix.**—Harrar insists on thorough artificial dilatation of the cervix when it shuts down on the head in breech extractions after version, when the full dilatation is questionable. He suggests, as a mechanical aid easily obtainable and readily sterilizable, the ordinary porcelain nest egg. After effecting as full dilatation as possible by either of the manual methods, the egg is pushed in ahead of the dilating hand with the finger tips. When the hand is within the uterus the egg is clenched in the fist, which is slowly withdrawn through the cervix. Operators with large hands may, of course, produce adequate dilatation without any such assistance.

American Journal of Orthopedic Surgery, Philadelphia.

October.

41 *Neoplasms and Their Relations to Orthopedic Surgery. C. F. Painter and M. H. Rogers, Boston.
42 *Mechanics of Lateral Curvature. H. O. Feiss, Cleveland.
43 *Typhoid Spine, with Especial Reference to the Deformity. T. H. Myers, New York.
44 *Case of Typhoid Spine, with Radiographic Evidence of Structural Change; Analysis of Reported Cases. S. Silver, Pittsburg, Pa.
45 *Operative Treatment of Spina Bifida. R. W. Lovett, Boston.
46 Case of Congenital Dislocation of Hip in Girl Past 12 Years of Age. Successful Reduction by Lorenz Method. J. T. Rugh, Philadelphia.
47 *Case of Acquired Coxa Valga. N. Allison, St. Louis.
48 Fetal Chondrodystrophia. E. S. Geist, Minneapolis.
49 *Use of Oil in Mobilization of Joints. W. S. Baer, Baltimore.

41. **Neoplasms.**—Painter and Rogers refer to the frequency with which new growths manifest themselves in situations where their presence may give rise to confusion in the minds of orthopedists. They consider in detail sarcomata and carcinomata, and report a series of eighteen cases showing the varieties of neoplasm that may be encountered in the experience of a chronic joint clinic, namely, angioma, myeloma, chondroma, osteoma, bone cyst, lipoma, sarcoma of various forms and carcinoma.

42. **Lateral Curvature.**—Feiss goes into the mechanics of lateral curvature, pointing out that in certain postures the bones tend to become deformed without actually doing so, and that in sufficiently long continuance of these postures something must give, according to definite tendencies or strains, which are studied in detail in regard to different conditions. The force behind these tendencies may explain actual distortions if the resistance that prevents actual change of shape loses its ratio with respect to the force brought to bear. On these assumptions, they were able to explain many deformities actually found in the pathologic specimens. Others not so explainable they believe to be due not to the stress of deformation itself, but to the laws of adaptation, when the total body structure after acquiring the original derangements of deformation had to re-equilibrate itself in its exact attitude according to the requirements of gravity.

43. **Typhoid Spine.**—In the treatment of typhoid spine Myers emphasizes the severe suffering that these patients sometimes bear, and recommends applying the plaster jacket with the patient lying down, rather than by using the suspension method. As inflammations of the lungs and pleura are among the most common complications of typhoid, he thinks that these cases should all be protected by a brace which will not oppress the chest at all, rather than by the jacket.

44. **Id.**—Silver insists that recumbency in the light of our present knowledge can no longer be considered adequate treatment, some form of fixation being indicated. Immobilization should be used earlier and more frequently. In twenty-five cases immobilized relief was afforded in all but one. He names the plaster bed, the gas-pipe frame, the plaster jacket as instances. Gibney's brace was also of benefit, which appeared to be increased by the addition of the use of adhesive plaster strapping. Counterirritation with the cautery is of value; leeches were employed twice with marked improvement; sedatives were required in almost all cases.

45. **Spina Bifida.**—Lovett emphasizes the following points: The operation by extirpation of the sac in spina bifida in the reported group of cases is followed by death in about one-third of the cases. In properly selected cases in the hands of a surgeon used to the operation the mortality probably would be somewhat smaller. There is a secondary mortality, probably at least as great as the operative mortality. Ultimate recovery is to be expected in something less than 50 per cent. of properly selected cases. Contrasted with the hopelessness of the outlook when no operation is done, it would seem justifiable to advise operation in properly selected cases.

47. **Acquired Coxa Valga.**—Allison reports a case of traumatic coxa valga in typical form. The injury sustained was unusual. None of the reported cases in the literature show such an injury. The case is interesting, in that it shows the error of development which will follow a sufficient disturbance of the relationship that exists between superincumbent weight and growth pressure. The boy having injured his acetabulum, was allowed to remain in bed during the early part of his recovery with his thigh in an abducted, externally rotated position. This occurred at the age of 5 years. It is to be presumed that the epiphysis of the head became lodged in the process of repair in the acetabular cavity, so that when the child began to get about he assumed an abducted, externally rotated position with his right thigh. Walking in this position, the strain thrown on the upper end of the femur was abnormal, in that to compensate for his abduction, his weight bearing line was transmitted directly to the long axis of the femur by tilting his trunk. This abnormal force, acting through the years of greatest bone development, produced an opening of the femoral angle of depression, and in consequence an absolute lengthening of the bone. The object of treatment was to attempt a return of the normal femoral angulation, so that as future development takes place, the bone structure and external contour of the upper femoral extremity may approach the normal. The further treatment of the case will have for its object active and passive manipulation of the hip, to increase the range of motion, and observations on the angle of depression to discover what transitions it may pass through, as development proceeds.

49. **Oil in the Mobilization of Joints.**—Baer says that injection of oil into joints under proper precautions is a harmless procedure. The joint will apparently tolerate as much as it will hold. The method is most useful in cases in which adhesions have followed some acute infectious process, or in those stiff joints classified as arthritis deformans of the infectious type. Passive motions are made with less pain when the joint contains oil. It plays some part in preventing adhesions, so that the mobility of the joint is increased more rapidly.

American Journal of Urology, New York.

October.

50 Prostatic Carcinoma. F. E. Gardner, New York.
51 *Present Status of Roentgen Ray Sterility. F. T. Brown and A. T. Osgood, New York.
52 Two Cases of Sterility in the Male. F. R. Hagner, Washington.
53 Case of Fibroadenoma in the Bladder Wall, Occurring in Fundus of Bladder. Id.

51. **Roentgen-Ray Sterility.**—Brown and Osgood report after two years on the cases mentioned in a former paper in which azoospermia was shown to have occurred as the result of long exposure to the *x*-ray. They find that some of these patients have escaped permanent injury, doubtless because of subsequent avoidance of exposure, and some whose records were then bad have since become fathers. The extent of the injury inflicted by the rays is directly proportionate to the amount of destruction of spermatogenic cells in the tubules of the testes. They describe the results in the rat of experimental subjection of the testicle to the rays and illustrate the results with photomicrographs. They repeat what was before said, that in no case has there been evidence of deterioration of sexual activity.

The Laryngoscope, St. Louis.

November.

54 Visual Disturbances Showing Causal Relation to Disease in Sphenoidal Sinuses. J. W. Murphy, Cincinnati.
55 Radiography and Transillumination in Diagnosis of Sinus Disease. J. C. Beck, Chicago.
56 Premaxillary Wings and Deviations of Septum. H. P. Mosher, Boston.
57 *Primary Melanosis of Palate. Nasobuccal Fistula of Recent Sarcomatous Origin. J. M. Roy, Montreal, Canada.
58 Suppuration in Temporal Fossa. H. Gifford, Omaha, Neb.
59 Acute Otitis Media Treated by Opsonic Method. A. C. Magruder and G. B. Webb, Colorado Springs.
60 Blindness Due to Acute Post-Ethmoidal Empyema. G. Sluder, St. Louis.
61 Infected Cholesteatoma Involving Labyrinth and Accompanied by Typical Nystagmus. G. H. Mathewson, Montreal, Canada.

57. **Primary Melanosis of Palate.**—Roy reports an unusual case presenting a primary melanosis of the palate without coexisting lesions of the eye or skin; a slow evolution of twenty years and a recent rapid sarcomatous growth.

Southern California Practitioner, Los Angeles.

November.

62 Typhoid—Its Etiology and Pathology. C. W. Anderson, Los Angeles.
63 Typhoid—Its Dietetic Treatment. J. M. King, Los Angeles.
64 Typhoid—Its General Treatment. D. Frick, Los Angeles.
65 Dairy Herd Inspection—Its Relation to Pure Milk Supply. A. E. Richel, Los Angeles.
66 Anesthesia and the Anesthetist. M. E. Hagedorn, Pasadena.

December.

67 Case of Chronic Hydrocephalus—Treatment by Drainage of Lateral Ventricles. H. M. Sherman, San Francisco.
68 Los Angeles County Hospital—Report on Cases and Methods of Treatment. D. C. Barber, Los Angeles.
69 *Eclampsia—Its Treatment by Veratrum and Morphin. T. G. Davis, Los Angeles.
70 The Mosquito as a Sanitary Problem. E. A. Ayres, New York.

69. **Eclampsia.**—Davis recommends chloroform as a temporary expedient when convulsions are imminent, and then the hypodermic administration of from one-third to one-half of a grain of morphin, with from ten to fifteen drops of tincture of veratrum viride from fresh root, according to the force and tension of the heart, the object being to lower arterial tension, annul the reflexes, and lessen the irritability of the nerve centers to such an extent that convulsions can not occur. This will allow time for elimination of toxins which these drugs favor, besides which the tissue changes are lessened by the quietness and relaxation; and if forcible delivery should be required, it can be effected with less shock and less anesthetic, and thus with greater safety. The administration of the drug will be followed by a slowing of the pulse to 60 or even 40; of the respirations to 14 or less. If the results are not apparent, in half an hour half the original dose is repeated.

Alabama Medical Journal, Birmingham.

November.

71 Infant Feeding. W. W. Butterworth, New Orleans.
72 Curability of Epilepsy. W. P. Spratling, New York.
73 Case of Tuberculosis of Bladder. A. F. Toole, Birmingham.
74 Symptoms, Diagnosis and Treatment of Acute Articular Rheumatism. R. H. Hamrick, Pratt City.
75 Secondary or Symptomatic Anemia, Its Etiology and Pathology. L. G. McCollum, Birmingham.
76 Leucocytosis, Its Diagnostic and Prognostic Value in Disease. H. Levy, Birmingham.
77 Case of Pott's Paraplegia with Treatment and Results. E. L. Scott, Birmingham.
78 Leukemia. K. Bradford, Birmingham.
79 Diagnosis and Treatment of Local and General Suppurative Peritonitis. W. P. McAdory, Birmingham.

California State Journal of Medicine, San Francisco.

December.

80 *Prophylaxis and Eradication of Plague. R. Blue, U. S. Public Health and Marine-Hospital Service.
81 Manio-Depressive Insanity and its Main Features. A. W. Hoisholt, Stockton.
82 Extragenital Chancres. R. Williams, Los Angeles.
83 Tabes as it Presents Itself to the General Practitioner. H. C. Moffit, San Francisco.
84 Surgical Treatment of Motor Anomalies of the Eye. B. F. Church, Los Angeles.
85 *Occasional Fallaciousness of Diagnosis of Enlarged Prostate Made from Digital Examination Through Rectum. G. MacGowan, Los Angeles.
86 Fatal Case of Pemphigus Beginning in Pharyngeal Mucosa. M. W. Frederick, San Francisco.
87 Myocarditis: Its Physiology, Pathology, Symptoms and Treatment. N. D. Gunn, Pacific Grove.
88 Injuries of Upper End of Femur in Adolescents and Children. J. T. Watkins, San Francisco.
89 Chronic Flatulence. A. W. Perry, San Francisco.

80. **Plague.**—Blue describes in practical detail the various measures requisite for the prophylaxis of the rat plague under three heads: (1) Destruction of rats; (2) prevention of their entrance into the habitations of man; (3) adoption of measures to prevent the shipment of infected rats into non-infected territory. As regards human plague, the prophylactic measures are early discovery and isolation of all ill with plague; daily examinations of all contacts for seven days; and their protection by immunizing doses of Yersin's serum or Haffkine's prophylactic. In plague times every municipality should pass ordinances preventing the removal of corpses until examined by a trained medical inspector. All plague corpses should be cremated or buried in metal coffins in quick lime. Necropsy should be the routine in all persons dying from a short illness, of pneumonia, typhoid or undetermined causes. Palpable glands or petechial eruptions are suspicious, and postmortem verification is required. Undertakers should be warned against embalming bodies. Health officers should watch the vital statistics and be vigilant in all rapidly fatal diseases. An organized campaign should be instituted in plague-suspected districts. Thorough fumigation and disinfection should follow on discovery of a case of human or rat plague. Contaminated bedding and clothing should be burned. Subsequent cases occurring among non-contacts indicates an error in technic. Recurrent cases in buildings call for their vacation and destruction. If necessary, districts should be depopulated and detention camps formed. Outgoing ships should be fumigated.

85.—Published in the *American Journal of Urology*, 1907.

Journal of the Kansas Medical Society, Columbus.

November.

90 Appendicitis. C. B. Stemen, Kansas City.
91 Plastic Gynecology. N. C. Speer, Osawatomie.
92 Proprietary Medicines and the Relation of Doctor and Druggist. L. A. Clary, Winfield.
93 Truths in Regard to Medical Fees. J. J. Sippy.
94 Robber Fees. W. H. Neel, Jr., Anson.
95 Night Fees. G. R. Waite, Milan.

American Practitioner and News, Louisville, Ky.

November.

96 *Fused (Horse-Shoe) Kidney. B. Robinson, Chicago.
97 Hay Fever. J. M. Irwin, Louisville.
98 Relation of the Physician to Patients with Phthisical Tendency. W. E. Grant, Louisville.
99 Gangrenous Appendicitis. J. M. Sleicher, Seattle, Wash.
100 Medical Treatment of Gallstones. H. Richardson, Baltimore.

96.—This article also appeared in the *Lancet-Clinic*, June 15, and in the *Central States Medical Monitor*, September, 1907.

Journal of the South Carolina Medical Association, Greenville.

November.

101 Principles on Which Use of Certain Heart Stimulants Should be Based. R. Wilson, Jr., Charleston.
102 Experience with Hyoscin Hydrobromid. G. A. Neuffer, Abbeville.
103 Diabetes Mellitus. T. G. Croft, Aiken.
104 Pneumonia. W. J. Burdell, Lugoff.
105 Pyuria—Its Detection, Significance and Treatment. A. J. Jervey, Charleston.
106 Burns and Scalds. W. A. Smith, Glendale.
107 Phthiriasis Ciliorum. C. W. Kollock, Charleston.

Annals of Ophthalmology, St. Louis.

July.

108 Biographic Sketch of William Thomson. H. F. Hansell, Philadelphia.
109 Amplitude of Accommodations at Different Periods of Life and Its Relation to Eyestrain. E. Jackson, Denver.
110 Preliminary Report of Two Cases Believed to be Intraocular Tuberculosis. C. W. Cutler, New York.
111 Anisometropia. W. E. Bruner, Cleveland.
112 Stasis Hyperemia in Ophthalmology; Therapy of Ulcus Corneæ Serpens. R. Hesse, Germany.
113 Unilateral Exophthalmos in New-born Infant. W. H. Peck, Chicago.

Virginia Medical Semi-Monthly, Richmond.

December 13.

114 Analysis of Last 500 Cases of Appendicitis Operated on at St. Luke's Hospital. S. McGuire, Richmond.
115 Treatment of Chronic Valvular Disease of the Heart. (To be continued). T. E. Satterthwaite, New York.
116 *The Age in Which We Live. C. Pope, Louisville.
117 Anorectal Fistula. L. Eliot, Washington.
118 Gastric vs. Test-Tube Digestion. J. T. Graham, Wytheville.
119 Blood Pressure. J. G. Nelson, Richmond.

December 27.

120 Rosacea. J. V. Shoemaker, Philadelphia.
121 Cases of Head Injury with Operation. H. S. MacLean, Richmond.
122 Treatment of Chronic Valvular Disease of the Heart. (Concluded.) T. E. Satterthwaite, New York.
123 Early Recognition of Tuberculosis. A. B. Greiner, Rural Retreat.
124 Four Decades of American Surgery. A. Vander Veer, Albany.

116.—This article was published in the *Lancet-Clinic*, Nov. 16, 1907, and in the *Medical Fortnightly*, Nov. 27, 1907.

Indiana Medical Journal, Indianapolis.

December.

125 Home Treatment of Tuberculosis. F. A. Tucker, Noblesville.
126 Trachoma. F. C. Heath, Indianapolis.
127 Effects of Lascivious Conversations, Books and Companions in the Causation of Sexual Excesses. A. F. Sterne, Indianapolis.
128 Pigmented Nevus. J. V. Shoemaker, Philadelphia.
129 Points in Treatment of Acute or Chronic Suppuration of the Maxillary Antrum. J. J. Kyle, Indianapolis.
130 Plastic Operations for Complete Loss of Scrotum. J. A. McDonald, Indianapolis.

Maryland Medical Journal, Baltimore.

December.

131 Report of the Maryland State Sanitarium. H. W. Buckler, Baltimore.
132 Present Status of Anti-Tuberculosis Movement in Maryland. J. S. Fulton, Baltimore.
133 Medical Inspection of Public Schools of Baltimore. J. H. Pleasants, Baltimore.
134 Partial Analysis of Cases of Typhoid in 1906. C. H. Jones, Baltimore.

Columbus Medical Journal.

December.

135 Influenza—History and Etiology. L. M. Lisle, Columbus.
136 Influenza—Pathology, Diagnosis and Prognosis. J. J. Coons, Columbus.
137 Influenza—Treatment. T. W. Rankin, Columbus.
138 Influence of Weather Conditions on Infantile Mortality. I. Kay, Springfield.
139 Inflammation. J. U. Barnhill, Columbus.

Detroit Medical Journal.

December.

140 How Far Do Homeopathic and Other Physicians Agree and How Far Can They Agree? R. C. Cabot, Boston.
141 The Homeopathic School. H. Wilson, Detroit.
142 Some Things Seen in Germany. E. Amberg, Detroit.
143 Five Case of Trichiniasis. G. L. Kiefer, Detroit.

Vermont Medical Monthly, Burlington.

December.

144 The Physician as a Citizen. E. C. Mower.
145 Diphtheria and Its Treatment. J. A. E. Lanouette, Manchester, N. H.
146 Vermont and Its Reciprocal Relations. W. S. Nay.
147 Puerperal Sepsis. J. C. Breitling, Luneburg.
148 Some Difficult Diagnoses Between Medical and Surgical Conditions. J. M. Gile, Hanover, N. H.

Journal of the New Mexico Medical Society, Albuquerque.

December.

149 Interesting Cases of Tumor of the Thyroid. G. C. Bryan, Alamogordo.
150 Serum Treatment of Pericardial Effusion. J. B. Barbee.
151 Heart Block at Ninety-One. C. F. Beeson, Roswell.

Montreal Medical Journal.

December.

152 Carcinoma of the Breast. G. E. Armstrong, Montreal.
153 Bacteriemia—Its Diagnosis, and Its Diagnostic and Prognostic Value. F. B. Gurd, Montreal.
154 Irritable Heart. W. S. Morrow, Montreal.
155 Case of Hypertrophy of the Prostate—Suprapubic Prostatectomy. N. E. Mackay, Halifax, N. S.
156 Value of Bacteriologic Examination in Conjunctivitis. H. McKee.

Archives of Ophthalmology, New York.

November.

157 Report on Eyeball Injuries by Iron Foreign Bodies at New York Ophthalmic and Aural Institute, New York City. H. Knapp and L. Stoll, New York.
158 Cases of Foreign Bodies in the Eye. J. E. Weeks, New York.
159 Disease of Tarsus and Lid Margin in Trachoma. E. Raehlmann, Weimar, Germany.
160 Optical Significance of Accommodative Pupillary Movements. J. Weidlich, Elbogen, Germany.
161 Intrabulbar Pseudotumors in Children. Stoewer, Witten, Germany.
162 Old and Modern Bifocal Spectacles. H. Knapp, New York.

December.

163 Otalgia Considered as Affection of Sensory System of Seventh Cranial Nerve. J. R. Hunt, New York.
164 Deafness in Course of Acute Osteomyelitis and of Septic Processes in General. Siebenmann, Basel, Germany.
165 Fatal Case of Sinus Thrombosis After Chronic Purulent Otitis Complicated with Cholesteatoma. A. Knapp, New York.
166 Two Fatal Cases of Brain Abscess. J. J. Thomson, New York.
167 Prognosis of Operative Opening of Purulent Labyrinth. R. Freytag, Breslau, Germany.
168 Deafness of New-born; Disturbance of Sound Conducting Apparatus of Ear. W. Koellreutter.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

December 21.

1 *Tuberculosis in Childhood and Its Relation to Milk. J. McCaw.
2 *Has a Purin-Free Dietary Any Special Therapeutic Value? C. Watson.
3 *Case of Cerebral Tumor Associated with Subjective Sensations of Smell. H. C. Thomson.
4 Medical Practitioners and Public Health. T. Fowler.
5 Plea for the Study of Bacteriology by the General Practitioner. J. A. Jones.
6 *Cremation. J. W. Riley.
7 Protection of India from Invasion by Plague. J. A. Thompson.
8 Primary Sarcoma of Appendix. T. Carwardine.
9 Case of Septicemia with Interesting Reactions to Treatment and Recovery. C. F. Fothergill.
10 Postmortem Statistics of Middle-Ear Disease in Young Children. J. Miller.
11 Blood Films, with Special Reference to Presence of Hemoconia. F. Porter.
12 Method of Estimating Coagulation Time. C. Mercier.
13 Albuminuria from a Life Insurance Point of View. R. Wilkinson.
14 Poisoning by Mercuric Potassium Iodid. S. W. Davies.
15 Bone Abscess Due to Bacillus Allied to B. Paratyphosus. F. G. Bushnell.
16 Spectacles in Ametropia After Removal of the Lens. A. S. Percival.
17 *Vagitus Uterinus. H. E. A. Washbourn.

1. **Tuberculosis.**—This article appeared in the *Medical Press and Circular*, Nov. 27, 1907, and was abstracted in The Journal, Jan. 4, 1908, page 78.

2. **Purin-Free Dietary.**—Watson discusses the nature of purins in the food, in the tissues and in the urine; their physiology and pathology, and the therapeutics of a purin-free diet. He concludes that there is no special therapeutic effect in a purin-free diet and that clinical experience agrees with laboratory teaching in showing that in gout it is not so much a disturbance of purin metabolism as a perverted function of one or more organs of the body that is of pathogenic moment.

3. **Cerebral Tumor with Subjective Odors.**—Thomson reports a case of cerebral tumor in which the repetition of sensations of smell justified the assumption that the tumor was seated in the region of the uncinate gyrus—that is, at the anterior extremity of the temporosphenoidal lobe. This was exposed in two stages in operations at intervals of a week. No tumor was visible on the outer surface, but the tension was shown by the bulging of brain substance. Recovery from operation ensued and the optic neuritis subsided, the discs in a few weeks showing only traces of infiltration. The patient remained well for over six months, but recently became worse, and the effects of the growth are again perceptible.

6. **Cremation.**—Riley considers the subject of cremation historically, legally, hygienically, medicolegally, and from the theological standpoint, and concludes that there is economy, safety and security in it, no offense to the living, nothing out of conformity with the solemn reverence due to the majesty of death, no violation of divine law. While it does upset old ideas, traditions and thoughts, it must inevitably prevail in the end.

17. **Vagitus Uterinus.**—Washbourn reports a case in which distinct and undoubted cries were noticed, both by himself and the two women in attendance, from a fetus which had not begun its journey through the pelvis, and further was delivered alive, though injured, by severe instrumental effort an hour later.

Lancet, London.

December 21.

18 *Experiences of Intracranial Surgery. C. A. Ballance.
19 Gastric Ecchymosis, Gastrostaxis and Simple Gastric Ulcer; Their Possible Relations to Hemorrhagins and Mucolysins. E. C. Hort.
20 Three Cases of Intestinal Obstruction. R. D. Mothersole.
21 Case of Complete Gastrectomy. B. G. A. Moynihan.
22 *Tuberculin Ocular Reaction of Calmette. J. W. H. Eyre, B. H. Wedd and A. F. Hertz.
23 Bone Abscess Caused by an Intermediate Bacillus Allied to to Bacillus Paratyphosus. F. G. Bushnell.
24 *After-Treatment of Cases of Suprapubic Cystotomy. H. Irving.
25 Poisoning by Potassium Bichromate. A. M. Gossage.
26 *Status Lymphaticus and Administration of Anesthetics. H. H. Rubra and A. C. Brown.
27 Bilateral Ovarian Dermoid Tumor Associated with Pregnancy. M. Campbell.
28 *Supernumerary Mammæ. A. W. Hayles.

18. **Intracranial Surgery.**—Ballance points out that the surgery of this region does not differ in any fundamental manner from that of other regions. Most intracranial operations are undertaken to relieve pressure or to remove a source of infection. The diagnosis of intracranial disease is ordinarily far more complex than that of intra-abdominal disease. The maxim that diagnosis must precede operation is true only of those diseases the signs, symptoms and course of which are fully comprehended. In other cases, and when danger attends delay, operation on a provisional diagnosis saves many lives and perfects the diagnostic art. Just as the abdomen is sometimes opened with the expectation of finding a grave condition and nothing abnormal is found though a symptomatic cure may result, so operation for expected intracranial tumor relieves intracranial pressure even though no tumor be there. The more common conditions calling for intracranial intervention are: 1, Diseased or displaced bone; 2, effused blood (recent or of old standing); 3, meningeal inflammation; 4, cerebral abscess; 5, epileptiform neuralgia of the fifth nerve; 6, tumors, including cysts and infective granulomata. Ballance considers all these in detail. The operations now used are: 1, Removal of localized tumors; 2, partial removal of tumors from which a temporary or lasting benefit is sometimes obtained; 3, drainage of malignant and simple cysts, and 4, decompres-

sive operations. The symptoms pointing to tumor are the following, though they all and almost any combination of them may arise from causes other than tumor: 1, Certain vague symptoms, the evidence of disturbance of the normal harmonious and correlated functional activity of the various parts of the brain, such as changes of the disposition or impairment of mental power; 2, symptoms of increased intracranial pressure, headache, vomiting, optic neuritis, slow pulse and torpor, and 3, symptoms due to irritation or paralysis of particular nerve centers, or groups of nerve centers, the so-called focal symptoms, such as paralysis and disturbances of sensation.

22. **Tuberculin Ocular Reaction.**—Eyre, Wedd and Hertz report the result of their investigations of the tuberculin ocular reaction of Calmette in 138 individuals which have led them to form a distinctly favorable opinion of the value of the test. They review the communications of continental observers on the subject and tabulate their own results. Of the 138 cases, 63 yielded a positive reaction and 75 a negative reaction. In no cases did a healthy adult yield a positive reaction, while *per contra* every case of admitted tuberculosis did give a reaction. Of 25 cases of lung disease other than phthisis 5 were positive and 20 negative. Of 83 cases of diseases other than of the lungs 45 were positive and 38 negative. The larger number of the positive cases in the last group were clinically diagnosed as tuberculosis. The authors believe that the reaction will be of value in indicating when therapeutic injections may safely be discontinued. The test causes movements of the tuberculo-opsonic index similar to those following a subcutaneous injection. The negative phase is usually well marked and sometimes lengthy.

24. **Suprapubic Cystotomy.**—Irving describes an apparatus of his own devising to take the place of the bulky, expensive and uncomfortable dressing commonly used. His appliance keeps the patient dry from the time of operation until the wound is healed, is simple of application, and lightens the work of both nurses and surgeons. Essentially it consists of a celluloid cap retained by elastic pressure over the suprapubic wound and possessing outlet tubes for the escape of urine.

26. **Status Lymphaticus and Anesthetics.**—Rubra and Brown report the case of a boy of 17, undergoing the submucous operation for resection of the nasal septum. He was given 5 minims of a 5 per cent. solution of cocain and 5 minims of a 1 to 1,000 solution of adrenalin. The half upright posture was used. Equal parts of chloroform and ether were then administered through a Junker inhaler with a face piece. Ether was used because the anesthetist thought the patient not likely to become congested in the nose, but to be one in whom chloroform would be apt to cause cardiac failure. Anesthesia was light; the pulse and respirations were normal; pupils reacting to light and contracted; a slight conjunctival reflex was present. It was presently noticed that the patient was pale, with a blue congested patch on the cheek; breathing was deep and regular, possibly a trifle quickened; the radial pulse could not be felt. In spite of strychnin, oxygen, galvanism, artificial respiration, etc., and after the anesthetic had been discontinued, the pupils dilated and became fixed and respiration failed, and death ensued.

28. **Supernumerary Mammæ.**—Hayles reports the case of a woman aged 32 who had had from childhood a swelling under each arm. When she became pregnant the swellings increased in size, became painful and interfered with the use of the arms. Three years later the same conditions recurred during another pregnancy and the tumors were removed. Microscopically they showed the structure of a secreting gland. The natural breasts were abnormally large.

Medical Press and Circular, London.

December 18.

29 *Fractures at the Wrist. D. Power.
30 Value of Spinal Analgesia in Protecting Patient from Surgical Shock. E. C. Ryall.
31 *Treatment of Syphilis in the Light of Results of Recent Investigations. E. Lesser.
32 New Medical Service for the Territorial Army. A. Keogh.

29. **Fractures of the Wrist.**—Power points out that recent advances in physics and surgery have added greatly to our power of diagnosing fractures; and the group of fractures at the wrist, formerly all classed together under the name of Colles' fracture, can be separated into groups as in the following table:

Radius	Separated lower epiphysis.		
	Unimpacted fracture.		
	Impacted fracture.	Simple.	Colles' fracture.
		Lower fragment comminuted	
	Oblique fracture through articular end without comminution.		
	Styloid process detached.		
Ulna	Separated lower epiphysis.		
	Fracture of shaft in lower third.		
	Styloid process detached.		
Scaphoid	Simple fracture.		
	Fracture with dislocation of one fragment.		
Radius and Ulna	Transverse Fracture.		
	Colles' fracture with styloid process of ulna torn off.		
Radius and Scaphoid.	Colles' fracture with fractured scaphoid.		
Ulna and Scaphoid.	Fracture of Scaphoid with tearing off of styloid process of ulna.		

He describes instances of several forms, with radiographs, which indicate how complex such fractures frequently are and how unsatisfactory a result is likely to follow in a routine diagnosis simply of "Colles' fracture" or "sprain." Every such injury should be radiographed in more than one position. Broadly speaking, the prognosis is good in simple fractures at the wrist when the styloid process of the radius or ulna is not torn off, or when the fracture of either or both bones is simple and transverse. In Colles' fracture with impaction it is fairly good, even when the lower fragment is comminuted, but in fracture of the scaphoid it is bad unless the injury is recognized at the beginning and treated accordingly. In treatment, the impacted end of a Colles' fracture should always be separated before a splint is applied. He recommends Carr's splint which, among other advantages, has that of being easy to extemporize with a straight splint to which a piece of broom handle is screwed obliquely. It will not serve, however, for fracture of the scaphoid. This condition is frequently mistaken for a sprain, when it occurs as the only injury of the wrist, which may account for some of the bad results. When a fragment of the scaphoid is dislocated, or will not unite, it should be removed through a small incision on the dorsum of the wrist parallel to and along the inner side of the tendon of the extensor carpi radialis longior.

31. **Syphilis.**—In the light of recent investigations into the communicability of syphilis and of the discovery of the *Spirochæta pallida* as the cause, Lesser considers the question of the excision of the primary sore, the subsequent treatment and the general treatment. Histologic examinations and animal experiments are but little encouraging as regards any good prospects from excision. Specific treatment should be begun immediately after excision (if performed) if the spirochetes are found, as one can not be sure that all virus has been removed by the excision. By demonstration of the spirochetes it is possible to diagnose a primary sore with certainty, so there need no longer be fear of masking the symptoms by early resort to specific treatment.

Australasian Medical Gazette, Sydney.

November 20.

33 *Mode of Spread and Prevention of Plague in Australia. J. A. Thompson.
34 *Method of Dealing with the Abdominal Wound in Order to Prevent Postoperative Hernia. J. M. Y. Stewart.
35 Case of Periodic Fever with Marked Lymphocytosis. S. Gillies, D. A. Welsh and Chapman.
36 Radical Treatment of Sliding Hernia. T. Fiaschi.
37 Ten Cases of Stovain Spinal Anesthesia. C. S. Willis and D. Wallace.
38 *Ionic Medication. L. H. Harris.
39 Recent Development of Radical Mastoid Operation, with Remarks on Prophylaxis. J. L. Gibson.

33. **Plague.**—Thompson details in a logical fashion the argument presented in the Report to Section Five of the Fourteenth International Congress of Hygiene and Demography whereby were arrived at the fundamental data formulated as the result of experimental and clinical investigation in Sydney: 1. The epidemic spread of plague occurs independently of communication of the infection from the sick, and consequently by means external to man and independent of his agency as subject of the disease. 2. The plague rat is harmless to man, but, on the other hand, it is essential to the causation of epidemics and, consequently, there must be some intermediary carrier between the rat and man. 3. The positive identifica-

tion of the flea as an intermediary carrier. Prevention of epidemic plague consequently lies in habitually maintaining a distance between the rat and man, for measures directed against the flea can have scope only in special circumstances. The attempt at rat extermination is futile with any measures at present at our command. In Tokyo the effort has been more consistently and thoroughly made than anywhere else, and yet it is hardly possible to recognize any impression at all as having been made on the rat tribe as a whole. Thompson's experience in Sydney coincides with this. Occasions will arise from time to time on which effort may be directed to destruction of rats known to be present; but as a rule infected neighborhoods must be dealt with in a more general way, by scavenging and destruction of accumulations or places in which rats have found or may find harborage, and especially by storing food and food waste so that rats can not reach them. The difficulty of arresting rat plague is in direct ratio to the bad construction of wharves, quays and the buildings on and near them. The danger to man from plague is everywhere directly proportionate to the accessibility of the interior of buildings to rats, though not entirely absent outside them. All other measures, therefore, must be considered as subsidiary to reconstruction of ill-built wharves, stores and warehouses, and to such repair and special fittings of inhabited houses as will keep rats outside them.

34. **The Abdominal Wound.**—Stewart's method of dealing with the abdominal wound so as to prevent postoperative hernia is as follows: The incision is made in the median line. This is carried down to, but not through, the junction of the sheaths of the recti at the linea alba. It is then optional which sheath is exposed. Any bleeding is controlled in the usual way, by pressure or tying, and the sheath is then opened with the point of the knife, held with the cutting edge upward, so as to avoid lacerating the muscle beneath. This incision is made about three-eighths of an inch from the linea alba, and extends from top to bottom of the wound, or nearly so. The edge nearer to the linea alba is caught by the dissecting forceps, and with the handle of the knife this portion of the sheath is raised by blunt dissection from the portion of the muscle lying immediately below it until the linea alba is reached from top to bottom of the incision. The inner edge of the exposed rectus is then separated from the point of union of the superficial and deep sheaths, and the muscle is drawn away from the middle line, exposing the subperitoneal fat, residue of deep sheath and peritoneum. The peritoneum is then opened in the same place as was the superficial sheath and the operation is proceeded with. This retracting of the rectus muscle outward from the middle line in no way injures it, as the blood supply and nerves enter at its outer half; it is, therefore, seldom necessary to tie any of the muscular vessels. Having completed the rest of the operation, and carefully removed all sponges, instruments, etc., from the cavity of the peritoneum, the method of closing the parietal wound is as follows: The cut edges of the peritoneum are held together and a round-bodied or a trocar-pointed curved needle, threaded with fairly thick catgut (No. 3), is passed through at the top or bottom, as most convenient, and tied, and the opening is closed by a continuous quilted stitch, to oppose the serous surfaces of the peritoneum to each other, and at the same time have no foreign material exposed on the intestinal side of the peritoneum, which might possibly attract the omentum. When this is completed the rectus muscle is allowed to return to its place, and it completely covers the line of closure in the peritoneum. The superficial sheath of the rectus is then closed by a continuous or interrupted catgut suture, and if there is a deep layer of fat between the sheath and the skin, a third line of catgut suture can be used to bring the fat surfaces together. The skin may be brought together either by interrupted silkworm, horsehair, subcuticular catgut (Kelly's) continuous overstitch, or by Michel's skin clips and the usual dry dressings applied. Some surgeons use long strips of adhesive plaster to steady the abdominal wall; but, except in very fat patients with loose flaccid belly, Stewart has not found it necessary, and it certainly does not add to the patient's comfort if put on sufficiently tightly to be of any real use.

38. **Ionic Medication.**—Harris sums up his experience, which is, however, limited, of this method, by stating that in cases of simple ulceration it appears to be a rational form of treatment, while in cases of rodent ulcer the action seems to be too localized and too superficial to have a lasting effect. In the six months that have elapsed since the writing of his paper all the patients mentioned have again come under notice. In the specific case the patient has remained well. Of the rodent ulcers several are threatening extension and one is extending. Harris considers ionic treatment in such cases not so reliable as the *x*-ray.

Journal of Tropical Medicine and Hygiene, London.

November 15.

40 *Transmission of Yaws by Ticks. E. E. Modder.
41 Hill Stations and Other Health Resorts in the British Tropics. F. M. Sandwith.

40. **Ticks as Transmitters of Yaws.**—Modder adduces various reasons and observations to show that ticks, and especially the Argas tick, are a medium of transmission of the yaw poison.

Presse Médicale, Paris.

December 7, XV, No. 99, pp. 797-804.

42 *Is the Ocular Reaction to Tuberculin Free from Danger for the Eye? (L'ophthalmo-réaction.) F. de Lapersonne.
43 Spengler's Method of Vaccination Against Tuberculosis. A. Bergeron.
44 Medical Treatment of Gastric Ulcer. (Ulcère de l'estomac.) G. Linossier.

December 11, No. 100, pp. 805-812.

45 Roentgen Examination of the Stomach. (Examen de quelques estomacs à l'aide des rayons de Roentgen.) T. Tuffier and P. Aubourg.
46 Indications and Restrictions for Deprivation of Salt in Chronic Nephritis. (Déchloruration dans le traitement du mal de Bright.) A. Martinet.

42. **Is the Ocular Reaction to Tuberculin Dangerous for the Eye?**—De Lapersonne has been investigating the cases that have been reported of alleged injury to the eye from diagnostic instillation of tuberculin. The complications always took the form of an ulcerovascular keratitis, and with one exception were only observed in pre-existing lesions of the cornea, and vision was not impaired. He has collected six cases of this kind. In two other cases the intraocular complications were more serious, entailing iridocyclitis; these patients were elderly. His conclusions from his study of these cases are that Calmette's "ophthalmo-reaction" is harmless for the eye, but that the complications exceptionally observed impose caution in its application, although no absolutely certain direct connection between the accidents observed and the instillations can be demonstrated in any instance. It is wise never to instil the tuberculin until after a thorough examination of both eyes. It is also best to refrain from applying this method in differentiation of lesions of the eyeball, deep or superficial, although it might be used in the diagnosis of affections of the lids, orbit, and lachrymal passages. The reaction is generally most pronounced in children. In the elderly so many factors may intervene that the result is liable to be misleading, while, if complications do occur, they may take a long time to subside. The complications which he has been studying did not manifest themselves, nor did the reaction, until from ten to twenty days after the instillation. It seems almost as if some local or general intercurrent infection might be able to rearouse or to maintain the reaction in a tuberculous individual.

Semaine Médicale, Paris.

December 11, XXVII, No. 50, pp. 589-600.

47 *Intestinal Arteriosclerosis. L. Cheinisse.

December 18, No. 51, pp. 601-612.

48 Case of Adams-Stokes Syndrome without Heart Block. R. Lepine.

47. **Intestinal Arteriosclerosis.**—Cheinisse reviews the scanty literature on arteriosclerotic changes in the intestinal vessels and the symptoms which they elicit. Abdominal pain, in persons past 40, occurring in paroxysms, generally after physical exertion or emotional stress, should suggest intestinal arteriosclerosis, he states, especially if the pain comes on when reclining. The mechanism of the disturbance is similar to that of intermittent limping—the ischemia of the intestinal vessels causing painful cramp with transient paralysis of some seg-

ment of the intestine and consecutive meteorism. The trouble has been called "intermittent ischemic dysperistalsis" and "intermittent arteriosclerotic intestinal dyspragia." Dubious cases may be differentiated by giving tincture of strophanthus, from five to eight drops three times a day. Narcotics and other measures to soothe the pain are generally useless, but drugs that control angina pectoris may prove effectual, especially strophanthus and theobromin. Jaquet has reported excellent results from the use of potassium iodid or potassium nitrate combined with sodium nitrite, the combination recommended by Sir Lauder Brunton for chronic arterial hypertension.

Berliner klinische Wochenschrift.

December 2, XLIV, No. 48, pp. 1531-1566.

49 Color Photography in Medicine. (Das Lumière'sche Verfahren der Farbenphotographie im Dienste der Medizin.) C. Benda.
50 Determination of Antigens by the Fixation of Complement Method. (Nachweis der Antigene mittels der Komplementfixationsmethode.) H. Braun.
51 Artificial Feeding of Infants. (Künstliche Ernährung der Säuglinge.) L. Langstein.
52 Dispensaries and Milk Depots for Infants. (Säuglingsfürsorge.) T. Escherich.
53 *Hydrochloric Acid Treatment of Gout. (Rückblick auf die 5 jährigen Beobachtungen bei der Salzsäure Therapie der Gicht.) Falkenstein.
54 Three Cases of Instrumental Perforation of Uterus in Curetting After Abortion. E. G. Orthmaun.
55 Secretion of Gastric Juice During Rectal Alimentation. (Magensaftsekretion bei Rektalernährung.) F. Umber. Id. Michael.

December 9, No. 49, pp. 1567-1598.

56 Hysterical Pseudotetany with Peculiar Vasomotor Disturbances. A. Westphal.
57 Antibodies in Syphilis, Tabes and Paralysis. (Antikörperbefunde bei Lues, Tabes und Paralyse.) E. Weil and H. Braun.
58 Formation of Pigment Under Action of Light. (Lichtpigment.) A. Buschke and P. Mulzer.
59 Traumatic Epithelial Cysts. B. Chajes.
60 Dysentery from Ciliated Parasites. (Ciliatendysenterie.) Rheindorf.
61 *Acute Affection of the Thyroid from Iodin Intoxication. (Thyreoideaerkrankung durch Iodintoxikation.) E. Warschauer.
62 Treatment of Tuberculosis with Marmorek's Serum. H. M. Hymans and L. P. Daniels.
63 Medical Certificates to Exempt Persons from Witness Service, Imprisonment, etc. (Haft- und Terminsfähigkeit.) H. Marx.

December 16, No. 50, pp. 1599-1630.

64 *Serum Diagnosis of Syphilis. (Serodiagnostik der Syphilis.) A. Wassermann.
65 Experimental Study of Malignant Tumors. (Morphologie und Biologie bösartiger Tumoren.) C. Lewin.
66 Thiosinamin in Treatment of Perigastritic Adhesions. C. Michael.
67 Permanent Cure Under Roentgen Exposures of Excessive Sweating of the Hands. (Dauerheilung der Schweisshände durch Röntgen.) Kromayer.
68 Congenital Constriction of the Urethra. (Verengerungen der Harnröhre.) A. Hock.
69 Ultramicroscopic Study of Human Spermatic Fluid. (Menschlicher Sperma bei Dunkelfeldbeleuchtung). C. Posner.

53. **Hydrochloric Acid in Gout.**—Falkenstein here reviews his five years of experience with hydrochloric acid in the treatment of gout. He states that he has been taking from 50 to 60 drops of concentrated hydrochloric acid every day for more than five years, and some of his patients for nearly as long. The good action and harmlessness of such large doses of hydrochloric acid are probably due, he asserts, to the neutralizing of the acid by the alkalies in the food and beverages. This assumption is confirmed by the absence of irritation of the intestines, shown by the lack of diarrhea. He presents evidence to sustain his theory that gout is the result of an inherited insufficiency of the gastric glands in the fundus, the logical treatment of which is to supply the lacking hydrochloric acid from day to day and year to year. Among the testimony he cites are the deficiency of hydrochloric acid in the stomachs of the gouty, and Silbergleit's announcement that in a long series of experiments on animals the formation of urates in artificially induced foci of gout was regularly prevented by systematic administration of hydrochloric acid, while under alkalies the urates were as regularly deposited. He affirms that the deficiency of hydrochloric acid is primary in gout while it is secondary in all other conditions. The hydrochloric acid is not able to arrest an attack of gout—it merely corrects the general tendency to gout, and hence must be taken all through life, as there is little hope of the congenitally defective stomach glands becoming capable of normal functioning. In his experience with 390 gouty patients the best results were attained in those in whom the disease was of comparatively recent development. In the old, chronic cases the general health is improved, the course of the disease is arrested and the patients are relieved more or less of their pains, while danger of involvement of internal organs is averted. Attacks of pain may still recur, but are far less severe, as a rule. A small number of patients state that they experienced no benefit and that the disease is progressing, but the physician, even in these cases, can see evidences of benefit.

61. **Acute Iodid Poisoning Affecting the Thyroid.**—Warschauer's patient was a robust woman of 28, free from goiter, who was treated with mercurial inunctions and potassium iodid for chronic eczema of the leg on the presumptive diagnosis of a syphilitic etiology. Under this treatment the thyroid gland became enlarged, and other symptoms suggested myxedema, such as dryness of the skin and falling out of the hair, accompanied by rapid emaciation, palpitations, insomnia, tremor, pigmentation, enlargement of the glands, diarrhea and occasional delirium, the syndrome suggesting also exophthalmic goiter in some respects. No improvement was apparent after suspension of the iodid until thyroid treatment was instituted, supplemented by sodium phosphate, when the symptoms rapidly subsided to complete recovery by the end of the fourth month. About 200 thyroid tablets had been taken, each representing 0.3 gm. (5 grains). At first the thyroid treatment was not tolerated, the heart reacting dangerously to it; arsenic was then tried, but without benefit, the emaciation progressing until the patient had lost 60 pounds in seven weeks and was totally bedridden, with swollen face and feet, skin flaking off, otorrhea and decubitus. The thyroid tablets were then given in fractional doses as a last resort, and within a week marked benefit was apparent.

64. **Serum Diagnosis of Syphilis.**—Wassermann states that more than a thousand persons have been tested, with positive results in the overwhelming majority of syphilitics, and invariably negative results in the non-syphilitic. In his own latest series 156 non-syphilitics gave a negative reaction in every case, while 74 per cent. of 108 patients suspected of syphilis responded positively and 79 per cent. of 43 tabetics. Tests of the serum from 100 ophthalmic patients gave similar results, differentiating syphilitic and tuberculous processes in the eyes, the ultimate course under treatment confirming the findings of the test in every instance. The test is based on the specific fixation of the complement and consequent arrest of hemolysis when the suspected serum or cerebrospinal fluid is mixed with extracts of syphilitic organs. The findings of the test in syphilis are a beautiful example of the manner in which empiric observation leads the way and science later supplies the theoretical foundation, previously lacking. Wassermann states that the test has given positive results in 80 per cent. of the cases of progressive paralysis examined in various clinics. His latest research has shown that the suspected serum gives an approximately specific reaction when mixed with pure lecithin instead of with extract of organs from syphilitic fetuses, with which the test has hitherto been carried out. He thinks that the prospects are encouraging for the simplification of the test in this way, substituting some chemically pure substance, such as lecithin, for the organ extracts. It is possible, also, he says, that further progress may be realized along the line of a precipitation reaction. [Complete details in regard to the technic and history of the test will be found —in English—in J. C. Meakin's article in the *Johns Hopkins Bulletin*, July, 1907.—ED.]

Centralblatt für Chirurgie, Leipsic.

November 30, XXXIV, No. 48, pp. 1393-1416.

70 Removal of Malignant Tumors in Tonsillar Region. (Exstirpation maligner Geschwülste der Tonsillargegend.) P. Clairmont.

December 7, No. 49, pp. 1417-1440.

71 *Local Anesthesia in Fractures. G. Lerda.

December 14, No. 50, pp. 1441-1472.

72 Technic of Billroth's First Method of Resection. E. Moser.
73 Experimental Research on Anastomoses for the Kidney. (Experimentelles zur Anastomoseuerzeugung für die Niere.) S. S. Girgolaff.
74 Washstand Arranged for Automatic Spirit of Soap Supply. (Praktische Winke zur Seifenspiritusdesinfektion.) Linnartz (Cologne).

71. **Local Anesthesia for Fractures.**—Lerda states that during the last two years extensive use has been made of local anesthesia for fractures in Isnardi's service at Turin, where he is assistant. He applied this technic in thirty cases before reduction of the fracture and has never observed the slightest inconvenience. He uses a long, strong needle and injects the anesthetic mixture at various points, between the stumps and tangential to them, so that the entire focus of the fracture, the bone marrow, periosteum and surrounding tissue become impregnated with the anesthetic. He adds a drop of one per thousand solution of adrenalin to each c.c. of a .5 per cent. solution of cocain. Sometimes as much as 0.08 gm. of cocain (about 1 grain) was injected without appreciable by-effects. The contraction of the vessels aids in preventing hematoma at the point. The anesthesia is generally complete in about eight minutes. Not only is the pain abolished, but the fracture can be reduced much more perfectly, attaining results otherwise impossible without general anesthesia.

Centralblatt für Gynäkologie, Leipsic.

November 30, XXXI, No. 48, pp. 1497-1528.

75 *Etiology of Uncontrollable Vomiting of Pregnancy (Hyperemesis gravidarum.) G. Winter.
76 Failure of Soluble Rubber Tissue to Protect Nipples. (Warzenschutz durch Gaudanin.) Riemann.
77 Nerves in the Umbilical Cord and Placenta. (Nerven in der Nabelschnur und der Placenta.) G. Fossati.

December 7, No. 49, pp. 1529-1552.

78 *Prevention of Brachial Paralysis After Operations in Trendelenburg Position. (Lähmungen im Gebiete des Plexus brachialis.) A. Horst.
79 *Suprarenal Treatment of Osteomalacia. (Behandlung der Osteomalakie mit Nebennierenpräparaten.) E. Punnel.
80 History of Gloves in Surgery, etc. (Handschuhfrage.) L. Conitzer.

December 14, No. 50, pp. 1553-1576.

81 High Forceps with Face Presentation. (Hohe Zange bei Gesichtslage.) R. Jolly.
82 *Suprarenal Treatment of Osteomalacia. (Adrenalinbehandlung der Osteomalakie.) M. Neu.
83 *Prophylaxis of Pelvic Deformity by Suprarenal Treatment. (Prophylaxe der Beckendifformitäten infolge von Rachitis.) L. M. Bossi.
84 Cystoscopic Findings in Vesicointestinal Fistula. (Blasen-Darmfistel.) A. Westhoff.

75. **Origin of Uncontrollable Vomiting of Pregnancy.**—Winter reports the autopsy findings in a case of fatal hyperemesis and deduces from them that the uncontrollable vomiting of pregnancy is at first merely a reflex neurosis. If it can not be conquered during this stage, the neurosis injures the functioning of the liver and kidneys, the result of which is retention of pregnancy products and eventual fatal intoxication. The prosector, knowing nothing of the clinical diagnosis, reported the findings as suggestive of intoxication, calling attention to the fatty degeneration of the central parts of the liver acini and kidney epithelium, with ecchymoses. The symptoms had been irregular pulse and mental disturbances, mostly of a maniacal nature, with tardy albuminuria and slight jaundice with fever. The mental disturbances noted early had subsided somewhat under the influence of diuretics. During the first, the neurotic, stage, he says, repose and all the other measures for reducing the excitability of the nerves should be tried, with suggestion, removal of the patient, placebos, etc. During this stage it is extremely important to supply food, and especially water, in abundance to keep the liver and kidneys working normally. The water can, perhaps, best be supplied by prolonged infusion of water in the rectum, by which means three or four quarts can be incorporated in the twenty-four hours. The patients increase in weight and strength and the agitation subsides, although the vomiting was not influenced in his experience. He argues that this is not to be expected. In case symptoms of intoxication develop, the pregnancy should be interrupted, and if some reliable means of testing the liver function could be devised, this could be done in time to prevent serious consequences. Williams found that the ammonia in the urine rose from an average of 4 to 38 per cent. in his cases. The Strauss levulose test might also prove useful in this connection. Loss of weight is not a reliable index, as this is determined more by the loss of fluids from the excessive salivary and gastric secretions in these cases. The neurosis and the toxemia are only different stages of the same process, and, while the first phase lasts, every effort should be made to prevent the transition into the second phase.

78. **To Prevent Brachial Paralysis After Operations in Trendelenburg Position.**—Instead of hard rests for the arms, Horst commends a rest supplied with an inflatable rubber cushion for each arm. Such have been in use for some time at Olshausen's gynecologic clinic at Berlin, and the patients no longer complain of aching shoulders or stiffness in the arms after operations.

79, 82 and 83. **Suprarenal Treatment of Osteomalacia.**—Puppel reports a case of osteomalacia appearing about the third month of pregnancy in a ii-para of 19. By the eighth month she was bedridden. Phosphorus and iron failed to give relief, and a small dose—1 c.c. of a 1 to 5,000 solution of a suprarenal preparation—was injected. The injection was followed by transient vomiting, palpitations, tremor and precordial anguish, as again after a second injection three days later. Two other injections were given, all within eleven days, at the end of which time the patient was up and attending to her household duties, clinically cured. The child was delivered at the ninth month; the first child had also been born at the ninth month. No further symptoms of osteomalacia have been noticed since. A second patient, an viii-para of 34, all of whose children had been more or less rachitic, presented symptoms of osteomalacia for the first time in the eighth month of pregnancy, and the suprarenal treatment was instituted, but without the least result except the same by-effects as had been observed in the other case. Nearly three times as much of the preparation was injected in this case, but without benefit. Neu discusses the various communications on this subject that have appeared, and the contradictory results in the experience of various authors. He urges all who try this method to state in their reports the details in regard to the source of the preparation, animal or synthetic origin, age of the solution, and the single doses, computed according to the amount of the substance, as, for example, 0.5 c.c. of a 1 to 1,000 solution of adrenalin represents 0.0005 gm. (1/134 grain) adrenalin. Bossi announces that further experience is confirming his assertions in regard to the cure of osteomalacia in women by administration of suprarenal extract, and also that removal of part or the whole of the suprarenals in animals induces true osteoporosity in the skeleton in the course of a few days, sometimes in less than fifteen days. Radioscopy of all the sheep from which he removed one suprarenal, showed in from eleven to fifteen days a notable porosity of the bones of the pelvis with curvature of the bones. He is soon to publish the detailed report of his experiences, with the skiagrams. Abnormal amounts of salts were always found in the urine of the animals. His experience suggests that suprarenal extract might stimulate the ossification of the bones which, in rachitis, lags behind the development of the child in other respects corresponding to its age. The bones remain too soft and bend under the weight of the body. If the process of ossification can be stimulated by administration of suprarenal extract, he claims that then it will be possible to prevent the development of deformity in the skeleton, especially in the pelvis, and to cure the rachitis. The results were good in two rickety children whom he treated on these principles. Jovane of Naples reported at the Italian Pediatric Congress in October that he had obtained good results in 18 little girls under this treatment. Jemma also reported good results in 10 cases at Palermo.

Deutsche medizinische Wochenschrift, Berlin.

December 12, XXXIII, No. 50, pp. 2073-2120.

85 *Courses of Dieting. (Diätkuren.) A. Albu.
86 The Newer Medicines Used in Pulmonary Tuberculosis. (Neuere Heilmittel gegen Lungentuberkulose.) C. P. Hilbert.
87 *Resection of First Costal Cartilage to Combat Incipient Apical Tuberculosis. (Resektion des ersten Rippenknorpels wegen beginnender Lungenspitzentuberkulose.) W. Kausch.
88 *Ocular Reaction to Tuberculin. (Ophthalmoreaktion.) F. Kohler.
89 Two Cases of Muscular Stenosis of the Left Conus Arteriosus. (Linkseitige muskulöse Conusstenosen.) A. Schmincke.
90 *Negative Influence of Mercurial Treatment of Syphilis on Development of Parasyphilitic Nervous Affections. (Hg-Behandlung der Syphilis und metasyphilitischer Nervenkrankheiten.) P. Schuster.
91 Sulphur in Therapeutics. (Therapeutische Verwendung des Schwefels.) E. Riecke.

92 Unreliability of Ordinary Graduated Glasses and Droppers. (Einnehmegläser und Tropfgläser.) G. Edlefsen.

December 19, No. 51, pp. 2121-2168.

93 Prevention and Treatment of Perineal Lacerations. F. Ahlfeld.
94 Treatment of Tuberculosis with Marmorek's Serum and "New Tuberculin." M. Elsaesser.
95 *Treatment of External Anthrax. (Therapie des äusseren Milzbrandes.) O. Creite.
96 *Experiences with Mammitis, Especially Treatment with Suction Hyperemia. (Brustdrüsenentzündungen.) F. Heinsius and W. Lissauer.
97 Pressure-raising Substances in Blood in Chronic Nephritis. (Drucksteigernde Substanzen im Blute bei chronischer Nephritis.) H. Schur and I. Wiesel.
98 Wright's Opsonic Method. (A. E. Wright's Inokulationsmethode.) T. Neuburger.
99 Treatment of Psoriasis with Ultraviolet Rays. (Behandlung der Schuppenflechte mit Ultraviolettenstrahlen.) P. F. Becker.

85. **Courses of Dieting.**—Albu mentions a number of important minor points in the course of his review of the various systems of dieting. He believes that important progress has been made in the discovery that superalimentation can be pushed even when the digestive apparatus is below par, especially the motor function. Atony and ptosis of the stomach seem to be particularly favorable objects for superalimentation—*Mastkur.* These conditions, he asserts, are never local affections, but merely manifestations of a general relaxation of the tissues. The superalimentation must be modified in these cases to supply the food in more concentrated form than under other conditions, or the fluids must be fractioned and taken in smaller amounts at one or two hour intervals. The latter modification is often useful even when the digestive tract is intact. He says further that he has frequently applied superalimentation in neurasthenia without resorting to meat, with brilliant results. It is not necessary always to keep the patient constantly in bed. A certain amount of exercise seems to increase the appetite. Not more than two quarts of milk a day should be allowed. By evaporating the milk down to half its bulk, the stomach is spared the useless task of taking care of so much water. Constipation from the milk is combated by addition of milk sugar, and a tendency to diarrhea by lime water. A vegetable diet is practically a reduction of the average amount of nourishment, satisfying hunger without supplying many calories, especially with potatoes, fruits, etc. Grapes stimulate intestinal activity by their sugar and acid contents, and a "grape cure" is especially indicated in chronic constipation; the grapes should be eaten before breakfast and before retiring, and an hour or so before the noon meal. As much as three pounds can thus be eaten during the day. The "lemon cure" has no scientific basis as yet, but its practical value is beyond question, he states, although it has been exaggerated. Besides an energetic action on the intestines, gouty affections and obesity are often benefited by the lemons. Not more than two or three lemons a day should be taken, and these in the form of lemonade; the patient should refrain from milk and fat foods at the time. In the dietetic regulations for diabetics, a "starvation day" or a period with vegetables or oatmeal only should be interposed from time to time. The oatmeal diet should not be kept up longer than three or five days. He concludes with the statement that restriction of water and salt in the dietary seems to be proving an effectual curative factor in the treatment of heart and kidney affections with failing compensation. Restriction of salt is also particularly useful in epilepsy, thus allowing the bromid given to take the place of the missing sodium chlorid in the tissues and juices.

87. **Resection of First Costal Cartilage for Apical Tuberculosis.**—Kausch performed Freund's operation on a woman of 53 with an incipient tuberculous apical process. He resected a segment of the ossified first costal cartilage, thus mobilizing the rib. The operation proved simple and harmless and is, he thinks, the first on record in which it was done for an incipient tuberculous process. The resection of a single cartilage is, of course, much less serious than the multiple resections required in case of emphysema.

88. **Ocular Reaction to Tuberculin.**—The reaction was positive in 95 per cent. of 169 tuberculous patients. The disease was in an advanced stage in the negative cases.

90. **Mercurial Treatment of Syphilis and Development of Tabes and Paralysis.**—For years Schuster has been collecting data in regard to the preceding mercurial treatment in all his cases of parasyphilitic nervous affections. In 75 cases of tabes with a verified history of syphilis, only 17 (22.7 per cent.) of the patients had never had mercurial treatment; 31 (41.3 per cent.) had taken a single course; 13 (17.3 per cent.) two courses, and 14 (18.7 per cent.) had had from three to eight courses. In 35 cases of paralysis after verified syphilis, only 3 (8.6 per cent.) of the patients had never had specific treatment; 21 (60 per cent.) had taken a single course; 5 (14.3 per cent.) had taken two courses, and 6 (17.1 per cent.) had records of from three to nine courses. In 76 cases of cerebrospinal syphilis, 10 (13.2 per cent.) of the patients had never had mercurial treatment; 36 (47.4 per cent.) had had one course; 15 (19.7 per cent.) two courses, and 15 from three to six courses. No cases are included in these statistics except those in which the records of the syphilis and of the treatment were verified as authentic. A surprising fact brought out by this study is that the interval between the primary lesion and the development of the nervous trouble was not lengthened by the mercurial treatment. On the contrary, the interval was longest in the untreated cases and briefer in proportion to the number of courses that had been taken. In Eulenberg's 27 tabetics the nervous trouble first manifested itself after an average interval of 12.4 years among the 13 untreated patients; after 9.3 years in the 11 patients who had taken a single course, and after 5 years in the 3 who had had from two to four courses In Dinkler's 49 cases the intervals were respectively 11.7 years, 10.6 years and 6.5 years. The range in Schuster's 75 tabetics was from 13.4 years in the untreated to 7.9 years in the cases in which the largest number of courses had been taken. In paralysis also there was nothing to indicate that the interval had been prolonged by the mercurial treatment. From all this material Schuster draws the conclusion that the evidence is against the assumption that mercurial treatment wards off or retards the "metasyphilitic" nervous affections. The evidence seems, rather, to favor the view that these nervous affections are the work of the antibodies of syphilis, and that the syphilitic virus itself is not responsible for them. Biologic tests have shown that mercurial treatment does not expel the antibodies from the blood. The clinical picture of tabes and paralysis is the same whether the formerly syphilitic patient received mercurial treatment or not, while clinical and biologic evidence is accumulating to sustain the theory that the nervous after-affections of syphilis are caused by the antibodies generated in the course of the disease, and on which mercury seems to have little influence.

95. **Treatment of External Anthrax.**—Creite protests against the mutilating and cauterizing treatment of external anthrax as unnecessary, and reports thirteen cases which seem to emphasize the advantages of his conservative, harmless technic. The patient is kept quiet in bed, with the affected limb suspended when possible, and the lesion dressed with a disinfectant fluid, preferably a 2 per cent. solution of aluminum acetate. In twelve of the patients the lesion was on the arm, and under this simple treatment they promptly recovered with no disturbance in the functioning of the arm.

96 **Suction Hyperemia in Treatment of Mastitis.**—Heinsius' experience with fifteen patients confirms the benefit from Bier's cupping-glass treatment of mastitis. Mastitis thus treated does not impair the mammary function later. The pain was relieved at once and healing hastened. He adds that the only disadvantage of the method is that it requires the constant oversight of the physician.

Münchener medizinische Wochenschrift.

December 10, LIV, No. 50, pp. 2465-2512.

100 *Extra Systoles in the Pulsation of the Auricles. (Vorhofpulsation.) E. Rautenberg.
101 *Tube Casts and Albumin in Urine. (Zylindrurie und Albuminurie.) P. Asch.
102 Study of the Mendel-Bechterew Dorsal Foot Reflex. E. Osann.
103 *Decapsulation of the Kidney in Eclampsia. (Nierendekapsulation bei Eklampsie.) O. Franck.
104 *Postoperative Pulmonary Complications and Thrombosis After Ether Anesthesia. A. Otte.
105 Uselessness of Addition of Suprarenal Preparations in Spinal Anesthesia. (Wertlosigkeit des Zusatzes von Nebennierenpräparaten bei der Lumbalanästhesie.) F. Michelsson.
106 Erotic Epididymitis. L. Waelsch.
107 Postoperative Dietetic Treatment of Pancreatic Affections. (Totalexstirpation einer Pankreaszyste.) W. Schmidt.

108 Case of Swine-Erysipelas in Man, Cured by Swine-Erysipelas Serum. (Schweinerotlauf beim Menschen.) A. Welzel.
109 Pigmentation of the Nails in Secondary Syphilis. H. Vörner.
110 Sterile Raw Catgut. (Steril-Rohkatgut.) F. Kuhn.
111 Ramie Fibers for Surgical Sutures. (Ramiezwirn als chirurgische Faden.) M. Madlener.
112 Simple Fermentation Saccharometer for the General Practitioner. (Einfacher Gärungssaccharometer.) A. Basler.

100. Analysis of the Extra Systoles in Pulsation of the Auricles.—Rautenberg presents the tracings of the pulsation of the auricles registered through the esophagus, and analyzes the findings. They seem to throw light on several obscure points in regard to the contractions of the heart.

101. Tube Casts and Albumin in Urine.—Asch emphasizes the necessity for microscopic examination of the urine as well as determination of the proportion of albumin, and relates the results of tests on sixty dogs to determine the influence on the kidney of various bacteria and their products. There may be tube casts in the urine without even a trace of albumin.

103. Decapsulation of the Kidney in Eclampsia.—Franck reports a case of rebellious eclampsia in which he performed decapsulation of the kidney, and he compares the results with those in nine similar cases that have been reported. The eclampsia subsided in his case, but the patient succumbed to an intercurrent pneumonia. Autopsy seventy-two hours after the decapsulation showed that the kidney had become firmly adherent to the adjacent tissues, and he believes that this explains the benefit derived in these cases. The circulation is promoted by these adhesions as by a Talma operation to establish collateral circulation in case of ascites. In the 10 cases on record the decapsulation was followed by rapid recovery of 6 of the patients; in 2 cases no benefit was manifest, and in 2 others improvement was probable but not pronounced. In 8 cases the woman had been delivered before the decapsulation, including one case in which no influence from the operation was apparent. In the other cases the decapsulation had been done before the evacuation of the uterus, the results being successful only in one instance. It is dubious whether the fatal termination in one of Edebohls' cases should be ascribed to the decapsulation, and the collapse in Polano's case was the result of pulmonary edema. All the other patients recovered. Even if this mortality of 30 per cent. is ascribed to the operation, it is such a lowering of the average death rate in severe eclampsia in which the convulsions continue after the uterus is emptied, that immediate decapsulation should be advised in all such cases, he declares.

104. Prevention of Postoperative Pulmonary Complications and Thrombosis.—Otte, assistant at Rissmann's maternity, states that the technic for general anesthesia which is used there has prevented any serious complications during the seven years since it was introduced. The special features are thorough disinfection of the mouth and air passages and protection of the patient against chilling. The patient's mouth is rinsed out repeatedly with a disinfectant wash and the evening before the operation she inhales the steam of a mixture of 0.2 parts thymol; 1 part salicylic acid; 5 parts alcohol, and boiling water to 200 parts. This inhalation is kept up for half an hour and repeated the next morning just before the operation. Half an hour before the operation 0.01 gm. (1/6 grain) morphin is injected. Ether is used for the anesthetic, in graduated amounts for graduated intervals of time: commencing with 10 c.c., two minutes later 20 c.c., two minutes later 10 c.c., and then 5 c.c. every five minutes, or 10 c.c. if needed, increasing to 10 c.c. occasionally. After the operation the patient is warmly wrapped in hot blankets and a hot sheet laid over her face, to protect against chilling as she is wheeled from the operating room through the corridors. The bed is warmed with hot-water bottles and a nurse waits beside the bed, arranging the inhalation apparatus so that the patient inhales the disinfectant fumes even before she rouses from the effect of the anesthetic. Even in patients with pre-existing respiratory affections no aggravation of these has occurred since this technic was introduced. The inhalations are kept up later, using merely a salt solution, and the results have been surprisingly fine. He believes that this is due mainly to the deep breathing that accompanies the use of the inhaler. The long, deep breathing has a favorable action on the venous circulation, besides its other advantages, and effectually does away with the necessity for the patient's getting up very early after the operation, to regulate the circulation. The patient is asked to change her position and move her limbs, cautiously but frequently. Otte regards this technic as simpler and less harmful than spinal anesthesia to date, although he still prefers the latter for extensive prolapse operations on elderly women.

Hygiea, Stockholm.

November, LXIX, No. 11, pp. 1057-1170.

113 Magnus Huss, 1807-1890. P. J. Wising.
114 *Ulceromembranous Angina. Vincent's Angina. G. Holmgren.
115 *Pancreatic Cysts and Their Surgical Treatment. (Pankreascystor.) C. Adlercreutz.
116 *Blood Findings in Dementia Præcox. (Blodundersokningar pa sinnessjuka.) H. Lundvall.

114. Ulceromembranous Angina.—Holmgren reports ten cases and compares them with those that have been published in The Journal and elsewhere. He found a gargle of 2 per cent. hydrogen dioxid very useful, followed by topical application of a 2 per cent. solution of silver nitrate or 2 per thousand bichlorid of mercury solution or Vincent's tincture of iodin. When the ulcerating tonsil was removed, the process was arrested at once. The bacteriologic findings are shown in a colored plate.

115. Cysts in the Pancreas.—Adlercreutz reports a case and devotes nearly thirty pages to the history of surgical treatment and the end results.

116. The Blood Findings in the Insane.—Lundvall gives the tabulated details of repeated examination of the blood in seven men and four women, all suffering from dementia præcox. The findings seem to show a periodical accumulation of toxins with corresponding "blood crises," evidenced in destruction of the red corpuscles and increase of the white. When these "blood crises" reach a certain intensity, psychic symptoms are observed.

Norsk Magazin for Lægevidenskaben, Christiania.

November, XLVIII, No. 11, pp. 1241-1360.

117 Poliomyelitis in Norway in 1868. (Et gammelt aktstykke.) C. Leegaard.
118 Stokes-Adams Syndrome and Heart Block in Man. P. F. Holst.
119 Thiosinamin in Treatment of Ear Affections. (Thiosinamin—et hjælpemiddel ved behandling af øresygdomme.) H. Daae.
120 Beriberi. V. Uchermann.
121 Mastoid Resection in Case of Interposed Sigmoid Sinus. R. Gording.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Very Young Ovum in Situ. By Prof. G. Leopold, Geheimer Medizinalrat, Director of the Royal Gynecologic Clinic and School for Midwifery. Authorized English translation, by W. H. Vogt, M.D., Gynecologist and Obstetrician to the Lutheran Hospital, St. Louis. Cloth. Pp. 69, with 16 lithographic plates. Price, $3.50. St. Louis: C. V. Mosby Co., 1907.

Pollution of New York Harbor as a Menace to Health by the Dissemination of Intestinal Diseases Through the Agency of the Common House Fly. Report by Daniel D. Jackson, S.B., to the Committee on Pollution of the Merchants' Association of New York. Paper. Pp. 22. New York: Merchants' Association of New York, 1907.

Pharmaceutical and Chemical Problems. By Oscar Oldberg, Ph.D., Professor of Pharmacy and Dean of the School of Pharmacy of Northwestern University. Fourth Edition, Revised and Enlarged. Cloth. Pp. 369. Price, $3.00. Chicago: Chicago Medical Book Co., 1907.

Pathology. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H., Professor of General Pathology and Bacteriology in King's College, London. Second Edition. Cloth. Pp. 585. Price, $3.25. Philadelphia: P. Blakiston's Son & Co., 1907.

One Hundred Years of New Hampshire Surgery. A Brief Sketch of the Life and Work of New Hampshire Surgeons from 1800 to 1900. By Frank Blaisdell, M.D. Paper. Pp. 40. Manchester: John B. Clarke Co., 1907.

National Association for the Study and Prevention of Tuberculosis. Transactions of Third Annual Meeting. Paper. Pp. 370. Philadelphia: W. F. Fell Co., 1907.

Thirty-Second Annual Report of Lawrence General Hospital and Children's Home. Paper. Pp. 70. Lawrence, Mass.: Lawrence Bindery Co., 1907.

Mortmain. By Arthur Train. Cloth. Pp. 314. Price $1.50. New York: D. Appleton & Co., 1907.

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Original Articles

THE FACTORS WHICH INFLUENCE THE PERMANENCE OF CURE IN OPERATIONS FOR CANCER OF THE BREAST.*

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Cancer of the breast is the commonest form of malignant disease met in practice. It still remains the scourge of womankind, and unlike its twin devastator, tuberculosis, it can be early recognized and, by radical surgery, can be absolutely stamped out. It is not an inaccessible disease. It commits its ravages by daylight. It challenges the attacks of the surgeon and has mocked his tardy efforts for ages.

This disease has had lavished on it a stupendous amount of technical skill in the unravelling of its pathology and has had brought to bear on it the greatest thought of the surgical world. The one thing needful at the present time is a keener appreciation on the part of the profession of the necessity for early recognition, and this in turn depends on the realization and conviction that 90 per cent. of all lumps in the breasts of women past the age of 30 are, or will become, cancer. Thirteen out of fourteen tumors in the breasts in women beyond 40 years are malignant.

Unfortunately, cancer is on the increase. It is getting to be more common in the young and in races formerly immune. There are four times as many deaths from cancer in England as occurred fifty years ago. Leaf considers that the four antecedents that predispose to cancer of the breast are: 1, Errors of lactation; 2, family history of tumors of the breast; 3, injury (history of trauma in over one-third); 4, worry and anxiety. It is perhaps a combination of all these causes, with or without mastitis, that gives such a large number of tumors of malignant tendency in this gland. The male breast is affected with cancer once to every 177 cases in woman and 60 per cent. of the male cases are traumatic. In women only 6 per cent. involve both breasts. I have, however, removed the sister breast ten years after the first amputation.

While we do not know the cause of cancer, and may never know until the cause of cell growth and life itself is made manifest, we now know its mode of extension by the lymphatics and this offers the key to the operative treatment. We must not only remove the visible diseased tissue, but the glands and adjacent tissues which harbor the lurking and invisible cancer cells. Improvement in results depends on early diagnosis. Cancer itself is at first local and quite curable. It only becomes incurable when its unfortunate victim harbors the disease and conceals it like the Spartan youth who hugged the stolen fox to his breast without a murmur, though it gnawed at his vitals. Delay is the factor which really renders the disease incurable. It is in the promptitude of detection that deliverance lies and the chance of cure diminishes with every day of delay. In every woman who dies from cancer of the breast there was a time in its beginning when it was absolutely curable.

Technical improvements seem to have reached their limit. In the pre-antiseptic period Billroth only removed the tumor itself and left the gland. This yielded only 7.4 per cent. of permanent cures. These early experiences have begotten a deep-rooted belief in the mind of the laity and even of some members of our profession that cancer is well-nigh a hopeless malady. Moore and Mitchell of Liverpool developed the removal of the axillary lymph nodes in 1867-77, respectively. Volkmann and Kuster next added the removal of the fascia from the pectoral muscles in 1882-1883. Then Gross and Heidenhain in 1889 advised and practiced the removal of the pectoral muscles themselves. Finally, Halstead in 1894 adopted all of these practices and took the final steps in the perfection of our present-day technic in practicing the wider extirpation of the skin and taught us the wisdom of extensive operations.

In spite of these improvements, however, Pilcher laments the fact that "on the whole one is almost driven to the conclusion that a surgeon never sees cancer of the breast in any other form except the advanced stages." This can not be said of a general practitioner, because to him many of these patients first make their complaint. The most important factor, therefore, in the permanence of cure in this dreaded affliction is the length of time which the tumor has been in existence. This may be divided into three periods: 1. The time which elapses before the patient discovers the tumor. 2. The time elapsing after the discovery of the tumor before the first consultation is had. 3. The time elapsing after the physician has seen the tumor. The first period is of unknown duration. Then comes the known period of its existence after she discovers it in which she delays seeing the physician. And then, again, there is the known period in which the doctor delays advising the removal of the tumor.

In the cases, therefore, that show marked evidence of delay, one-half are due to the ignorance of the patient and the other half, I regretfully record, are through the counsel of the physician who examines the patient at the period when there is a tumor and perhaps without glandular involvement and advises delay. It should be our first duty to utilize all opportunities to instruct our patients that a large percentage of all cancers can be cured by operation in the beginning and by no other way! It is a fatal mistake to keep a woman under observation for months with salves and applications until the real situation is forced on us. The golden opportunity for early and complete removal is past and the prospect for cure, even with the most skilled surgery, is very slight. It would be ridiculously stupid if it were not pathetically tragic when we are guilty of waiting for the very complications to confirm our suspicions, which, when they do occur, make us realize that the case is hopeless.

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* Read before the Tennessee State Medical Association.

Exploratory abdominal section has had a wide field of employment. It is much more necessary to make an exploratory incision into a suspicious breast than into the abdomen, and it should be resorted to in all cases. If we could wage as vigorous a crusade against cancer as has been successfully waged against appendiceal affections, it would add many precious years to the span of human life.

As long as 80 or 90 per cent. of lumps in the breast are or will become malignant, they are much more serious than any intra-abdominal complaint, and should be examined with the same zeal that has characterized our efforts in unravelling the pathology and cause of disability in the abdomen. As Rodman says, it is more important to make an early diagnosis in cancer of the breast than it is in appendicitis. Some of these patients may and do get well without operation, whereas neglected operations in breast cancer leads inevitably to the most loathsome and horrible of deaths. Women with lumps in their breasts do not understand their danger. They are afraid of operation on account of ignorance of its safety and the great probability of permanent cure in the early stages because of an unfavorable result in some friend who was probably operated on in an advanced stage.

But worse, she may be ill advised by the ultra-conservative physician or surgeon, who, although honest, is not keenly alive to the burning fact that the mammary lumps are nearly always malignant, or will become so if left alone, and gives the fatal advice to "come back in the fall," or "not to bother it until it bothers you." How can we ignore the advice of that ripe surgeon, Maurice Richardson, who tells us that "all neoplasms wherever situated should be removed if possible as soon as discovered." Rodman says: "He who advises a woman with tumor of the breast to wait is guilty of an unwarranted and censurable act."

Yet there is nothing more simple than the microscopic examination of a lump in the breast. The tumor if small and undetermined, can be easily removed through a slight incision, and if large, a portion can be removed and sent to the pathologist for examination. The resulting wound can be left open with two or three provisional sutures and packed with gauze saturated in Harrington's solution or with alcohol to prevent any of the cancer cells from wandering into the blood vessels and setting up metastasis. A better plan, and the one which I am following at the present time in all suspicious tumors, is to have a freezing microtome and a pathologist in attendance on these operations. A small piece of the tumor is removed and frozen, sectioned, instantly examined and a report is returned in from three to ten minutes. If malignant a radical operation can be proceeded with at once, and if not the tumor can be removed with ease and rapidity to the relief of the patient and the satisfaction of the surgeon.

I do not know of a more happy conclusion than to find that a suspected tumor turns out to be innocent. I regret to say that this is the exception and not the rule in cases where clinical evidence points to malignancy. I should, therefore, most earnestly urge that when in doubt the tumor should be removed with its capsule or adjoining tissue, no matter if it is no larger than a hazelnut. If all tumors of that size were so treated and radical operations performed in the malignant ones, the permanence of cure would be above 90 per cent. I believe this would save more lives than any prophylactic measure that is practiced at the present time.

Unfortunately, when these patients first present themselves we have a nodule that can not be moved about in the gland, there is a retraction of the nipple from infiltration of the subareolar lymphatic vessels that points so unerringly to scirrhus and there is little doubt about the diagnosis, especially when there is involvement of the lymph glands in the axilla. Retraction of the nipple and elevation above the horizontal line through the nipple of the opposite breast is pathognomonic of scirrhus. Adenocarcinoma does not produce this elevation of one nipple above its twin. All of the diagnostic signs of cancer that we learned as students are really its complications. We must relearn the importance of suspecting, and microscopically proving the diagnosis in tumors of the breast no larger than peas.

External cancer does not kill locally, but always through metastasis and almost universally by the lymph streams. It therefore may be stated as a surgical axiom that has been proved repeatedly that cancer is entirely a curable disease when situated in an organ or tissue which of itself is removable without causing death, provided it has not extended beyond its immediate or primary lymph efferents, which are also completely removable. It is now generally recognized that in young subjects cancer is particularly pitiless on account of the active and succulent lymphatic dissemination. This is very much more rapid in the young, just as all other infections are. The younger the patient, therefore, the worse the prognosis. In elderly persons where there is a general atrophy of the lymph system and changes in all the vessels, dissemination is more slow. Cancer will remain local a longer period of time. The older the patient, therefore, the better the prognosis.

In the breast there are six routes of lymphatic distribution. The first and most common is in the axillary region. Second, in the neck, extension occurring over the clavicle and also under it. Third, the anterior thoracic glands through the lymphatics that return with the intercostal vessels. Fourth, the posterior thoracic glands involved by the lymphatics of the internal intercostal muscle. This extension is almost inevitable when the gland is fixed to the chest wall. Fifth, across to the other breast. Sixth, down the epigastric fascia into the abdomen.

Sampson Handley[1] of London claims that the lymphatics are the routes of extension of this dreaded disease rather than the blood, as formerly taught. He found that in 12 per cent. of autopsies the abdominal cavity was the seat of metastatic deposits, while the thorax was free. This is explainable on the ground that this takes place by way of the minute lymphatics that travel under the deep fascia to the epigastric fascia which leads to the peritoneum and allows the cancer cells to be showered into the abdominal cavity. He advises removal of this fascia in addition to the Halstead operation.

While urging the importance of early diagnosis, we must recognize our utter hopelessness in the face of delay and advanced disease. While in delayed cases operation nearly always prolongs life, if we declined those late and unfavorable cases more good would accrue to the community than by performing partial operations which must of necessity be disappointing. It is this fact which has made the laity so prone to avoid operation. If we would plainly tell these late patients that operation is hopeless, their neighbors and relatives profiting by that sad experience, would seek relief earlier, whereas, in our well-intended but futile efforts in the bad cases, the necessarily melancholy results discourage those who otherwise would be operated on in a curable period.

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[1] Hunterian Lecture, 1905.

The contraindications to operation may be enumerated as: 1, Fixation to the chest wall; 2, extensive axillary involvement where all the structures are fused; 3, enlargement of the supraclavicular glands which are secondary groups; 4, the pigskin edematous lymphatics over the breast signifying that all the routes of lymph return are blocked; 5, multiple shot-like nodes in the skin commonly seen after osteopathic treatment, which bruises the vessels and spreads the cells over the chest with the formation of infected nodes; 6, suppuration of the cancer itself. The only operative fatality in my series occurred in a case of this character; 7, cachexia, the sad death mask of constitutional dyscrasia.

Some years ago we had sanguine hopes of the efficacy of the wonderful *x*-ray. It has proved almost totally disappointing in the management of malignant disease. While it can not cure cancer, except the most superficial forms of epithelioma, it will produce a higher type of local resistance. It will contract the lymphatics and deposit fibrous tissue in and about the glands which delays progress.

It is on the same principle that Dawbarn ligates the arterial supply to starve and thus delay malignancy. The *x*-ray should be employed after operation, especially in the advanced cases. With this agent I now have a series of patients living, after five years, without recurrence of the disease. I am quite sure my percentage of cures has been augmented by this agent, although, to be sure, as one's experience increases the selection of cases and the technical perfection of the operation must not be denied its quota of usefulness.

Early operations on patients in whom the disease is discovered in middle and advanced life are favorable. At operation if the glands are involved only in the outer axillary region the case is still favorable. The nearer the growth approaches the clavicle the more unfavorable becomes the prognosis. If the glands have extended under the clavicle the prognosis is extremely unfavorable. Rodman believes, however, that operation in the first year should yield a permanent cure in 75 per cent. of cases.

Halstead has reported 50 per cent. of permanent cures, and Cheyne in his private practice reported 17 out of 34 cases who were living and free from recurrence from six to seventeen years afterward. Childe quotes a report of 46 cases with 17, or 36.9 per cent., who remained well from five to twenty years. Formerly we fixed an arbitrary limit of cure at three years. Gross after an extensive investigation found that only 2.3 per cent. recurred after three years. We then increased it to five years and now the surgeons say that ten or more years are demanded of freedom from recurrence before a cure can be said to be permanent. Practically, however, at the cancer age most patients who can be given a ten-year immunity will die of so-called natural causes before the disease returns.

As knowledge becomes more general as to what has been and can be done by surgery for the cure of this malady less hesitancy will be displayed by its victims and they will avail themselves of the only help that can be offered. The local disease can be removed with cure if there is no metastasis, but a single remote metastasis will discount the beneficence of the most skilled surgery. The surgery of the past in cancer of the breast was incomplete operation for advanced disease; of the present, complete operation for advanced but still operable cases. The surgery of the future is complete operation in early and therefore curable cases.

TECHNIC.

Without going into the detailed description of the operation the essential steps may be summarized as follows: The most convenient position for the patient's arm is to be tied upright to an Edebohl's stirrup. This gets the hand out of the way and dispenses with another assistant and puts the arm in an easy position for dissection of the axilla.

A modification of the Jackson incision gives the best access to the axilla and allows the maximum of the skin covering available to be utilized. The incision should be shelving to undermine the flaps and not leave any nodules of the gland encircling the tumors; at least two inches should be allowed from the margin of the growth.

Kocher's idea of doing the axilla first has many advantages. It is the most important and difficult part of the work and should be done while the surgeon is fresh. It secures all the blood vessels in the beginning, whereas if the operation is planned from the center toward the axilla one will of necessity cut the same vessels over and over again. The mammary gland should be the last thing to be removed, and it will thus serve the useful purpose of keeping the breast covered and avoid chilling the chest during the tedious dissection of the axilla. In severing the greater pectoral muscle the clavicular portion may be saved because it covers the vessel line and has a separate nerve supply and does not interfere with the removal of the gland-bearing fascia which is the essential feature of the operation.

The pectoralis minor muscle should be removed with the tumor mass and the fascia harboring its glands. It will thus be seen that from the apex of the axilla to the last remnant of the chest attachment the mass should be removed in one unbroken piece. The neck should not be gone into as a routine unless the growth is in the axilla which has almost been the *bete noir* of the surgeon.

I can not lay too much emphasis on the ease of the dry dissection by gauze mops covering the index finger aided by occasional snipping and spreading of the tissue with the probe-pointed Mayo's dissecting scissor.

In addition to the axillary drainage which is made through a separate puncture and conducted by the split rubber drainage tube containing gauze, an additional puncture should be made over the angle of the ribs for another cigarette wick drain, as it is otherwise impossible to drain this area adequately.

In conclusion I should like to call attention to the approximation and tension sutures employed by the Mayos, which consists in taking a wide bite of one flap, then allowing the needle to perforate only the edge of the opposite flap and of the corresponding margin and then widely on the opposite flap in a figure of eight shape and tied over all. This makes a double suture, which accurately approximates the margin of the incision and also acts as a tension suture.

The mortality of twenty-one surgeons in 600 cases is nine-tenths of 1 per cent. It will thus be seen that this operation has less morbidity than perhaps any operation of equal extent that has made surgery so beneficent to the human race.

THE APPEARANCE OF GLYCURONIC ACID IN CERTAIN CONDITIONS OF DIMINISHED OXIDATION.*

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Considerable scientific interest has recently been aroused with reference to the origin and importance of glycuronic acid or its conjugate salts in carbohydrate metabolism, and especially in diabetes mellitus. Paul Mayer, in a series of papers, advanced the view that since glycuronic acid represents the first step in the progressive oxidation of dextrose into CO_2 and H_2O, this compound would necessarily appear as an incompletely oxidized product of dextrose combustion when, as in the incipient stages of diabetes, the body was beginning to lose its power to oxidize the carbohydrates. In substantiation of this Mayer[1] presented the results of the study of some cases of so-called incipient diabetes and of dyspnea in which he detected the elimination of glycuronates in quantities far in excess of the normal. So far as I am aware, no further notice of this point has been taken clinically, although, theoretically considered, the presence of this compound in the urine would be an invaluable aid in indicating early stages of diabetes.

This short communication deals with the search for glycuronates in the urine of patients exhibiting glycosuria of diabetic or other origin and of those who had undergone operations in which ether or chloroform had been employed. It is well known that under conditions of anesthesia the organism finds itself in a state of diminished oxidation and also that at such times, more especially after the use of chloroform, the urine voided after operation not infrequently shows a positive (?) reaction to Fehling's test. With these points in mind, it seemed advisable to conduct a second series of tests on urine eliminated under these various conditions and to attempt to decide to what could be attributed the reducing power noticed.

Methods.—In the first series of tests the glycosuric urines were examined quantitatively as follows: By means of Fehling's and Gerrard's titration methods, by Lohnstein's newest model of saccharometer and by polarization before and after fermentation.

In the second series of determinations qualitative examination was made before and after yeast fermentation, using Fehling's, Nylander's, phenylhydrazin, orcin and polarization tests. In this way it was expected that the appearance of any substance other than dextrose could be detected. In connection with the postoperative urines a portion voided within twenty-four hours preceding the operation was examined as a control in the same manner as the postoperative sample. The anesthetics were given in the usual way, with the exception that when chloroform was employed oxygen was administered in a more or less uniform ratio to the anesthetic, this ratio depending on the character of the operation. On the average the administration amounted to fifteen minims of chloroform and three to four liters of oxygen per minute.

Before the results are discussed it becomes essential to call attention to some points as regards the manner in which the various tests were performed. No qualitative copper test for dextrose in the urine is so widely employed as Fehling's, while, at the same time, none is so carelessly performed. As a result, ambiguous findings are constantly obtained and errors in diagnosis frequently occur. The main purpose in view, when the test is applied to the urine, is to detect the presence of dextrose as against other reducing bodies, i. e., uric acid, creatinin, pentoses, lactose, etc. Since grape sugar is capable of reducing copper much more readily than any of the other compounds which might simulate it, the most suitable conditions for the test are as follows: First, the copper should exist in its most active or ionized condition; second, the quantity of the other reducing substances in the urine must become reduced to such a minimum that they are powerless to transform the copper while the amounts of dextrose still present remain active; third, the mixture should never be boiled after the addition of the urine. The first two conditions are met when the Fehling's solution is diluted and the urine added in much smaller quantities than is usually suggested in the various text-books on urinary analysis. The third is easily accomplished, although sufficient importance is not usually attached to it.

The disadvantages of using large amounts of urine (an equal or even one-half volume of the Fehling solution) are twofold. In the first place, the strongly alkaline copper solution, especially in urines of high specific gravity, throws down a more or less voluminous precipitate of cupric phosphate which takes out the blue color of the solution and changes it to a dirty dark green. In the second place, the alkaline solution, acting on the ammonium salts of the urine, liberates sufficient ammonia to hold in solution small amounts of the red suboxid, obviously interfering with the detection of traces of dextrose. Reductions obtained under such circumstances are never typical. Very frequently under these conditions, and particularly if the mixture has been boiled even for only a few seconds after the addition of the urine, the greenish solution slowly takes on a dark, yellowish brown color, then becomes more turbid, and eventually, on standing, there separates out a finely divided, opalescent, yellowish green, cloud-like precipitate, which only settles out completely after the tube has been allowed to stand over night. In certain cases this reaction does not begin until a few minutes have elapsed after the addition of the urine. Such a reaction may be termed a pseudo-reaction. We recently had occasion to observe such changes occurring in concentrated urines of dogs even after the addition of only 8 to 10 drops of urine.[2] It is our conviction that this reaction is not due to the presence of an excessively large quantity of any weak reducing compound, such as may occur in the urine, but rather to the presence of one or more various conditions, a few of which are outlined above. The partial reduction of the copper occurs from causes other than the presence of dextrose, since, in the great majority of such cases, when the following details are observed, this obscure reaction never takes place.

The method of testing urines qualitatively for dextrose, as I employe and recommend it, as reducing to the lowest minimum the possibility of the above errors in results, and as efficient in easily detecting dextrose in amounts as low as 5/100 per cent., as well as in eliminating the reducing action of other compounds, is as follows: The sample is first tested carefully for coagulable proteids; if these are found to be present they are removed by heat and acetic acid. About 4 to 5 c.c. freshly prepared, three times diluted Fehling's solution is brought just to the boiling point and immediately two drops of the proteid-free urine are added and the tube shaken thoroughly. If the urine contains over 2 per cent. of sugar a yellowish-red precipitate immediately appears, changing gradually to a brownish red or bright red and which settles out slowly, leaving a greenish-blue supernatant fluid. Under these conditions it is better to roughly dilute the urine with two to four volumes of water, according to the strength of the reaction, and to perform the test again.

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* From the Department of Physiological Chemistry, Bender Laboratory. This investigation was pursued under a grant made by the Committee on Scientific Research of the American Medical Association. The earlier part of the work was done in collaboration with Dr. H. E. Robertson, formerly an assistant in the Bender Laboratory, who made a preliminary report at the Boston meeting (1906) of the American Medical Association.

[1] Mayer (Paul): Unvollkommene Zucker oxydation im Organismus. Deutsche med. Wochschr., 1901, No. 16, 243; ibid., 1901, No. 17, 243; ibid., 1901, No. 17, p. 262.

[2] Pearce (R. M.) and Jackson (H. C.): The Production of Cytotoxic Sera by the Injection of Nucleoproteids, Jour. of Infect. Dis., 1906, iii, 742.

With strengths of dextrose of from ½ to 2 per cent., two drops of urine tested as above will cause a characteristic precipitation of red sub-oxid of copper about which there can be no doubt. With the smaller percentages the change may come slowly, but even then heat need not be applied after the urine is added. The blue color of the unchanged Fehling's solution takes on a greenish hue and a turbidity appears which makes the mixture look somewhat smoky. This is caused by a very finely divided yellowish or red precipitate appearing in the blue solution. Little change may be seen by transmitted light, but by reflected light a brownish-red tint is evident, which finally develops into a decided light red precipitate, gradually settling out and leaving a clear blue supernatant fluid. Such a change is, of course, the typical Fehling's reaction, and when the test is performed with such diluted urine as above indicated the reaction can only be ascribed to dextrose. The pentoses, lactose and even maltose, by this method, do not give this characteristic reduction. Urines showing this reaction always give a reaction with Nylander's solution.

If no change occurs in the Fehling's solution after the addition of two drops, as above, the mixture may again be warmed just to the boiling point, and from two to four more drops added and the mixture observed. This should be repeated until in all twenty drops have been added. If nothing occurs at this point the urine does not contain dextrose to the extent of 0.5 per cent. As a routine, one then adds about one-half as much Fehling's as there is urine, boiling for ten seconds in order to obtain, if possible, the pseudo-reaction described above. This occurred in 5 per cent. of the normal urines tested by us. The time at which it appears on standing, and the depth of the turbidity and yellowish-green opalescence varies in a manner the cause or reason for which we are as yet unable to explain absolutely.

Considerable success has also been obtained in the use of Gerrard's[3] solution as a possible substitute for Fehling's quantitative procedure; while, perhaps, a little more cumbersome in its preparation than Fehling's solution, the sharpness of the end point in the titration is so greatly increased that it can be employed in some urines where Fehling's solution is impossible. Since the solution has found so little recognition in the American text-books, I detail its preparation and use.

Dilute 100 c.c. of Fehling's solution with about 300 c.c. of water; boil this mixture, at the same time adding cautiously an approximately 5 per cent. solution of potassium cyanid until the blue color has just disappeared. Then dilute the mixture to 500 c.c. with water and keep in a stoppered bottle in the dark. For the titration take 50 c.c. of this solution and add 10 c.c. of Fehling's solution. Boil the solution in a porcelain dish and run in from a burette the urine diluted so that the dextrose strength is approximately ½ to 1 per cent. The complete reduction of the urine is evidenced by the complete decolorization of the blue mixture. The end point is the same as in Pavy's procedure, without the disadvantageous presence of ammonia. As the double copper cyanid undergoes no reduction, the calculation takes place in the same manner as in Fehling's method, in which 10 c.c. are also employed. This method has been controlled with Fehling's procedure and the two give identical results. Gerrard's method is, however, the easiest to perform.

Newmann's[4] orcin test, serving to distinguish the pentoses, glycuronates and dextrose, has been extensively employed and with considerable success. Three c.c. of the urine are treated with ten drops of a 5 per cent. alcoholic orcin solution and 10 c.c. meters of glacial acetic acid. The mixture is then brought to the boiling point and, after cooling, concentrated sulphuric acid is added, drop by drop, with shaking, until about twenty drops have been added. In the presence of pentoses the color becomes olive green, glycuronates turn the color violet and dextrose gives a carmine.

The other tests mentioned above were performed in the usual manner.

RESULTS.

In the first series of examinations 384 samples of supposedly normal urine of patients in the hospitals of Albany were examined in the hope of finding the pseudo-reaction mentioned above and of connecting it with the presence of glycuronic acid or glycuronates. In no case could there be determined the presence of these latter compounds in amounts more than the normal or sufficient to render it of value for diagnostic purposes.

Fourteen various samples of glycosuric urines were quantitatively examined, with the following results: Gerrard's and Fehling's quantitative methods agreed to within 1/10 per cent. The results by the saccharometer were uniformly lower and usually by 1/10 to 7/10 per cent. This difference agreed, however, with surprising accuracy with that found in the polarization determination before and after fermentation. The figures obtained by subtracting the results of polarization before and after fermentation corresponded to saccharometer readings to within 1/10 per cent.

These facts indicate that both quantitative copper tests include substances which are not dextrose and which turn the plane of polarized light to the left to the extent of from 1/10 to 7/10 per cent. (calculated as dextrose). The saccharometer readings do not include these compounds, hence they are not fermentable. As a conclusion from these examinations we may say that in these urines glycuronic acid or its salts was not present in excessive amounts.

In the second series of examinations attention was turned to the postoperative specimens in the hope that in the condition of diminished oxidation following anesthesia glycuronates might be detected in abnormal amounts. All the samples were voided within twelve hours after operation. In all 273 specimens were examined, of which 261 were voided after ether anesthesia, eleven following chloroform and one after a mixture of the two. Examination of the urines previous to the operations showed no reducing compounds to be present. Subsequent to the operations eleven samples of urine, voided after ether, gave positive reductions with Fehling's test, and on further investigation the reducing substance was shown to be dextrose in amounts from 0.2 to 1.3 per cent. The length and character of the operation apparently has no effect on the amount of dextrose eliminated. The patients were persons from 20 to 35 years of age. None of the chloroform samples or the chloroform-ether sample resulted positively. This is probably to be explained by the use of oxygen during the operation, thereby preventing diminished oxidation in the tissues.

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[3] Gerrard (A. W.): Cyankupferreagens z. Bestimmung d. Glucose. Jour. de Pharm. et de Chem., 1896, 3, 250; Chem. Centrbl., 1896, 2, 135.

[4] Newmann (A): Neue Farbenreaktion der Zucker, Berl. klin. Wochschr., 1904, No. 41, 1073.

CONCLUSIONS.

1. Dextrose appeared in 4 per cent. of 261 samples of urine collected after operations in which ether was employed.

2. Neither glycuronic acid nor its conjugate salts are eliminated in the urine under conditions of diminished oxidation, such as occur during diabetes mellitus and ether or chloroform anesthesia, when the latter is combined with oxygen.

3. The pseudo-reduction obtained in about 5 per cent. of normal urines is to be ascribed to faulty methods of performing the test. It is not due to an increase in amount of uric acid or creatinin.

A PLEA FOR A MORE THOROUGH COURSE IN PRACTICAL PHARMACY AND PRESCRIPTION DISPENSING IN OUR MEDICAL SCHOOLS.*

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There is no subject that shall be presented before any section of this Association that is of greater importance to the medical profession of the United States at the present time than the subject of this paper. It is of greater importance now than it has ever been in the history of our profession, and this condition has been produced largely through the animosity that has been created against secret nostrums among the laity. This opposition has been developed chiefly through the influence of certain of our lay journals and periodicals, particularly *Collier's Weekly* and the *Ladies' Home Journal*. It is exceedingly unfortunate that the medical journals do not cooperate as they should, and that they are still in the grip of the proprietary medicine advertisers. To confirm this fact I sent recently an article, written on the proprietary medicine evil, to three of our most prominent medical journals, and, as expected, it was returned in each instance with a polite note of regret, stating that it was not suitable for publication in that journal. An examination of the advertising pages of these respective journals readily explained the reason. What a power is money! Yet we subscribe for these very journals.

Another factor is the crusade against proprietary medicines of unknown and indefinite composition, which are so freely advertised to the profession through detail men and fascinating clinical reports. In some instances the gift of several shares of stock paying large dividends is an alluring bait which, sad to relate, appeals to some individuals.

It is a pleasure to note that the better class of our profession is drifting more and more towards Pharmacopeial and National Formulary preparations in preference to these proprietaries. Yet an examination of any prescription file, as has been reported by a number of observers in the past two years, shows that the use of these proprietary preparations in most localities is not decreasing, and in many instances it is actually increasing, notwithstanding the above conditions.

Another important factor was the passage of the national Food and Drugs Act, which requires all medicines and food stuffs to possess a certain standard of purity, and which prevents adulteration and misbranding of foods and medicines. It is of especial value in the case of secret nostrums, as it requires each package of the preparation to bear a statement on the label of the quantity or proportion of alcohol, morphin, opium, cocain, heroin, alpha or beta eucain, chloroform, cannabis indica, chloral hydrate or acetanilid or any derivative or preparation of any such substances contained therein. There are few secret nostrums but possess at least one of the above ingredients in their composition, hence one can readily see the great value of this act in suppressing the use of these secret agents.

The fourth important factor is the excellent work that is being done by the Council on Pharmacy and Chemistry of the American Medical Association, which has been exposing the fraudulent character of a number of these secret agents through THE JOURNAL of the Association. This work should be highly commended by everyone, but it should be remembered that the work of this Council is bounded by reasonable limitations which should not be exceeded, as otherwise the very good that they expect to accomplish will be defeated. A word of caution is warranted as the result of several incidents recently.

Now is the time for action, and some of the leaders of our profession are actively at work and we should all fall into line and use our individual influence in these matters.

Less than a month ago Professor Osler, than whom we have no greater medical authority at the present time, gave an address before the Philadelphia Pathological Society at its semi-centennial celebration. Although speaking of "The Value of Special Pathology to the Medical Practitioner," he devoted nearly the half of his address to discussing the value of a proper training in practical pharmacy and therapeutics in our medical schools. He stated that he considers the present training insufficient, and makes a number of suggestions which are so much in accordance with my own views that I shall present some of them to you. Professor Osler stated:

> The therapeutic art is the final goal to which the training of the medical student should be directed. The medical student should be taught the composition of drugs, their method of preparation and their physiologic action in the laboratory during the first two years, and then, during the third and fourth years, he should have demonstrations in the out-patient department and in the wards of the hospital, in small section

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

classes, in which, in a systematic manner these medicinal agents should be studied in their clinical application. These classes should be assigned to several instructors, as no one man can cover thoroughly the entire subject.

1. The fundamental laws governing each disease should be studied, then the medical history, etiology, course and important features and complications of each disease considered and finally the distinction between important and unimportant symptoms.

2. The hygienic and dietetic management should be studied in the clinic, the uses of massage and other agents, as electricity, should be studied. Too often the student is compelled to obtain this information in a haphazard way. Students should prepare the nutrient injections which they order for a patient, and they should be drilled in hydrotherapy and massage. Considerable of the practical work as done at present by the nurses should be done by the student. A number of graduates do not know how to give a cold bath or sponge, or even to give a hypodermic injection properly. One cold bath would be all that a patient would require, if some of our recent graduates should administer it.

These subjects should be taught the students individually and in sections in the wards. Demonstrations in psychotherapy by one qualified should be presented, as for example, the Weir-Mitchell treatment, and others. It is a common saying that in the Johns Hopkins Hospital they cure diseases by a combination of hope and nux vomica. Inspire your patients with hope. Galen says: "He cures most in whom the most have greatest confidence."

From the time a student enters college until graduation, I would have him study the application of the great drugs, as mercury, antimony, chinchona and opium. These are the four great drugs, as quoted by Jackson. I would not bother students with too many drugs, but follow with the application of those which he knows in the laboratory. It is better to know a few drugs well. There should be a class in the administration of anesthetics and each student should administer them, under the direction of an instructor. He should study the principal effects of digitalis in heart cases. Study Withering's introduction on foxglove. He should himself give inunctions and injections of mercury to a syphilitic child and should know thoroughly the history of mercury, and know all about the action of the iodids and bromids, and report cases showing the use of them. He should have a knowledge of purgatives and how to use them. Cinchona, its history and chemical constituents and uses. The action of nitrites on blood pressure, strychnin, alcohol and other drugs and their action on the heart and blood-vessels.

I would instruct him to use a few drugs, but to be skeptical about the Pharmacopeia as a whole. Franklin said: "He is the best doctor that knows the worthlessness of most medicines." This is the kind of training that should be given in the hospital during the third and fourth years. Each student should spend one hour daily in the out-patient department, and two hours daily in the hospital wards, with proper organization in the wards. This would not be too much time to study in the wards internal medicine and therapeutics.

Is it not remarkable that such statements as these from the lips of one who for the past ten years has been branded as a therapeutic nihilist, a fact that Professor Osler himself mentioned in his address?

There is some value in drugs after all, and I firmly believe that there are but few true therapeutic nihilists in actual existence, notwithstanding the fact that many practitioners would lead you to believe that there are. These very men who will stand up in medical meetings and condemn the use of drugs, in actual practice use as many drugs, and in many instances more, than the average practitioner. Examine the prescription files in their locality and convince yourself, as I have done repeatedly.

What is the true condition existing among the members of the medical profession at the present day in their relations to practical pharmacy? Is there any need for a more thorough course in practical pharmacy including prescription dispensing in our medical schools? These pertinent questions can best be answered in the following manner:

1. The majority of practicing physicians to-day have never seen a copy of the U. S. Pharmacopeia, and not one-third of them have ever seen inside a copy of the National Formulary.

2. Not one-tenth of the members of the medical profession are ordering the new official preparations of the last Pharmacopeia, and not one-hundredth those of the National Formulary.

3. But few members of the profession are using the new official names for drugs as designated in the last Pharmacopeia and National Formulary.

4. The great majority of practicing physicians are deficient in their knowledge of pharmacy, materia medica, prescription writing and prescription dispensing.

5. Men are practicing medicine to-day who have never heard of the National Formulary, much less studied it.

6. The use of proprietary medicines, and polypharmacy, the two bugbears of the profession, exist practically unchanged or but little diminished.

THE RESULTS OF PROPER TRAINING.

Now realizing, as we all do, that the present training in practical pharmacy, including prescription dispensing, is deficient, for I have never heard a medical graduate state that he had received a sufficient training in these subjects, what would be the result if every medical school in the United States would adopt a proper standard in these subjects?

1. The use of the semi-secret proprietary medicines, those of which only a portion of the composition is known, and the various secret nostrums, would be relegated to antiquity, and physicians would not prescribe any drug or preparation the exact composition of which is not known. This is the cure and the only cure for the secret medicine evil, and until the medical schools awaken to this fact the secret nostrum venders will continue to flourish, notwithstanding the agitation in the journals and periodicals and in local medical or other organizations.

2. Every physician graduate would know how to write prescriptions properly and correctly from the standpoint of compatibility. He would also know how to make his medicines palatable and agreeable, so that the only barrier that causes homeopathy to flourish would be broken down. This would end sectarian schools of medicine.

3. After making a proper diagnosis, the physician would then order the ammunition with which he expects to combat the disease in a scientific manner, because he would use his drugs understandingly and based on a proper knowledge of their physiologic action. We would then obtain some results from drug administration and we would no longer hear of therapeutic nihilists.

4. He would know in what form each drug should be administered in order to obtain the best therapeutic results. He would have, too, a correct estimate of dosage and not the approximate and indefinite form as is in vogue at present, as all powerful drugs in the future will be assayed for the amount of alkaloidal, glucosidal, resinous or other active constituents present (the U. S. P. now requires this in the case of twenty such drugs).

These agents will be chiefly used in their pure form and separated from inert matter, which varies in different specimens of the same drug according to the season collected, methods of drying, age, etc. These active principles combine the advantages of concentration, accurate dosage, portability, purity, permanency, reliability in therapeutic effect and, last but not least, convenience of administration either in the solid or liquid state.

Another great advantage in the use of the active principles in preference to the usual Galenical preparation of drugs such as tinctures, fluid extracts, etc., was strikingly presented by the worthy president of this Association, Dr. Bryant, in his address at the opening session, in which he called attention to the excellent work that the New York City Board of Health has been doing during the past year to determine the great variation in the strength of these Galenical preparations as prepared by different pharmacists.

They purchased from various pharmacists tinctures, fluid extracts and extracts of such drugs as aconite, belladonna and opium and analyzed them for the amount of active matter, as, for example, the amount of aconitin in the aconite preparations, the amount of mydriatic alkaloids in the belladonna preparations, and the amount of morphin in the opium preparations, and they found a great variancy in strength, some being much more active than the official strength, others much weaker, the majority conforming to the latter class. The analysis of a tablet which was supposed to contain 1/100 grain of nitroglycerin, as designated by the label, showed 1/1600 of a grain.

Is it any wonder that physicians are often puzzled when they do not obtain proper therapeutic results? This same condition that has been found in New York City exists the same everywhere and could be proven if a proper investigation would be made.

5. This would eliminate polypharmacy, as each drug would be administered for a definite symptom or group of symptoms, and it would not be necessary to order a number of drugs in combination, with the hope that one would prove of at least some value to the disease under treatment, in other words, simplicity in medication.

THE MEDICAL CURRICULUM.

But the most important question of all is, what constitutes a proper and thorough course in practical pharmacy and what should be the minimum standard in our medical curriculum? It is a well known fact that in no other branch of medicine is there more variance in the course of instruction given than in the subjects of pharmacy, materia medica and therapeutics. In order to show the great disparity existing in our medical schools and also the great lack of uniformity existing, the latest catalogues of all the leading medical schools in the United States have been carefully examined and the results tabulated.

On careful analysis of the table I was at once impressed with the total lack of uniformity in every particular among the 84 medical schools represented. In the first place the number of hours devoted to lectures and recitations on pharmacy and materia medica varies from 15 hours to 300 hours in the 68 schools in which the hours are designated in the catalogue. In 16 schools the actual number of hours devoted to any portion of this subject are not given, hence they can not be computed in this series. In 31, about one-half, these hours also include the instructions given in the important subject of prescription writing, while in 41 this course in prescription writing is given in the third year, and in two instances in the fourth year. In other words, some schools devote twenty times the number of hours that others do to this portion of the subject. In all of the schools the lectures on materia medica and pharmacy are given in the first and second years except 6, in which they are given in the third year.

The number of hours devoted to pharmaceutical laboratory work varies from none in 17 schools to 130 hours as the maximum, with 1 school giving 16 hours optional laboratory work. One-fifth of all the medical schools give no practical work whatever in pharmacy. Is it any wonder that our graduates use proprietaries? They are not to blame, but the responsibility lies with the medical schools. In 25 schools the laboratory work is done in the first year, in 30 schools in the second year, in two schools in the third year, in 6 schools partly in the first and second years, 1 school in the second and third year, and in 1 the year is not mentioned, so we see lack of uniformity in this respect.

In regard to prescription writing, in about one-half of the schools this is included in the lecture course, while 11 schools give no training whatever, and 12 schools give it as a separate course but do not give the number of hours. The highest number of hours mentioned are 27 hours. In 7 of the schools prescription writing is taught in the first year, in 21 schools in the second year, in 41 schools in the third year, and in 2 in the fourth year. In only 9 of the 84 schools is a course given in prescription dispensing, and there is a variation of from 20 to 50 hours in the time devoted to it. In 2 schools it is given in the first year, in 3 in the second year, in 1 in the second and third years, in 3 in the third year and in 1 the year is not given. Now with these facts before us, need we be surprised that the average medical student is deficient in prescription writing and dispensing? He could be nothing else. When we find that one of our leading medical schools (a school that considers itself the standard) would attempt to cover the subjects of materia medica and pharmacy and also prescription writing in 15 hours, what must we think of the regular class of schools?

A course in prescription dispensing is certainly a forward step and one to be commended, and no medical school can graduate competent men in the art of prescription writing without a thorough training in practical prescription dispensing, in which each student individually compounds various types of prescriptions. There lies the solution of the whole problem. The course in prescription dispensing is best given in the third year, as the student is then better enabled to master the details pertaining to it. The total hours devoted to the entire subject varies from 45 to 324, showing that some students receive seven times the instruction of others in these subjects.

A SUGGESTED STANDARD.

As a result of the above investigation, the following is recommended as the minimum requirement necessary to give a thorough course in practical pharmacy in our medical schools: Ninety hours devoted to lectures and recitations on pharmacy and materia medica, with 30 hours laboratory instruction, in which representatives of all the official preparations should be made; this course is preferably given during the first or second year. Thirty hours devoted to prescription writing, in which course the student is thoroughly drilled in the formation and writing of prescriptions demonstrating various combinations or drugs. Thirty hours devoted to practical prescription dispensing, in which various types of prescriptions should be dispensed by the student. These two courses should be given during the third year, for reasons stated above.

Thirty hours should be devoted to a course in pharmaco-dynamics, in which the action of the most important drugs is demonstrated. Total hours for the entire subject 210, in contrast to those of the above table. This, of course, should be supplemented by a thorough course in general and applied therapeutics during the third and fourth years. Each student should be given a thorough training in the use of massage and electricity, passive movements, the *x*-ray and other forms of radiotherapy, climatology and balneotherapy. He should also be trained in the use of anesthetics. All of this should be supplemented by practical work in the hospital wards, in which the use of each of these agents should be demonstrated practically, and, in addition, he should administer the various medicinal agents such as injections, inunctions, enemata, etc., for a certain period of time until he becomes proficient in every detail.

My earnest hope and desire is that this Section will appoint a committtee which shall suggest a suitable standard for the teaching of pharmacy, materia medica and therapeutics in our medical schools. If this is done I trust this Section may adopt it and bring it to the attention of the American Medical Association for its official sanction and recommendation and that each medical school in this country will adopt this as a minimum standard. A copy of these recommendations shall then be sent to the dean of each school to present to the respective faculties for adoption. If each medical college should adopt the above as a minimum standard on this important subject, then, and only then, would our medical graduate be able to write correct prescriptions for palatable preparations properly combined. The treatment of disease would then be based on rational therapeutics, as it should be.

When this day arrives, and I hope it is not far distant, then, and only then, will our work be complete, and coincident with this will disappear all proprietary and secret nostrums, and every physician will order scientific combinations, skilfully prepared by reputable pharmacists.

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DISCUSSION.

Dr. George F. Butler, Chicago, emphasized that the only way to get rid of proprietary remedies is to teach medical students how to prescribe, and acquaint them with the physiologic and therapeutic action of drugs. The average medical student, he said, comes out of college to-day with a very little knowledge of these things. He comes up to the bedside, and not knowing his materia medica or how to write a prescription, he thinks of some proprietary medicine and prescribes it. Dr. Butler said that it is impossible to do away with the proprietary medicine business until the medical student is better trained in pharmacology, materia medica and therapeutics. He insisted that not only drug treatment, but all forms of treatment should be taught in medical schools. The subject is fully as important as bacteriology and pathology. He claimed that the doctor should be competent to judge of the quality and the character of the drugs he uses. It is just as much his duty to be sure of the quality and activity of a drug he gives to a patient, as it is the duty of the surgeon to be sure of the aseptic condition of his instruments. Dr. Butler suggested and urged the adoption of the resolution proposed by Dr. Thrush so as to stimulate greater interest in this work. He claimed to know of a number of medical colleges that do not teach materia medica and therapeutics at all, and of a number of state examining boards that do not examine on these subjects. Is it any wonder, then, he said, that the people buy "patent medicines" and patronize quacks? Physicians, he continued, are to blame for the discredit which the lay press casts on the medical profession, not only because of the disagreements between themselves, but because of their skepticism regarding the value of drugs.

Dr. C. S. Chamberlin, Cincinnati, O., said that the manufacturing pharmacist is only the servant of the medical profession; he may be over-enthusiastic sometimes, but, after all, it comes practically to a question of the law of supply and demand. The manufacturing pharmacist simply supplies what the doctor wants. As far as the nitroglycerin tablets, of which Dr. Thrush spoke, are concerned, all pharmacists know that tablets of nitroglycerin which contain the specified amount when manufactured may not contain that amount very long; but the doctors want nitroglycerin tablets and expect the manufacturing pharmacists to supply them. Dr. Chamberlin has knowledge that certain manufacturers have taken them off their list, knowing that they would not remain of indicated strength; but as the doctors have insisted on having them anyway, the manufacturer has been induced to replace them in his list to meet this demand from the physician. The manufacturing pharmacist, he said, is in the market to supply the demand.

Mr. W. C. Westcott, Atlantic City, N. J., thought that the pharmaceutic laboratory should be devoted to teaching materia medica. When lecturing on antiperiodics students should be given all the antiperiodics, told to mix them and see what happens; learn how much will dissolve and how much will not dissolve. In that way the subject of materia medica is made concrete, the students will learn something and the subject will become more interesting.

Prof. W. A. Puckner, Chicago, has studied teaching conditions in medical schools for many years, and he has always felt that there is something lacking before the present courses of instruction in materia medica, pharmacy and chemistry can be improved. Education in these branches of the teachers than those who teach materia medica is needed, and co-operation throughout the work. What, he asked, is the use of all the instruction in chemistry if it is not applied in other studies? What is the use of a poor teacher in pharmacy trying to teach the student pharmacy if in other departments of instruction a knowledge of pharmacy is ridiculed? The average instructor in a medical school does not know any pharmacy, and he will soon make the student feel that it is not the proper thing to know anything about pharmacy. Professor Puckner is convinced that until we require the other teachers in schools of medicine to understand pharmacy and the fundamental principles on which pharmacy is based, very little will be accomplished.

Dr. H. E. Lewis, New York City, emphasized the great necessity for improvement in the equipment and ability of the average retail pharmacist, not the men who have the degree of pharmacy, nor those who have studied pharmacy in a regular school, but the men whom physicians come in contact with every day in the practice of medicine. Dr. Lewis claimed that the fundamental causes of many of these questions that are so evidently bothering us to day begin right here. He regretted the undue attention that was being paid to the shortcomings of physicians, while ignoring those of the pharmacists. Pharmacy laws need building up as well as medical laws, and it is time that medical men arose and insisted that pharmacists carry out their directions and give them what they want.

Dr. C. S. N. Hallberg, Chicago, stated that it was possible that the entire nitroglycerin tablet matter was flashed in the newspapers of the country and used for the purpose of throwing discredit on the retail pharmacists. As a matter of fact, he said, it throws discredit on the manufacturing firms, the wholesalers and the physician. He agreed with Dr. Bryant that nitroglycerin is the last thing in the world that ought to be presented in tablet form, and manufacturing pharmacists ought not to continue its manufacture. It sounds very well, he continued, to speak about convenience and elegance, and all that, of medication, but dry medication of late years has run mad. It is the old elixir craze again, where elegance and palatability rather than medicinal effect were considered the paramount object. Pharmacists, unfortunately, have not maintained a stand against the tablet idea, against every impossible combination that came along, just as in the case of elixirs, every possible and impossible combination, bismuth, pepsin, etc., were put out. In reply to Dr. Lewis' suggestion, Dr. Hallberg said that there is an American Pharmaceutical Association which is pretty near as old as the American Medical Association.

It has gone along in a slow sort of way, its principal ambition being to act as godfather to the Pharmacopeia and the National Formulary. The association has received a new lease of life within the last few years, has established local branches in the leading centers and the purpose is to collect the best educated, experienced pharmacists and to show them the opportunities that there are to serve the medical profession and get them in line with a broad movement for better pharmacy. This movement has already assumed tangible shape in all the larger cities of the country. Therefore, Dr. Hallberg asked that the physician be patient and not condemn pharmacy or pharmacists entirely, giving them a little time to separate the sheep from the goats, so that they may make some tangible claim to some kind of a profession in the service of medicine.

Prof. Henry Kraemer, Philadelphia, thought it cause for congratulation that the evils existing in the practice of both medicine and pharmacy are being recognized and measures taken to eradicate them. In looking over the exhibit of the U. S. Pharmacopeia and National Formulary preparations, it occurred to him that if any physician experiences difficulty in obtaining these preparations, it may be due, in part at least, to the fact that there has not been a demand for these preparations, that the pharmacist has been accustomed to dispensing certain specified preparations in their stead.

Dr. W. J. Robinson, New York City, feared that the work of the Council on Pharmacy and Chemistry was not thoroughly understood by the practitioner, because the Council in passing on the composition of a product does not intend to pass on its therapeutic value. It simply means that its composition is true to its claims, but the fact that a drug has been passed by the Council means nothing whatsoever as to its therapeutic value. It does not mean that it is a superior drug therapeutically or clinically. Dr. Robinson considered it important to impress on the physician that the Council's approval means merely that the composition of the preparation is more or less true to its claimed formula.

Dr. Robinson agreed with Professor Puckner that too much chemistry is taught in medical schools. He has been amazed at the kind of examination given in chemistry. In one examination seven out of ten questions were of no value in the practice of medicine—as, for example, how to prepare silver from the ore. Dr. Robinson is of the opinion that the chemistry taught in our medical schools should be that adapted to the practice of medicine; i. e., how to test for albumin and sugar in the urine; how to test for impurities in potassium iodid; how to avoid gross incompatibilities, etc. With regard to the active principle being superior to the galenical preparations, Dr. Robinson said that there is no question whatever about this. He did not think that any one could deny that where the active principle is isolable, it is in every way superior to the galenical preparations. Of course, he said, there are some drugs, like ergot, where the active principle can not be extracted, and then the best galenical preparation must be used. Dr. Robinson agreed that nitroglycerin in tablet form is an absurdity. This can not be compared with the active principles of other drugs, such as aconitin. Nitroglycerin is a volatile substance; spartein sulphate is a crystalline substance and can be well given in the tablet form.

Dr. M. G. Motter, Washington, D. C., thought that pharmacology is a science which is being evolved out of the old art of therapeutics. Because of the congestion of the medical curriculum, Dr. Motter questioned whether it is wise to take more of the student's time for the study of pharmacology and materia medica. The study can not be placed on a therapeutic basis, save through the scientific aspect of therapeutic remedies. So far as therapeutics is concerned, that, he said, is an art, and it is an art which is to be taught at the bedside—not by didactic lectures. The whole question goes back again to the one great question of the education of the medical student, back still further to his preliminary training. The medical schools should insist on it that the students who matriculate are thoroughly prepared to take up the more advanced subjects of the medical course.

Mr. M. I. Wilbert, Philadelphia, does not believe that pharmacy, *per se*, has any place in the medical school. Instruction in this line should be confined to pharmacognosy or the study of the physical properties of drugs and to pharmacodynamics, or the study of the action of drugs. If a medical man is thoroughly conversant with the appearance and uses of a limited number of remedial agents and has had a proper preliminary training, he will not need instruction in the art of prescription writing or of prescription dispensing. On the other hand, if a physician intends to go into the drug business or to dispense his own medicines, then it is right and proper for him to take a course in pharmacy, in a properly equipped pharmaceutical school.

If the recent graduate in medicine has had a thorough course in pharmacology, knows about drugs and the action of drugs, and is fortunate enough to be in a hospital where he is not compelled to use complicated concoctions and antiquated formulas, he will go out of that hospital with a skill in the art of medicine that will suffice for all practical purposes. Mr. Wilbert recognizes that the science of medicine is something quite apart from the art of medicine. The art of medicine can not be taught, it must be acquired; the science of medicine can and should be taught on the basis of a thorough preliminary education. Mr. Wilbert pleaded that medical men of the present time exert their influence to have future pharmacists better educated, more capable, than those of the present time. It is clearly within the province of the medical practitioner to insist that the pharmacist know something of the science of his own business.

Dr. M. Clayton Thrush, Philadelphia, urged physicians to see to it that their prescriptions are compounded by reputable pharmacists. In some states the pharmacist is graded by the state board according to the knowledge he possesses. If he is particularly good he is classed as a pharmacist; second, as a druggist, and third as an apothecary. In regard to medical education, Dr. Thrush referred to a movement begun by the Philadelphia Association of Retail Druggists recently. This association is going to send out, complimentary, a serie of little books. The mission which this work is to fulfill ca only be properly accomplished by the cooperation of the medical profession.

It becomes, therefore, of the greatest importance tha the members of this profession, throughout the country be made acquainted with the existence, contents and object o these books, and that, if the same be approved by them as is confidently expected, they will consent to accept th preparations made in accordance with the formulas containe therein, instead of designating any special maker's product.

The first book discusses the non-toxic antiseptics based o U. S. P. and N. F. formulas, such as Liquor Antisepticu Alkalinus (N. F.); Liquor Cresolis Compositus (U. S. P.) Liquor Antigerminarus (N. F.); Liquor Sodii Boratis Compositus (N. F.); Pulvis Antisepticus (N. F.); Liquor Antisepticus (U. S. P.). At the bottom of each page ar given descriptions of physical properties and tests. Thes have been mailed to all the physicians. The last page state that the foregoing formulas are confidently recommended t the medical profession, in the belief that these preparations wi meet the needs of the physician, without resort to the use c proprietary remedies of a similar character. That, Dr. Thrus said, is the very thing that we are working for. We want th pharmacists and physicians of this country to work hand i hand to elevate the two professions. They are of a kindre nature. The object of the paper, he said, is to elevate th teaching of pharmacy in medical schools and to stimulate closer relation between the sciences of medicine and pharmacy.

CALMETTE'S OPHTHALMIC REACTION TO TUBERCULIN.

PRELIMINARY REPORT BASED ON TWO HUNDRED AND FORTY-TWO CASES.*

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In June, 1907, Professor Calmette, of Lille, France, described a new method of administering tuberculin for diagnostic purposes. He had observed that when one drop of a 1 per cent. glycerin-free solution (suspension?) of tuberculin, in distilled water, was instilled into the conjunctival sacs of individuals clinically tuberculous, there occurred a more or less characteristic, local, inflammatory reaction. In general, such changes were not noted when the tuberculin preparation was instilled into the conjunctival sacs of persons not clinically tuberculous. This reaction has been called the "opthalmo-", the "oculo-", or the opthalmic, reaction to tuberculin.

Since the preliminary report of Calmette a considerable number of observers, mainly French, have published results of researches on the ophthalmic reaction. As is to be expected, one encounters in their communications some lack of unanimity as to the real diagnostic value of the reaction. Inasmuch as comparatively little work has been reported, it seems not inappropriate to review rather minutely the results of the tests in the hands of the French observers. The following table presents in detail the observations in patients suffering from a wide variety of ailments, and also in individuals apparently normal (Table 1).

In summary it will be seen that of 185 cases clinically tuberculous, 176 gave positive reactions and 9 negative reactions. Of 28 cases doubtfully tuberculous, 21 gave positive reactions and 7 negative. Of 188 persons suffering from disease not tuberculous, and including a fair proportion of apparently normal individuals, 186 gave negative reactions and only 2 were positive. While the evidence seems fairly convincing, yet the failure of observers to reach a common and definite conclusion calls for explanation.

There are several factors to be considered, among which we would mention, (a) the possibility of poor technic in administering the tuberculin; (b) the possible difference in the tuberculin preparations used; (c) the difficulties encountered in demonstrating certain cases to be clinically tuberculous; (d) the lack of definite or uniform standards for judging the occurrence or the severity of the ophthalmic reaction; (e) the possible presence of unknown conditions which may modify or prevent the reaction in tuberculous patients, or which might bring about a reaction in patients non-tuberculous.

(*a*) Poor technic in the administration of the tuberculin is easily possible. In the first place, the preparation as described by Calmette as a "solution" appears to be really a suspension of cell bodies more or less altered in properly preparing for instillation. One can readily see that if pains are not taken to keep the suspension homogeneous, differences in individual dosage may occur. We have also observed that unless care is taken to draw the lower eyelid downward and outward much of the instilled drop is likely to be expelled when the patient approximates his lids. The retention of the drop is facilitated by having the subject lie down or incline his head backward, the lower lid being held out from the eyeball in the meantime and gently manipulated so as to distribute the suspension over all parts of the conjunctiva. If the patient then close his eyes for a brief period the further retention and distribution of the tuberculin is assured.

TABLE 1.—ANALYSIS OF WORK PREVIOUSLY REPORTED BY FRENCH OBSERVERS.

No. of cases.	Clinical diagnosis.	Reaction.	Reference.
63	Tuberculosis: Pulmonary, all stages pleurisy, bronchitis, meningitis, adenitis, osteomyelitis, various joints. kidneys, testes, anal fistula, hernia, coxalgia	+	Calmette, Breton, Painblan and Petit.[2]
52	Non-tuberculous: Typhoid fever, rickets, syphilis, tabes, hysteria, chronic valvular lesions, arteriosclerosis, carcinoma, eczema, arthritis, bronchitis, infantile paralysis, osteomyelitis, rectal prolapse, congenital dislocation, cystitis, urethritis, prostatic neoplasm, renal tumor, diabetic gangrene, knock-knee, varicocele	0	
4	Pulmonary tuberculosis—bacilli	+	Grasset and Rimbaud.[5] [12]
3	Pulmonary tuberculosis—no bacilli	+	
5	Pulmonary tuberculosis—doubtful	+	
1	Not tuberculous	+	
1	Clinically tuberculous	0	
3	Doubtfully pulmonary tuberculosis	0	
14	Non-tuberculous	0	
8	Pulmonary tuberculosis—one doubtful	+	Derchend.[2] Quoted by Calmette.
13	Emphysema, goiter, aneurism	0	
12	Tuberculosis—3 cases, doubtful	+	Prouff.[2]
6	Apparently normal adults	0	
4	Pulmonary tuberculosis	+	Des Plats.[2]
5	Apparently not tuberculous	0	
14	Pulmonary tuberculosis and coxalgia.	+	Helipre and Hue.[2]
8	Pneumonia, appendicitis, myocarditis	0	
7	Pulmonary tuberculosis	+	Grillot.[2]
2	Exophthalmic goiter and whooping cough	0	
2	Pulmonary tuberculosis	+	Desbonnets.[2]
2	Bronchitis and pericarditis	0	
19	Pulmonary tuberculosis	+	Letulle.[4] [10]
2	Lead poisoning and Pott's disease	0	
25	Hospital patients-selected at random —not tuberculous	0	
12	Tuberculous—all forms	+	Montagnon.[9]
2	Tuberculosis clinically	0	
5	Doubtfully tuberculous	+	
8	Not tuberculous	0	
11	Tuberculous	+	Aubaret and Magne.[15]
3	Doubtfully tuberculous	+	
1	Doubtfully tuberculous	0	
19	Tuberculous	+	Citron.[11]
6	Clinically tuberculous	0	
8	Doubtfully tuberculous	+	
3	Doubtfully tuberculous	0	
44	Apparently non-tuberculous	0	
1	Apparently non-tuberculous	+	

(*b*) Up to the present time practically all the published work has been done by French observers, and in nearly all instances the tuberculin preparation has been supplied them from the Pasteur Institute. It would seem, therefore, that if directions for making up the suspensions to be instilled were properly observed there should be no cause for error from this source. The possibility of error from the use of prepations furnished from different strains of tubercle bacilli, or from bacilli grown on different varieties of culture media, has to be considered. One might question whether or not freshly prepared suspensions were used, as suggested by Calmette.[1]

(*c*) While it is to be admitted that there are certain cases in which it is almost impossible at the time of examination to make a clinical diagnosis of tuberculosis, yet it would seem probable that in those patients clinically non-tuberculous who gave positive ophthalmic reactions the hypodermatic injection of a standard preparation of tuberculin might furnish a valuable check on the reliability of the eye manifestations. It is so common to discover, at autopsy or accidentally, latent or even active tuberculous foci in persons in whom the process was not suspected clinically, that the occurrence of a positive reaction in apparently normal individuals should occasion no surprise. In some instances more careful physical examination might have revealed signs of tuberculous infiltration, as was shown in a case of typhoid fever which gave a distinct ophthalmic reaction, as reported by Montagnon.[9]

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* From the Clinic of Internal Medicine of Professor George Dock.

(*d*) and (*e*) We refer below to the method of judging the occurrence of the reaction and also to its reason for existence.

It occurred to us that a test so simple in its application, apparently, as the ophthalmic reaction to tuberculin, might prove of great practical value both in and outside of institutions. Its technic is so easy of acquirement; when present its manifestations are so distinct, and the whole procedure causes so little discomfort to the subject, that it appeared that the advantages over the subcutaneous injection of tuberculin were many and obvious. In addition, there seemed to be nothing that would contraindicate the employment of the test in febrile cases, where, of course, tuberculin used hypodermatically would be of doubtful value.

Preparation Used: We were early confronted with the difficulty of getting a dependable preparation of tuberculin with which to carry out our work. Outside the Pasteur Institute in Paris, the product did not appear to be obtainable. From that institution it is marketed, according to the published reports, in glass tubes, each containing a weighed amount of the tuberculin prepared according to Calmette's original description[1] (dried tuberculin precipitated by alcohol at 95 degrees). Directions are furnished for its solution (?) in sterilized, distilled water. After considerable inquiry we were finally able to secure a stable, easily-handled, and what has since proved, dependable preparation, through the courtesy of the experimental department of Parke, Davis & Co., of Detroit. The dried tuberculin (essentially tubercle bacilli, or fragments of such, killed by heating at 80 degrees*) has been furnished in tablets of such size that one tablet dissolved (?) in one cubic centimeter of water yields a 1 per cent. suspension. We have preferred to use normal salt solution instead of distilled water, as suggested by Calmette. It appears to us that distilled water might of itself be irritant to some conjunctivæ. The suspension made with the tablets is almost clear, after standing for a few minutes. It apparently has no irritant properties when instilled into the conjunctival sacs of normal individuals. The dried tuberculin has also been furnished to us in bulk by the same firm. With it we have obtained results similar to those obtained from the tuberculin in tablet form. It has seemed to us advisable to keep the tuberculin, both in tablet form and bulk, in a cool, dark place. We have made up only sufficient suspension for immediate use, and have thus guarded against deterioration or contamination from exposure.

Method of Work: Our cases have been such as one encounters in the service of a general hospital. We have been rather advantageously situated, inasmuch as we have been able to keep many of our patients under observation for a considerable length of time, and have thus been able to follow up reactions to the end or to guard against the missing of reactions which appeared early or were delayed.

At the beginning of our work it was customary to instil one drop of the 1 per cent. suspension in normal salt solution, into the inner canthus of the right eye at bedtime. It was early apparent that one must be very careful, else little of the instilled suspension was retained, inasmuch as patient frequently winked or wiped out much of the suspension. Under those conditions accurate observation was impossible. The method adopted for securing the retention of the maximum amount of the suspension has already been described. Before instilling, the conjunctivæ of both eyes were carefully compared, and in case of any abnormality notes were made to that effect. The ward officers and night nurses have been instructed in the method of observing changes resulting from the instillations. The patients have been informed of the nature of the test and have been told how to note alterations in their eyes. A card index of each patient instilled has greatly facilitated the following of the reactions.

A majority of our recent cases have been instilled early in the day in order that the early stages of the reaction could be followed and that photographs could be made when desired. In all cases temperature, pulse and respiration have been followed when practicable. Dispensary patients have been directed how to examine their eyes and to report alterations in them.

We have endeavored to make our work representative, and with that point in mind have tested cases from practically all services at the University Hospital. In all the patients instilled the reaction has been looked for at least once, in many instances several times. In doubtful cases, or in cases of particular interest, the instillations have been repeated several times, with results to be described later. A large number of persons instilled were people affected with some ailment. It was deemed advisable to test the effect of the tuberculin on apparently normal individuals. This was made possible through the interest of the two upper classes in the medical department of the university.

Table 2 shows the scope of the work. In our present state of knowledge of ophthalmic reaction it seems advisable to give details concerning the subjects tested. It will be seen that we have made 273 instillations on 242 different individuals. In 39 instances we have obtained distinct and unmistakable ocular manifestations. In 5 cases the reaction has been doubtful. Of the cases showing positive manifestations, all except 10 were clinically diagnosed tuberculous. In no case of active tuberculosis, pulmonary or otherwise, with or without bacilli, was a negative reaction shown. In the 10 cases not clinically diagnosed tuberculous which gave positive reaction, three individuals gave a history of earlier tuberculous processes. In the 7 remaining cases one was suspected of being syphilitic. The remaining cases were poorly nourished patients, clinically, hypospadias, hernia, tertiary syphilis, melancholia, clubbed feet (2) and chronic meningitic. In but one of the cases was a marked reaction obtained.

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* Through the courtesy of Dr. Houghton of the Experimental Department of Parke, Davis & Co., we are able to offer the following information concerning the tuberculin preparation which was used in our experiments: The growth was obtained from active, human tubercle bacilli on 5 per cent. glycerin bouillon. To obtain a representative preparation the growth from five strains was used. This was concentrated to 1/10 its volume at 80 degrees, filtered and purified with five volumes of 94 per cent. alcohol. After decanting and refiltering, the precipitate was dissolved (?) in normal salt solution, then re precipitated with 94 per cent. alcohol. The precipitate was then dried in vacuo. This residue was compressed into tablets. Some of it was furnished in bulk.

There were 198 negative reactions. Among these there were included 6 patients who had been clinically diagnosed tuberculous. In but one case was there any reason to suspect that the process was active. This patient failed to respond to even a third instillation of tuberculin. Of the 198 negative reactions, 126 occurred in hospital patients affected with at least one ailment. In none of these was there a history of tuberculosis or any suspicion entertained as to its probable existence. Of the 76 apparently normal adults of both sexes, but two reacted. Inquiry showed in one case an old tuberculous knee (in this case the reaction was very early and fleeting), and in the other case, where the reaction appeared moderately severe at the first instillation, the history and the physical findings were strongly suspicious. In 31 of the 242 cases there were two or more instillations, in 6 cases there were three instillations. No case which reacted to the first instillation failed to react to a second or a third.

TABLE 2.—Analysis of Work Furnishing the Basis of this Paper.

A.—Medical Service of Professor George Dock.

No. of cases.	Clinical Diagnosis.	Reaction.	Remarks.
3	Pernicious anemia	0	
1	Hodgkin's disease	0	
3	Arteriosclerosis	0	One, slight, but fleeting + ?
1	Aneurism—aortic	0	
1	Constipation and anemia	0	
1	Cystitis (t. b. c.?), patient male	+	Had not responded to mgs. 1 and 5 TA.
3	Obstructive jaundice—gallstones?	0	
1	Mediastinal tumor—syphilitic?	0	
2	Chronic valvular lesions	0	
1	Malaria—chronic and quiescent	+	Slight after 1 mg. TA.
1	Cardiac hypertrophy, arteriosclerosis with retinal hemorrhages—syphilis?	+	First instillation.
1	Myocarditis and nephritis	0	
1	Mucous colitis	0	
3	Gastritis	0	
4	Carcinoma of stomach	0	Three instillations in one case.
2	Ulcer of stomach	0	
1	Tertiary syphilis with retroperitoneal tumor	+	Slight to two instillations.
1	Typhoid fever	0	Two instillations.
1	Pneumonia	0	
1	Chronic bronchitis (t. b. c.?)	+	Third instillation marked.
5	Chronic bronchitis (t. b. c.?)	0	Three instillations in two cases.
5	Pulmonary tuberculosis with bacilli	+	
4	Pulmonary tuberculosis—no sputum	+	
2	Pulmonary tuberculosis—old case	0	One instillation.
1	Arthritis (t. b. c.?)—signs in chest	+	Marked reaction after 1 mg. TA.
1	Miliary tuberculosis—autopsy	+	After injection 1 mg. TA.
1	General glandular enlargement (t. b. c.?)—Hodgkin's disease	+	After injection, 1, 5, and 10 mg. TA.
2	Cervical adenitis	0	Two instillations.
1	Old empyema	0	

B.—Surgical Service of Professor de Nancrede.

2	Appendicitis	0	
7	Tuberculosis of hip joint	+	One slight.
1	Tuberculosis of hip joint (suspected)	0	Two instillations.
1	Tuberculosis of hip joint, quiescent for three years	0	One instillation.
4	Spinal caries	+	First instillation.
3	Tuberculosis knee joint	+	First instillation.
3	Osteomyelitis	+	Two instillations in one case.
1	Tuberculosis of wrist joint	+	Slight at first instillation.
2	Club-feet	+	Rachitic children—reaction slight.
1	Club-feet	0	Two instillations.
1	Inguinal hernia	+?	Very slight at first instillation.
1	Hypospadias	+?	Very slight.
1	Infiltrating tumor of forearm	+?	Very slight.

C.—Gynecologic Service of Professor Reuben Peterson.

9	Carcinoma of uterus and appendages.	0	
3	Endometritis—gonorrheal?	0	
3	Uterine fibroid	0	
7	Uterine displacement and endometritis	0	

Obstetric patients—Maternity Ward.

5	Antepartum	0	
2	Postpartum	0	
2	Newborn	0	

D.—Pediatric Service of Professor David M. Cowie.

5	Feeding cases—infants	0	
1	Suspected pulmonary tuberculosis	0	One instillation.
1	Marasmus	0	

E.—Psychopathic Service of Professor Alfred Barrett.

1	Paramyoclonus multiplex	0	
2	Hysteria	0	
1	Aphasia—syphilitic?	0	One instillation.
1	General paresis.	0	
1	Dementia præcox	0	
1	Korsakoff's psychosis	0	
3	Paranoia	0	
4	Mania—depressant	0	One slight, but fleeting reaction to one instillation.
1	Cerebral tumor—syphilitic?	0	One instillation.
2	Melancholia	0	
1	Neurasthenia	0	
3	Not classified	0	

F.—Otolaryngology Service of Professor R. Bishop Canfield.

1	Post-operative, double frontal sinus disease	0	
2	Post-operative radical mastoids	0	
3	Enlarged tonsils—chronic	0	

G.—Neurologic Service of Professor Carl Camp.

2	Parasthesia—feet	0	
1	Traumatic myelitis	0	
1	Combined degeneration of cord—syphilitic?	0	One instillation.
1	Hemiplegia—cerebral syphilis	0	Two instillations.
1	Chronic meningitis—syphilitic or tuberculous?	+	Slight reaction to first instillation, marked to second.
3	Neurasthenia—sexual	0	Two instillations.
1	Primary lateral sclerosis	0	Two instillations.
1	Infantile paralysis	0	Two instillations.
1	Epilepsy	0	
1	Traumatic neurosis	0	
1	Chronic lead poisoning	0	
1	Sciatica	0	
1	Paraplegia—fractured spine	0	Two instillations.
1	Hysteria	0	Two instillations.
1	Melancholia	0	

H.—Apparently Normal Adults, Both Sexes, Not Hospital Patients. Number, 76. Reaction, 74 negative, 2 positive (both at first instillation).

THE REACTION.

In his original communication Calmette describes the ophthalmic reaction as a slight swelling and redness, localized principally about the caruncle, the inner canthus and the conjunctiva. Later writers (Aubaret and Lafond,[8] and Aubaret and Magne[15]) distinguish four degrees of reaction, according to the severity of the inflammatory change. It would perhaps be of value to summarize their classification here:

1. *Mild Form:* A diffuse redness is seen over the inferior tarsal conjunctiva, and sometimes about the caruncle and the semilunar folds. In some slightly more pronounced reactions the lymphoid follicles of the tarsal conjunctiva become more prominent, and the injection

is seen extending upward over the ocular conjunctiva at the inner canthus. After twenty-four to thirty-six hours there remains an ecchymotic appearance about the injected portions. Functional disturbances are not noted beyond a slight increase in lachrymation. Such mild phenomena readily escape notice. In examining doubtful cases the writers suggest that the lower lids should be well drawn down so that the palpebral conjunctivæ of both eyes may be seen and thus compared. The eyeballs should be abducted alternately as far as possible in order to displace the conjunctiva at the inner canthus. The caruncles and the semilunar folds may thus be compared.

2. *Moderately Severe Form:* This type begins as the mild form, but the injection soon extends beyond the cul-de-sac and manifests itself as a network of vessels at the periphery of the bulbar conjunctiva. Generally the injection is most marked at the inner canthus. Lachrymation is abundant, and a few filaments of mucopus are seen. Sometimes a little of the Meibomian secretion gums the eyelashes together and dries on the free edge of the lids. There is a little smarting and sometimes a feeling as of a foreign body in the eye.

3. *Intense Form:* The bulbar conjunctiva is involved in the general reaction of the lids. There is no pericorneal injection, which seems to show that the cornea, the iris and the deeper tissues are not affected. The palpebral conjunctiva takes on a velvety appearance, the folds of the cul-de-sac are very much swollen and the eyeball is crossed by large, vascular trunks. Lachrymation and purulent secretion are very abundant. There is photophobia and a subjective feeling as of grains of sand in the eye. The reaction persists for five or six days and occasionally even longer.

4. *Very Intense Form:* In some instances the reaction is very pronounced. The various parts of the conjunctiva are rapidly involved. The bulbar conjunctiva becomes chemotic. There is marked swelling of the parts and considerable edema of the eyelids. Lachrymation is very abundant and there is much mucopurulent secretion. True pains radiate to the temple and the forehead. The acute stage may persist as long as eight days and the conjunctiva may not return to the normal before a month has passed.

It has not appeared to us that this detailed classification is satisfactory. It seems unnecessarily cumbersome and a refinement of observed facts that is not called for clinically. While no two reactions are alike in positive cases, yet whatever reaction results is essentially a conjunctivitis. The variations in intensity, with or without exudate, in the present state of our knowledge, appear to be a detail of no real clinical value. Comparison between the instilled and the non-instilled eye, before and after the instillation, is sufficient in all cases to determine whether or not there is a specific conjunctivitis present, or the aggravation of one which existed before. If the case is at all in doubt, repeated instillation, after a reasonable time has elapsed, clears up the diagnosis. While a typical reaction has not appeared to us, a description of what usually follows in tuberculous cases when the preparation is instilled into the conjunctival sac may be of value.

Local.—From two to three hours after the instillation of the tuberculin there is a slight smarting sensation along the edges of the lids and at the inner canthus. This is soon followed by slightly increased lachrymation and a feeling of stiffness in the lids of the affected eye. Examination of the conjunctiva, at the end of three or four hours, usually reveals a moderate degree of redness and swelling of the palpebral portion and at the inner canthus. The caruncle is slightly swollen. A delicate tracery of blood vessels appears on the ocular conjunctiva below the equator and frequently more so toward the inner surface. In another hour or two there is slight photophobia, and filaments of a thin, grayish-white fibrinous exudate may appear on the eyeball and over the palpebral conjunctiva (Fig. 3). There is frequently a perceptible collection over the caruncle. The swelling of the lids produces a noticeable narrowing of the palpebral aperature (Figs. 1 and 2). There appear to be no pupillary changes, so far as our observations go, but such have been noted by some writers.[17] There is usually more or less tenderness to pressure over the eyeball but no actual pain.

The vascular engorgement now proceeds with moderate rapidity, so that at the end of eight or nine hours the eyelids, especially the lower, are markedly swollen, the conjunctiva of the tarsi is deep red, velvety, with flakes or strands of fibrino-purulent exudate on it. This exudate tends to pass toward the inner canthus and may be seen as a grayish-yellow mass filling up the angle and covering the caruncle (Figs. 6, 7 and 8). The engorgement of the vessels in the ocular conjunctiva is marked. A network of tortuous arteries is seen, with fiery red ecchymotic conjunctiva in the meshes. Lachrymation, photophobia and tenderness over the eyeball are increased. These may be annoying to the patient. There is frequently a sensation of a foreign body in the eye. It is variously described as grains of sand, cinder in the eye, an eyelash turned in, etc. The burning and smarting along the edges of the lids become marked. Frequently there is itching and a desire to rub the eye. If this is allowed the reaction is often prolonged and severe. In children, especially where the rubbing can hardly be prevented, we have noted intense congestion of the conjunctiva, marked edema of the lids, chemosis and a large amount of mucopurulent exudate. We think that the fact that patients frequently rub their eyes may account for some of the very intense forms of reaction as described by various French observers, although it may not be the only factor in their production.

The reaction reaches its acme in from eight to fourteen hours. There are frequent variations in either direction. If the instillations are given at night the increased lachrymation, the mucopurulent exudate, together with the increased Meibomian secretion, may cause marked matting together of the eyelashes and gluing together of the lids. In these cases it has seemed to us that occasionally a slight reaction has appeared at the inner canthus of the opposite eye. In the majority of instances the disagreeable features of even rather intense reactions have passed after twenty-four hours. Sometimes the photophobia, the increased lachrymation, the exudate, the smarting along the margins of the lids and at the inner canthus, with ocular tenderness, persist for several days if no means are taken to counteract them (see below). This is not characteristic, however. At the third or fourth day there usually remains but slight congestion of the conjunctivæ, slight ocular tenderness and a tendency to increased lachrymation. The evidences of the pre-existing vascular engorgement may persist, however, for several weeks after the active reaction has disappeared. In these cases the conjunctiva over the eyeball is discolored a dirty brownish red (Fig. 14).

There are numerous departures from this rather generally described reaction. Sometimes the conjunctivitis, even in tuberculous individuals with bacilli, is very fleeting, the entire reaction appearing and disappearing within one day. In these cases one frequently doubts whether or not all of the instilled tuberculin has been retained. It is a very easy matter for some of it to be winked out or even purposely wiped out by the patient after the doctor has left. In these cases especially we would urge the necessity for further instillation under more favorable conditions, with very early examination after the instillation.

It is not too often to examine such patients, in a good light, once every hour. The non-instilled eye should be used as a control. The eyeball should be rotated successively upward, outward and inward as far as possible. Every portion of the conjunctiva is thus brought into view and compared with that of the non-instilled eye.

There are cases which show "delayed" reaction. In these also the possibility of some of the instilled tuberculin escaping should be considered. One might explain the retarded reactions, as well as the early, intense reactions, by consideration of the phase of the patient's resistance. Opsonic investigations have shown us that in tuberculosis this is especially apt to fluctuate. If at the time of instillation the patient happened to be in the positive phase an immediate reaction might be expected to follow. In support of this we would mention the case of a middle-aged man, with rather well-advanced pulmonary tuberculosis, who entered the hospital with a temperature of 103 F. There were great numbers of bacilli in his sputum and large clumps of elastic tissue. He reacted very promptly to the tuberculin instillation. Again, if the patients were entering the negative phase, this might be made more pronounced by the first instillation of tuberculin, but probably the ensuing positive phase, which supervened twenty-four or more hours later, might be more marked. This fact might account for some of the delayed intense reactions.

There are in our series six cases in which the response to the first instillation of tuberculin was either delayed or but slightly apparent. These cases, clinically, were: Spinal caries (2); old tuberculous hip-joint; hip-joint disease with discharging sinus; one old, non-active pulmonary tuberculosis, and one apparently active, apical pulmonary involvement. Five of these cases responded typically to the second instillation, while a third instillation was necessary to produce a distinct reaction in the apparently active pulmonary case (Figs. 9, 10, 11). The reaction was severe, prolonged for more than one week, and accompanied by malaise, severe headaches and ocular tenderness. This case might illustrate the failure to respond or the less degree of response that may follow when the instillations are successively in the negative phase. It can be supposed that the last instillation was in the positive phase, as shown by the prompt and pronounced reaction.

In the six cases cited above, had but one instillation been made, the nature of the pathologic process might easily have been passed over or the clinical facts might have thrown discredit on the value of the ophthalmic reaction. Similar experience is quite possible with the subcutaneous injection of tuberculin. It is a matter of common knowledge that 5 or 10 mgs. of tuberculin (T.A.) frequently bring on reactions where the injection of 1 mg. has failed. Consequently, although we grant that the evidence we have to present is rather scant, it seems to us that while a prompt reaction in a suspected case might be taken as positive evidence of the existence of tuberculous foci, yet the failure to obtain such at the first instillation can not be held as evidence that the patient is non-tuberculous. If a positive reaction should not appear after from two to five instillations, administered several days apart, then one might be justified in holding that the subject were non-tuberculous. We hope to be able to furnish more complete information on this point when our experience with the reaction has been greater.

Pre-existing conjunctivitis does not appear to exert any marked influence on the reaction in tuberculous or non-tuberculous individuals. Quite a few of our cases have shown conjunctival injection before instillation. We have not noted that the tuberculin aggravated it. Of course, in such cases it is absolutely essential that the conjunctivæ of both eyes be examined before and after the instillations. Aubaret and Magne,[15] in some interesting experiments with aged subjects having chronic, hyperemic conditions of the conjunctivæ, but clinically non-tuberculous, found no change following the instillation of the tuberculin, even when the dose was repeated every two hours until four drops had been given. In all suspicious cases it has seemed to us to be good practice either to wait until the conjunctivæ were clear or to repeat the instillations. We have observed, in some cases presenting conjunctival injection at the time of instillation, that the subjective sensations, e. g., increased ocular tenderness, smarting at the lid margins and the inner canthus, have been absent in non-tuberculous individuals. This fact might occasionally be of value in differential diagnosis. In our experience we have found no cases in which the conjunctivæ seemed predisposed to inflammatory change, and appeared to react independently of any tuberculous foci. Such condition might, however, be possible.

It will be noted that eight of our cases which were clinically diagnosed as tuberculous failed to react. One of the cases occurred in a middle-aged woman, who a year before had very active processes in both apices, with numerous bacilli in her sputum. She has lived out of doors for ten months, has gained thirty pounds in weight, has no sputum and no active signs in her apices. We did not have an opportunity to instill tuberculin a second time in this case, and consequently are not able to state that the condition is such that she would not react. From experience with other similar cases we would venture to say that a positive reaction in this case is possible. The one instillation that the patient received may have been given in the negative phase and thus aggravated it. Should we chance to instil in the positive phase it seems likely that a moderately severe reaction would follow.

Our series shows that ten cases clinically non-tuberculous gave positive reactions and to the first instillation. Two of the reactions were fairly pronounced. Of these one case showed incipient infiltration in both apices; the other was a young man with a clinical diagnosis of chronic meningitis, probably syphilitic. There was no specific history, however, nor had the case improved under specific medication. No active signs were discoverable in the lungs. In the remaining eight cases no tuberculous foci were discovered. This, however, does not prove that such did not exist somewhere in the patients' bodies. As has already been stated, walled off or even active tuberculous foci are so common an experience at autopsy that in those cases reacting we have felt justified in regarding them as suspicious. In cases similar to these the hidden focus should be searched for with all diligence.

Experience with the hypodermatic use of tuberculin (TA.) for diagnostic purposes has occasionally shown that reactions may occur in cases of syphilis, actinomycosis and leprosy. This fact has been adduced to support the theory that the tuberculin reaction is a "group reaction." Our table herewith presented in detail (Table 2) shows six cases clinically diagnosed syphilitic. Two of them reacted, one very slightly. The first case was one of tertiary syphilis with a large retroperitoneal tumor, the pathologic nature of which could not be determined. The other was the case of chronic meningitis mentioned above. It will be seen that in neither of the cases which reacted positively was the diagnosis of syphilis alone possible. Whether the reaction was a manifestation of the "group reaction" or whether there were in both of these cases hidden tuberculous foci we are not prepared to state.

The possibility of securing positive reactions in patients clinically tuberculous who are under treatment with tuberculin preparations must be considered. Dumarest and Arloing[17] mention seven patients who had been treated with tuberculin for five weeks. In all but one instance there were definite reactions. They do not mention whether or not repeated instillations were tried in the case which failed to react. It may be that the ophthalmic reaction was delayed on account of being sought for when the patient was in a "negative phase." We have observed in four instances—one case of pulmonary tuberculosis without bacilli, one of rather general tuberculous adenitis, one of tuberculous meningitis and one of cystitis—where the reaction was promptly brought out after the subcutaneous injection of tuberculin (Figs. 2, 12, 13). One of us was able to produce a very slight ophthalmic reaction in himeslf by the subcutaneous injection of 1 mg. of tuberculin, after a previous instillation of tuberculin in the conjunctival sac had failed to give a positive reaction. We attempt to give an explanation of these phenomena below.

Febrile Disturbances: In none of our positive cases were we able to detect a rise in temperature that could be attributed to the instillations. This seems to be the general experience. Dumarest and Arloing,[17] however, exhibit charts of four patients in which rises of temperature varying from .6 to 2 degrees C. are shown. The temperatures were taken per rectum. Evidence is not furnished showing that these variations were more than normal for the cases presented. Further information on this point is awaited with interest. We rather lean to the view that in picked cases—particularly cases which have had several instillations—variations in temperature are possible.

Constitutional Disturbances: These have not been marked in any of our series. In some of the rather pronounced reactions the local discomfort, together with the headache, perhaps resulting from the interference with vision, have been rather annoying but never really unbearable. In one instance of pulmonary tuberculosis where the reaction was pronounced after the third instillation, sharp, shooting pains to the side of the head and through to the back of the head were complained of. Local pain at the site of the tuberculous focus has not been complained of, as frequently happens when tuberculin is administered subcutaneously. Malaise has been noted in seven cases. Nausea or anorexia have not been observed. None of our patients has complained of joint or muscle pains or soreness. Nausea and vomiting, with prolonged indigestion, have been reported by some workers.[17]

Treatment of Conjunctivitis Brought on by Instillations: In the majority of our cases we have not deemed such treatment necessary. The discomfort usually disappeared after twenty-four hours. In private practice, however, we can easily see where active treatment of the conjunctivitis might be desirable. Simple eye washes, such as warm normal salt or boric acid solutions, usually suffice. We have used adrenalin solution, 1/5000 in a few cases, as suggested by Dumarest and Arloing.[17] In all cases where it has been used there has been marked improvement in the subjective symptoms, although we have not noted that the congestion diminished noticeably or permanently. Stronger solutions of adrenalin would undoubtedly lessen the congestion, but if they are used in too great strength an inflammatory reaction more pronounced than the first may result. Adrenalin and cocain solutions may be used where there is much congestion, with great discomfort. A few drops may safely be instilled every two or three hours. The symptoms of cocain poisoning must be watched for. Where there is marked swelling of the eyelids an ointment containing cocain and adrenalin has been recommended.[17] We have had no experience with it. Iced pledgets of gauze or small icebags are doubtless as efficient but rather more inconvenient.

The Cause of the Ophthalmic Reaction: In the literature we have not been able to discover any satisfactory explanation of the phenomena observed in tuberculous individuals. The theory of "anaphylaxis" or "hypersusceptibility," as elaborated by Vaughan and Wheeler[19] and by Rosenau and Anderson[20] does not appear to us to explain completely all the phenomena of the ophthalmic reaction. For the purpose of determining whether or not individuals who had failed to react to instilled tuberculin at the first trial would react when such instillations were made ten or more days afterward, we selected ten cases for second instillation. These were carefully observed for evidence of ocular change. None of them reacted positively. Four of the cases were instilled for a third time twenty days after the first instillations. None of them reacted positively. Our Table 2 herewith, shows a considerable number of cases where failure to secure positive reaction in tuberculous individuals at the first instillation was followed by prompt positive reaction when the instillations were made from two to six days after the first instillations. We venture to call attention to the following facts:

In the reaction as described by others and in thi paper there are certain common observations:

A—1. A local reaction of an inflammatory natur follows the instillation of tuberculin (dead cell bodie or fragments of such, of the tubercle bacillus) into th eyes of tuberculous individuals. No such reaction follows in normal persons or in people suffering from dis eases not tuberculous.

2. In cachectic, moribund or very advanced cases o pulmonary tuberculosis, with cavities or general involve ment, no ocular reaction may occur. This is also th case in acute miliary tuberculosis.

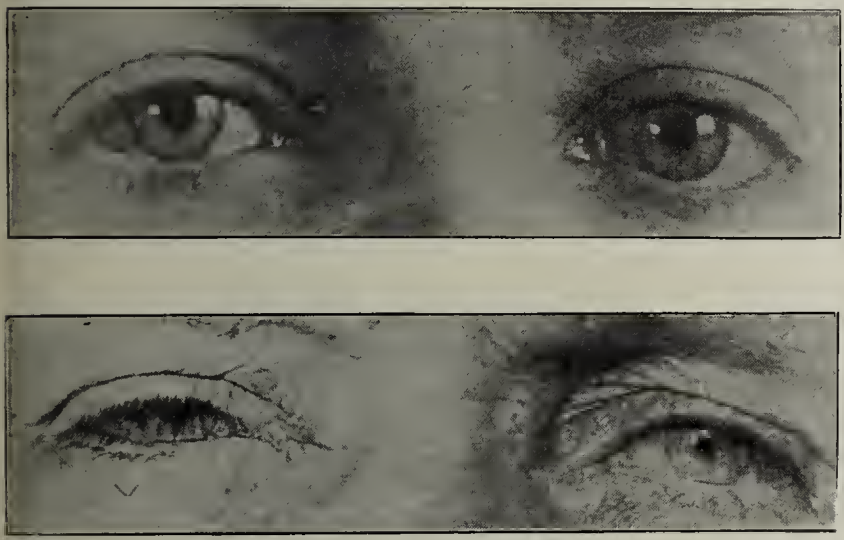
3. When cases of acute miliary tuberculosis are in stilled and are later injected with tuberculin subcu taneously, the ocular reaction may appear a few hou after the injection. Possibly moribund and advance cases react similarly. It has also been observed b previous workers and ourselves that ordinary cases tuberculosis which have given the ocular reaction hav

either an aggravation or at least a return of the ocular symptoms following the subcutaneous injection of tuberculin. As mentioned above, this phenomena has been noted in one of us, clinically non-tuberculous, following the injection of 1 mg. of tuberculin subcutaneously.

It is evident that any theory of the mechanism of the ophthalmic reaction must account for the above facts before it can be tenable.

B—1. When the tuberculin suspension (cell bodies or fragments of such as can be demonstrated by staining some of the dried, precipitated tuberculin, supplied in tablet form or bulk, with Wright's (Harvard) stain or carbol fuchsin) is instilled into the conjunctival sac, it may be assumed from the histologic construction of the eye and its appendages that any soluble products are readily absorbed and that such cell bodies or fragments of such as are contained in the suspension are mechanically retained in the loose conjunctival tissues, after the fashion of bacteria held by a cotton filter.

2. Following this, something happens in tuberculous individuals which is missing in others, namely, inflammation. There must, therefore, be in these tuberculous individuals at the time of instillation (or all the time?), or as the result of the instillation, some body or bodies which, co-acting with the instilled tuberculin (cell bodies or fragments of such) gives rise to a product—a toxin (?)—which is able to cause local inflammation. Or in such patients some normal body may be missing at the time of instillation of the tuberculin, the absence of which allows some products of the tuberculin to cause inflammatory reaction, inhibited by such body present in the normal tissue. In any case this co-acting *present body* or *inhibiting absent* body must owe its presence or its absence ultimately to the difference between the tuberculous patient and the non-tuberculous patient, namely, the tuberculous lesion, wherever it may be placed.



Figs. 1 and 2.—Exterior of eye in a moderate and an intense reaction respectively. (Both patients instilled in the right eye.) Note narrowing of palpebral aperture, swelling of lids and evidences of increased lachrymation.

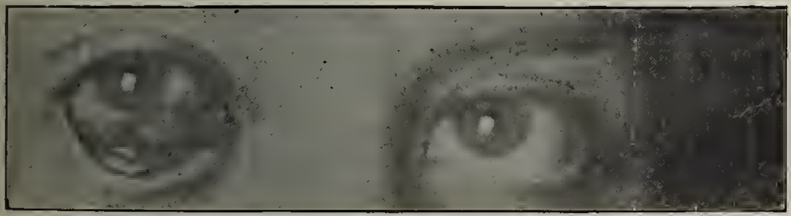
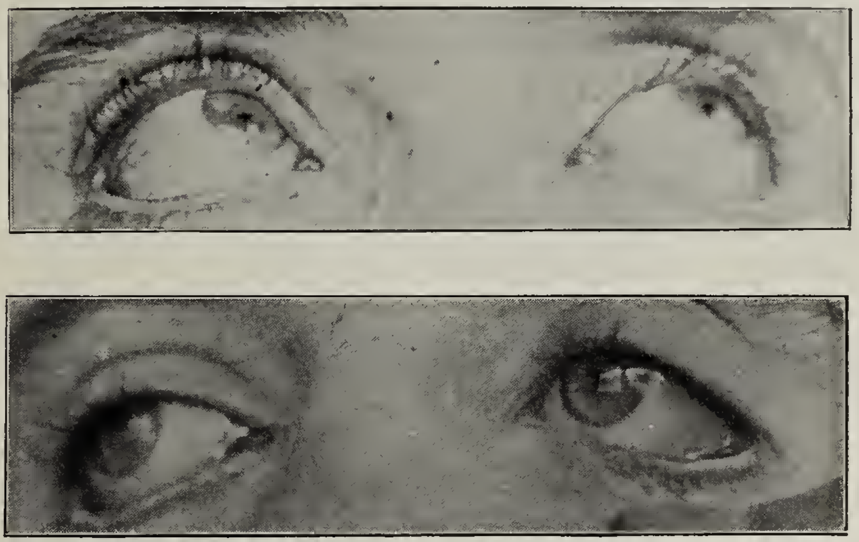


Fig. 3.—Early, mild reaction in a child. Note conjunctival injection, swelling of lower lid and caruncle. (Case of old, tuberculous hip-joint disease.)

3. In the present mode of conducting the ophthalmic reaction one drop of a 1 per cent. suspension of tuberculin (dried, dead cell bodies or fragments of such) is instilled into the conjunctival sac. The dose is approximately ⅔ mg., much of which may be entirely ineffective. However, we know that the subcutaneous injection of as little as 1/1000 mg. of tuberculin is sufficient in many patients to cause a definite rise in the opsonic index of the patient's serum for the tubercle bacillus. It would appear that out of the ⅔ mg. instilled quite sufficient might be absorbed to bring about the production of protective antibodies. Now, if among these were lysins or opsonins, or both, these, by acting on the bacillary bodies enmeshed in the soft tissues of the conjunctivæ, as the result of the instillation, might liberate from such cell bodies endotoxin quite capable of producing effects on the conjunctival vessels leading to the local, inflammatory change described as the ophthalmic reaction. It may be that chemical groups, as well as cell bodies, through the action of antibodies, are capable of being changed into toxic ones.

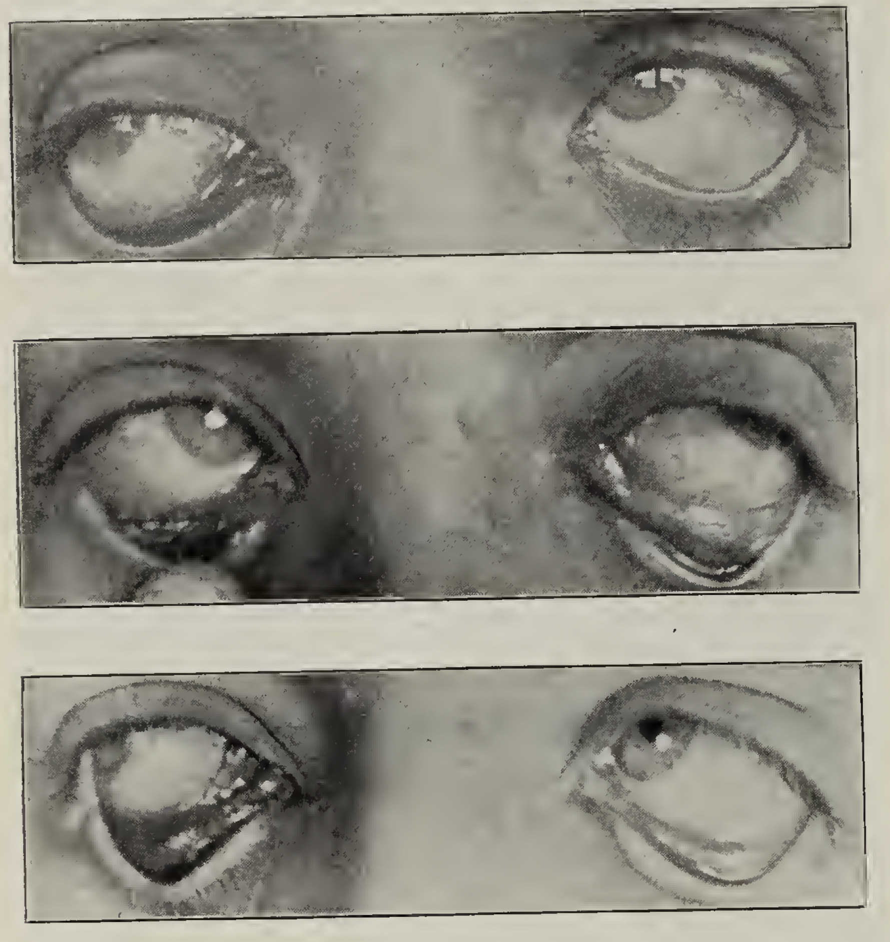
4. Considering the above facts to be true, we are still without an explanation of why this succession of phenomena is lacking in non-tuberculous individuals. It has been stated by some observers that very much smaller doses of tuberculin suffice to cause rises in the opsonic power (i. e., protective body in general) in tuberculous than non-tuberculous individuals.[16] It appears to us, then, quite probable that very gradually or periodically escaping products of bacterial growth from the tuberculous focus might so increase the specific irritability of those cells which form immune bodies, that a comparatively small stimulus would be sufficient to cause them to react, with the formation of immune bodies—a stimulus which in the normal individual is wholly inefficient. One of us (Walker) has noticed, with other observers, that repeated injections of staphylococcus cause a more and more rapid response in the opsonic rise and a correspondingly more rapid fall, in individuals infected with staphylococcus. It seems that the above facts indicate an increase in the specific irritability of the cells concerned with the production of immune bodies such as are referred to above.



Figs. 4 and 5.—Early stage of reaction in case of pulmonary tuberculosis. (Right eye instilled.)

5. There is still to be explained why it is not customary to obtain the ophthalmic reaction in cases of acute miliary tuberculosis or in tuberculous patients who are moribund. It is well known that in such cases the bacilli are not walled off from the general circulation, but may frequently be cultivated from the blood. Lysins and opsonins, formed as the result of the instil-

lation of tuberculin (these lysins and opsonins probably being in small amount), are seized on by the bacilli in the general circulation, leaving none or little to combine with the bacilli or the fragments of such enmeshed in the conjunctiva. As a consequence, the endotoxin is not released locally, and as a result no locally manifested inflammatory reaction follows. It may be advanced that when in such cases hypodermatic injection of tuberculin follows instillation, the much larger quantity of lysins, opsonins, etc., resulting from the large dose (1 to 10 mgs.), all of which is effective, may produce antibodies sufficiently in excess to react with the bacteria in the conjunctiva as well as those in the blood stream or loosely separated from it. Our tabulations, herewith, show a case in point. The patient was a young man with acute, miliary tuberculosis. He was practically moribund when admitted to the hospital. There was no reaction to the instillation of one drop of tuberculin into his conjunctival sac. Four days later he was given 1 mg. of tuberculin (TA.) subcutaneously. A prompt ophthalmic reaction of moderate degree appeared.

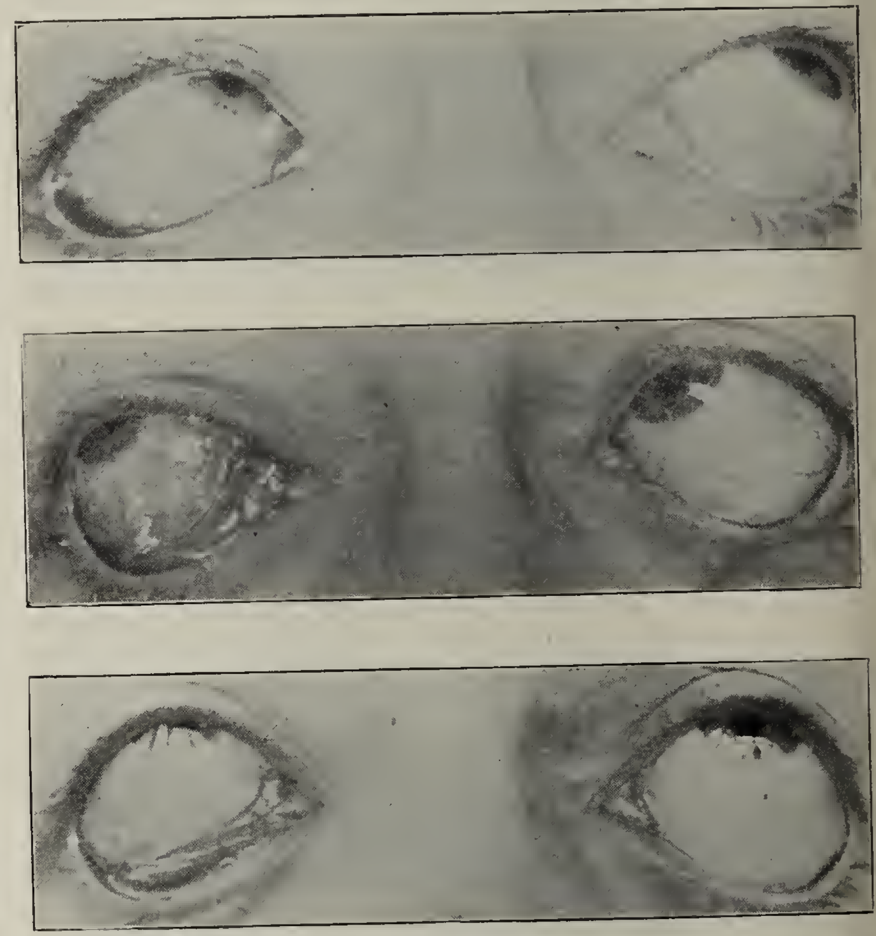


Figs. 6, 7 and 8.—Early stages (day one and two) of a moderately severe reaction. Note swelling of lids, turgescence of palpebral conjunctivae and caruncles, injection of ocular conjunctivæ, muco-purulent exudate. (Case of old tuberculous hip-joint disease, with reaction to second instillation, two days after first.)

How does our hypothesis fit the phenomena occurring when ordinary hypodermatic injections of tuberculin are used for diagnostic purposes? In early cases of tuberculosis we are dealing with lesions fairly well walled off from the general circulation by practically avascular walls—local processes in which the "bacteriotropic pressure," so-called, is low. Through these walls the protective bodies pass slowly and with difficulty. The injection of one milligram of tuberculin in these cases may be insufficient to raise the amount of protective bodies in the blood enough to sensibly alter the condition within the local focus; but, as the subcutaneous dose of tuberculin is increased, lysins, opsonins, etc., finally penetrate in sufficiently large quantities to break up the bacilli at the local focus and liberate their endotoxin. The well observed local inflammatory change then follows with febrile and constitutional disturbances.

Our hypothesis is, then: That the inflammatory changes in the eyes of tuberculous individuals following the instillation of tuberculin suspensions is due to the slight stimulation of the hypersensitive cells forming protective substances with the production of an excess of antibodies. These antibodies so produced, by acting on the tubercle bacilli or fragments of such enmeshed in the conjunctiva, liberate endotoxins which are capable of producing the inflammatory changes commonly observed.

If this hypothesis be true the explanation for the occurrence of ophthalmic reactions in general, especially in typhoid fever, where we deal with a bacillus with well known endotoxic properties, is clear. The same hypothesis makes evident the phenomena occurring when tuberculin is applied to the abraded skin ("cutaneous reaction" of von Pirquet). It also seems possible that any of these reactions might be produced artificially in animals or individuals not specifically infected by the injection of appropriate bacteria or their products of growth or both in sufficient quantities. We expect to give evidence on this point in a later paper.



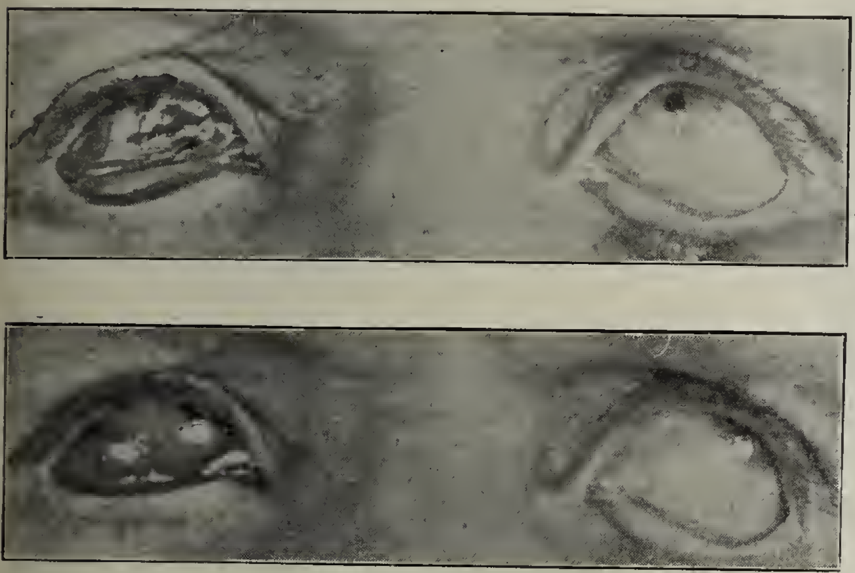
Figs. 9, 10 and 11.—Reaction in case of second instillation in patient with old apical pulmonary tuberculosis. Fig. 11 shows condition of eyes after four days had elapsed. (Note evidence of previous conjunctivitis.)

CONCLUSIONS.

From the results of our work herein described we are convinced that the ophthalmic reaction as directed to be practiced by Calmette and others is of undoubted service in the diagnosis of tuberculosis. In no case where its worth could be tested clinically by the finding of tubercle bacilli did we fail to obtain decided ocular manifestations following the instillation of the tuberculin. This reaction did not follow when instillations were made in the case of 126 individuals affected with diseases other than tuberculosis. It was not obtained in 74 apparently normal adults.

A proper technic for administration is necessary for the success of the reaction. Whether or not smaller dosage would produce recognizable effects is not at present fully decided. Reactions have, however, been obtained when suspensions of 0.5 per cent. were used.[18]

When positive reaction follows promptly on the first instillation it appears that the diagnosis of tuberculosis is reasonably certain. The fact that a reaction thus appears does not mean that the subject is affected with an active tuberculous process, although the evidence is strongly in favor of such. Presupposing this might, in some instances, lead to unnecessary alarm and much inconvenience. The ophthalmic reaction, as is the case with every form of tuberculin test, must be accompanied by complete examination of the suspected focus in order to be judged properly. All suspicious cases which fail to respond to one instillation should be reinstilled from two to five times and careful examinations, local and general, made after each instillation.



Figs. 12 and 13.—Very intense reaction in case of incipient pulmonary tuberculosis, following previous subcutaneous injection of 1 mg. of TA. when patient had failed to react to one instillation of tuberculin into the conjunctival sac. In this case the constitutional and febrile disturbances were prolonged for more than two days. Note the marked injection of the conjunctivæ, the swelling of the caruncles, the evidences of increased lachrymation and photophobia.

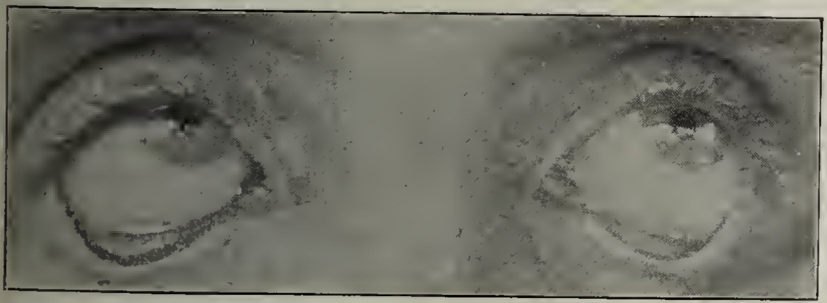


Fig. 14.—Same patient as in Figs. 4 and 5, showing appearance of conjunctiva at the end of ten days, following a moderately severe reaction. (Right eye had been instilled.)

Too little work has as yet been done to allow conclusions to be drawn regarding the relative value of the ophthalmic reaction the subcutaneous or the skin reactions to tuberculin.[13] In seven of our cases in which both the subcutaneous and ophthalmic reactions had been tried positive evidence was furnished in each case. We have had no experience with the cutaneous reaction. None of the reactions take the place of thorough examination of the patient, from every viewpoint. They are all confirmatory. Properly administered, we believe that the accumulation of more data will show that the ophthalmic reaction is quite as valuable to the general practitioner as are any of the others. Its convenience and rapidity of action certainly commend it.

In the preparation of this paper we are deeply indebted to many. The courtesy of Professors de Nancrede, Peterson, Canfield, Barrett, Cowie and Camp in allowing the tests to be carried on in their wards has been greatly appreciated. Our thanks are especially due Professor Dock for his encouragement and his suggestions. Dr. Van Zwaluenberg has been of much help in the dispensary. Without the aid of the medical house officers, Messrs. Sample, Marshall, Collins and Owen, the work could scarcely have been possible. The excellent photographs prepared by Mr. A. A. Hale testify in their own behalf. We have been greatly helped by his patience and skill.

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SOME RESULTS FROM ORTHODONTIA ON THE DECIDUOUS TEETH.*

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The Italian criminologists, Lombroso and Ferri, find that the adult criminal is far more crooked in body than the honest man. Victor Hugo in "Les Miserables" has depicted the same idea. The inhabitants of any modern city exhibit defective countenances, not at all like the beautiful faces of ancient Greece. Most of these defective countenances reveal their greatest defects between the eyes and the chin, and these defects involve the dental arches. If they involve the dental arches they are pretty sure to involve the nasal passages and the bones immediately above.

On the proper formation of the palatine arch and the various sinuses depends the resonance and carrying qualities of the voice, and on the accurate formation of the dental arches and the correct occlusion of the teeth depend the power of clear and distinct enunciation and the power of thorough mastication, which means insalivation. This is the first step in the digestive process so important to the health and strength of the individual. It has only recently become known that impending defects of the kinds here mentioned may be discovered in early childhood and may be remedied while the bones are in a formative state and the teeth are in process of development.

It is altogether probable that the same causes which produce contracted dental arches produce adenoid vegetations. Dr. Tom F. Pedley of Rangoon, Burmah, India, published[1] and article entitled "The Rubber Teat and Deformities of the Jaws,” in which he accredited the rubber teat and “baby comforter” with “giving rise to certain deformities of the jaw, irregularities of the teeth, nasal obstructions and other diseases in infancy and childhood.” He published cuts of nineteen deformities occurring in his own practice, attributed by him to these causes.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907. The article is abbreviated here by omission of the case reports and part of the illustrations, but the complete article appears in the author's reprints.

[1] Brit. Med. Jour., Oct. 20, 1906.

If the dental arches are contracted or not sufficiently extended, there is not room for all the teeth to occupy their proper positions, so some are crowded out of place and stand irregularly. If lymphoid vegetations occur in very early life—and they are apt to occur at any time from the third month to the twelfth year—they naturally would produce a cessation of lateral growth and a disturbance in the arrangement of the temporary teeth, as well as a cessation in the development of the alveolus pertaining to the permanent teeth.

We need to be able to recognize the dental arches in their highest state of health and efficiency, and that means normality. What constitutes that condition has only recently been discovered, and while it is true that the dental apparatus of man viewed as an instrument for mastication, is a bit of mechanism far more complicated than a watch, it has been and is to-day regarded by the great proportion of men practicing dentistry as something from which one or more of its members may be abstracted without serious harm.

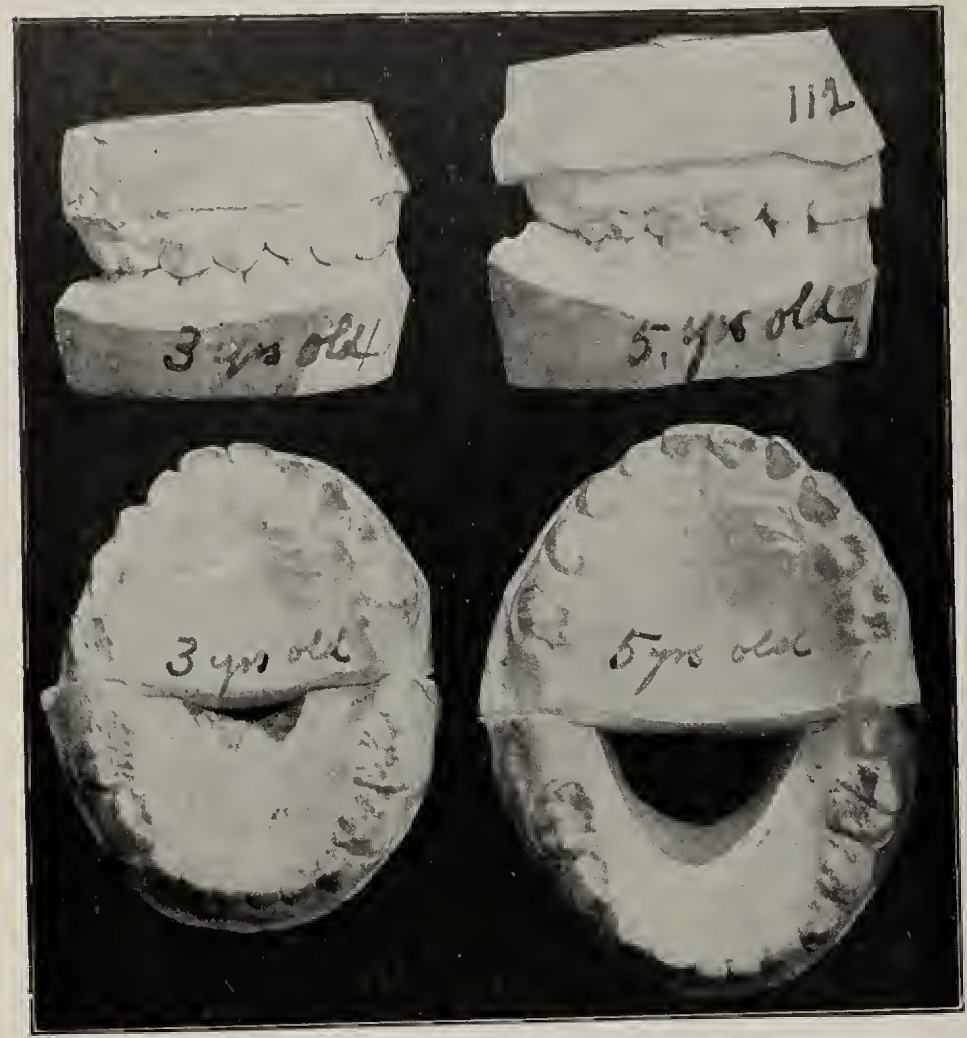

Fig. 1.—The four models show normal or nearly normal sets of children's teeth at the ages of 3 and 5 years, respectively. At 3 years of age the teeth are close together and in fine arches; at 5 years they are beginning to separate and the arches are breaking.

No wonder then that the medical world as a whole has failed to recognize that one member taken from this arch not only impairs for life the efficiency of the entire masticatory apparatus, but that it diminishes the nasal passages and alters the relation of the two sides of the face. Should this mutilation occur early enough it may cause a change in the level of the eyes, leaving one of them defective, it never having reached its full contour. Every effort should be made, therefore, to promote a normal development, and if abnormality is found, to correct it at the earliest suitable age.

The adult human teeth are adapted to the size of the individual in whose mouth they occur, and there is a certain definite arrangement whereby the upper and lower arches articulate with each other. This arrangement gives exactly the room for the entire arches of teeth to be completed, the lower teeth being just within the circle of the upper, which condition is brought about by the lower incisors being narrower than the upper incisors, and the principal lower molars possessing five cusps while the upper molars have but four. The deciduous teeth of the child are subject to the same general arrangement as the adult teeth, and one who has carefully studied the adult teeth can readily detect irregularities in the positions of the deciduous teeth.

If irregularities are found among deciduous teeth, irregularities of the same nature, but still more pronounced, may always be expected in the permanent teeth which are to follow these deciduous teeth. If no perceptible irregularities of the de-

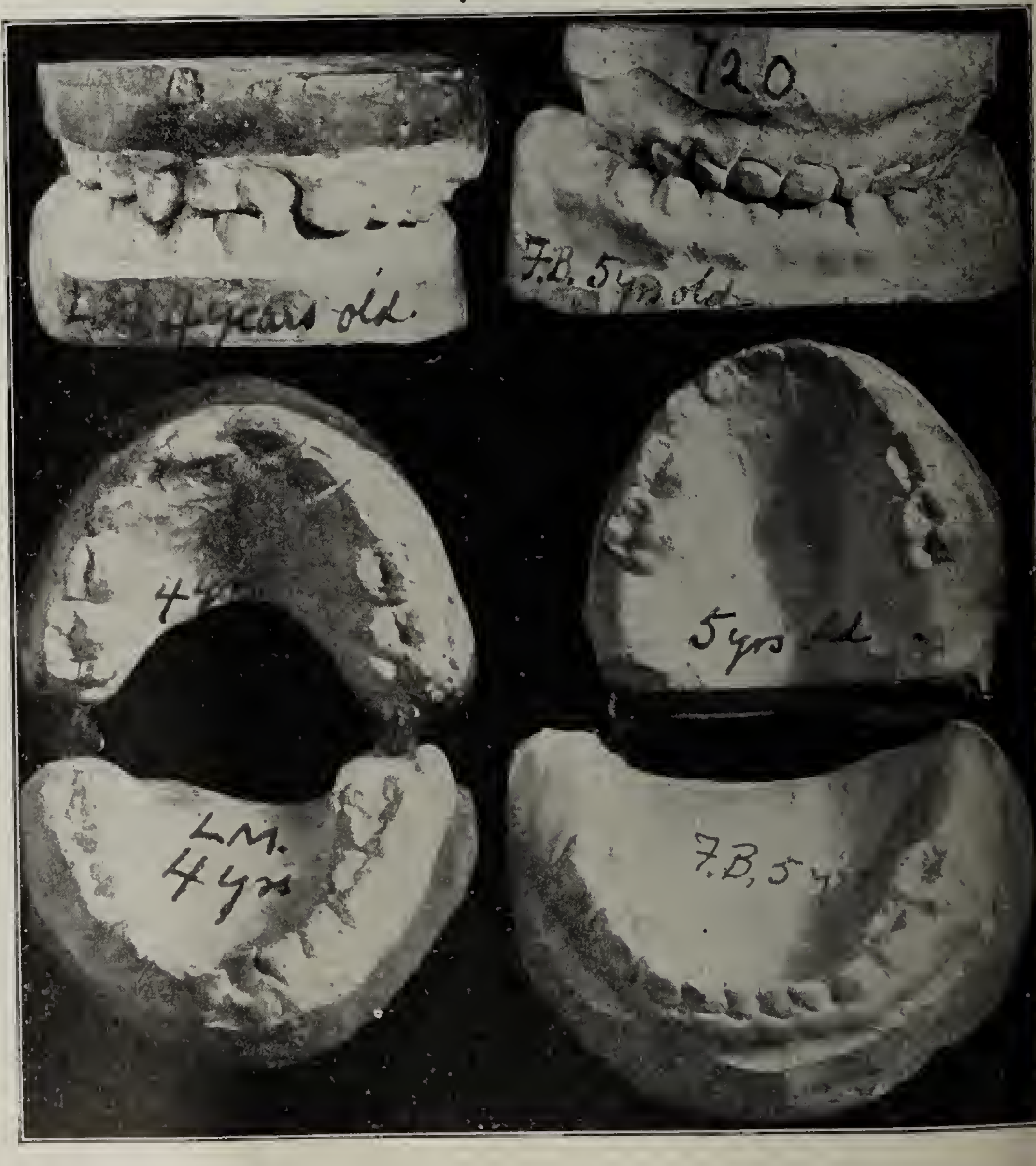

Fig. 2.—The four models show very irregular teeth at 4 and 5 years, respectively. This would result in marked deformity of the permanent teeth, the nasal passages, and the entire facial outlines.

ciduous teeth exist, and at five and one-half or six years of age no separation of the deciduous incisors has taken place, we are certain that the development of the arch of permanent teeth has been arrested and that there will be irregularity of the front teeth, because the permanent teeth, being larger than the deciduous teeth, need a larger arch in which to erupt. If there is no spreading apart of the deciduous teeth to form that larger arch then the permanent teeth must inevitably be crowded and jumbled whenever they make their appearance through the gum, and that is an indication of nasal stenosis; this in its turn is an indication of lack in power to develop (Figs. 1 and 2).

A child should not be called on to do more than one thing at a time; the conservation of energy in every direction is to be desired; therefore, it is not wise to attempt to place on any child the burden of overcoming unaided the conditions just described, of insufficient air spaces, accompanied by insufficient room for dental dedevelopment. Teeth, if seriously irregular, can never regulate themselves, and noses insufficiently developed always lead to worse evils as time goes by.

Slight wire arches a little larger in circumference than the dental arches of the child should be placed on the undeveloped arches of deciduous teeth and be allowed to expand until the proper size of arch or even a trifle larger than is necessary for the normal development of the permanent teeth is procured. This operation should be entirely painless and should occupy but a few weeks in its accomplishment, but when completed it will be found that the nasal stenosis has at the same time been largely or altogether corrected, and that the growth of all that part of the face lying between the commissure of the lips and the eyes has been promoted. Breathing becomes easier, the mouth closes naturally in sleep, the tongue once more presses against the roof of the mouth, enlarging the dental and palatine arch and permitting the simultaneous development of upper and lower dental arches under the influence of the tongue, which is their natural guide.

63 West Forty-eighth Street.

THE MUTUAL DEVELOPMENT OF UPPER AIR TRACT, JAWS, TEETH AND FACE,

AND THEIR ECONOMIC IMPORTANCE TO THE HUMAN RACE.*

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Orthopedic surgery occupies an important and constantly widening position in the field of reconstruction and correction. The "dental orthopedist" has only just begun to attract attention, and orthopedics of the nose, one might say, has scarcely as yet come into existence; but there are indications that it will outstrip all other branches of corrective surgery, because it directly affects the whole organism and the mental capacity instead of the less important locomotor functions.

I will endeavor in this article to show the importance of the normal development of the upper air tract and teeth, the dangers following imperfect development, and, in so far as possible, the causes and means of prevention of developmental irregularities. As a primary postulate, one may state that the nose is the axis on which the structure of the face depends for its development and that any variation in this axis produces some pathologic result more or less evident to the individual as his general body development continues.

MOUTH BREATHING.

The first and most important in our series of pathologic events is mandatory mouth breathing, due primarily either to nasal obstruction or to habit mouth breathing, which results secondarily in nasal occlusion. Habit mouth breathing may follow acute mandatory mouth breathing, or may result from the habit of constant talking seen in some children, which requires them to have their mouths always open. Or, again, it may come from deficient muscular development of the jaws and mouth, dependent on artificial feeding, under which condition the child does not make proper use of these structures.

During mouth breathing the tongue does not rest firmly against the hard palate as it normally should, pressing against the alveolar arches, but lies loose in the mouth. The lateral thrust which the tongue exerts on the alveolar arches under normal conditions is lost, and the weight of the face and facial muscles tends to check the lateral developments of the superior maxillary bones and dental arch proportionately to the antero-posterior development.

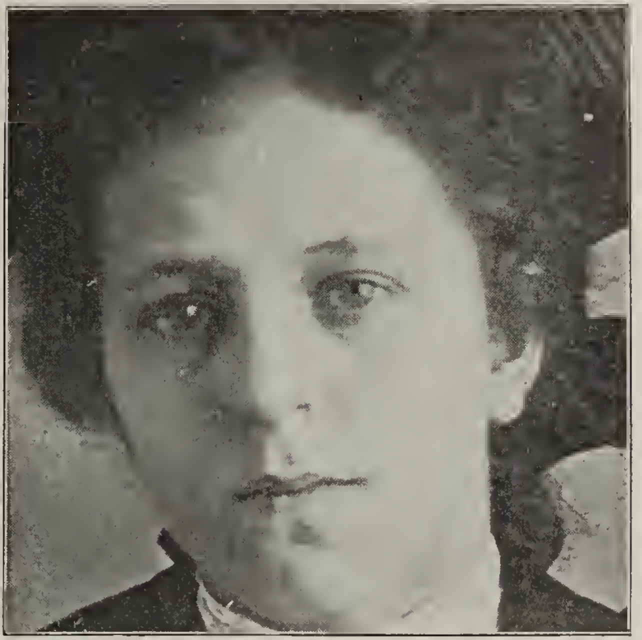

Fig.1.—A case of extreme nasal stenosis with nasal breathing. Prognathous type.

The superior maxillary bones contracted by abnormal development and conditions dependent on mouth breathing necessitate arrest of the development of the nasal fossæ chiefly in the horizontal plane on the transverse diameter, but also in the vertical plane. The nasal structure is especially susceptible to pathologic variations like all organs which are undergoing retrograde metamorphosis. The superior alveolar arch is contracted in proportion to the arrested development of the superior maxilla. The teeth, however, remain of normal size and number and must be crowded into a shorter line, forcing many out of position (Figs. 1, 2 and 3).

The results are of two varieties. The superior teeth are displaced forward, especially the incisors; or the superior teeth, the incisors especially, are locked behind the inferior, and the anterior displacement of the superior teeth is checked, forcing them into double alignment. The lower jaw meanwhile approaches more nearly its normal development, thus placing the upper incisor teeth in an abnormal position relative to the lower. The under set overlap the upper instead of being overlapped by them. All of these malpositions and malformations combine to make an abnormally narrow dental arch and imperfect dental occlusion.

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* Read in the Section on Stomatology of the American Medical Association at the Fifty-eighth Annual Session, June, 1907.

There are two forms of mouth breathing. The first is due to nasal occlusion and is characterized by the adenoid jaw or retreating chin, which recedes and falls behind the upper, and consequently the upper teeth lock in an anterior position in relation to the under, which are drawn downward and backward by muscular action in the efforts to keep the mouth open for breathing. If nasal breathing is regained in this form without dental regulation the pressure of the closed lips pushes the edges of the upper middle incisors backward and forms the "rabbit" mouth. The second form of mouth breathing is characterized by the prognathous or tonsil jaw. If there is faucial obstruction added to the mouth breathing from nasopharyngeal causes, the lower jaw is then drawn downward and forward by muscular action, in order to clear the mouth and fauces, and the lower jaw lies in an anterior position and the inferior incisors occupying an anterior position in relation to the upper, causing wapper-jaw.

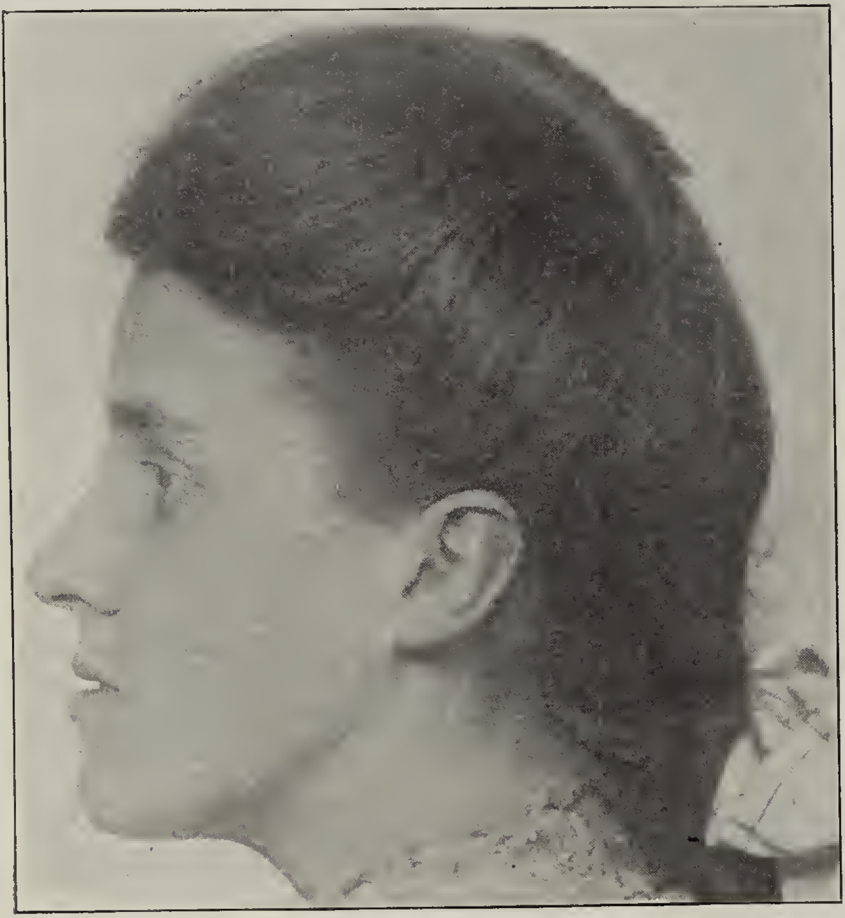

Fig. 2.—Nasal occlusion with irregular teeth characterized by anterior displacement of the lower teeth. Prognathous and deficient development of the superior maxillæ.

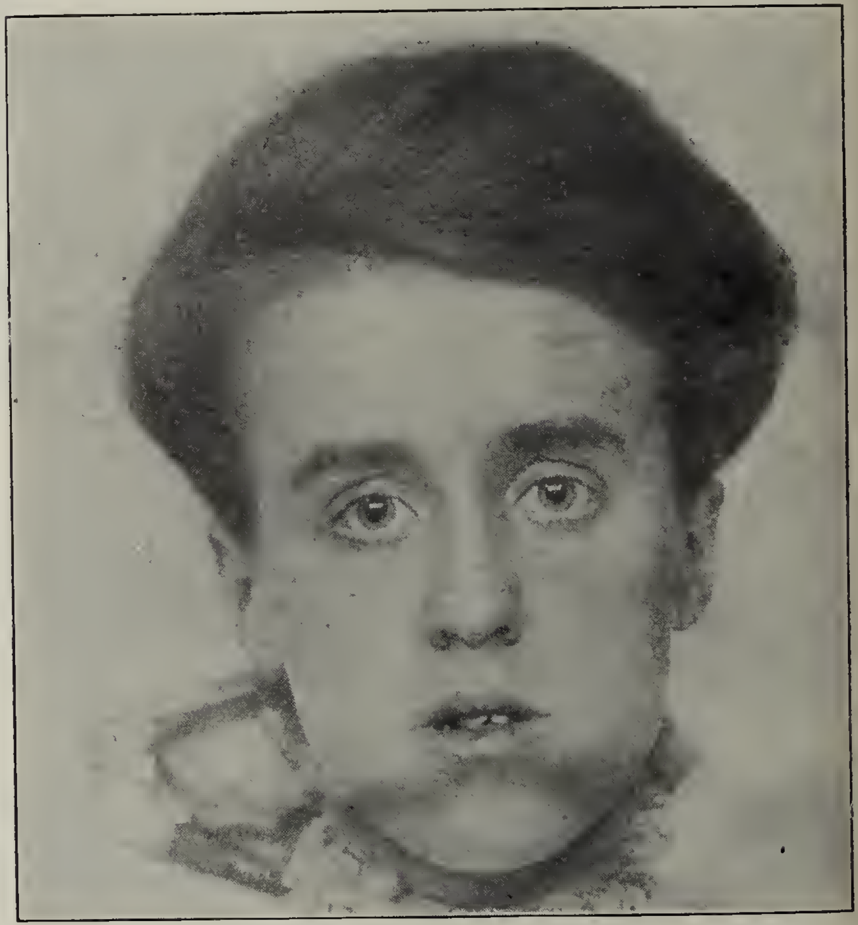

Fig. 3.—Same as Fig. 2, showing prognathous type of mouth breather.

When the superior teeth are thus displaced it is impossible for natural development ever to overcome the deformity. With the irregularity of the teeth and the uneven bite, closure of the jaws can not give a firm muscular fulcrum or support which moral character seems curiously enough to require to make it steadfast. The teeth lock in whatever position they first meet. If they chance to be irregular at the start they lock in that position and no spontaneous regulation is possible.

FACIAL CONTOUR.

The contour of the face naturally does not come up to the hereditary standard when the superior maxillary bones are abnormally narrow and laterally contracted. The characteristics of this deformity, viz., sinking in of the superior maxillary area, narrowing of the nose, prominence of the lower jaw, or prominence of the superior incisors accompanied more or less by lateral and vertical asymmetry, with distortion of the profile due to the falling jaw and the defective contour of the nose, are too well known to require further comment. These facial changes result in deterioration of the expression below the racial or hereditary standard, giving the face a vacant or degenerate expression.

It is hard to estimate fully the economic importance of the misplacement of the teeth and the resultant changes in the upper air tract. They are summed up in lessened physical and mental capacity and resistance; that is to say, they fall below the normal phylogenetic standard.

Insufficiency in lung expansion and in blood oxygenation must necessarily accompany mouth breathing, because this condition requires a continued more or less conscious muscular effort to keep the buccal orifice and fauces clear enough to allow sufficient flow of air to supply not the wants but only just enough to maintain life. Consequently during sleep this supply must be more or less diminished to the detriment of the entire organism. The extreme diminution of the air supply is often accompanied by a very annoying (to others) vibration of some part of the mouth or soft palate.

Besides the insufficient quantity of the air supplied by mouth breathing, its quality is more impure and more definite in moisture and warmth than when the air is supplied through the nose. The most important defect in this respect is the greater number of bacteria reaching the fauces, thus causing increased frequency of local and general infection. Among the local infections we may place infection of the mouth, as shown by the greater prevalence of carious teeth in mouth breathing. The fauces are often affected, as is shown by inflammation of the faucial tonsils. In like manner the pharynx is affected, as shown by disease of Luschka's or the pharyngeal tonsil. In other words, the whole lymphoid ring may be involved. The lower air tract is also very likely to be infected, and there is a tendency to coryza, influenza, nasopharyngitis, tonsillitis, laryngitis, bronchitis and pneumonia. Among general infections are tuberculosis, diphtheria, the exanthemata, typhoid fever, cerebrospinal meningitis, and acute articular rheumatism resulting from toxemia consequent on infection of the lymphoid ring.

The normal nose sifts the inspired air of mechanical impurities which might cause local irritation. It also serves to check inspiration of irritant gases by warning the individual of their imminent danger. Those individuals who are unable to use the nasal safeguard are more subject to laryngeal, tracheal, bronchial and pulmonary irritation due to inspiration of mechanical or chemical irritants, dust, gases and too dry or too cold air. The English custom of wearing respirators is undoubtedly due to the prevalence of mouth breathing in that country.

Among the conditions dependent on a nose contracted by mouth breathing are defective ears, inducing disturbances, from subjective irritation, provocative of insanity, and deafness with a tendency to suppuration, mastoiditis, meningitis, infective phlebitis, cerebral and cerebellar abscess, pyemia, septicemia and death.

The imperfect development of the air sinuses of the head is another result of arrested growth. This causes impairment of vocal power and quality of voice, with a tendency to headache and sinusitis, which may develop later into meningitis, brain abscess, general sepsis and death.

Impairment or loss of smell is due usually to closure of the upper fossæ of the nose originating from imperfect development of these spaces consequent on mouth breathing, etc. By this loss the individual is deprived of much gustatory pleasure as well as olfactory, since the senses of taste and smell are so intimately associated. All taste may be lost except salt, sweet, sour and bitter, together with the esthetic enjoyment of pleasant odors. There is sometimes also a loss in sexual tone and activity. The unfortunate is exposed to ingestion of poisons or decayed articles of food, which should warn their consumer by their unaccustomed taste or smell.

Ocular defects often are caused or aggravated by intranasal complications and the asymmetry of the facial bones due to the nasal occlusion and irregular teeth.

Together with the imperfect development of the air sinuses and the nasal fossæ there is a tendency to pathologic contact of the surfaces of the mucosa of the nasal cavities and to intranasal pressure. This condition, on account of the cerebral congestion and abnormal irritation that follow, is an important exciting cause of mental inferiority, idiocy, epilepsy or insanity. The ear defects resulting, as we have stated, predisposes to deafness and deaf-mutism, and through their subjective mental irritation, or absence of normal mental stimuli, to insanity. The continuation of the condition producing this state causes a low grade of mental capacity, incapable of self-support, before the advanced states are reached.

Mastication is a most important economic factor for the more civilized portion of the human race. Its deterioration has been observed in Great Britain. Of late years it has displayed itself in the difficulty of securing recruits who had serviceable teeth for the army. Sound teeth for the proper preparation of coarse foods for easy digestion are a necessary requirement for the health and efficiency of an army. As we have previously stated, caries of the teeth is most common in mouth breathers. It can be prevented to a large extent by nasal breathing.

The normal potentiality of a strong jaw, or, in other words, of perfect dental occlusion is proverbial. We need not dwell on it because of its universal recognition. The character is weakened with a retreating chin. In the wapper-jaw type of dental irregularity there is more strength of character, because the jaw in this form is more amenable to muscular fixation.

ETIOLOGY.

The causes of this condition are nasal obstruction, mouth breathing and deficient and irregular development of the superior maxillary bones, probably due to the disturbance of the muscular balance normally furnished by the closed jaw for the greater part of twenty-four hours. Instead of this we have an unbalanced muscular tension and thrust working for the whole twenty-four hours. With the disturbance in the development of the maxillary bones come the irregularity of the teeth and the deficiency and irregularity of the nasal development and face as a whole. Any one of the factors may be the first to start the pathologic chain, but usually the nose is first to blame.

Prophylaxis of the vicious cycle of interdependent links calls attention to the nose and maintenance of nasal breathing from the time of birth.

PROGNOSIS.

For spontaneous cure of acute mouth breathing the prognosis is good and is improved by appropriate local and general medical treatment. The prognosis for chronic mandatory mouth breathing is absolutely bad without surgical intervention. With surgical and rhino-orthopedic and orthodontal assistance the prognosis is absolutely good before the twenty-fifth year; after that time it depends on the extent of the arrest in development.

As to dental occlusion and irregularity of the teeth, the prognosis is absolutely bad without orthodontia. With correction, success is assured at apparently any age.

TREATMENT.

The treatment varies with the period in the case at which it is first sought. Acute nasal occlusion in infancy simply requires the removal of the occluding mucus and the rest will take care of itself. Colds in the head are the form the occlusion usually takes. They require appropriate treatment. I have heard that the aborginal grandmothers of the Sandwich Islands were wont to suck clear the noses of their grandchildren. Nasal obstruction caused by adenoid vegetation requires surgical interference. Habit mouth breathing should be corrected before structural occlusion of the nose takes place; a piece of isinglass plaster across the closed lips is the best means of prevention.

After the first dentition is well under way, regulation of the teeth and widening of the arch may be found necessary in order to allow proper development of the alveolar process and perfect closure of the teeth requisite for normal nasal development. After the second dentition, dental correction is still more important for the same reasons.

The premature loss of any of the deciduous teeth is an important accident, because it interferes with the symmetrical development of the jaw and the regular eruption of the permanent teeth. Still more to be deplored is the loss of any of the permanent teeth from caries or other disease, because the absence of any of the teeth causes a corresponding shrinkage of the maxilla and irregularity of the remaining teeth—conditions very difficult to combat.

The restoration of the nose to normal capacity in infancy usually follows the removal of hypertrophied lymphoid tissue and local cleanliness. Whatever treatment is employed to make the nose patent, nasal breathing must be maintained in order to keep the nose clear. In childhood the lymphoid tissue requires removal; possibly the teeth will require regulation in order to foster the growth of the nasal fossæ which will follow such interference. In adolescence the same fact holds good as in childhood, with the addition that possibly nasal obstructions may require removal as well as regulation of the teeth, which at this time has become a necessity. Imperfect occlusion at any age demands orthodontal assistance, because Nature is never able to correct it.

The exact age at which the regulation of the teeth loses its orthopedic value in relation to the nose and ceases to affect the nasal fossæ has not been fairly determined, but it seems reasonable to suppose that up to 25 or possibly 30 years of age it is still useful. The removal of nasal obstructions is, of course, always indicated, but after the age when the dental correction no longer affects the nasal fossæ the only hope for restoration of nasal breathing is the complete removal of all the nasal obstruction. Although orthodontia no longer, at this advanced age, has a direct bearing on the nasal cavities, it still has some relative importance, for in order to maintain nasal breathing which has been surgically produced it is necessary to use the nose for respiration—a difficult task for an individual with irregular teeth and imperfect dental occlusion.

HYPOTHETICAL CASES.

CASE 1.—An infant, six weeks old, has coryza; the nose is occluded with mucus and engorged mucous membrane, conditions which yield readily to appropriate treatment. If this state of things is allowed to continue, the child soon becomes a mouth breather from necessity and will probably remain so if the primary nasal occlusion has lasted a few weeks. The anatomic or secondary occlusion of the nose will soon follow. If the nasal occlusion is removed before the habit of mouth breathing is established, there is no further disturbance.

CASE 2.—A child of three years, previously a nose breather "catches cold", has inflammation of the lymphoid ring. The nose is occluded by adenoids. His "cold" is more or less continuous for several months. During this time the child has acquired the habit of mouth breathing. If this condition continues, the superior maxillary bones will be small and irregular, the superior dental arch will be narrow, the nasal fossæ will remain small and become more irregular. When the second teeth arrive, if not before there will be marked dental irregularity, which, as we have said before, locks and prevents the final development of the superior maxillary bones. If the proper surgical treatment is early resorted to and then the habit of nasal breathing properly established, by artificial means if necessary, there is no further trouble unless some future accident befalls the patient.

CASE 3.—Same case as 2. The child has received no treatment sufficient to establish proper nasal breathing. When the second teeth begin to appear from the sixth year on, irregular dentition and contraction of the superior dental arch will be progressively marked. The nasal fossæ will be still narrower, while the irregularity increases. The nasal fossæ will not only be narrow, but will also be shallow and the vault of the palate will be proportionately high. This vaulting of the palatal roof of the mouth is in a sense a compensatory alteration in development, because it allows mouth breathing with less muscular effort, and, consequently, the supply of air is less deficient. The tongue in this condition forms the floor of the vaulted channel.

Should caries seriously impair the first dentition before the appearance of the second, it is a cause for contraction of the superior maxillæ and further irregularity of the teeth, the effect on the dental occlusion is much the same as in cases of chronic mouth breathing. The relative position of the sixth year molars will be interfered with and the bite will be proportionately defective. Supposing this is not the case and that the irregularity occurs in the anterior portion of the maxillæ, the tendency will be to thrust the superior incisors far forward. Intranasal examination of such a patient, besides the irregular narrowing or shallowing of the nasal fossæ, probably will show a deflection of the septum with a corresponding spur.

Treatment of these conditions is both nasal and dental. Removal of the adenoid obstructions is indicated, of course; also removal of nasal spurs. The deflections of the septum will take care of themselves, provided the superior dental arch is widened at a sufficiently early age, the dental occlusion is rectified, and the mouth allowed to close without voluntary efforts. If the dental arches are sufficiently spread, the nasal fossæ will spread also and the whole facial anatomy will fall into normal lines.

CASE 4.—From puberty on the treatment and its results will vary according to the age of the patient. At a later age if no treatment has been received, the adenoids will probably have disappeared, the defects of the nose and of the teeth alone remaining, and possibly the habit of nasal breathing established, in which case the prominent upper middle incisors will have been pushed backward forming the so-called "rabbit" mouth. If the patient is still sufficiently young for the superior maxillary bones to respond to widening of the dental arch, treatment is indicated as outlined in the previous condition; but if the age has advanced beyond this period, the only hope for remedying the breathing lies in operative reconstruction of the nasal cavities. The alignment of the teeth will no longer have direct effect on the cavities for the mutual interdependence of the nose and teeth gradually lessens and entirely ceases between the twenty-fifth and thirtieth years.

CONCLUSIONS.

It is of extreme importance to keep up infantile nasal breathing on account of the many untoward conditions which may follow its loss. The sooner the defect of mouth breathing is rectified the more simple its treatment and the better the results. The importance of nasal breathing is many fold; it is a safeguard against infection, an aid to proper physical and mental activity through a sufficient supply of oxygen, a requisite of moral strength, esthetic outlines, and a protection to the faculties of hearing, speech and smell. But, most important of all, it is fundamentally necessary to perfect oral occlusion and the power to masticate food.

The proper regulation of the teeth is an assistance to the proper development and subsequent function of the upper air tract, and is especially necessary for the perfect restoration of the nasal respiratory function between the fifth and twenty-fifth years.

The developmental relation of irregular teeth and cramped nasal passages is a reciprocal one. The course of treatment to pursue if nasal breathing can be maintained is to straighten the teeth first and operate on the nose later if necessary. If nasal breathing can not be maintained, operate on the air passage sufficiently to allow nasal breathing before regulating the teeth. Then regulate the teeth and, last of all, do the final work of the nose if any further operating is required.

I wish to thank Dr. E. A. Bogue and Dr. Frederick L. Stanton for many ideas and much help on the stomatologic part of this paper and Dr. Stanton for the loan of photographs.

DISCUSSION

ON PAPERS OF DRS. BOGUE AND BRYANT.

DR. WILIAM H. POTTER, Boston, Mass., has been interested in a method of measuring the enlargement of the nasal cavity which is obtained by expanding the dental arch. He thinks that the best way to determine nasal enlargement is to measure the distance between given portions of the inferior turbinate bones. Before measurements can be taken the mucous membrane covering the turbinates, which is congested in varying degrees, must be shrunk down to the bone.

DR. W. M. DAILEY, New York City, agreed with the ideas expressed in Dr. Bogue's paper. He has noticed a deformity of the deciduous teeth at 2½ and 5 years, causing a marked deformity of the arch. He called attention to the lack of development in the premaxillary bone in the case shown by Dr. Bogue, which had not developed anteriorly and laterally. The occlusion of the deciduous teeth in this case was not normal, for in the normal deciduous occlusion, the deciduous second molar dips down into the space between the deciduous molar, and the first permanent molar, and acts as a guide for the superior first molar to its normal eruption. The normal eruption of the permanent molar comes anteriorly and then posteriorly and the deciduous tooth in this case shows itself of great value and importance. Speaking on Dr. Bryant's paper Dr. Dailey called attention to the fact that there have been a great many points brought out at different times showing lack of mental development in children. The lack of physical development is due to dental defects, which bring about general defects, thereby interfering with the normal constitutional condition of the children. When these children have had these dental defects removed, there is likewise an improvement of the general condition. Another important point, he said, is the breathing. The breathing is due to the peculiar elevation or depression of the thorax, which, if improperly performed, does not allow a sufficient amount of lymph to enter the blood to produce a quality of blood that will offer the proper resistance to disease.

DR. C. A. HAWLEY, Columbus, Ohio, agreed with the others that the conditions shown in mouths with irregular teeth are those of arrest of development. If that is true, he said, and if the spreading of the arch will cause the development of the face of the child to resume its natural course, it will make a great change in the plan of treatment of these cases. It is a big step in advance. It was with some conception of that fact that Dr. Hawley started to measure teeth and tried the plan, even at the early age of 6 or 7 years; it was to gain some conception of the future denture that he started to measure teeth, to furnish, if possible, the means of knowing what the future denture should be.

DR. E. A. BOGUE, New York City, agreed with Dr. Hawley that just as soon as the public is made to appreciate the seriousness of the condition and that a remedy for it is at hand we may hope for a large advantage in the development of children, because we can remove obstructions and let Nature go on and do her work. As to Dr. Dailey's statement that the premaxillary was not developed properly, Dr. Bogue felt that Dr. Dailey either called attention to the wrong model, or else he was mistaken. He agreed with Dr. Dailey, however, that the premaxillary bone lacks in development. Dr. Mosier of Boston, he said, recently brought forward the results of his work for the last two or three years in regard to the development of the premaxillary bones, and when he had got through with his description of the process of development, Dr. Mosier had to acknowledge that he knew of no remedy that met with his approval for the diminution in the size of the nasal orifice, due, as he thought, to the non-development of the permanent teeth in the premaxillary bone. Dr. Bogue thought it was with a little surprise that Dr. Mosier found that dentists were slightly ahead of him, and that very slight mechanical assistance would have enabled him to get over that obstruction. In regard to deciduous teeth not being developed, Dr. Bogue stated that that is true. They do affect the development of the permanent teeth. Children have been called stupid when physical defects have prevented them from exercising their proper normal functions. Dr. Cronin, at the head of the health department examination of school children in New York City, sent out seventy-five physicians to make careful physical examinations of the children, and then to apply, so far as in their power now lies, means for correcting the physical defects that exist. The advantages from this work are almost incalculable. Dr. Bogue commented favorably on Dr. Bryant's remark that instability of character follows instability of dental articulation, and he followed that by saying that the upper jaw was subject to fixation.

DR. ROBERT T. OLIVER, West Point, N. Y., asked Dr. Bogue if he considers development of the jaw a specific factor in the establishment of individual character.

DR. BOGUE replied that he could not answer the question.

DR. W. SOHIER BRYANT, New York City, is convinced that the regulation of the teeth and at a very early age, is the most important step in surgery of the teeth, nose and face that has been developed of late years.

DR. BOGUE asked the gentlemen who are interested in orthodontia to fix some of these apparatuses in the mouths of feeble-minded children and report the results of expansion of the arches for this class of patients.

Special Article

TRAVEL NOTES FROM SOUTH AMERICA.

NICHOLAS SENN, M.D.

CHICAGO.

(Continued from page 118.)

XI. VERRUGA PERUANA: OROYA FEVER: CARRION'S DISEASE.

A strange disease, limited to a few of the valleys of the western slope of the Andes Mountains in Peru has had its origin there without ever having become epidemic. This disease has never been known to originate on the coast, notwithstanding that many cases have been brought down from the infected valleys to the hospitals of the coast cities for treatment. It is called Verruga Peruana, because the characteristic macroscopic, pathologic product makes its appearance in the form of warty indurations in the superficial layers of the skin and in the subserous and submucous loose connective tissue of the internal organs and the intermuscular spaces, and because it has never been known to originate in any other country but Peru. It is called Oroya fever, because it has prevailed most frequently and extensively along the line of the Oroya Railroad, where one of the high bridges is called the Verruga Bridge, as it is in a locality notorious for the frequency with which this disease is encountered, so much so that laborers refuse to work there unless they receive double wages. It is finally called Carrion's disease, in honor of Daniel A. Carrion, a medical student of the University of Lima, who, in 1885, inoculated himself with the disease, in order to throw more light on its nature and clinical manifestations, and who, after a brave fight for his life, died Oct. 6, 1885, having sacrificed his youthful and promising life on the altar of science and in the interest of suffering humanity.

The true nature of this strange disease remains a secret to-day. The facts concerning it, as far as they have been revealed up to the year 1898, have been recorded in a masterly manner by Prof. Ernesto Odriozola of the Faculty of Medicine of Lima, in a monograph of 217 pages, entitled "La Maladie de Carrion, ou la Verruga Péruvienne," published in Paris in 1898.

Through the courtesy of Dr. A. L. Barton of Lima and Dr. W. M. Wightman of the Public Health and Marine-Hospital Service, I was given an opportunity to see three cases of this disease in the Guadalupe Hospital at Callao. The first patient was a Peruvian strongly tinctured with Indian blood, who was born and had always lived in one of the mountain valleys where the disease prevails. He was a laborer, about 35 years of age, who was always well until three months ago, when he was taken ill with symptoms indicative of verruga. He was admitted into the hospital the day before, in a very critical condition. His temperature was 40 C.; mind wandering; pulse small and frequent; tongue dry and coated. The face, arms, hands, fingers, legs, feet and toes on extensor sides, and chest and abdomen were covered with a papillomatous eruption, the papillæ being on an average about the size of a pea. These papillomatous or warty growths were covered with a smooth, shiny skin, felt firm to the touch, and were surrounded by healthy skin. They were most numerous on the dorsal side of the arms and hands. The liver and spleen did not appear to be enlarged. One of these growths involved the outer canthus of the left eye. The deep lymphatics were not enlarged.

From the location of the swellings, their depth and appearance, it seemed to me that they had their starting point in the superficial lymphatic vessels. In the severer cases, these papillomatous growths become the center of a larger swelling, which gradually increases in size, ruptures and exposes a very vascular granulomatous mass, which bleeds readily on the slightest touch. Such a swelling is now forming in this case, on the outer aspect of the right arm about half way between the shoulder and elbow. Patient, and even physicians, sometimes ligate the bases of such swellings with horsehair with a view of strangling the growth. The general condition of the patient was very grave, as the symptoms of sepsis had become progressive.

The other two patients were convalescing from the same disease. The eruption had disappeared by absorption of the warty growths, leaving a mottled appearance of the skin. One of these patients had been in the hospital for three months, and both of them were emaciated and extremely anemic. The disease is noted for its chronicity in the milder forms, and for its great fatality if the eruption fails to appear. I was shown pathologic specimens, showing the character of the eruption when it attacks internal organs. In one of these I counted five subserous nodules of the heart, and in another, the mucosa of the intestine was studded with miliary nodules. I was informed that the appearance of the eruption, after the first symptoms of the disease have shown themselves, is very variable, ranging from a few days to a week or more.

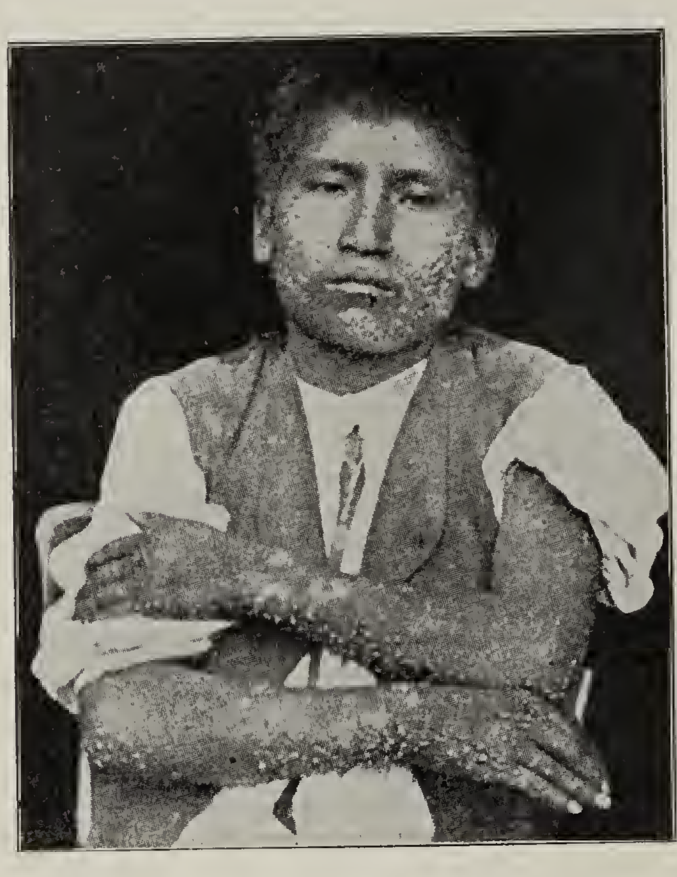

Fig. 42.—Miliary verruga.

I will now give a brief résumé of Professor Odriozola's book on this subject. When the Spaniards, commanded by Pizarro debarked and took possession of Peru, they soon became afflicted with, to them, a very strange disease. The writers of that epoch have left us descriptions of the disease, which correspond with what is now known as Carrion's disease. The grandfather of Professor Odriozola, a very learned man, was the first to collect extremely important documents of the history of verruga.

One of the very first descriptions of this disease is by Herrera in his book, "Descripcion de las Indies Occidentales del Cronista Mayor del Rey." 2 Ed. de 1730, Madrid. From the very accurate description given of the leading clinical features of what he calls "berrugas," there can be but little doubt of the identity of the two affections. A very thorough historical account of the writings by different authors make up the historical part of the book, which covers 23 pages. Among the authors mentioned appear the names of Agustin de Zarate (1749), Cosme Bueno (1764), Pedro Pizarro (1884), Gomara, Garcilazo, Oviedo and Cieza, Quintana, Lorente (1861), Chaix, Cappa (1886), Cevallos, Hippolyet, Unanue (1815), Tschudi (1852), N. Malo (1852), Archibald Smith (1858), Manuel Odriozola (1858), Salazar (1858), Armando Velez (1861), Raimondi (1874), Dounon (1871), Espinal (1872), Pancorvo (1875), La Puente (1875), Fuentes, Barrios, Kiney, Ch. Tasset (1872), Thomas Hutchinson (1873), Puelma Tupper (1877), Bordier (1884), Nielly (1881), Sanfurgo (1885), Avendaño (1885), Mariano Alcedan (1874), Carlo Cucca (1886), Vicente Izquierdo (1885), David Matto (1886), Larrea y Quezada (1887), José a de los Rios (1888), Ricardo Quiroga y Meña (1889), Julian Arce (1889), Damaso D. Antunez (1890), Gonzales Olaelchea (1890), Alfredo Leon (1891), Bello (1893), and Beaumanoir (1885). This long list of distinguished physicians, most of them Peruvians, shows how much interest this disease has created in Peru, and how diligently the profession has been endeavoring to throw light on its obscurity.

As to its cause, theories have been built up and torn down by the different authors, and it is safe to make the statement that in spite of so much speculation and writing, its real nature is almost as dark and obscure to-day as it was when the Spaniards first invaded the country. The most diverse views have been entertained as to its etiology. Poisoning of the streams by the Spaniards, faulty water supply, malaria, sudden changes of temperature, etc., have all had their advocates and their opponents. That it is a microbic disease, there can be no question, although it has behaved in such a way only to a limited extent. The sources of infection are limited to a very few localities on the west slope of the Andes Mountains.

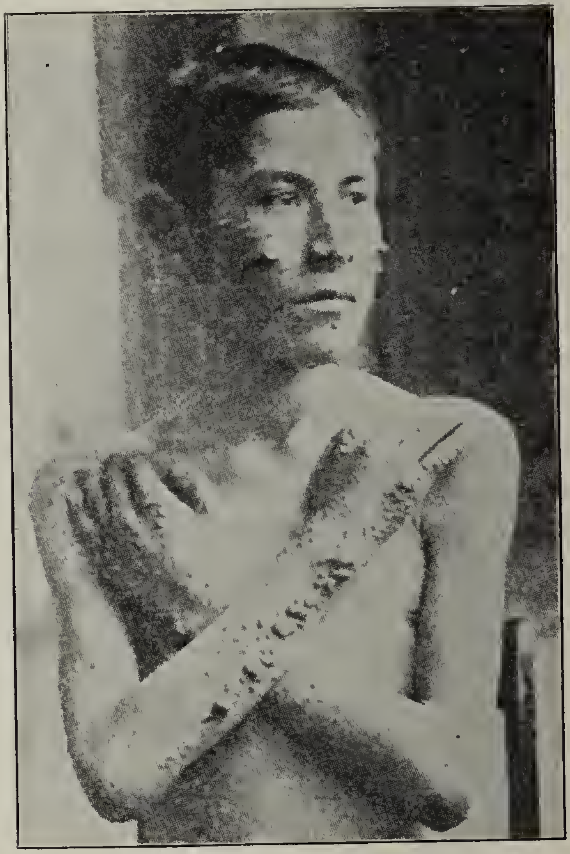

Fig. 43.—Miliary verruga.

Cases which find their way outside the limits of origin of the disease have never been known to spread the disease beyond the restricted zone which it inhabits, and where it has existed for centuries.

The monograph gives a detailed account of the geographic distribution of this disease, with illustrative maps. During the Spanish invasion, verruga prevailed at Quaque, a bay in the province and government of Esmeraldas, but since then it has entirely disappeared from the coast of Peru and is now comprised to three departments of Peru, namely: A narrow zone of the department of La Liberdad, the department of Anachs, and finally that of Lima. The malady exists only on the west slope of the Andes Mountains along water courses, in a few valleys, and more especially in the narrow and deep valleys between mountains known by the name of *quebradas*. But the disease does not necessarily originate along the whole length of these water courses, and does not extend more than 28 to 60 kilometers inland from the coast, at an altitude of 2,000 to 10,000 feet above the sea level.

Clinical observation has shown that the disease varies in its virulence from the most fatal to the mildest forms. The grave fever of Carrion, with or without eruption, prevails in the same localities and under similar conditions as does verruga. The fever is generally known as the "fever of Oroya," an improper term, as it is very likely to mislead one to believe that it is limited to Oroya and its immediate neighborhood, while as a matter of fact it is never met with at an altitude above Matucana. The name, then, implies only that this form of fever is met with most frequently on the way from the coast to the mountain heights of Oroya.

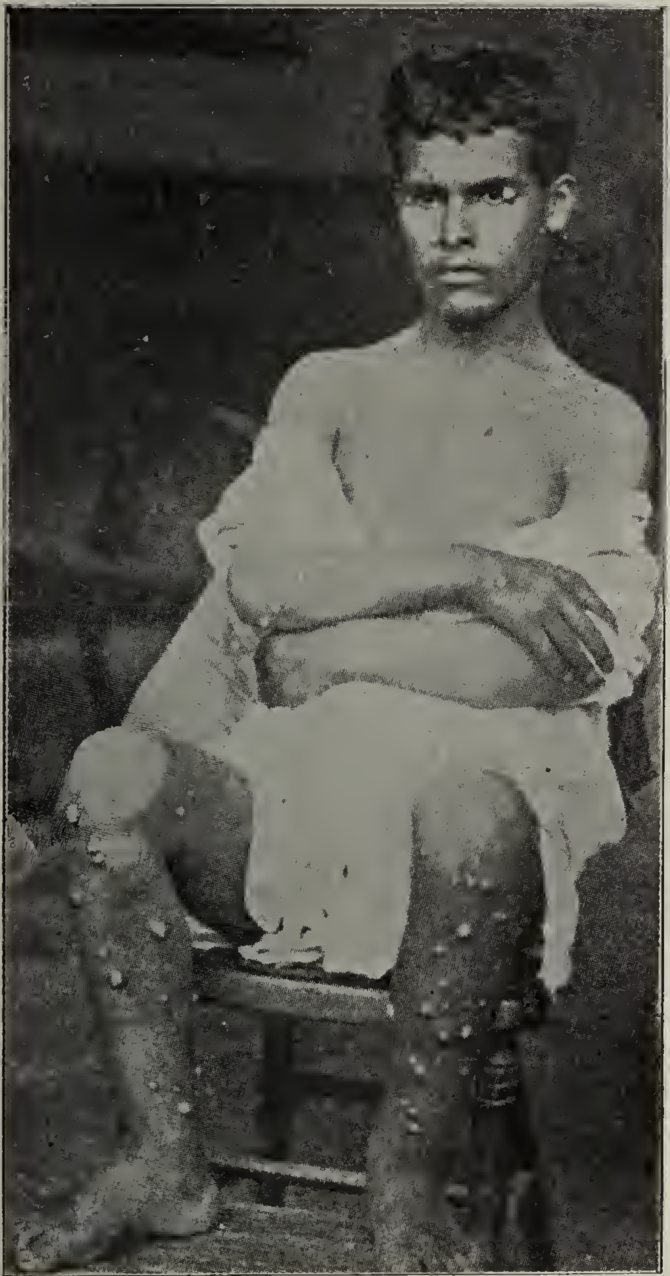

Fig. 44.—Nodular verruga.

The self-inflicted disease of Carrion gives us the clearest ideas on the symptomatology of this, the gravest form of verruga. He inoculated himself on Aug. 27, 1885, with blood taken from a verrugous swelling, making two inoculations on each arm, as practiced in ordinary vaccination, selecting the same places. On September 17 the first symptoms appeared, making the period of inoculation twenty-one days, and in rapid succession all the symptoms of this grave form of fever developed. He succumbed on October 5, in the arms of his comrades, profoundly anemic, twenty-nine days after inoculation, and after the disease had progressed through all the stages of what was then known and described as Oroya fever. This memorable experiment threw new light on the nature of the grave form of the disease, and confirmed not only its intimate connection with verruga but demonstrated also that it is the same thing. Besides demonstrating the identity of the two diseases, the experiment of Carrion proved that verruga is inoculable—microbic. In many of these grave cases the eruption does not appear at all or very feebly, as is the case in the most malignant forms of smallpox and measles.

Odriozola observed a fatal case in which, besides the usual external nodules, which paled and disappeared, the eruption was found on postmortem in the muscles of the leg, a condition indicated during life by great pain and cramps. As a rule, the grave fever precedes the eruption, which is quite variable in its appearance. It differs from the ordinary verruga by the intensity of the general symptoms, and the greater fatality, but, in other respects, presents only an enlarged clinical picture of the ordinary form of the disease. It is taken for granted to-day that Carrion's disease is a microbic affection, and Dr. Barton, who has had a large experience with such cases, and who has investigated its microbic cause, believes he has discovered the parasite in the form of a short bacillus, which he has found in red corpuscles of the blood in patients suffering from this disease, but sufficient evidence is so far lacking to demonstrate beyond all doubt the etiologic relationship between this bacillus and Carrion's disease.

Salazar, in his excellent thesis on this disease, which he called *Verruca andicola*, had firm faith in the microbic cause when he said: "La maladie est produite par un principe spécial qui, comme tous les virus, est invisible et impalpable; son véhicule ordinaire, c'est l'eau de quelques sources situées sur le versant occidental des Andes, d'après l'opinion généralement admise." That the parasite of the disease exists in the water supply is more than probable, because the disease is disseminated along certain water courses, which pass through the deep mountain cuts on the west side of the Andean watershed. Tschudi said the disease may be contracted by drinking a single glass of water taken from these contaminated streams, while those who only pass through these valleys can do so without any danger.

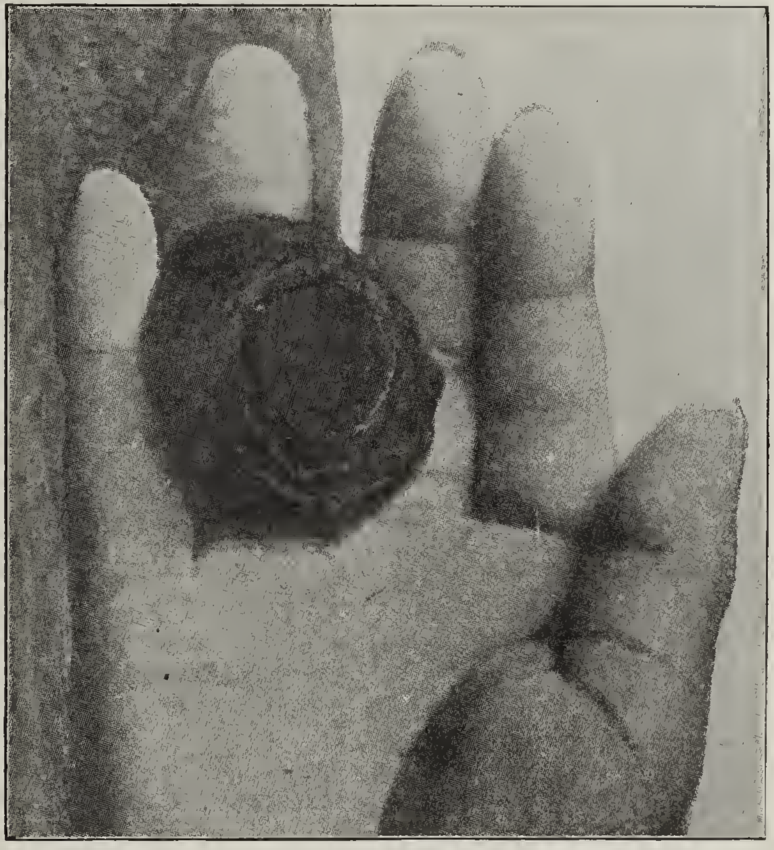

Fig. 45.—Large ulceration of ring finger and palm of hand, showing central black eschar produced by perchlorid of iron, the whole surface ulcerated.

Odriozola believes that the poison exists most frequently in the water, but that it also lives in the atmosphere and soil, as persons have contracted the disease who abstained from drinking the infected water. Clinical observations have demonstrated sufficiently that certain diseases, like syphilis and tuberculosis, increase the liability to this disease and increase its malignancy. Among the pathologic changes wrought by the disease, anemia of a profound character is the most constant and striking. Whatever the bacillus of verruga may be, it is a blood destroyer, and causes a progressive anemia, which is one of the characteristic features of the disease.

The blood is very thin, coagulates very slowly and is of a dark venous color. The liver and spleen are frequently enlarged and engorged, although the latter has not infrequently been found of normal size, or even smaller than normal. These organs are usually softened and friable. The lymphatics are engorged and enlarged, more especially so those of the mesentery, and to a lesser extent those of the neck, supraclavicular and carotid regions.

Peyer's patches and the solitary glands are also generally found to be increased in size. The urine furnishes no diagnostic information. The medullary tissue in the bones has also been found in a state of active proliferation.

From what has been said, it follows that the important lesions of this disease are anemia and active proliferation of the ells of the blood-producing organs. The bacteriology of the disease has been studied by Izquierdo (1885), Florez (1887), and recently by Dr. Barton, all of whom found in the blood either a bacillus or coccus, which they claimed was the cause of the disease, but as has been stated before, sufficient proof has not thus far been furnished as to the direct etiologic relationship between any of these and the disease, so this interesting field remains open for future scientific research.

The temperature in Carrion's disease is very irregular and often misleading. The temperature curves could not be more irregular, as they are not the same in any two cases. One must not forget that in the grave fever of Carrion there is always a fundamental element—the eruptive element—ready to enter into activity. The temperature is also influenced by malaria engrafted on the disease, by therapeutic intervention and congestive or inflammatory complications involving different organs. In simple cases uninfluenced by the conditions enumerated, the temperature follows a regular course always the same and which it is important to know.

In the great majority of cases the temperature is not high in the beginning, and it takes several days, even a week, before it reaches a high degree. Generally, there is a slight rise in the temperature every day or two, especially in the evening, but it does not exceed 38, 38.5 or 39 C. This is what might be called the preparatory febrile period. In some cases this preparatory febrile period does not exist and the disease begins brusquely, commencing with a severe chill, followed by a high fever (40 C. or more) and abundant sweats. At other times, the chill is the point of departure of a remittent form of fever, so that one must recognize two types of fever, intermittent and remittent, and on this account the fever is often mistaken for malaria. At this stage, patients are seldom confined in bed. The preliminary fever usually lasts for six days or even longer, the other symptoms not being intense. Suddenly there sets in a severe chill, followed by high fever, and from that time the fever is installed definitively, as in cases in which the disease has an acute beginning. The intermittent type is quotidian with evening exacerbations more rarely tertiary. The remittent type, however, is more common and preserves this character to the end. The morning temperature varies from 37.5 to even 39 C., while in the evening the thermometer registers from 35 to 40 C., and even higher. The mean duration of this fever is from twenty-five to thirty days. In fatal cases the temperature vacillates between the two extremes, often falling to subnormal.

Anemia, in the grave fever of Carrion, constitutes the predominating objective symptom. There is no other disease in which this symptom reaches such a high degree and in such a short space of time. The yellowish discoloration of the skin and conjunctivæ accompanies the anemia, and may reach a degree of discoloration similar to that of jaundice.

Hemorrhages are not rare. Epistaxis is the most frequent form, but intestinal and subcutaneous hemorrhages in the form of petechiæ are quite frequent. The eruption is either preceded by fever or the fever coincides with the eruption, or finally, the fever follows the eruption. Early appearance of the eruption is a favorable sign, and physicians are therefore anxious to examine for it day after day. The skin eruption first appears as an efflorescence, the little spots gradually increasing to hard, elevated nodules from the size of a mustard seed to that of a pea. The mucosa of the mouth is generally the seat of a miliary eruption involving the cheeks, palate, gums, tongue, etc. These miliary eruptions are frequently preceded by spots forming an efflorescence from which the nodules later take their origin.

Profuse sweating and the appearance of sudaminæ are frequently observed, as well as edema of the lower extremities, which begins about the ankles. Loss of appetite, nausea, vomiting and diarrhea are the most prominent symptoms referable to the digestive organs. Vertigo, severe headache, muscular and joint pains, cramps, insomnia, delirium, hiccough and jerking of tendons show the extent of involvement of the nervous system.

In acute cases the disease proves fatal in from twenty-five to thirty days. In the chronic, and less grave form, the disease pursues a slow course, during which the temperature may remain normal or nearly so. Where the fever subsides suddenly, recovery may be expected, but the chronic symptoms may continue for a long time. Sometimes acute exacerbations appear in the course of the chronic form, and these usually indicate the appearance of complications, such as the breaking down of large nodules or the implication of new organs. These variations in the temperature suffice to show the effort which the organism makes from the commencement of the disease to abort the eruption. In favorable cases the nodules disappear gradually by absorption, leaving for sometime a discoloration of the skin over the place from which they disappeared.

The usual complications of the grave fever of Carrion are of two kinds: Congestions and inflammation of the lungs and enteritis or enterocolitis. The first of these is of frequent occurrence and renders the prognosis very grave. The inflammation appears generally at the base of the lung and is announced by a rise in temperature. The second variety of complication is perhaps the most frequent, and is announced by diarrhea with stools mixed with blood, which also compromise the life of the patient. The hemorrhages, by their frequency and abundance, may also become grave complications.

In the diagnosis of this disease the rapidly increasing anemia is most suggestive. The appearance of an intense anemia and of a subicteroid tint in a very few days, should place the physician on his guard in making a diagnosis in a suspected case. The greatest difficulty is encountered in the early differential diagnosis between malaria and Carrion's disease, without the necessary blood examination for the parasite of malaria, a resource in clinical diagnosis, which, I fear, has not been resorted to as often as it should be by the mass of the medical profession of Peru.

In the treatment of this disease, certain popular remedies have occupied a widespread reputation, as decoctions of mats (*Aristolochia tenera*), Chamana (*Dodonœa viscosa*), norbilio (*Passiflora littoralis*), but their action on the course of the disease is entirely *nil*, or at least very uncertain. Sulphate of quinin has been the remedy of choice, and to-day its virtues are recognized. Salicylic acid, on the recommendation of Velez, has had a very extensive trial and has been of good service in counteracting some of the symptoms of this disease, but its curative powers have been greatly overestimated. Phenic acid has been used internally and by hypodermic injections without more success. Other antiseptics employed for the same reason have proved similarly disappointing. The rebellious condition of the stomach in this disease would seem to contraindicate all attempts to use medicines by that route. Fowler's solution of arsenic and different preparations of iron have been used very largely in the treatment of this disease, and the present medication includes largely a class of remedies which are regarded in the light of tonics.

It is very probable that after the real microbic cause of the disease has been determined, a prophylactic and curative serum will be discovered which will eventually eliminate verruga from the nomenclature of unpreventable diseases. The application of compresses of ice water to the head has done much to relieve the intense headache and other symptoms referable to the nervous system. Some authors believe that the grave fever of Carrion really constitutes the first period of the eruption. If this be the case, sometimes there are cases in which eruption and fever appear at the same time; the fever sets in in other cases after the eruption has made its appearance, and still in others after the eruption has disappeared. The grave fever of Carrion can not be considered a stage of the disease; it is the disease itself at a stage of maximum concentration, and this is so true that a great number of patients, almost from the beginning, present small nodules with a rosy tint, which are the most striking proof of the fight of the organism, and for the efforts it makes to direct the eruption outside, and that the fever is most of the time an unfortunate consequence.

Odriozola is satisfied that in a great number of cases of this fever, of rapid course which kills in a few days, and which presents some small nodules of the skin, without any tendency to increase in size, must be complicated by an internal eruption, often localized in the muscles. In the evolution of the fever, one discovers one or more nodules. On the other hand, the period intervening between the first symptoms of the disease and the appearance of the eruption is not one of perfect health, as there is almost always headache and vague muscular and articular pains with the access of the erratic fever. There is then a sort of equilibrium between the grave fever of Carrion and the eruption. This grave fever is absolutely not a period of verruga, but the disease itself.

The period of incubation is always the same, whether the infection is grave or benign. The opinions on this subject are not the same, as some authors claim that it can be prolonged for months and even a year. Careful investigation has, however, shown that such long delays do not exist. The error arises from the fact that one has been in the habit of believing that continuous fever and pains are the first symptoms of the disease. On close examination, however, slight symptoms are detected, which mark the beginning of the disease long before the most striking symptoms make their appearance. Among these may be mentioned a feeling of general malaise, indigestion, diarrhea, gastric disturbances, chills, and especially anemia. These slight symptoms must be regarded as occurring in the outset of the disease. In this matter verruga follows the same course as all diseases of telluric origin.

The chronic form of Carrion's disease begins insidiously, with a feeling of general indisposition, vague pains, loss of appetite, increasing anemia, etc., and in this way the actual date of the outbreak of the disease is obscured. If one takes the temperature, a slight elevation is detected; it rarely rises at this stage above 38 C., and finally the fever assumes a more pronounced quotidian vesperal type. The muscular and articular pains increase in severity. This period of invasion is sometimes very long and is often entirely overlooked. The disease during this stage is very often mistaken for rheumatism, a mistake which is quite excusable, as the painful joints are sometimes swollen.

The fever in the eruption of verruga is not so regular as in the grave fever of Carrion. It appears early with the first symptoms, and is never entirely absent. It assumes a quotidian, seldom tertian, form, with a normal temperature in the morning and a slight rise in the evening, and is always followed by profuse sweating. In the most benign form the fever is erratic. In the miliary form it generally happens that a few days before the eruption appears the fever subsides. In exceptional cases, the temperature may rise to 40 C., and even higher when during a profuse sweat the papular eruption appears, which disappears again in ten or fifteen days.

In the form of verruga, called mulaire, which is characterized in the beginning by the appearance of intradermic or subdermic nodules, the fever invariably precedes the eruption, which is always discrete.

With the periodic appearance of new eruptions, the temperature increases each time, as a certain number of nodules appear in a region and decreases as the nodules develop into large swellings. Edema of the lower extremities is quite a frequent phenomenon in verruga, as it is in the grave fever of Carrion. It is more frequent in the mulaire than in the miliary form.

The eruption of verruga has always been a source of interest and careful study to physicians who have dealt with this disease, and it was first described with the necessary accuracy by Malo, Rios, Manuel Odriozola and Salazar. The studies of Salazar especially have been the point of departure of later descriptions. Two forms of eruption have been recognized: One, characterized by very small nodules and called miliary or tubercular, the other constituted by larger swellings, named mulaire or globular. This classification, however, does not correspond exactly to the clinical aspects of the eruption, but indicates rather the two extreme links of the same chain, which differ largely in size only and have many intermediary forms. In the evolution of these swellings, one must admit the existence of periods of hemorrhage and desiccation, or rather a period of growth and a period of regression. If one wishes to make a distinction between the miliary and globular forms, besides the size of the swellings, it is the place where they take their origin. The miliary form involves the superficial layers of the skin, while the globular form is intradermic or subdermic. This distinction in the location of the eruption was well shown in the case which I described in the beginning of this article, where I found a globular swelling which originated underneath the skin. The nodule is often preceded by a minute hemorrhage under the malpighian layer of the skin, and, little by little, it increases in size and assumes the aspects of a little red button with a shiny appearance and pointed. At other times the nodule appears as a rose-colored drop, more or less brilliant like sudamina, and presenting often in the center an umbilication which generally corresponds to a pore of the skin and resembles often the pustules of smallpox. In other cases, the nodule commences as a small elevation of a dull white color, simulating a hypertrophied cutaneous papilla. Their size varies from a pinhead to that of a small pea. When they become larger, they belong to the globular variety. The skin all around preserves its normal appearance. The largest nodules show a tendency toward pedunculation. Exfoliation of the nodules is a constant occurrence, and ulceration and crust formation occur when the swellings attain a certain size, and they then disappear more or less rapidly.

Exfoliation of the overlying skin is a constant occurrence if ulceration does not take place. This action is especially noticed in miliary verruga in a state of regression. In some cases the eruption does not assume a nodular form and the papules disappear slowly, with or without a slight hemorrhage. In another group the nodules assume a warty appearance and disappear by the exfoliation of the thick grayish, brownish or black crust. They leave after their disappearance a slight discoloration of the overlying skin, but the smallest ones leave no discoloration whatever. The miliary eruption may be discrete or confluent. The favorite seats are the anterior surfaces of the limbs, next in frequency come the face and the neck. Occasionally, but rarely, they appear on the palm of the hands and sole of the feet. The eruption seldom appears on the trunk. The nodules appear first on the legs, the hips and the forearm, the face, neck and scalp. Itching is a very common and distressing symptom when these nodules disappear by regression. They nearly always attack the mucous surface, where they form flattened nodules. The conjunctiva is frequently affected, and the disease may destroy the eyeball in its course. The peritoneum and pleura are not infrequently the seat of internal verruga, and the disease often affects the respiratory organs. The central nervous system may be involved, as was observed by Carrion as early as 1885, and proved by the researches of Dr. Quiroga y Mena in 1889.

In the globular (mulaire) form of the disease, the nodules increase in size and form adhesions with the surrounding tissues and often progress to ulceration. They are observed most frequently about the articulations of the leg and on the back of the hand. The skin over the nodule becomes attenuated, violaceous, and finally gives way, leaving an open fungous mass of granulations of the size of a nut to that of an apple. These swellings are either sessile or pedunculated, and the surrounding skin is of a brownish color. Suppuration and ulceration take place only when the skin covering the globular verruga has become involved, never while it remains intact. The granulomatous nature of the local products of the verruga disease has been repeatedly demonstrated by the microscope since the first efforts were made by Velez in 1861.

Clinical Notes

McBURNEY'S POINT AND ANOTHER POINT IN APPENDIX DIAGNOSES.*

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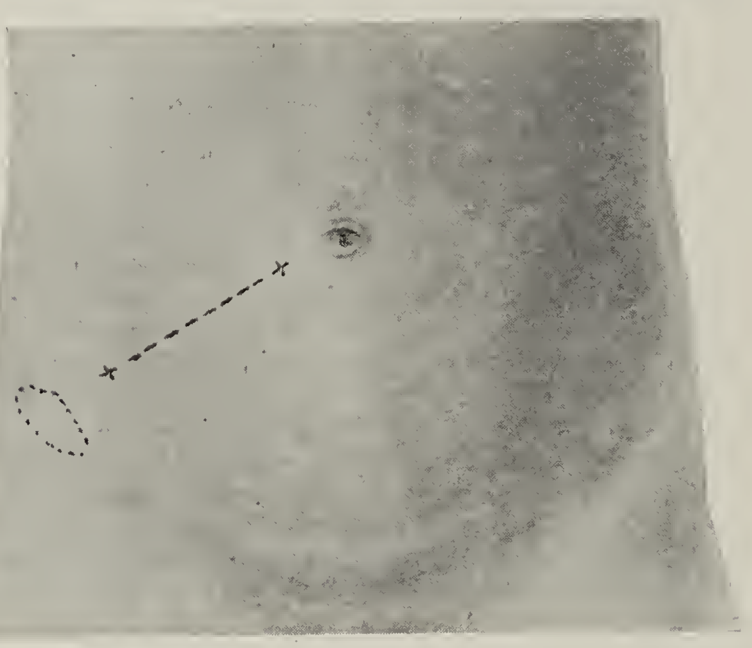
NEW YORK.

Draw a line from the right anterior superior spine of the ilium to the navel. On this line, an inch and a half from the anterior superior spine, we find McBurney's point. Tenderness on deep pressure at this point gives presumptive evidence of an irritative process in the vicinity of the appendix vermiformis, but tenderness on superficial pressure at this point may mean irritation of sensory nerves of the abdominal wall, and the irritation may be due to causes ranging from hysteria to toxemia. McBurney's point is of great diagnostic value to physicians who possess a considerable degree of collateral knowledge, aside from their familiarity with the symptoms of appendicitis.

Instead of going out on the line to a point an inch and a half from the anterior superior spine of the ilium, come back on the line to a point situated an inch and a half from the navel. Here we find another tender point of definite diagnostic value. McBurney's point and the point here described are six inches or more apart in the adult of average proportions. The point here described has reference to the right lumbar ganglia of the sympathetic nervous system, and notable tenderness of these ganglia has a diagnostic value which may briefly be placed in classification under the following heads; the statements are to be taken as general ones:



McBurney's point and another point in appendix diagnoses.

1. In the early stages of an acute infective process of the appendix the right lumbar ganglia are tender and the left lumbar ganglia are not tender. (The left lumbar ganglia may be described for diagnostic purposes as lying an inch and a half to the left of the navel.) Under these circumstances the point here described is of secondary importance, while McBurney's point is of prime consequence.

2. A.—When an acute inflammatory process of the appendix has subsided, leaving a mucous inclusion or scar tissue, there may be no tenderness on pressure at McBurney's point, but there is tenderness at the point here described and no tenderness at the point of the left lumbar ganglia.

B.—When the appendix is undergoing a normal involution process, with replacement of its lymphoid coats by connective tissue, digestive disturbances and various local neuralgias may be due to irritation of nerve filaments entrapped in the new connective tissue. There may be no tenderness at McBurney's point, but there is persistent tenderness at the point here described. There is no tenderness at the point of the left lumbar ganglia.

C.—When the appendix is congested without the presence of infection, as in many cases of loose kidney, there may be little or no tenderness at McBurney's point, but there is persistent tenderness at the point here described. There is no tenderness at the point of the left lumbar ganglia.

Under circumstances A, B and C the point which is here described rises to a position of primary importance, and McBurney's point falls to a position of no consequence or of secondary importance. The point here described will be found to be of value in every-day diagnostic work for differentiating between irritations of appendix origin and irritations of pelvic origin. In irritations of pelvic origin both right and left lumbar ganglia are tender. Take, for illustration, a case in which the appendix and the right Fallopian tube are bound together by adhesions. We are to decide whether certain symptoms proceed from the appendix or from the Fallopian tube. If the symptoms proceed from the appendix the point here described is tender alone. If the symptoms proceed from the Fallopian tube both right and left lumbar ganglia are tender together. Irritation from a scar at the cervix uteri, or from hemorrhoids, will make both right and left lumbar ganglia tender together.

Taking cases as they run in daily practice, tenderness at the point here described alone means irritation proceeding from the appendix alone. Tenderness of both right and left lumbar ganglia together means irritation proceeding from some structure situated in the pelvis.

Under circumstances A, B and C, again, the question often arises as to whether an abdominal irritation proceeds from the appendix, from the pelvis, or from some point above the navel. If the irritation proceeds from some structure situated above the navel, neither the right nor the left lumbar ganglia are tender. A practical feature of the point here described is this: During the year perhaps fifty of the patients sent to me for operation for appendicitis are not operated on for appendicitis; they are either not operated on at all, or have attention given to some organ other than the appendix. Very little time is required for fixing the point in mind. In the course of one day's office work one may examine several patients who will demonstrate the point.

To recapitulate: A patient comes in with the appendix in the form of a question mark. Right lumbar ganglia tender, alone—appendix trouble. Right and left lumbar ganglia tender, together—pelvic trouble. Neither right nor left lumbar ganglia tender—trouble somewhere cephalad from pelvis and appendix.

616 Madison Avenue.

Spontaneous Relaxation of the Symphysis Pubis After Delivery.—In the *Revista de Med. y Cir.*, July 25, Arteaga reports that, three days after normal delivery, a multipara found herself unable to move her legs without intense pain in the lower abdomen. Under rest and tonics, conditions returned to normal in two weeks.

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* Presented at the Surgical Section of the New York Academy of Medicine, 1907.

LARGE LIPOMA OF THE OCCIPITAL REGION.*

CASSIUS C. ROGERS, A.M., M.D.
CHICAGO.

From the literature of lipoma of the scalp Chipault collected fifty-four solitary cases located as follows: In the frontal region, thirty-seven; in the parietal region, four; in the temporal region, five, and in the occipital region, eight. On account of the rareness of large lipomata of this region I submit this case for publication:

History.—Mr. W., American, aged 79, painter by occupation. Eleven years ago he noticed a tumor on the back of his neck, just below the occipital protuberance. It was, when first noticed, about the size of a split English walnut, painless and freely movable. At this time little attention was paid to it, but as it continued to grow, its weight caused some discomfort and he sought medical advice. About two years ago he was lvised to have the tumor removed, but refused operation. bout a year ago the tumor began to grow more rapidly until reached the size shown in Figure 1. On account of its great eight the discomfort became unbearable, and on March 12, 07, eleven years after the discovery of the growth, he enred the Frances E. Willard Hospital to have the tumor reoved. At his request he was assigned to my service and arch 13, 1907, he was operated on in my clinic.

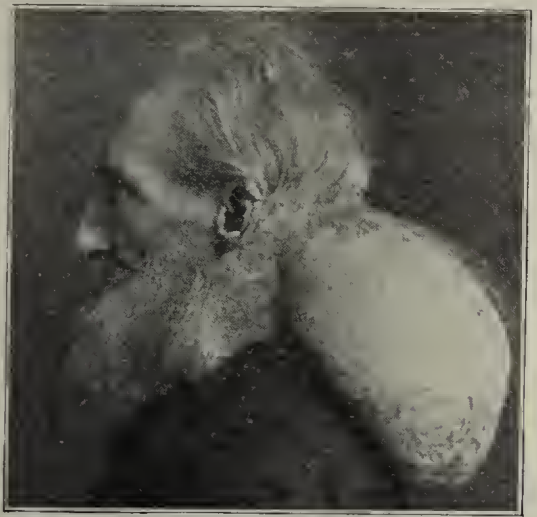

Fig. 1.—Side view of patient showing tumor.

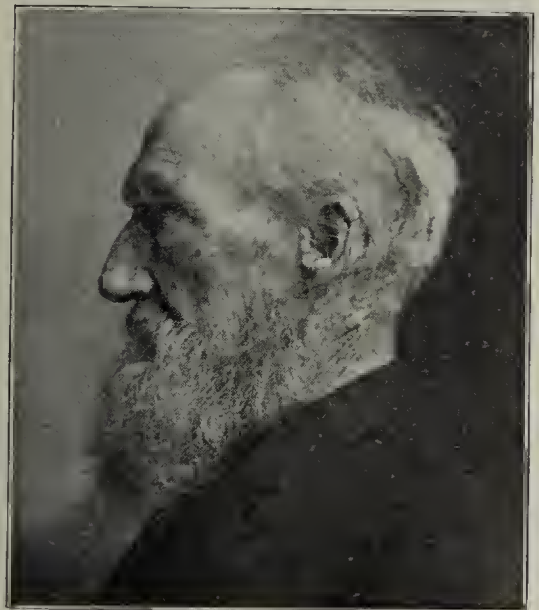

Fig. 3.—Side view of patient after removal of tumor.

Operation.—On account of the extreme age and feeble contion of the patient, a general anesthetic was deemed unlvisable, so without either general or local anesthesia the rge tumor was removed. Very little pain was experienced account of the long continued traction made on the skin by e weight of the pendulous tumor and the poor nerve supply. y making a long superior and inferior skin flap, the large nuded surface, after the tumor was removed, was readily covered by suturing the margins of the flaps after arresting all hemorrhage. Duration of operation twenty minutes.

Postoperative History.—The patient left the hospital the second day following the operation. Recovery was uneventful and complete. Healing was by primary union throughout. Stitches were removed at the end of the first week and wound dressed with a dry sterile gauze dressing. Figure 3 shows the condition five weeks after operation.

Pathologic Examination.—The tumor, after removal, was given to Dr. A. M. Stober, who furnished the following description: The tumor weighed seven pounds and measured 12 by 17 by 20 cm. (5 by 7 by 8 in.). The tumor was covered with skin which was tightly stretched and the hair follicles were widely separated and atrophic areas were present. A thin, well defined fibrous capsule surrounded the mass and supported numerous anastomosing vessels. On section the tissue was firm and consisted principally of yellow fat tissue, through which ran well marked fibrous trabeculæ. Considerable clear fluid, on which floated numerous fat globules, exuded from the cut surface. Histologically, this tissue resembled ordinary fat tissue, supported by a rather abundant fibrous stroma.

72 East Madison Street.

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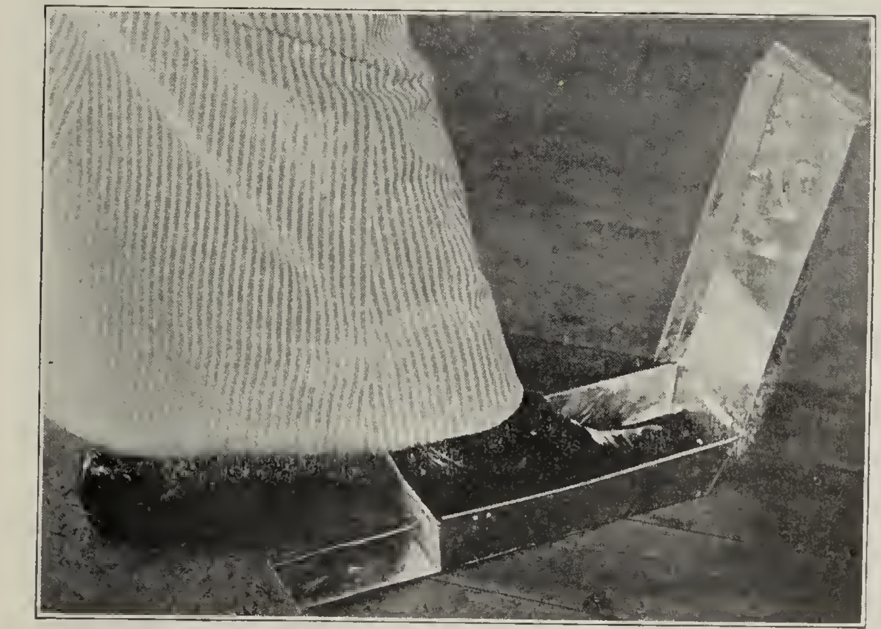
* Part of the illustrations are omitted for lack of space, but appear in the author's reprints.

A PRACTICAL POINT IN PROPHYLAXIS.

J. H. BACON, M.D.
PEORIA, ILL.

When it is realized how often the soles of the shoes come in contact with infectious matter and how little is done to destroy such infection, it is readily seen that here is a neglected point in prophylaxis. A man walks the streets and then, with the same shoes on, walks over the carpet on which his babe creeps, placing everything it reaches, as well as its fingers, in its mouth. The shoes are removed on retiring and the individual goes to bed with the taint of the day's travel on his hands. A nurse spends the day in a typhoid ward, using all precautions to protect other patients, but the shoes she wears —what becomes of them? The interne passes from ward to ward with uncleaned shoes, sufficient dirt and débris clinging to the leather to protect the bacteria from the disinfecting power of air and sunlight and they retain their virulence for days and become a continued source of infection. This fact has been proved by numerous experiments, both on cultures and by animal inoculation.



Showing shoe disinfector and manner of using.

How often the physician puts on a gown, cap and rubber gloves before going into the wards of an infectious hospital and yet leaves the soles of his shoes unprotected; the same man may go from the home of a careless tuberculous patient to his own nursery. Has he taken proper precautions? I do not believe he has, and I believe his action approaches criminal negligence. May not this be the mode of infection in those fairly numerous cases of typhoid fever which occur among physicians and nurses in hospitals?

Many do not realize this danger, others may believe it is small and the majority neglect to take precautions because there is not a ready practical means of overcoming it. In trying to prevent carrying the contagion of infectious diseases on my shoes I found it could readily be done by pouring a 10 per cent. solution of formaldehyd on some paper and standing on it. That, however, was a crude method and left a disagreeable odor in the room. Afterward I tried the principle of the ink-pad with satisfactory results, it being cheap, efficient and readily used. A rectangular tin dish, 12 by 5 by 3 inches, was fitted with a hinged cover and a base-piece by which it could be fastened to the floor. A thick layer of cotton covered with felt was placed in the dish and saturated with 10 per cent. formaldehyd. The cover was made to protrude over the end of the dish so that it could be readily lifted by the toe of the shoe. The pressure of the foot on the pad presses out the fluid and bathes the sole and heel of the shoe with disinfecting fluid. The cover falls into place when the foot is withdrawn and prevents undue evaporation of the fluid. The formaldehyd will last for weeks, will not rot the leather and can be renewed at will. Such an outfit is inexpensive—the one described costing but twenty-five cents.

ANESTHESIA OF THE CORNEA AND CONJUNCTIVA IN CEREBROSPINAL MENINGITIS.

E. BURVILL-HOLMES, M.D.
PHILADELPHIA.

In looking over the literature on epidemic cerebrospinal meningitis I have failed to find any allusion to a sign that I have noted in this disease; viz., analgesia, or partial, or complete anesthesia of conjunctiva and cornea. During the past two and a half years while at the Municipal Hospital I had the care of a large number of these cases and I discovered the phenomenon by accident. A young patient suffering from disease had a marked purulent conjunctivitis of the left eye and in making a culture from the pus in hopes of isolating the specific organism—which I may add was present—found that the swab could be passed over the bulbar conjunctiva without any apparent reflex. The opposite eye was equally insensitive. Sensation elsewhere did not appear to be abolished—indeed there was considerable hyperesthesia.

Subsequently, all patients were examined routinely for the presence of this symptom and it was found in many cases, fully one-half I should say.

It has been suggested that the symptom might be expected in an unconscious individual, but of course such argument is not founded on fact. A patient can be rendered unconscious from an anesthetic yet the corneal reflex persists until deep narcosis is induced. The unconsciousness from alcoholism or uremia is not accompanied by corneal or conjunctival anesthesia. As a matter of fact, this symptom was noted in patients who were perfectly conscious often showing analgesia or more or less anesthesia of one or both eyes, as I was able to demonstrate to my associates on more than one occasion.

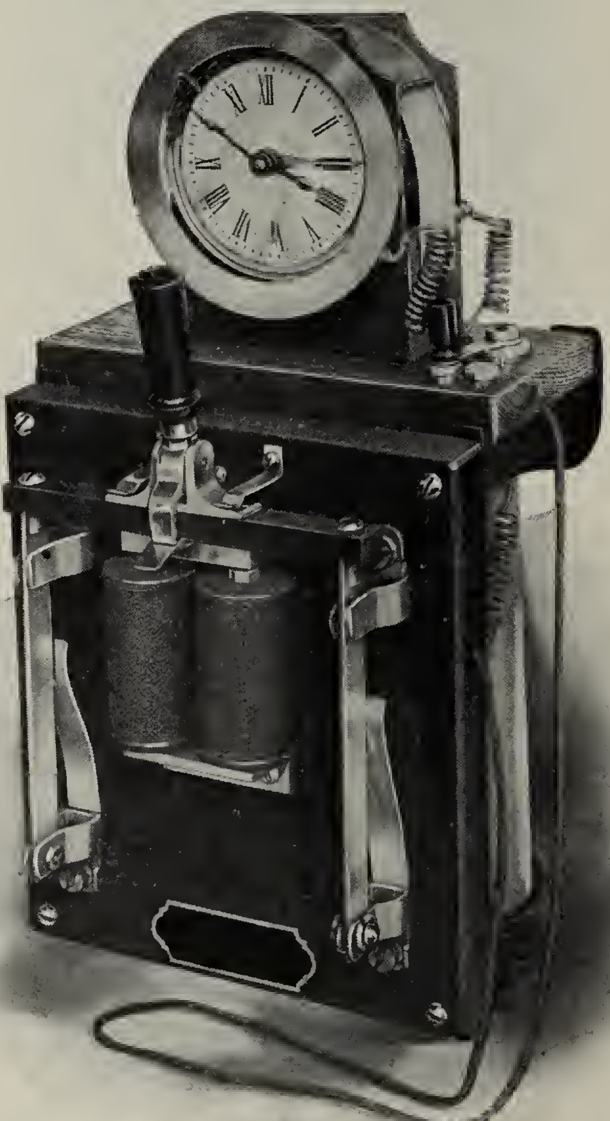
It is doubtless due to some disease of the fifth nerve, inasmuch as we know that the ciliary branches of that nerve innervate the cornea while the supraorbital and supratrochlear branches are the sensory nerves of the conjunctiva. Occurring as frequently as it does, it would seem a valuable sign in differentiating this disease from other diseases wherein meningeal symptoms are associated, such as typhoid, typhus fever and uremia.

2030 Chestnut Street.

AUTOMATIC TIME SWITCH FOR X-RAY WORK.

R. V. WAGNER, M.D.
CHICAGO.

In using either the x-ray or electricity in therapeutics, the inconvenience and loss of time required to time the length of treatment properly is an annoying feature of the work. More especially is this true when the x-ray is used, as the length of exposure is of the utmost importance. The safety of the patient requires great care in order that over-exposure be avoided, and safety to the operator requires that he should not remain present longer than necessary, even when ordinary protection is employed.



I have devised a new automatic time switch which is very simple and positive in operation, and can be depended on to stop the treatment when the time is up by cutting off the current. This not only makes it unnecessary for the physician to be present during the time of treatment, but also relieves the patient from anxiety caused by fear of too long exposure on account of the physician's absence.

The switch is controlled by a clock, the face of which is equipped with a movable ring holding a contact point. The contact point may be placed a fraction of a minute, or as many minutes as desired, ahead of the minute-hand for the length of treatment to be given. When the minute-hand moves forward enough to touch the contact point, the current from the dry cells in the subbase causes an electro-magnet to release the knife switch which flies open, cutting off all current supply to the apparatus. The switch, when closed, is held by a clip and is so designed as to permit of being used independently of the automatic time device. The switch proper can also be taken off the subbase and used as a substitute for any other switch, while the subbase carrying the clock and holding the cells may be put in some other place more convenient to the operator. As the switch may be used for any kind of current, and for coil equipment, as well as with static machines, wall plates, sinusoidal apparatus, etc., it will afford a means of saving much time and responsibility for one who uses either *x*-ray or electrotherapy.

140 Wabash Avenue.

THE MICROBE OF POLIOMYELITIS.

FRANCIS HARBITZ, M.D., AND OLAF SCHEEL, M.D.
CHRISTIANIA, NORWAY.

In our article concerning epidemic acute poliomyelitis, we mentioned very briefly[1] that bacteria were found in the cerebrospinal fluid in three of the cases which we examined, and that Dr. Geirsvold also succeeded in demonstrating bacteria in the fluid withdrawn by lumbar puncture in twelve cases. Inasmuch as the specificness of these bacteria is a question of great interest, and as other investigators possibly may make similar observations, we desire to supplement our former statements with certain additional facts in regard to the character of the bacteria in question and in regard to other earlier observations in the same field.[2]

The bacteria demonstrated in the spinal fluid were bean-shaped diplococci or tetrads which grew after from two to six days on artificial cultures. In broth they formed short chains of four to six. On agar (ascites, blood or glycerin) they grew as fine gray colonies, and more and more luxuriously as transplantations were made. The cocci were very resistant, and the cultures remained alive for weeks and months. They stained easily with diluted carbolfuchsin and with Gram's method; in old cultures the staining with Gram's method was somewhat variable. The cultures were virulent for animals in that they caused atrophy, paresis, emaciation and death.

Perhaps, the same bacterium was found as early as in 1898 by one of us (Harbitz);[3] cultures were then obtained but no results followed animal inoculations, and the organism was not studied any farther. On the other hand, Looft and Dethloff,[4] practicing physicians in Bergen, Norway, in 1901 demonstrated a meningococcus-like microorganism in the spinal fluid of 2 cases of acute poliomyelitis; this organism corresponded in all essentials with the one subsequently found by Dr. Geirsvold. The Bergen physicians also succeeded in obtaining pure cultures. It is well to mention also that Prof. Fr. Schultze[5] has found bacteria in the spinal fluid in a few cases of poliomyelitis, but he has not made any closer study of them.

Bacteria have been demonstrated frequently and with so uniform results in acute poliomyelitis that subsequent examinations are desirable. In regard to the specificness of the microbes, not much can be said at the present time, especially because it has not been possible to demonstrate them in the nervous tissues themselves. It should also be borne in mind that similar or morphologically more or less related forms have been found in the spinal fluid in tuberculous meningitis and also in cerebrospinal meningitis. Further investigation should be continued with as fresh material as possible and as early in the attack as it can be done.

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[1] THE JOURNAL A. M. A., Oct. 26, 1907.

[2] In regard to details see the complete publication: Path.-Anat. Untersuch. über akute Poliomyelitis u. verwandte Krankheiten von den Epidemien in Norwegen, 1903-1906. Videnskabsselskabets Skrifter. Mathem. Naturvid. Kl., 1907.

[3] Bülow, Hansen and Harbitz: Norsk Magaz. f. Lägevidenskaben, 1898.

[4] Medicinsk Revue, 1901, and Dethloff: Norsk Magaz. f. Lägevidenskäben, 1905.

[5] Ziegler's Beiträge, 1905, supplement.

SELF-CASTRATION.

A. E. A. MUMMERY, M.D.
SALINE, MICH.

Mr. L. T.; aged 24; married; occupation, rural mail carrier; was first seen Nov. 6, 1907, at 11:10 p. m. I found the patient in a semi-conscious condition due to loss of blood; no radial pulse; heart action, 130; temperature, 97.4 F. He was lying in a pool of blood coming from a wound in the scrotum, caused by the removal of the left testicle, the cord being cut within the tunica vaginalis. I immediately applied pressure over the pubic region, and after removing clots with my finger, caught and tied vessels with chromicized catgut. The sac was then irrigated with a hot 1-1000 solution of alphazone.

The active hemorrhage being controlled, the cavity was packed with 10 per cent. iodoform gauze, and a light bandage was applied. The heart was stimulated with 1/60 gr. strychnin sulphate, administered hypodermically, and pain was controlled by scopolamin and morphin. A normal salt enema was also given. Hot water bottles were applied, and in an hour the enema was repeated, the patient's condition improving; pulse, 114, and stronger; temperature, 98. In two hours the heart action was still improving and the patient was asleep.

At 6 a. m., the pulse was 100; temperature, 99.2; patient was feeling stronger. A liquid diet was ordered. At 4:30 p. m., the pulse was 94; temperature, 99.4. Having rested well during the day, the patient was stronger and in good spirits, but complained of some pain.

November 8, 9:30 a. m., pulse, 87; temperature, 99.1. The dressings were removed, and the wound was irrigated with alphazone, 1-2000, and packed with iodoform gauze. There were no signs of infection, but there was much ecchymosis of the parts. The irrigations and packing were repeated daily, diminishing the quantity of gauze each time, until on the eighth day, when it was unnecessary. There being a little pus on the ninth day, the wound was irrigated and wiped out with 96 per cent. phenol. Recovery from then on was uneventful.

The circumstances which brought about this deed are as follows: His wife being pregnant, sexual intercourse became very distasteful to her. When young he had formed the habit of masturbation, due chiefly to a long, tight foreskin, and he now resorted to this way of satisfying his passion. Being a zealous church member and reader (not student) of the Bible, he read of the condemnation of Onan, and worried about himself. He read the passage in Matthew 18, 8-9, "If thy hand or thy foot offend thee, cut them off," etc., "If thine eye offend thee, pluck it out," etc. After due consideration, he decided to rid himself of the offending parts. Being left alone for a few days, he carried out his intention, at about 9 p. m., by using a razor. After removing the left testicle he became alarmed at the hemorrhage, which prevented him from unsexing himself completely. At 10:30 p. m., feeling faint, he went to the home of his aunt, about ten rods distant, and had her call his wife and myself. They immediately placed him in bed, where I found him at 11:10 p. m.

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SATURDAY, JANUARY 25, 1908.

CONSTITUTIONAL FACTORS THAT MODIFY TUMOR GROWTH.

In previous issues we have discussed the progress being made in our knowledge of the general biology of tumor growth, as the result of the renewed activity of research on this topic in many and scattered laboratories. Among other developments has been noted the increasing evidence that the factors determining tumor growth are not so strictly local as has been generally assumed, and more and more attention is being given to the search for constitutional influences and chemical modifiers of tumor growth. Flexner and Jobling have made an observation that at first sight seems to be very peculiar and unexpected; namely, that injection of heated extracts of a transplantable tumor into animals increases their susceptibility to inoculation with living tissue from the same strain of tumor. One might expect that such injection of heated extracts would make the animal immune, or at least increase its resistance, to judge by the usual results of immunizing inoculations; but since the converse is true, one may look on the increased susceptibility as related to the phenomenon of hypersensitization (or anaphylaxis), which has been studied especially with reference to horse serum but which has been found to apply to practically all proteins.

During the course of his interesting experiments with various transplantable tumors, Dr. Leo Loeb[1] has made some valuable and highly suggestive observations concerning constitutional influences that modify tumor growth. It was found that when pieces taken from a mammary adenoma of a rat were transplanted into other rats the implanted tissues became necrotic, either in the central parts or entirely; whereas when the tumor fragments were implanted into the same rat in which they had originated no necrosis occurred. Similar results were obtained with a mixed adenomatous tumor of the mammary gland of a spaniel, for pieces transplanted into other dogs underwent complete necrosis while pieces implanted into the original tumor dog remained alive throughout. These results indicate that substances are present in the bodies or fluids of animals that develop tumors, which are essential for the maintenance of viability in the tumor, and which are not present in normal animals. Whether these substances are the cause of the original tumor formation or only the result of the presence and growth of the tumor, is yet to be determined. In the experiments with the mammary tumor of the rat just described it was observed that on her becoming pregnant the tumor nodules as well as the mammary gland itself began to grow, and the growth of both structures stopped simultaneously on the conclusion of pregnancy; this suggests that circulating substances may stimulate tumor growth, and that these may be different from the substances that are necessary for the mere maintenance of vitality in the tumors. Another interpretation of these observations is also possible; the growth may depend on absence of inhibitive substances that are present in normal animals, rather than on stimulative substances peculiar to tumor animals. In either case these experiments bring forward for study the relationship of other than local factors to tumor growth.

The relationship of the foregoing observations to the question of transplantability of tumors is apparent, and Loeb classifies the tumors so far studied into the following groups: 1. Those that can be transplanted into other species than that of the animal in which they originated; this has been done with the lymphosarcoma of dogs, which will grow in the fox. 2. Those that will grow only in members of the original species, or in hybrids or closely related varieties of the same species. 3. Those that will grow only in the same variety as that one in which it originated; e. g., a carcinoma has been observed in the Japanese mouse that can be transplanted into other Japanese mice but not into white mice. 4. Those which can not be transplanted even into other members of the same species, at least under ordinary conditions and by the usual methods. This last group includes the greater number of tumors of the lower animals, and probably also of man, although the evidence on this last point is of necessity very limited. It is probable that the factor that determines the failure of the fourth class of tumors to grow even in the homologous species is of importance in determining the resistance of the individual to metastatic spread of a tumor, which is a form of autoinoculation not essentially different from the hetero-inoculation performed by the experimenter.

PREVENTABLE DEATHS IN MINES.

Dr. J. A. Holmes, chief of the technologic branch of the Geological Survey, has recently stated that among every 1,000 coal miners employed in the United States a proportion of three and a half are killed every year. In Belgium, on the other hand, where the miners work under vastly more dangerous conditions, the death rate is only one to every 1,000 employed. Since 1890 our mines have killed 22,840 men and injured 50,000, and the death rate has been on the increase from 1901 to 1906. From his study of Belgian methods of preventing injury and death Dr. Holmes believes that the miners should not be held blameworthy until some factors of uncertainty are eliminated. These he enumerates: The character of the explosives used in certain mines; the quantity of explosive which may safely be used in the presence of dust and gas; the quality of the gas and its dangerous percentages; the nature, extent and insulation of electric currents used; the kind and condition of the miners' lamps; probable underground fissures, determinable by the study of strata, from which gas may burst out. It is to the last of these factors that the deaths of more than 300 miners in the recent Darr mine explosion at Jacob's Creek, Pa., must be attributed.

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[1] Loeb and Leopold: Jour. Med. Research, December, 1907, xvii, p. 299.

In Belgium much disaster has been avoided by the mutual agreement between operators and miners to eliminate men known to be reckless and careless from positions of danger. In consequence, it seems, of this there has been no explosion during the last seventeen years in the most dangerous of the Belgian mines. It would appear that in our country little or no such care is taken; our mine inspectors, usually politicians, "go it blind" and blame Providence, that rather hazy influence which on convenient occasions bears so much opprobrium. Dr. Holmes' remedy is that there should be official investigations in each coal mine by expert commissions.

We have reserved for special comment—since it is of the greater medical interest—Dr. Holmes' mention of the character of the coal dust as an untoward factor, and of the extent to which it may be kept "safe" by spraying. This factor has much to do with disease in miners, though it plays little part in violent deaths. In the table of Mr. Frederick Hoffman, the actuary of the Prudential Life Insurance Company, the consumption death rate among workmen is the least of all among miners—6.4 per cent. But such is the case only among "wet" miners. This death rate in an occupation so nsalubrious has amazed many investigators, and sevral explanations have been forthcoming. It is said hat coal miners are picked men to begin with, the work hey do precluding all of poor physique. Others think here must be some antiseptic property in coal dust. Cornet believes that in wet mining the point of saturaion is so nearly reached that the desiccation and dissemination of sputum through the atmosphere is impossible. In "dry" mining, however, the consumption mortality is high, as it is in all dust-producing occupations; and Brandt observes that this varies also with the locality and the kind of material extracted from the earth. In England the death rates are very high for miners of tin, copper and lead, while coal miners show varying rates in different coal fields, but all low.[1]

Oliver, of Newcastle-on-Tyne, cites a death rate of 0 per 1,000 among white rock drill miners of the average of 35 years in the South African gold fields, as against 6.3 per 1,000 among English coal miners; and he believes that this enormous mortality difference has been due to the lack of precautions taken to prevent dust dissemination. He has wisely recommended that dry should be converted into wet mining by means of jets and sprays. On the invitation of the Transvaal Chamber of Mines, in 1903, several important machines have been contrived, such as the water drill of Leyner and the apparatus of Britten, which latter, while laying the dust, disposes also of the nitrous fumes generated in the blasting.

FEES FOR EXPERT TESTIMONY.

The question of the right of the physician to receive extra compensation for his services as an expert witness has been the subject of much discussion, and it is said that the cases in this country are nearly balanced and the question must be regarded as still an open one. The Kansas City Court of Appeals,[1] while admitting that there is strong argument to support either view, has decided that the physician is not entitled to receive extra compensation for acting as an expert witness, nor can he make a valid contract to receive extra pay for being a witness as to those matters to which, as the court holds, the law and his duty as a citizen alike require him to testify. While strong arguments may be advanced to show that the court takes a wrong view of the case, it remains true that this decision shows that the law is either unsettled or, as we believe, settled in the wrong way.

Expert evidence may properly be divided into that which has required special preparation and that which needs no special preparation. The right of a witness of the first class to extra pay arises from the fact that he is called on to perform a special service in informing himself or having already informed himself, and as a result of that information he performs a service which other witnesses can not give. The witness called as an expert by the state should be regarded as a special officer or employé of the state and is entitled to compensation for his services as much as is the state's attorney or the counsel employed to assist him.

The second class of expert testimony, differentiated in Great Britain by a committee appointed by the home secretary in 1902 as "professional" evidence, embraces cases in which the physician, in the course of his ordinary duties, becomes possessed of information which the law requires him to divulge in court. In such cases he appears to stand in the same relation as other witnesses and may be compelled to give his time in the cause of justice. He is under no obligation to make special preparation, and perhaps can not urge with justice that he should receive special compensation.

The fact that the law in regard to this matter is unsettled, as shown by the decision of the Kansas City court, makes it desirable that the rights and duties of expert witnesses should be explicitly defined by statute. Such a statutory definition would have the additional merit of making possible the solution of the more vexed question of the disputed value of expert testimony. The appointment of a medical man or a body of medical men as professional advisors of the court, as has been repeatedly urged in many quarters, would react beneficially in many ways.

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[1] Huber (J. B.): Consumption and Civilization.

[1] The Journal A. M. A., Nov. 2, 1907, 1553.

The knowledge that such a strong, competent board of medical advisors existed, for the appraisement of statements, would probably often prevent the introduction of partisan professional evidence, thus saving the time of the court and obviating the unseemly spectacle of medical experts diametrically contradicting each other on matters of apparent medical fact. In the cases in which medical testimony was called on either side—for we presume it would be impossible to deprive the individual of the right of retaining any person he might deem likely to aid him in establishing his case—the knowledge that the assertions made and the opinions mentioned would be subjected to thorough analysis by an independent authority, and would have to be sustained by reasons convincing to persons competent to judge, would undoubtedly prevent much astonishing misstatement and unseemly conflict.

Such advisors being officers of the court, their fees would be payable out of the public treasury in the same way as those of the district attorney; and the voluntary expert who should give skilled assistance on either side could be authorized to receive remuneration at the hands of the retaining parties in exactly the same manner as any other kind of skilled work employed on the case.

ANTIVIVISECTION AGITATION.

A majority of the states possess laws against cruelty to animals, under which possible cases of inhumanity in scientific experiments may be properly dealth with. Notwithstanding this fact, sporadic attempts are made now and then to regulate, restrict or even prohibit the practice of experimenting on living animals. So far such attempts have failed. It is due in part to the lack of such legislation that medicine and biology have had such splendid opportunities in the United States to advance to the very front rank, opportunities which have been utilized wisely and well.

A large truth of this kind can not, however, be grasped by the overzealous, and the latter are now endeavoring to foment an antivivisection agitation in New York and New Jersey. One bill has already been introduced by them into the New York Legislature, while two more are threatened in that state and one in New Jersey. Some of these bills promise to be of an extreme type, and they ought to carry on their faces their defeat; while others profess to be reasonable in their provisions and to satisfy the demands of all rationally humane people. We have received a copy of one of the proposed New York bills, and briefly referred to it in our last issue. Support has been widely sought for it among medical men on the alleged grounds partly of its intrinsic reasonableness and partly of its forestalling more extreme measures. The latter argument should have no weight, for extreme measures are usually least dangerous. The "intrinsic reasonableness" of the bill, moreover, disappears as it is carefully examined, and reflection has convinced us that to endorse it would be a grave error.

In the first place, a bill once introduced is subject to all sorts of possible changes, and there is no more chance of forecasting what it will be like when it comes out of committee than of knowing what a man will be like when he is extricated from a railway wreck. It is much easier to do a thing than to undo it, and, the medical profession once having given the bill its adhesion, all the protests in the world would not undo the mischief wrought thereby.

Secondly, those who are behind this bill must have one of two purposes in mind: either merely a check on supposed abuses, or a stepping-stone toward the total abolition of animal experimentation. In the former case we are convinced that abuses are so few that special legislation is not required. If, on the other hand, the bill is simply a prelude to further legislation leading finally to the abolition of scientific experiments on animals, by approving it we are giving our enemies a vantage ground from which to press on their attacks with greater effectiveness.

The dangers of compromise are vividly illustrated in Great Britain, where medical and surgical progress and medical education have been greatly retarded by the rigidity of the law. Our British professional brethren confess this and never cease to regret that they did not more actively resist this interference with scientific work.

Those who seek to restrict vivisection do not realize what vivisection involves. It means that, in the vast majority of cases, information regarding vital activity is gained from the study of anesthetized animals before human beings are studied. It is a moral obligation on the part of physicians and surgeons, the custodians of the people's lives, that they shall acquire as perfect a knowledge as possible of the working of the living organism. Shall such knowledge be sought at the cost of the lives of human beings or of the lower animals? To assume, moreover, that experimentation on animals as now practiced is cruel and inhumane and therefore needs legislative interference is to assume what is not true. Should a case of abuse occur, let it be treated through the regular channels by which other such cases are dealt with. Because of the possibility of such, however, the imposition of a stigma on the class of conscientious and high-minded men who spend their lives in laboratories in work of the highest and broadest mercy is an unwarranted bit of effrontery which should be strenuously resisted.

Without going into the details of objections to the

New York bill before us, which would impose uncalled-for restrictions on medical progress, it may be laid down as a general principle that the medical profession should act as a unit in opposing specific antivivisection legislation in any form.

PHYSICIANS AS MAYORS.

In a recent issue of one of the large city-dailies appeared an editorial calling attention to the increasing number of physicians who have been elected as mayors of various cities and villages in the fall elections. In New Jersey alone, it is stated, eleven corporate cities elected medical men as mayors. The editor also calls attention to the fact that a similar movement is taking place in England. A list has appeared in an English newspaper of fourteen physicians recently elected as mayors, Dr. Richard Caton, Lord Mayor of Liverpool, being the most conspicuous example. This article also shows that, as a rule, physicians have been successful in this office, one medical incumbent having been elected nine times and another eight times in succession. One borough in Essex is mentioned which had six physicians as mayors in the latter half of the eighteenth century, seventeen during the nineteenth century and three during the first seven years of the present century. The editor considers the tendency decidedly praiseworthy and deserving of encouragement, since, he says, questions of sanitation are becoming of increasing importance in city life and a broadly trained physician can handle them better than the average man, while at the same time he may be as capable in other departments in civic activity. Consideration of this question opens up an attractive field to the successful physician who, at the age of fifty, is willing to retire from active professional work, but does not care to reinquish his hold on active life. Municipal government s becoming more and more a question of good city housekeeping. Sanitation on a large scale is one of the most important factors in the problem. The trained and experienced physician who has executive ability and knowledge of men ought to have an advantage over the verage business man as a municipal executive. The ield offered is one in which the public-spirited physician can do much good and be of great service to the public without engaging in the distasteful machinations which are necessary to political success in a larger field.

THE CITY AND THE SCHOOL CHILDREN.

An item cabled from Berlin appeared in the newspapers recently, stating that the municipal authorities in that city are facing a serious problem in connection with the food supply of children attending the primary schools of the city. According to the dispatch nearly 12,000 children go to school in the morning without breakfast and, in most cases, without any prospect of a midday meal. Of these, about 5,000 are reported as being cared for by the Children's Canteen Society, a local organization which furnishes meals to school children not otherwise able to obtain them. The other 7,000 children, however, are totally unprovided for. The question of the city's responsibility for these children has been raised by the socialistic members of the municipal council, who propose that the city shall, in the future, see to feeding them. It is estimated that about $38,000 will be required for this purpose during the coming winter. An editorial also appears in one of the city dailies calling attention to the situation in Berlin and also recalling that in England last year a law was actually enacted providing for the feeding of starved or half-starved school children by the school authorities. The editorial says: "The most effective and eloquent argument for public feeding of the children of the poor was made by a leading Tory statesman and a former member of the government. The measure was admitted to be 'radical' and 'paternalistic,' but it was generally felt that it would be a monstrous paradox to force children into public schools and to keep them at work there for six or seven hours a day without asking or caring whether they are physically and mentally able to receive instruction or to benefit by it. Education on an empty stomach is worse than a mockery. In the case of children of a tender age, it is sheer cruelty." The statement given above is interesting as showing the ever-widening character of governmental, and especially of municipal, activities. The German socialist rationally argues that if it is a function of the state to educate the child for the purpose of making him a desirable citizen, it is certainly a function of the state to see that the child receives proper nourishment during his education. If the parents or guardians of the child can give him proper care, well and good; if not, then the state should see that he is properly nourished and given an opportunity for growth, both physical and mental. The importance of adequate nourishment for school children is too obvious to need argument. If not guaranteed to them in any other way, then the state should assume the responsibility.

TROPICAL CLOTHING.

In his well-known book on "The Effects of Tropical Light on White Men," Major Woodruff, of the medical department of the Army, claims that the injurious effect of tropical climates on white men is the result of the action of the chemical or actinic rays of the sun, and that Nature has given the dark races, which normally inhabit the tropics, a protection against these rays in the color screen afforded by their skin pigment. Bearing in mind the use by photographers of a red screen to protect their sensitive plates from these rays, he advocates the use by white men in the tropics of orange, red or black underwear, with a head covering lined with the same color; these with white outer garments to reflect as much of the light rays as possible, he deems the most effective clothing scheme for the tropics. This subject was recently taken up by Sambon,[1] who describes a special fabric which he has devised for tropical use. This material is woven of red, yellow and blue threads in such proportions and in such manner as to present a khaki color on the outside, with red on the inner surface, thus combining exclusion of the actinic sun's rays with such a color on the surface as will render the wearer less conspicuous than would white. An effort now is being made by the Army medical department to test, on a large scale, these proposed methods of protection against the tropical sun. The inspector general of the Army, with the approval of the surgeon general, recommended that at a number of the large posts in the Philippine Islands a certain proportion of the garrison be supplied with orange, red or black underclothing and an orange-lined head covering, all the articles of clothing to be the same as those now issued except for the color. A part of each organization will be equipped with the color screen and a part without it; all the other conditions will be the same, and an opportunity will be afforded for valuable comparative observations. It is hoped that the recommendations will receive the approval of the War Department. Certainly any device which will probably assist our soldiers in the tropics in withstanding the effects of the tropical sun is worthy of careful trial.

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[1] Jour. of Trop. Med. and Hyg., Feb. 15, 1907.

PRESENT STATE OF ARMY MEDICAL LEGISLATION.

The latest reports from Washington state that while the Senate Committee on Military Affairs has recently reported favorably on the Army Medical Bill in the form in which it was endorsed by the American Medical Association and the War Department, the Committee on Military Affairs of the House has reported it in an amended form, in apparent disregard of certain important defects which this legislation was directly intended to remedy. The provisions of this bill have been carefully worked out and have been agreed on as just and necessary by all except the Committee on Military Affairs of the House. Briefly, they are intended to secure the following results: 1. An honorable military status for all medical men serving with troops. 2. Enough trained medical men to meet the needs of the Army in time of peace. 3. Such gradual flow of promotion as would render the military service reasonably attractive as a life career for young physicians of good attainments. The bill obviously asks for nothing which is unreasonable; in fact, in respect to its last two objects it asks for nothing which the medical department did not actually possess for a generation prior to the army reorganization act of 1901. In drawing up its provisions for regrading, not a single place was asked for which was not individually demonstrated to be essential in time of peace and as necessary to conform to the accepted general plan for the organization of our Army in time of war. The bill came before Congress as a workable, carefully elaborated scheme of medical organization, and with no unnecessary provisions which could be curtailed without serious detriment to the efficiency of this organization as a whole. Nevertheless, with a desired modest increase of but 125 physicians, and in face of the fact that there are 191 contract surgeons now serving with troops, the House Committee declares that an increase of but 111 medical officers is quite sufficient. Further, it proposes to reduce the number of new places in the higher and better paid grades; that is, to reduce by nearly one-fourth the opportunities of advancement, on which the attractiveness of the service to young physicians must largely depend. The recommendations of the House Committee as regards regradation practically emasculate the medical bill. It would leave the medical department of the future but little better off in this respect than it is at present. As reported from this committee the bill appears to embody a somewhat unwilling and unsatisfactory concession to an overwhelming public opinion.

CHURCH CLINICS.

A "church clinic" has been projected in Chicago, modeled on the one which for about a year has existed in Boston, where Dr. Worcester, the rector of Emanue Church, and his assistant, Dr. McComb, have sought to apply whatever is beneficent in "faith cures" and "mental healings" to functional ailments, and to eliminate from such therapeutic essays the fraud and quackery which so generally permeate them. Dr. Worcester is, in quite a unique way, well fitted for such an enterprise. Before beginning his ministry he was a college professor of psychology and of the history of philosophy and his clinics in the Boston church have made manifest their projector's earnest purposes. Unlike the ordinary "worker" in the healing science field, this rector and his assistant have made no claims to perform miracles They have asked no price for what they may do. They have enlisted the aid of physicians, especially skilled in diagnosis and in neurology, who have in each case made preliminary examinations and have excluded all those having, as the fundamental causes of their sufferings organic affections and surgical lesions, removable only by radical measures. Throughout these clergymen have evidenced a most temperate and sincere disposition to conform with the altruistic obligations which their Master enjoined on His disciples. In obviously the same spirit Bishop Fallows has established in St. Paul's Reformed Episcopal Church in Chicago a clinic for the cure by "Christian psychology" of such affections a functional nervous disorders, hypochondria, insomnia nervous dyspepsia, melancholia, hysteria, neurasthenia drug habits and emotional aberrations. We suggest, b way of parenthesis, that the term "Christian psychology" seems to be ill-chosen, a rather important consideration at the inception of such a movement, for such terminology may invite criticism, essentially inconsequential, bu which may nevertheless mar the good influence which i is hoped this enterprise will exert. Bishop Fallow claims to be proceeding on the same lines as Dr. Worcester and is enlisting the services of Chicago physician to the end that careful elimination of structural lesion shall precede psychic treatment, thus attempting to unit the physician and the clergyman in the great work o healing. This is but harking back to first principles and is but a re-establishment of primitive conditions when those men who were peculiarly anxious for th welfare of their fellows united in themselves the office of both priest and healer. And this principle of combination still obtains in a most useful way, when religious bodies find their influence best exerted when the send medical missionaries to the peoples they are anxiou to help. It is to be hoped that this movement may resu in rescuing many neurotics from the depredations of pernicious and ignorant tricksters, and may accord those suffering from overwrought or demoralized psychism a rational, comfortable and effective treatment of their aberrations. If the limitations of this work are appreciated, good and not harm will result.

ANOTHER SURE CURE OFFERED.

Physicians are receiving circulars of a California mining company, offering them easy steps into quackery. On one of the mining claims is a mineral spring, "which furnishes a part of the specific for syphilis. It cures syphilis in from thirty to sixty days, and it leaves the patient's stomach, kidneys and liver in a perfect condition." Shares are now for sale at two and a half cents, and capital is wanted for development. The mineral spring specific announcement prepares one for the side proposition offered. The company has a remedy "for the complete cure of syphilis" and says: "You sell the remedy for $20.00 under positive guarantee to cure syphilis, you hold the money until the patient takes the treatment, and when they are cured you remit us one-half of the $20.00 and keep the other half." Here is a new bait. Is it possible that there are in our profession men sufficiently lacking in common sense to bite.

Medical News

ALABAMA.

Society Meetings.—The Twin City Medical Society was organized December 21 at Decatur, with the object of waging war against tuberculosis; Dr. Frank H. Pettey was elected president; Dr. James F. Myers, vice-president; Dr. J. L. Gunter, secretary-treasurer.——At the annual meeting of the Montgomery County Medical Association, held in Montgomery, December 14, the following officers were elected: Dr. H. P. Wilkinson, president; Dr. William G. Thigpen, vice-president; Dr. Paul S. Mertins, secretary; Dr. Shirley Bragg, treasurer; Dr. Joseph L. Gaston, censor; Dr. Glenn Andrews, county health officer, and Dr. Harry T. Lay, county physician, all of Montgomery.——At the annual meeting of the Jefferson County Medical Society, held in Birmingham, December 23, the following officers were elected: Dr. Lewis Whaley, Birmingham, president; Dr. William F. Black, Sayreton, vice-president; Dr. Arthur F. Toole, Birmingham, secretary-treasurer, and Dr. Dyer F. Talley, Birmingham, censor (re-elected).

GEORGIA.

Wards Opened to Students.—Under the provisions of a resolution adopted December 31 by the trustees of Grady Hospital, Atlanta, medical students from all colleges of Atlanta will be permitted to visit the charity wards of the hospital for bedside teaching.

Personal.—Dr. Charles H. Jones has been elected mayor of Dahlonega.——Drs. Frank R. Carey, Waynesboro, and Thomas H. Hurley, Baltimore, have been added to the staff of Macon Hospital.——Dr. Herbert Respess, Macon, has resigned from the staff of Macon Hospital and will enter general practice.——Dr. Commodore I. Cain, a colored physician of Rome, lost several hundred dollars by a fire in his office January 4.

IDAHO.

Communicable Diseases.—Cases of diphtheria at Meridian are diminishing and the schools have been reopened.——Diphtheria is said to be almost epidemic at Lacrosse.——Several cases of scarlet fever are reported from Wardner.

Unlicensed Practitioner Found Not Guilty.—In the prosecution of "Dr. Raaf," Bellevue, for practicing medicine without a license, although the defendant admitted on the stand that he had been practicing medicine for three years without a license, he was nevertheless declared "not guilty" by the jury.

ILLINOIS.

Addition to Sanitarium.—The annex to Dr. Broughton's Sanitarium, South Rockford, almost completed, is three stories in height, 40x70 feet, and will almost double the capacity.

Money for Hospital.—At the recent minstrel show given by of the Young Men's Club of Evanston, for the benefit of St. Francis' Hospital, about $1,000 was realized for the institution.

Personal.—Dr. John W. Powers, Mount Carroll, has been appointed township physician.——Dr. and Mrs. David Cook, Plano, will celebrate their golden wedding anniversary January 30 at Bakersville, Mo.

Health Board Bill Advances.—On January 18 the bill enabling the State Board of Health to allow medical students who pass a satisfactory examination at the end of four years in an accepted college to practice during the fifth year of study was advanced to third reading in the house.

Contagious Diseases.—Virden reports 150 cases of measles.——Measles is reported at the Illinois Asylum for Feeble-Minded Children, Lincoln, where 18 cases have been found.——At Pleasant Plains, 15 cases of smallpox are reported.——Smallpox is said to be present in 27 communities in 17 counties of the state, and new cases are constantly being reported.——A number of cases of smallpox are reported from Manito.——At Mossville, 4 cases of smallpox of mild type are reported.——The smallpox situation at Kilbourne remains unchanged.——Smallpox is reported to be epidemic east of Dunlap.——At Wallingford 6 cases of smallpox are reported, and at Gibson City 9 cases.——At the University of Illinois there is a smallpox victim, a member of the faculty, and other cases have also occurred in Champaign.

Chicago.

Smallpox.—A case of smallpox was found on the North Side January 15, the ninth case reported thus far this year.

Dr. Hotz Honored.—Dr. Ferdinand C. Hotz was given a complimentary reception and banquet January 13, by the Chicago Ophthalmological Society, which he founded twenty years ago.

Senn Memorial Service.—Services in memory of Dr. Nicholas Senn will be held in the Fine Arts Building, Sunday, February 2, at 2:45 p. m. President James of the University of Illinois will preside.

Service for Medical Students.—A special service for medical students was given at the Church of Epiphany, January 19. The rector, Rev. John Henry Hopkins, D.D., preached on the subject of "Religion and the Sick Room."

High Mortality.—During the week ended January 18 there were 715 deaths reported, 11 less than for the preceding week, but 77 more than for the corresponding week of 1907, the annual death rate being 17.21 per 1,000. Pneumonia caused 124 deaths; tuberculosis, 71; influenza, 56; heart diseases, 51; nephritis, 45; violence (including suicide), 36; cancer, 29; bronchitis and acute intestinal diseases, each 28, and nervous diseases, 27. Scarlet fever and diphtheria were each responsible for 15 deaths; typhoid fever for 9, and measles and whooping cough each for 2.

INDIANA.

The New State Journal.—The *Journal of the Indiana State Medical Association*, devoted to the interests of the medical profession of Indiana, is now issued monthly under the direction of the council, under the charge of Dr. Albert E. Bulson, Jr., editor, and Dr. Ben Perley Weaver, assistant editor, at 219 West Wayne Street, Fort Wayne. Number 1 of Volume 1, dated Jan. 15, 1908, has just been issued, and shows that this publication at once takes a high rank among its contemporaries. It gives evidence of careful preparation and editing, and we are sure that it will take a strong position in the leading of the Indiana profession in every good line of work. The Indiana journal is to be congratulated on its advertising; we fail to note anything objectionable in the sixteen pages in this issue.

KANSAS.

State Society Meeting.—It has been decided that the Kansas State Medical Society will meet in Iola, May 5, 6 and 7.

Contagious Diseases.—The public school of Castleton has been closed on account of the prevalence of diphtheria.——Scarlet fever is said to be prevalent in Erie and the public schools have been closed, and public gatherings and meetings temporarily discontinued.——Smallpox has appeared at Willard, where 9 cases, all of mild type, have appeared.——A case of smallpox was discovered in Topeka, January 1.

KENTUCKY.

Epidemic Diseases.—Measles, chickenpox and pneumonia are said to be prevalent in and around Sharpsburg.——Ashland is reported to have 5 cases of smallpox.——In Glenmore and Richardsville, in the vicinity of and north of Bowling Green, 11 cases of smallpox are reported.

Merger of Medical Schools.—Under an agreement reached more than two months ago, the merger of the Louisville College of Medicine and the Hospital College of Medicine became effective January 1, under the name of the Louisville and Hospital Medical College, Medical Department of the Central University of Kentucky. Dr. Lewis S. McMurtry was elected president; Dr. Clint W. Kelly, dean, and Dr. Walter F. Boggess, associate dean. The building at First and Chestnut Streets will be used for didactic work and that at Preston and Chestnut Streets for dispensary and clinical work.

Personal.—Dr. and Mrs. Joseph M. Mathews, Louisville, leave early next month to spend the remainder of the winter in California.——The Newport board of health has been organized and Dr. James J. Youtsey has been elected president.——At the annual meeting of the staff of Speers Hospital, Dayton, the following officers were elected: President, Dr. William A. Young, Dayton; vice-president, Dr. James J. Youtsey, Newport, and secretary, Dr. Sherwood P. Garrison, Bellevue.——The board of public safety, Louisville, has elected Dr. George B. Jenkins assistant health officer, and Dr. Lewis Ryans, sanitary inspector of the health department.

Fight Against Tuberculosis.—The Kentucky Anti-tuberculosis Society held an exhibit in three stores leased for the purpose, January 10, in which great interest was manifested by both the profession and the public.——Suit has been brought by a resident and property holder in the neighborhood of the site recently purchased for the establishment of the Jefferson County Tuberculosis Sanatorium. The plaintiff pronounces the institution a prospective menace to the neighborhood in which he lives. Among the contentions of the plaintiff are that the drainage of the purchased tract, which adjoins his farm, is toward his place; that the hospital established there would check the neighborhood's prosperity; that the law does not provide that the county shall be represented on the board, which amounts to taxation without representation; that the city is already provided with means for the treatment of tuberculosis, and that the legislation is improvident. An injunction was recently granted restraining the board of safety from erecting a tuberculosis annex to the Louisville Hospital adjoining the property of the next neighbor and it was ordered that the building be placed on the opposite side of the ground. An injunction has since been applied for against the erection of the annex at this point.

MARYLAND.

Illegal Practitioner Paroled.—Albert K. Wolf, indicted by the grand jury on three charges of practicing medicine without a license, is said to have been found guilty and to have been paroled by the criminal court, on his promise to leave the state.

Personal.—Dr. William E. McClanahan has succeeded Dr. Caleb N. Athey as health officer of the Twelfth district, Baltimore County.——Dr. Milner Bortner, Baltimore, is convalescing after an operation for appendicitis.——Dr. Francis G. Goldsborough will return from Vienna March 15.——Dr. Harry Adler has been re-elected president of the Hebrew Hospital.

Illiteracy in Medical Candidates.—Dr. Herbert Harlan, president of the State Board of Medical Examiners, is appalled by the illiteracy shown in some of the examination papers presented by candidates for license to practice medicine. He believes the fault lies in the medical schools, which do not require adequate preliminary training. Large numbers of men are permitted to study medicine who are unable to grasp the problems confronting them in the medical course.

Public Lectures.—The Medical and Chirurgical Faculty of Maryland has arranged for a course of lectures to be delivered in the McCoy Hall of the Johns Hopkins University on Saturday evenings in February and March. The following have been appointed the committee on arrangements: Drs. Gordon Wilson, Jerre W. Lord, Flora Pollack, H. Warren Buckler, Franklin C. Smith, Charles O'Donovan and John Ruhräh. The following is the program:

February 1.—"Ideals of Health in Town and Country; How to Reach and Maintain Them," by Charles O'Donovan.
February 8.—"Eyesight and School Life," by Dr. Hiram Woods.
February 15.—"Tuberculosis," by Dr. William S. Thayer.
February 29.—"Modern School Life and Its Effect on Health," by Dr. H. Warren Buckler.
March 7.—"Preventive Medicine," Dr. William H. Welch.
March 14.—"Milk and Its Relation to Disease," Dr. John Ruhräh.
March 21.—"What the City Does in the Prevention of Disease," Dr. C. Hampton Jones.
March 28.—"Public Water Supplies," Dr. Marshall L. Price.

MASSACHUSETTS.

Bequest to Hospital.—One-third of the estate of the late George A. Bird, Cambridge, amounting to nearly $80,000, is devised to the Holy Ghost Hospital for Incurables.

Rabies.—The Essex North District Medical Society has voted that in view of the increase of rabies during 1907, as compared with 1906, the Massachusetts Medical Society should ask for more stringent laws to aid in the suppression of the spread of the disease.

Contract Work.—At the semi-annual meeting of the North District Medical Society, held in Haverhill, January 8, the committee on contract work reported that it was unprofitable to the physician and people, unethical and undesirable and should be abolished. It recommended that the state society see that steps were taken to put a stop to contract work among the physicians of the city.

Hospital News.—The Vincent Memorial Hospital, Boston, was dedicated with appropriate ceremonies, January 2. Dr. Robert Amery, president of the board of trustees, presided. The hospital is intended for the care of women of small or no means. Provision is made for the treatment of one-half of the patients without charge.——A brick addition to the State Hospital for the Insane, Tewkesbury, is to be constructed this year, at a cost of $25,000.

MICHIGAN.

Personal.—Dr. Albert Henwood, health officer of Dowagiac, is ill at his home with smallpox.——Drs. Josiah L. Ambrose, Bay City, and John P. Snyder, Auburn, have succeeded Drs. Harvey Gilbert, Bay City, and Ernest A. Wittwer, Auburn, as physicians for the poor in Bay County.——Drs. George B. Lowrie and George P. Cooley, Detroit, have been appointed assistant surgeons for the Michigan Central Railroad.

November Mortality.—During November there were 2,584 deaths reported to the board of health, equivalent to an annual death rate per 1,000 of 12.1. Of the deaths, 1,323 occurred in cities. Of the decedents 414 were children under one year of age; 130 children from 1 to 4 years inclusive, and 723 individuals aged 65 years and over. Pneumonia caused 202 deaths; violence, 182; tuberculosis, 168; cancer, 132; typhoid fever, 63; enteritis of infants, 42; diphtheria, 34; meningitis, 26; scarlet fever, 22; influenza, 16; whooping cough, 13, and measles, 5.

Communicable Diseases.—An outbreak of smallpox in the state prison, Jackson, has caused visits to prisoners, chapel exercises and sightseeing on the grounds to be prohibited.——At Manistee 14 cases of smallpox are reported.——The outbreak of smallpox at Springport is said to have subsided.——Diphtheria is reported in Superior Township.——Typhoid fever is reported epidemic at South Haven.——Four cases of scarlet fever from different sections of the city are reported from Grand Rapids.——Many cases of winter cholera have appeared in Lansing.

Medical Department Reorganized.—The Medical Department of the Michigan National Guard is being reorganized to comply with the regulations provided by the Dick bill, which should become operative January 21.——The following assignments of medical officers have been made: Capt. James E. Mead, Detroit, to Companies E, F, G and K, First Infantry; Lieut. Ernest C. Lee, Detroit, to Companies D, L and M, First Infantry, and Company E, Third Infantry; Lieut. George H. Parmerlee, Detroit, Companies A, B, C and H, First Infantry, and Troop A, Cavalry; Major William T. Dodge, Big Rapids, Companies D, F, I and M, Second Infantry; Capt. Ralph C. Apted, Grand Rapids, Companies B, G, H and K, Second Infantry; Lieut. Howard A. Grube, Coldwater, Companies A, C and L, Second Infantry; Major S. Edwin Cruse, Iron Mountain, Company L, Third Infantry; Captain John V. Frazier, Lapeer, Companies A and C, Third Infantry; Lieut. Floyd H. Randall, Bay City, Companies B, D, H, F and K, Third Infantry; Lieut. Hary R. Haze, Lansing, Company E, Second Infantry, and Battery A, Field Artillery.

MINNESOTA.

State Tuberculosis Sanatorium.—The Minnesota Sanatorium for Consumptives, Walker, of which Dr. Walter J. Marcley is superintendent, was opened January 1, with accommodation for 60 patients. The institution is intended only for the treatment of early cases of pulmonary and laryngeal tuberculosis. The charge for patients is uniform, $7 a week, and county commissioners are authorized to pay this charge for any patients they send. The balance of the cost is met by an appropriation by the state legislature.

Personal.—Dr. Arnold Schwyzer, St. Paul, has been appointed vice-consul of Switzerland, succeeding Dr. Gottfried Stamm, deceased.——Dr. David A. Kirk, Le Sueur, recently had a cerebral hemorrhage and is in a critical condition.——Dr. George R. Patton, Lake City, has retired after 38 years in the practice of medicine.——Dr. W. H. Smith has been appointed physician for the Cass and Leech Lake Indians, vice Dr. Thomas F. Rodwell, Cass Lake, resigned.——Dr. Lewis L. Mayland, Bagley, has been elected health officer of Clearwater County.——Dr. R. J. Sewell has been elected health commissioner of Cloquet.

Communicable Diseases.—St. Paul is reported to be having an epidemic of influenza.——Hibbing has had about 20 cases of smallpox, all of mild type.——Clarissa reports 30 cases of smallpox, and Browerville 6. The public schools in both places have been closed.——During 1907 there were about four times as many cases of smallpox in the state as in the previous year.——Mankato reports 2 cases of smallpox.——At Atherton smallpox is reported to be epidemic.——On account of the presence of smallpox at Cass Lake, the school board has passed a resolution compelling vaccination.——Hemorrhagic smallpox was found to be the cause of death of a patient in St. Paul, January 8, and 8 other cases of smallpox are reported in the neighborhood. There seems reasonable cause to believe that the disease was concealed and not reported by the attending physician.

MISSOURI.

Hospital Saturday and Sunday.—The executive committee of the St. Louis Saturday and Sunday Association, at its recent meeting, reported that the total collections from all sources for the year were $34,686.21.

State Board Election.—At the annual meeting of the State Board of Health, held in Jefferson City, January 9, Dr. Albert H. Hamel, De Soto, was elected president; Dr. Ira W. Upshaw, St. Louis, vice-president; Dr. James A. B. Adcock, Warrensburg, secretary.

Smallpox.—It is reported that there are about 60 cases of the disease in Jefferson City.——The schools of Atherton, near Independence, have been closed on account of the prevalence of the disease.——Four cases of smallpox have appeared at the state penitentiary, Jefferson City.——The board of education of Buckner, has ordered all pupils of the public schools to be vaccinated at once, on account of the presence of a large number of cases of smallpox in Fort Osage Township.

Personal.—Dr. Jesse A. Naylor, assistant surgeon of the Emergency Hospital, Kansas City, has resigned. Dr. D. R. Dagg, ambulance surgeon, has been appointed to fill the vacancy.——Dr. William L. Whittington, Jr., superintendent of the Missouri Colony for the Feeble-Minded and Epileptic, Marshall, has resigned.——Dr. Francis J. Sullivan, interne at the St. Louis City Hospital, has gone to England with a deported patient.——Dr. Benjamin H. Smith, St. Joseph, has moved to Long Beach, Cal.

Hospital News.—St. Louis is soon to have a new hospital, the Barnes Hospital, erected on a site opposite Forest Park, between Kings Highway Boulevard and Euclid Avenue.——The Red Cross Emergency Hopital and Free Public Dispensary, St. Joseph, established by the Salvation Army, was opened to the public last month. Dr. William E. Pentz has been appointed chief surgeon. The hospital will have accommodation for 100 patients.——The Burge-Deaconess Hospital is being erected at Springfield. The building will be three stories and basement in height, of brick, 38x100 feet, and will cost about $20,000.

Elections.—At the annual meeting of the St. Louis Medical Society of Missouri, December 28, the following officers were elected: Dr. Herman Tuholske, president; Dr. Cyrus E. Burford, secretary; Drs. Frank R. Fry, Clarence M. Nicholson, Charles J. Orr and Otto A. Wall, councilors for three years; Drs. Paul Y. Tupper, Louis H. Behrens, Albert H. Meisenbach and Algernon S. Barnes, Jr., councilors for two years; Drs. Bransford Lewis, Thomas A. Hopkins, Robert E. Schlueter and John Green, Jr., councilors for one year; Drs. Warren B. Outten, Robert M. Funkhouser, Joseph Grindon, George W. Cale, James M. Ball, Roland Hill and Frank J. Lutz, delegates for two years; Drs. William W. Graves, Davis Forster, Benjamin M. Hypes, Frank L. Henderson, Malvern B. Clopton, William S. Deutsch and William Engelbach, delegates for one year; Drs. Carl Barck, Louis H. Behrens, Louis Rassieur, Albert E. Taussig, Herman L. Nietert, Amand N. Ravold and Bransford Lewis, alternates for two years, and Drs. Walter C. G. Kirchner, William G. Moore, George Homan, Henry C. Dalton, Oscar H. Elbrecht, Robert E. Schleuter and Horace W. Soper, alternates for one year.——Dr. Henry Schwarz has been elected president; Dr. Harry S. Crossen, vice-president; Dr. Davis Forster, secretary, and Dr. Hugo Ehrenfest, treasurer of the Obstetric Section of the St. Louis Medical Society.——The Medical Society of the City Hospital Alumni, St. Louis, held its annual banquet January 1, at which the following newly elected officers were installed: President, Dr. William E. Sauer; vice-president, Dr. Louis H. Hempelmann; secretary, Dr. W. H. Ludde, and treasurer, Dr. E. Lee Dorsett.

NEW JERSEY.

Personal.—Dr. John H. Winslow has been appointed sanitary inspector, and Dr. Charles M. Gray, secretary, of the newly organized board of health of Vineland.——Dr. Herman C. H. Herold has been chosen president of the Newark board of health for the thirteenth executive term. Dr. George L. Warren, the newly appointed member, sat with the board for the first time January 7.——Dr. Robert R. Armstrong, Passaic, has been elected and has qualified as physician of Passaic County.

Improvements Needed for Insane Hospital.—The board of managers of the Morris Plains Insane Hospital have asked for nearly $150,000 this year in addition to $289,675 for maintenance. The first amount is needed for the betterment of the institution. Dr. Britton D. Evans, medical director. strongly recommends the establishment of another institution in New Jersey for the care of the insane. At the close of the year the population of the hospital was 1,824, composed of 917 men and 907 women. There were 417 admissions during the year. Of the patients in the hospital, 1,558 are indigent. The report also shows that the most common exciting cause of mental disease given in the certificates of admission is intemperance, the percentage of these being 11.9 of all admissions.

Urgent Needs of Epileptic Institution.—The annual report of the board of managers of the State Village for Epileptics, Skillman, states that half a million dollars will be required to complete and bring it up to the standard originally intended. The plan, formerly pursued, of erecting the necessary buildings at intervals of two or three years, is not working satisfactorily, as it is more costly and will deprive the people of the state of the benefits of the institution for a long term of years. Among the things asked for are a hospital building to cost about $35,000; an assembly hall, $15,000; a storehouse, $15,000; power house, $12,000; railroad siding, $21,000; double cottages for men and women, $25,000 each; school house and library, $12,000; roads, $10,000; trees and shrubbery, $2,000, and maintenance, $199,300.

NEW MEXICO.

Personal.—Dr. James B. Cutter, for five years in charge of the Santa Fé Hospital, Albuquerque, has resigned, to become chief surgeon of Los Angeles Emergency Hospital and assistant chief surgeon of the Pacific Electric Railway and affiliated lines.

Communicable Diseases.—Several cases of scarlet fever have appeared at Estancia, and the public school has been closed. Similar action has been taken at Willard.——It is reported that 20 deaths from scarlet fever have occurred within the last few weeks in Torreon.——Diphtheria is reported in Mountain Village.——There have been 4 cases of smallpox reported in Albuquerque, and the Savoy Hotel in that place is under quarantine; a number of cases are said to exist in the old town.

NEW YORK.

State Society Meeting.—The annual meeting of the Medical Society of the State of New York will be held January 28 in the common council chamber of the City Hall, Albany, under the presidency of Dr. Frederic C. Curtis, Albany. The annual banquet will be held on the following evening at the Hotel Ten Eyck. Dr. William J. Nellis is chairman of the committee on arrangements.

Attempt to Change Medical Law.—A remarkable bill has been introduced into the legislature by Col. D. C. Robinson of Elmira. This bill, by changing one word of the new medical law, would completely break down the safeguards built by the legislature against admission to the practice of osteopathy of those who have no technical medical education. All this would be effected were the bill passed by substituting the word "or" for "and" in an important sentence.

Anti-Tuberculosis.—The New York Charities Aid Association in cooperation with the State Department of Health will hold a meeting in the campaign against tuberculosis in Albany, January 27. Among those who will speak are Governor Hughes, Dr. Eugene H. Porter, state commissioner of health; Dr. William H. Welch of Johns Hopkins University, Lieutenant-Governor Chandler and Homer Folke. The money for starting this campaign against tuberculosis throughout the state was contributed by the Russell Sage Foundation, but it is expected that the war in the future will be supported by voluntary contributions.——At a meeting of the New York state executive committee of the International Tuberculosis Congress at Washington, held in the New York Academy of Medicine, it was decided to open communication with the sanatoria and hospitals throughout the state with the object in view of stimulating interest in the International Tuberculosis Congress to be held next September and October.

New York City.

Harvey Society Lecture.—The fifth lecture of the Harvey Society course, delivered by Dr. George W. Crile, Cleveland, at the New York Academy of Medicine January 25, is on the subject of "Shock."

New Counsel for Medical Society.—Deputy Assistant District Attorney Almuth C. Vandiver, who will go out of office on February 1, has been appointed counsel for the county medical society to succeed Champe S. Andrews.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended January 11, 691 cases of measles, with 35 deaths; 562 cases of scarlet fever, with 49 deaths; 432 cases of tuberculosis, with 171 deaths; 370 cases of diphtheria, with 42 deaths; 55 cases of typhoid fever, with 6 deaths; 24 cases of whooping cough, with one death; 16 cases of cerebrospinal meningitis, with 11 deaths; 199 cases of varicella, and 2 cases of smallpox, a total of 2,351 cases and 315 deaths.

Death Rate and Congestion.—A "committee on congestion of the population in New York," composed of delegates from a large number of societies are at work preparing data on the evils incident to crowding among the foreign element in Manhattan. Dr. W. H. Guilfoy, chief of the bureau of vital statistics, finds among the 1,750,000 foreign-born, conditions that account for the halt in the decrease of the death rate of 18.35 per 1,000. One "native American" section of negroes has a death rate of 38.56 per 1,000. Here in one block 5,100 people are packed with a death rate from consumption three and one-half times that of the city as a whole, and only exceeded by that of the Chinese section. One densely populated block designated as "Russian-Polish" has surprised the investigators by its relatively low mortality, and of this section Dr. Guilfoy remarks that the low death rate of the Jewish section can be ascribed to the temperate habits and inherent vitality of the Jew, who is able both to resist and to overcome infection. It is concluded that congestion of itself is an evil, and that attendant evils may be remedied. New York has a birth rate of 30.7 per 1,000 as compared with a birth rate of 22.3 in other cities above 100,000 in the state, and hence its death rate of 18.3 is no worse than a death rate of 15.1 in other cities. An exhibit is to be held in the near future.

NORTH CAROLINA.

Prevalent Diseases.—During December the following diseases were reported to be prevalent in the state: Typhoid fever in 52 counties; pneumonia in 50; diphtheria in 37; scarlet fever in 25; whooping cough in 24; measles in 16; influenza in 7, and smallpox in 10 counties.

Tri-State Society Meeting.—The Tri-State Medical Association of the Carolinas and Virginia will be held in Charlotte, February 18 and 19, under the presidency of Dr. Stuart McGuire, Richmond, Va. Dr. J. Howell Way, Waynesville, is secretary of the association.

Society Meeting.—At the annual meeting of the Robeson County Medical Society, held in Rowland, January 8, the following officers were elected: Dr. Benjamin F. McMillan, Red Spring, president (re-elected); Dr. William E. Evans, Rowland, vice-president; Dr. Arthur B. Croom, Maxton, secretary-treasurer, and Drs. George M. Pate, Rowland, and Arthur B. Croom, delegates to the state society, and Dr. James D. Croom, Maxton, censor.

Personal.—Dr. Charles M. Clodfelder, Lexington, who was seriously injured by falling into an open sewer excavation while making a professional call at night, is recovering.——Dr. Owen Smith, Asheville, has been re-elected vice-president of the Asheville Club.——Dr. Edward C. Register, Charlotte, has returned from Europe.——Dr. William L. Crump, Salisbury, dislocated his shoulder in a runaway accident, January 11.——Dr. Morris M. Caldwell, Wilmington, has been appointed local surgeon of the Seaboard Air Line

OHIO.

Consumptives to be Transferred.—At a meeting of the medical directors of the Cincinnati City Hospital, January 10, it was determined to transfer the tuberculosis patients in the institution to the branch hospital.

State Board Election.—The Ohio State Board of Medical Examination and Registration reorganized at Columbus, January 9, by electing Dr. Augustus Ravogli, Cincinnati, president; Dr. Sylvester M. Sherman, Columbus, vice-president, and Dr. Edward J. Wilson, Columbus, treasurer. Dr. George H. Matson, Columbus, continued as secretary.

Personal.—Dr. Henry D. Belt, Kenton, has been appointed local surgeon of the Toledo & Ohio Central Railroad.——The medical directors of the Cincinnati City Hospital, at a meeting January 3, elected Dr. Louis Schwab president; Dr. Christian R. Holmes, vice-president, and Dr. Asa B. Isham, secretary.——Dr. George Goodhue has been appointed health officer of Dayton, and Dr. Meldrum B. Floyd, city bacteriologist.——Dr. William H. Knauss has been appointed health officer of Newark.——Dr. Robert R. Black has been appointed medical examiner and Dr. Maxwell J. Davis, health officer of Mansfield.——Dr. Adolphus H. Creps has been appointed physician to the Children's Home, Lima.——Dr. J. C. Reeve, chief of the medical staff of St. Elizabeth's Hospital, Dayton, for thirty years, has resigned.

Contagious Diseases.—Diphtheria broke out in the Salvation Army barracks, Springfield, January 3.——Six cases of diphtheria are reported in one family in Toledo.——Sharon reports 36 cases of typhoid fever.——At Bellevue 3 cases of cerebrospinal meningitis have occurred, with 3 deaths.——The fourth case of cerebrospinal meningitis developed at Columbus barracks January 9.——Three cases of smallpox are reported in Toledo.——A case of smallpox developed January 6 in the county jail, Huntington.——Several cases of varioloid are reported in Hamilton.——On account of a number of cases of smallpox in Marbletown, south of Delphos, the public school has been ordered to be closed.——Influenza is reported to be epidemic in Cleveland and Canton.——An epidemic of measles exists at and around Wilmot, where more than 100 cases are reported.——An epidemic of scarlet fever is reported at New Cumberland.

Physicians Before the Bar of Justice.—John Larmouth, Toledo, charged with practicing medicine without a license, was discharged January 11, the court finding that the medicine had been prescribed by an authorized physician.——The case of the state against C. Elton Blanchard, formerly proprietor of the Emergency Hospital Company, Columbus, was dismissed by the prosecution, January 3, the differences being settled out of court.——Dr. John F. George, Fort Jennings, on trial before the State Board of Examination and Registration, Columbus, on charges of drunkenness, was exonerated by the board.——Dr. James A. Ambrose, Dayton, sentenced to imprisonment of eighteen months for malpractice, and Dr. A. D. Spence, Lebanon, convicted of arson, have commenced to serve their sentences.——Dr. Curtis C. Williams, Niles, is said to have been fined January 9 for infraction of the rules of the board of health of that city in not making report of the death of a patient whom he attended at Warren some time ago.

PENNSYLVANIA.

Diphtheria Epidemic.—The town of Jefferson has been placed under strict quarantine, owing to an epidemic of diphtheria. There have been but two deaths, but new cases are reported daily.

Personal.—Dr. Wharton Sinkler, Philadelphia, has been elected one of the managers of the Episcopal Hospital.——Dr. Carleon Warner, Narberth, sailed January 9 for Vienna.——Dr. Damon Pfeiffer, Williamstown, is ill with typhoid fever in the German Hospital, Philadelphia.

Mail Clerks Vaccinated.—A general order has been issued by the bureau of health of Pittsburg, requiring all railway mail clerks to be vaccinated. The order results from three clerks contracting smallpox. The dormitories in the Federal Building have been thoroughly fumigated.

Philadelphia.

Hospital Report.—The report of the Methodist Hospital for December shows that 114 new patients were admitted to the wards; 47 new patients were treated in the dispensary, and a total of 1,867 visits were made to various outdoor departments.

Obstetricians Elect.—The Obstetrical Society of Philadelphia has elected the following officers: President, Dr. James M. Baldy; vice-presidents, Drs. Daniel Longaker and George M.

Boyd; secretary, Dr. Frank C. Hammond; treasurer, Dr. John W. West; curator, Dr. Brooke M. Anspach; council, Drs. Stricker Coles, Melvin M. Franklin, Levi J. Hammond, and John C. Da Costa; publication committee, Drs. William E. Parks, Theodore A. Erck, Stricker Coles and John G. Clark, and library committee, Drs. Daniel Longaker and William R. Nicholson.

Training in Medical Organization.—The students of the University of Pennsylvania, Department of Medicine, have formed an association, the purpose of which is to acquaint the undergraduates with the workings of the American Medical Association, after which it is closely modeled. The various student associations follow the plan of the state organization and elect members to a house of delegates which transacts the business of the association. An annual meeting is held, at which papers are read by chosen members, thus encouraging original research and scientific support. The organization is named the "Undergraduate Medical Association of the University of Pennsylvania," and already has over 250 members. At the first meeting, to be held April 8, ten papers will be read on various medical subjects. The faculty will give a midday luncheon and there will be a banquet in the evening, attended by at least 200 students and invited guests.

Health Report.—The total number of deaths reported for the week ended January 11 was 705, which is the highest mortality since the week ended March 12, 1904, when four more deaths were recorded. This rate shows an increase of 17 over the previous week and an increase of 59 over the corresponding week of 1907. The principal causes of death were: Typhoid fever, 14; diphtheria, 6; influenza, 34; consumption, 69; cancer, 28; diabetes, 5; apoplexy, 20; paralysis, 8; heart disease, 78; acute respiratory diseases, 181; enteritis, 16; cirrhosis of the liver, 6; acute nephritis, 5; premature birth, 12; congenital debility, 15; old age, 9; suicide, 4; accidents, 20; Bright's disease, 49, and marasmus, 3. There were 266 cases of contagious diseases reported, with 21 deaths, as compared with 270 cases and 26 deaths in the preceding week.——The deaths for the week ended January 18 was 657, a decrease of 48 from those reported in the previous week and an increase of 11 over the number reported in the corresponding week of 1907. The principal causes of death were: Typhoid fever 21; diphtheria, 8; influenza, 28; cerebrospinal meningitis, 5; consumption, 70; cancer, 22; diabetes, 5; apoplexy, 17; paralysis, 11; heart disease, 59; acute respiratory diseases, 129; enteritis, 12; cirrhosis, 8; appendicitis, 5; acute nephritis, 7; Bright's disease, 44; premature birth, 22; congenital debility, 8; old age, 7; suicide, 4; accidents, 24, and marasmus, 3. There were 266 cases of contagious diseases reported, with 32 deaths, as compared with 266 cases and 21 deaths reported in the preceding week.

TENNESSEE.

Epidemic Diseases.—Influenza is reported to be epidemic in Trenton.——Williamson County reports 4 cases of smallpox and Sumner County 2 cases.——The smallpox situation in Madison County and Jackson is becoming serious, as 28 cases have been reported in the district.——At West Point 6 new cases of smallpox were reported January 7, making 13 in all.——At a meeting of the State Board of Health January 7, the secretary stated that since the last semiannual meeting of the board there had been 108 smallpox cases in the state in 12 counties. Of the patients 64 were white and 44 colored.——The school at Liberty Grove, near Jackson, has been closed on account of smallpox.

State Anti-Tuberculosis Committee.—The anti-tuberculosis committee for Tennessee held a meeting January 8, in Nashville, and elected the following officers: President, Dr. Heber C. Jones, Memphis; vice-presidents, Drs. William Krauss, Memphis; Richard Douglas, Nashville; S. Rush Miller, Knoxville, and secretary-treasurer, Dr. James A. Albright, Somerville.

TEXAS.

Personal.—Dr. Renne Hudelle, Dallas, has resigned from the State Health Department, to take effect January 1.——Dr. Edward M. Thomas, Georgetown, has been appointed health officer, vice Dr. J. H. N. Huggins, resigned.

Epidemic Diseases.—El Paso is reported to be suffering from an epidemic of influenza.——Greenville reports 8 or 10 cases of scarlet fever with one death.——More than 100 cases of measles are reported in Howe.——Measles is epidemic in Smithville.——The health officer of Georgetown reports 20 or more cases of smallpox in and around Georgetown, all of mild type; also 8 cases near Bartlett.——The epidemic of diphtheria at Elgin is reported to have subsided.

VIRGINIA.

Bequest to Hospital.—Alexandria Hospital has been bequeathed $1,000 by the will of the late William H. Lambert.

Smallpox.—Smallpox is reported to have been epidemic at Norton for several weeks and 4 cases have developed at Kingsport.

Hospital Notes.—The King's Daughters Memorial Hospital is to be erected at Bristol at a cost of from $25,000 to $30,000.——Practically the entire medical profession of Richmond has endorsed the reorganization of the medical staff of the City Home. They plan a volunteer medical and surgical staff at the home.

Tuberculosis Exhibit.—The exhibit of the National Association for the Prevention and Study of Tuberculosis was made in Richmond from December 17 to 24 inclusive. In addition, three popular lectures a day were given by physicians of the city, bearing on the various phases of the prevention and treatment of the disease.

November Mortality.—During November there were 155 deaths in Richmond, 141 among residents and 41 among non-residents, equivalent to an annual death rate per 1,000 of 16.77. The number of deaths was 60 less than in October. Among the chief causes of death were: Consumption, 21; pneumonia, 16; cerebral hemorrhage, 11, and nephritis and valvular heart disease, each 10.

Personal.—Dr. Benjamin M. Atkinson, for 28 years superintendent of the Virginia School for the Deaf, Dumb and Blind, Staunton, has resigned and Dr. John B. Catlett has been elected his successor.——Dr. Robert L. Corbell, Portsmouth, has been re-elected health officer of Norfolk County, Dr. H. H. Drewry, Norfolk, assistant health officer, and Dr. F. L. Sawyer, physician to the county almshouse.——Dr. K. T. Francis has been appointed first lieutenant and assistant surgeon of the Richmond Howitzers.——Dr. R. W. Crawford, Strasburg, has succeeded Dr. E. B. Quillan as superintendent of the Atlantic Coast Railroad Hospital, Rock Mount, N. C.

WASHINGTON.

Contagious Diseases.—Dr. Matthew B. Grieve, health officer of Spokane, reports that 20 cases of smallpox were recently taken to the Isolation Hospital in a single week. He also reported 21 cases of diphtheria in the city.——Smallpox on the Lummi Island Reservation was reported to the county health officer, Dr. Caleb E. Martin, Bellingham.

Personal.—Dr. Edwin L. Kimball, Spokane, has been appointed a member of the State Board of Health and Vital Statistics, vice Dr. John M. Semple, made superintendent of the Eastern Washington Hospital for the Insane, Medical Lake.——Dr. Elmer E. Heg, Seattle, secretary of the State Board of Health, returned from Europe, January 2.——Dr. G. V. Calhoun, Seattle, is critically ill at his home.——Dr. Albert P. Duryee has been appointed health officer of Everett.

Society Meetings.—The Spokane County Medical Society at its annual meeting elected the following officers: President, Dr. Wallace W. Potter; vice-presidents, Drs. John G. Cunningham and Matthew B. Grieve; secretary, Dr. Carroll L. Smith; treasurer, Dr. Frank Rose, and censors, Drs. Charles S. Kalb, Wilbur W. MacKenzie and Harold H. McCarthy.——At the annual meeting of the Lincoln County Medical Association, held in Davenport, December 4, the following officers were elected: President, Dr. A. D. Snyder, Creston; Dr. Lee Ganson, Odessa, vice-president; Dr. L. F. Wagoner, Harrington, secretary-treasurer, and Dr. Rufus P. Moore, Davenport, censor.

Illegal Practitioners Punished.—B. C. Pollman, an osteopath of Bellingham, charged with practicing medicine without a license, is said to have been found guilty December 30 and fined $75.——In the case of Aubrey T. Dodson, Spokane, charged with practicing medicine without a license, the jury is said to have returned a verdict of guilty. In the police court the defendant had been sentenced to pay a fine of $50 and took an appeal to the Superior Court.——H. C. Karnopp, Spokane, who was prosecuted by the state medical society for practicing medicine without a license, is said to have been fined $50 by Justice Hinkle. He pleaded guilty and said that he would remove the sign "Dr." from his windows.

Hospital News.—The new Sisters of Providence Hospital, Seattle, is to be erected on the recently acquired location at Seventeenth Avenue and Jefferson Street. The new hospital will cost, with the site, more than $1,000,000. The building is to be 305 feet long and six stories in height; there will be no public wards, as practically all the space will be devoted to private rooms.——The new Sacred Heart Hospital, to be located in Spokane, will cost about $400,000 and will accommodate about 300 patients. The building will have a frontage of 330 feet and a depth of 58 feet and will be of brick and ornamental stone and six stories in height.——The new hospital erected under the auspices of the Dominican Sisters at Chehalis was opened last month. The building is 100 x 48 feet, four stories high and cost $30,000.——The Emergency Hospital in the basement of the City Hall, Spokane, has been equipped with four beds and is under the charge of Dr. B. H. Roark.——The board of health of Seattle is contemplating the erection of an isolation hospital, and $2,800 has been appropriated for the site.

WISCONSIN.

Healer Fined.—John Till, a "healer" of Somerset, said to have pleaded guilty to a charge of practicing medicine without a license, was fined $50, paid the fine and agreed to move out of Wisconsin.

Election.—At the annual meeting of the Milwaukee County Medical Society, the following officers were elected: President, Dr. Henry V. Ogden; vice-president, Dr. William H. Washburn; secretary, Dr. Alfred W. Gray, and treasurer, Dr. Joseph Kahn.

State Sanatorium.—The Wisconsin State Sanatorium, near Wales, for the care and treatment of tuberculosis, which was opened in November, has now facilities to care for 80 patients. Dr. Chester A. Paull is superintendent, and $120,000 has been expended on the institution.

Violation of Vital Statistics Law.—Dr. Horace M. Brown, Milwaukee, to test the validity of the law requiring physicians to re-register, was convicted of having failed to register in the health department and also of having failed to properly report a birth. In order to appeal to a higher court, Dr. Brown submitted to a fine of $20 and costs.

GENERAL.

Not Authorized to Represent Journal.—Mr. P. W. Corzilius, who formerly represented The Journal and who was in Washington, D. C., recently, is no longer in the employ of the Association and is not authorized to make collections.

Typhoid Fever in Porto Rico.—An epidemic of typhoid fever is reported in Caguas, Porto Rico, where 125 cases are said to exist in the city and a number of cases in the suburbs. Governor Post has inspected the district, and ordered the expenditure of $5,000 for temporary hospitals and the segregation of the sick.

Yellow Fever in Cuba.—It is reported from Cienfuegos that a death from yellow fever occurred in that city January 3, but that no new case of yellow fever or other quarantinable disease has been reported during the week.——Yellow fever appeared in Havana province December 18, and the patient died December 27.——No new case of yellow fever has been reported in Matanzas district.——No quarantinable disease is reported from Santiago.

Cholera in the Philippines.—During the week ended November 2, 4 cases of cholera, all fatal, were reported in Manila, which compares favorably with 21 cases reported during the preceding week.——A few cases have been reported from Bocaye and Calumpit, the infection of which was traceable to Manila.——During the week ended November 9, 13 cases of cholera were reported in Manila, and 14 deaths from that disease——Cholera is reported among the troops in Mindanao. One death occurred January 16.

CANADA.

Hospital News.—A new general hospital has just been opened at Selkirk, Man., at a cost of $25,000. The building contains four private wards, three semi-private wards and two public wards, capable of accommodating in all 25 patients. ——The executive of the Canadian Hospital Association has decided to hold the annual meeting in the Ontario Parliament buildings, Toronto, on Easter Monday and Tuesday, 1908. The president is Miss Louisa Brent, superintendent of the Hospital for Sick Children, Toronto.

Winnipeg Vital Statistics.—The death rate in Winnipeg for 1907 was 12.6 per 1,000 of population. This is the lowest since the incorporation of the city. In 1906 the rate was 15.9, and in 1905 the rate was 20.5 per 1,000. The total number of deaths in 1907 was 1,455; in 1906, 1,609, and in 1905, 1,622. The births in 1907 were 3,323, more than double the number of deaths. The active campaign of the health department for the last three years has had much to do with the decrease in the death rate, as there have been fewer cases of and deaths from typhoid fever. There were 380 cases of typhoid fever reported in 1907 as against 1,174 in 1906, and 1,699 in 1905.

MEXICO.

Sentence Commuted.—Dr. C. S. Harle, Chihuahua, sentenced to death for the murder of two Americans in order to collect their life insurance, has been commuted to imprisonment for twenty years.

International Medical Association.—The International Medical Association of Mexico held its annual meeting at Monterey, Nueva Leon, January 23-25, under the presidency of Dr. H. V. Jackson, Durango.

Prevalent Diseases.—A serious epidemic of diphtheria is reported in Cruces, state of Chihuahua.——Smallpox continues prevalent in the vicinity of Molino de Enmedio.——The epidemic of smallpox at Santa Ana continues.——A considerable increase in leprosy has been discovered at Xochimilco, from which point come most of the lepers under treatment at the Juarez Hospital.

Hospital Notes.—The City of Puebla is about to erect a new hospital at Agua Azul at a cost of $800,000.——On December 31 the Charity Hospital of the City of Mexico was opened, with accommodation for 10 patients. Dr. Antonio Loaza is director of the institution.——The charity ball recently held in the City of Mexico for the benefit of the American Hospital netted more than $10,000 to that institution.

Sanitary Congress.—The third International Sanitary Convention, held in the City of Mexico, adjourned December 1, to meet in San José, Costa Rica, in December, 1909. Dr. Juan Jose Ulloa of Costa Rica was elected president. The advisory council made the following recommendations, which were approved by the convention:

1. The representatives of the governments of Brazil, Columbia and Uruguay are requested to adhere to the sanitary convention signed in Washington in 1905.
2. The codifying of all sanitary laws and regulations is recommended and the forwarding of copies of same to the International Sanitary Board at Washington.
3. It is recommended that the International Sanitary Board at Washington be authorized to establish relations with the International Sanitary Board at Paris in accordance with the declaration made at the Third Pan-American Congress in 1906.
4. The secretary was authorized to include in the publications of the convention, a summary of the resolutions adopted by the first and second international conventions held in Washington.

The following recommendations, also offered, apply to the American governments concerned in the convention. They are here given in summarized form:

1. Compulsory vaccination against smallpox.
2. Quinin, fine wire netting, crude petroleum, mosquito bar, etc., to be free from taxation.
3. A most active propaganda on etiology, prophylaxis and the treatment of malaria.
4. Mortality from malaria to be included in the public health reports.
5. Publishing of pamphlets for distribution to the public concerning malaria.
6. Legal and active steps for the nationalization and centralization of sanitary authorities.
7. Suggestions for the prevention of tuberculosis in cars and steamers. Avoidance of carpets and fixed curtains; the use of spittoons; periodical disinfection of cars; disinfection of dining-room service; the use of paper napkins and the screening of food; the examination of employés, steamers and passenger trains; establishment of a department for tuberculosis patients on steamers. Posting of public notices condemning spitting on floors; physicians on the frontier to have special knowledge of the prophylaxis of tuberculosis.

FOREIGN.

Neisser Returns from East Indies.—Prof. Albert Neisser has returned to his post in Breslau in good health after his long stay at Batavia for research on syphilis in monkeys. He will deliver an address on the present status of the pathology and treatment of syphilis at the approaching German Congress of Internal Medicine at Vienna, opening April 6.

A Medical School for Missionaries.—A missionary medical institute has been organized at Tübingen to train physicians for the missionary field, especially in the treatment of the diseases likely to be encountered in the tropics. Dr. Fiebig has been appointed director of the new school, his experience as a military medical officer in the Dutch colonies eminently qualifying him for the post.

Free Dentistry for School Children.—The town of Charlottenburg, near Berlin, has decided to open a dental office for the children of the public schools, and has appropriated about $2,150 for the installation and $3,000 for the current expenses. The number of children tributary to the office is said to be 23,500. A dozen members of the local dentists' association have agreed to do the dental work required.

Hungarian Medical Press.—We learn from an exchange that the editors of the Hungarian medical journals have united in a national organization to promote the interests of the medical press of the country and of the profession in general. The association has also joined the International Association of the Medical Press. Prof. M. Lenhossek is president of the new national body, and T. Győry is secretary, both of Budapest.

Memorial to Pirogoff.—The twenty-fifth anniversary of the death of the Russian surgeon Pirogoff has been celebrated by conferring his name on a street and hospital at St. Petersburg and endowing an annual prize for works on surgery. Moscow has now fallen into line and renamed a street and a hospital in his honor, and has also founded a Pirogoff prize.

Bust of von Bergmann Presented to His Former Clinic.—A life-size bronze bust of the late Professor von Bergmann was presented last month to the clinic, the scene of his surgical triumphs, by his former pupils, many of whom now occupy prominent positions in other clinics. The bust stands beside those of Gräfe, Dieffenbach and Langenbeck. Professor Bier, the present chief of the clinic, and Professor Sonnenburg delivered addresses.

Medal Presented to Professor Gilbert of Paris.—The friends of Professor Gilbert, on the occasion of his election to the Academy of Medicine, presented him with a medal engraved by a prominent artist. One side of the medal depicts a scene at the Broussais Hospital with Gilbert seated at a table covered with microscopes and tubes, surrounded by his pupils. His specialty is diseases of the liver and stomach, and the reverse of the medal gives his portrait in profile with the inscription *E jecore decus*, "From the liver, honors flow to him."

Eleventh International Congress of Ophthalmology.—Elaborate preparations are being made for this congress, which is to convene at Naples April 2-7, 1909. Professor Angelucci is president of the Organization Committee, which consists of forty-eight members, including Albertotti and Trombetta. The corresponding members for the United States are Dr. G. E. de Schweinitz, 1705 Walnut street, Philadelphia, and Dr. Hermann Knapp, 26 West Fortieth street, New York. The principal themes to be discussed at the congress are announced as "Amount of Indemnity to Be Paid for Lost or Damaged Eye" and "Unification of the Measure of the Visible Force and of the Notation of the Meridians of the Astigmatism."

Damages for Venereal Infection.—The Vienna *Klin.-therap. Wochschr.* relates that a girl sued a man for $1,600 damages on account of infection from venereal disease, claiming this amount for the pain, the expenses of treatment and indemnity for reduced chances of getting married. The accused denied the possibility of contagion as, although he had contracted venereal disease eight years before, he had been thoroughly treated and had been perfectly healthy during the last few years. The court admitted the possibility of his having conferred the infection but divided the responsibility and awarded half the amount claimed. On appeal, the higher court confirmed the decision to a certain point, but would not accept the division of the responsibility, assuming that the defendant was alone responsible. It also refused the damages claimed for reduced prospects of matrimony, and thus imposed damages of $500 for the pain and about $246 for the expenses of treatment.

Medical Congresses in Europe This Year.—The German Congress for Internal Medicine is to be held at Vienna, April 6-9, the principal subjects to be discussed being "Relations of the Female Sexual Organs to Internal Affections" and "Modern Methods of Investigating the Functions of the Intestines." Neisser will tell of his experimental research on syphilis in monkeys, and Fischler will relate the results of his experimental cirrhosis of the liver. April will also witness the Fourth International Congress for Climatotherapy and Hygiene of Cities, Biarritz; also the International Congress of Laryngology and Rhinology at Vienna, April 22-25. The German Congress for Psychiatry will convene at Berlin, April 24-25, as also the German Congresses for Surgery, Orthopedic Surgery and Roentgen Work. In June, at Frankfurt a. M., an International First Aid Congress is to be held for the first time, and the tenth German Congress of Dermatology follows a week later at the same place. The German Congress of Otology will meet in September at Heidelberg. The French congresses convene mostly in the fall. The French Congress of Internal Medicine is to meet at Geneva, September 3-5, to discuss arteriosclerosis, pathogenesis of neurasthenia and treatment of gallstone affections. In September, also, the Seventh International Congress of Dermatology convenes at Rome, and the Second International Congress of Surgery at Brussels. The German neurologists assemble at Heidelberg in October for their annual meeting. In October the First International Congress of Urology is to meet at Paris, as also the Twenty-first French Congress of Surgery. The French Congress of Neurologists and Alienists is also held in the fall. The Italian medical, surgical and pediatric congresses generally meet in October. The Italian Congress for Internal Medicine will convene at Rome in October. The subjects to be discussed are "Cardiac Arrhythmia," "Family Neuropathies," "The Results of Superalimentation," "Modern Therapeutics of Gastrointestinal Affections," and "Diagnostic Importance of Roentgen Rays in Internal Medicine."

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Jan. 11, 1908.

Australian Snakes.

Dr. W. G. Watson, Sydney, New South Wales, has recently made an interesting report on the venomous snakes of that colony. Although there are some very venomous ones, the death roll during the past fifteen years has averaged only four or five per annum, and in a total of 190 cases of snakebite the death rate was only 16.3 per cent. Five species are included in the category of "deadly snakes"—the death adder, the tiger snake, the black snake, the brown snake and the superb snake. Most bites occur during the hot months. Dr. Tidswell, the author of "Researches on Australian Venoms, Snakebites, Snake Venom and Antivenene," thinks that there is no proof that strychnin exercises any beneficial influence, and that "the antivenins hitherto obtained were effective only against the venoms with which they were prepared, so that a separate serum is necessary for every kind of snake venom. Thus snakebite is for the moment beyond the sphere of practical serotherapy." He condemns the administration of large quantities of alcohol, which is the popular treatment, and considers that the lay treatment should be confined to application of a ligature followed by scarification and sucking of the bite, or to excision, when a ligature can not be applied, and to the administration of small quantities of stimulants when the patient is faint.

The London County Council and the Milk Supply.

The London County Council is seeking to amend the act of 1885 relating to milk supply. It recommends the following alterations: 1. No dairyman shall occupy any premises as a dairy until he has satisfied the council as to the condition and suitability of the premises; such premises shall be occupied as a dairy only so long as they are maintained in a proper condition; a fresh approval shall be required if the premises are vacated for a period exceeding three months. 2. Plans of all premises proposed to be used as dairies shall be submitted to the council. 3. Appliances for washing and their use, so that the person of the milker may be cleansed before each milking, shall be necessary; the milker shall wear a clean overall; the cows shall be regularly groomed and their teats and udders kept in a clean condition. 4. A proper place shall be provided for storing and cleansing utensils. 5. The use for sleeping purposes of any room communicating with a milk shop or store shall be prohibited.

Pharmacology

CHINOSOL.

Report by the Council on Its Chemical Nature and Antiseptic Power.

The following report was submitted to the Council by a subcommittee:

To the Council:—In advertising circulars sent to physicians by the Parmele Pharmacal Company, New York, Chinosol is stated to be:

> "A most remarkable antiseptic, germicide, disinfectant and deodorizer. Perfectly safe for external use, perfectly safe (in proper dosage) for internal use. Free from the dangers of poisoning, yet far more prompt and efficient than carbolic acid, corrosive sublimate, lysol, formol, creolin, saprol, or any other product thus far discovered. Most effective, yet least expensive."

NOT FREE FROM DANGER OF POISONING.

The claim that Chinosol is free from dangers of poisoning has recently been questioned by T. Weyl (*Viertel Jahrschft. f. gerichl. Med.*, xxxiv, No. 3). His experiments on rabbits showed that very similar symptoms and lesions are produced by Chinosol, lysol and cresol. After poisoning by lysol the mucous membrane of the stomach shows, according to the dose, all stages of acute inflammation, even to the destruction of the mucous membrane with exudation of blood. Chinosol does not produce this injury to the mucous membrane. Cresol produces the same effects as lysol. Cresol injected subcutaneously appears to be absorbed with difficulty, hence its action is uncertain and the fatal dose larger than with the other two.

Weyl concludes as follows: Chinosol, when given by the stomach, is as poisonous for rabbits as lysol, if not more so; given subcutaneously it is 100 per cent. more poisonous, but when absorbed from the peritoneum it is 50 per cent. less poisonous than lysol.

TESTS OF BACTERICIDAL POWER.

The statements made in regard to the efficiency of Chinosol being extravagant, experiments were undertaken to determine whether or not these claims were justified, and the following is the report of the bacteriologist:

> Under my directions tests were made with two organisms, *Staphylococcus pyogenes aureus* and *B. typhosus.* These organisms were selected for the reason that they are mentioned repeatedly in the circular accompanying the preparation. The first series of tests were made for the purpose of demonstrating the antiseptic or preservative action of Chinosol. For this purpose, solutions of Chinosol of varying strengths in neutral bouillon were inoculated with the test organisms and the presence or absence of growth after a period of incubation of at least four days was noted. The results of these tests as shown from the table confirm the statements made in the circular that Chinosol in a strength of 1 to 15,000, 1 to 4,000 and 1 to 200,000 arrests or prevents the growth of *S. p. aureus.* The antiseptic action with reference to the typhoid bacillus is not as pronounced since a good growth was obtained in bouillon containing 1 to 20,000 of Chinosol. The statement in the circular that, according to Vogelius, the typhoid bacillus ceases to grow in a Chinosol solution of 1 to 20,000 is not confirmed, but this difference in results may well be due to varying experimental conditions.
>
> The results given in Table 1 show that Chinosol does possess considerable antiseptic action and that in this respect it is superior to carbolic acid. On this point the statements in the circular are essentially correct. It is necessary, however, to draw a sharp line of distinction between the antiseptic or preservative action and the disinfecting or germicidal value. A substance may be a good preservative, but a very poor disinfectant, and such is the case with Chinosol. The germicidal action of Chinosol was tested on only *S. p. aureus* and *B. typhosus* and the results are not in accord with those ascribed to Palatschenko. Thus, while the circular sent out by the Parmele Pharmacal Company states that he found Chinosol solution 1 to 3,000 killed typhoid bacilli in one and one-half hours, it will be seen from tests given in Table 4 that 1 to 100 did not kill this organism in one hour.
>
> The further statement in the circular that typhoid bacilli were destroyed in fifteen minutes with a Chinosol solution of 1 to 1,000, whereas carbolic acid was without any result is not substantiated by these tests since a carbolic acid solution of 1 to 100 has distinctly more injurious action than Chinosol in like concentration (Table 4).
>
> The extravagant claims that Chinosol is five times as efficient as corrosive sublimate and 100 times as efficient as carbolic acid in destroying the pus organism can not be upheld. On the contrary, it is inferior to either of these agents. Similarly, the statement that *S. p. aureus* is killed by Chinosol 1 to 4,000 in fifteen minutes is offset by the fact that solutions of 1 to 200, 1 to 500 and 1 to 1,000 were without any germicidal action even at the end of one hour, when thick suspensions of the test organism were used (Table 2).

TABLE 1.—PRESERVATIVE ACTION OF CHINOSOL AND CARBOLIC ACID.[1]

	Chinosol.		Carbolic acid.	
	S. P. aureus.	B. typhosus.	S. P. aureus.	B. typhosus.
1 to 5,000........	—	—	+	+
1 to 10,000.......	—	—	+	+
1 to 20,000.......	—	+	+	+
1 to 40,000.......	—	+	+	+
1 to 200,000......	—	+	+	+

TABLE 2.—GERMICIDAL ACTION ON S. P. AUREUS (THICK SUSPENSION).

	Chinosol.			Mercuric chlorid.	Carbolic acid.
	1 to 200.	1 to 500.	1 to 1,000.	1 to 1,000.	1 to 100.
5 min....	+	+	+	—	+
15 min....	+	+	+	—	+
30 min....	+	+	+	—	—
60 min....	+	+	+	—	—

TABLE 3.—GERMICIDAL ACTION ON S. P. AUREUS (THIN SUSPENSION).

	Chinosol.		Carbolic acid.
	1 to 100.	1 to 200.	1 to 100.
5 min......	—	—	—
15 min......	—	—	—
30 min......	—	—	—
60 min......	—	—	—

TABLE 4.—GERMICIDAL ACTION ON B. TYPHOSUS (THIN SUSPENSION).

	Chinosol.		Carbolic acid.
	1 to 100.	1 to 200.	1 to 100.
5 min......	+	+	+*
15 min......	+	+	+*
30 min......	+	+	+*
60 min......	+	+	+*

ANTISEPTIC POWER OVERSTATED.

This examination shows that the inference that Chinoso prevents the growth of all organisms because of its marke action in the case of *Staphylococcus* is not justifiable. Neithe is the assumption warranted that it possesses extraordinar germicidal action because of its preventive properties in thi one instance. As a matter of fact, it appears to be a poo germicidal agent, and the statements regarding its superiorit over carbolic acid and mercuric chlorid are exaggerated, to sa the least.

CHEMICAL COMPOSITION QUESTIONED.

When about ten years ago Chinosol was exploited in Ger many investigation showed that it did not possess the compo sition which the manufacturers claimed. While it was state to be "potassium oxychinolin sulphonate," chemical examina tion demonstrated that it was a double salt or a mixture o oxychinolin sulphate and potassium sulphate (Fraenkel, *Ar neimittel Synthese*, second edition, page 536. *Ztschr. physio Chem.*, 28, 439 from *Chem. Centrbl.*, 1900, 1. 50: and *Arl Kais. Gesundheitsamt*, 15, 288, from *Chem. Centrbl.*, 1899, 396).

It is therefore recommended that Chinosol be refused recog nition until the advertised literature be modified to agre with the facts, and that this report be published to call atte tion to the extravagant claims made for the product.

It is further recommended that a chemical examination Chinosol be made with the view of determining the chemic composition of this article as now on the American market.

The above report was adopted by the Council, and in ac cordance with the recommendation, it is herewith published.

CHEMICAL COMPOSITION MISSTATED.

In accordance with the recommendation also, specimens Chinosol, in powdered form, were purchased in the ope market and submitted to our chemists for examination. The report as follows, first giving an abstract of the investiga tions made abroad:

"In *Arbeiten aus dem Kaiserlichen Gesundheitsamte,* 288, 301 (*Chem. Centrbl.*, 1899, ii, p. 396), it is stated th chemical examinations show that Chinosol is a mixture of ox chinolin sulphate and potassium sulphate.

"Brahm, working in the physiologic institute of the Un versity of Berlin, found that after the ingestion of Chinos oxychinolin glycuronic acid was present in the urine, and fro this fact he concludes that oxychinolin is liberated fro Chinosol in the body. As this is a direct contradiction to t action of sulphonates in the mammalian organism, he believ that Chinosol is not a sulphonate, but simply a mixture oxychinolin sulphate and potassium sulphate. This fa Brahm confirmed by further experiments. He found that addition of barium chlorid to sulphonates and ethereal-su phuric acids, no barium sulphate is precipitated, whereas the case of Chinosol a heavy precipitate of barium sulpha is obtained. It is also found that on washing Chinosol wi absolute alcohol potassium sulphate is left undissolved a oxychinolin sulphate passes into the filtrate and can be reco ered by evaporating the alcoholic solution. By the aid of the microscope further evidence is given that Chinosol is merely a mixture, for by carefully evaporating on a slide a drop of Chinosol solution, characteristic crystals of potassium sulphate appear. With these results as a basis Brahm concludes that Chinosol can not be a sulphonate as claimed by the manufacturers, but is a mixture of oxychinolin sulphate and potassium sulphate."

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[1] In the tables the sign + indicates a heavy growth, +* a slight growth, and — means no growth.

Continuing, the chemists report the results of their own analyses as follows:

"The results of the chemical examination of the specimens of Chinosol purchased in the open market agree with those obtained and reported by European chemists. It was found that barium chlorid precipitated, from an aqueous solution of Chinosol, all the sulphur as barium sulphate. On determining the barium sulphate it was found that it represented, calculated to sulphate ion (SO_4) 33.10 per cent. of the total weight Chinosol, agreeing with the total sulphates 33.46 per cent., found by Sonntag (*Arend's Neue Arzeneimittel und Spezialitäten*, 2nd edit., p. 121). The total-nitrogen was found to be 3.80 per cent., also in accord with the work of Sonntag, who reports 4.08 per cent. All the potassium was found to be in the form of neutral sulphate and amounted to 30.70 per cent. confirming Sonntag's figure of 31.25 per cent. and 15.18 per cent. of the sulphates to be in combination as oxychinolin sulphate.

"From these figures it is seen that the analyses of Chinosol by different chemists agree and that they show that the sulphur present is in the form of sulphates and not in the form of sulphonates as claimed by the promoters of Chinosol, thereby disproving the statement that Chinosol is a definite chemical body and proving it to be simply a mixture or a double salt of potassium sulphate and oxychinolin sulphate."

W. A. Puckner, Secretary.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Acute Bronchitis.

In this inflammation the pathology described for acute inflammation of mucous membranes (The Journal, Dec. 28, 1907, page 2163), is localized in the bronchial tubes. Besides slight fever, there is pain from congestion, somewhat disturbed breathing and a cough due to irritation. In the first stage this cough is caused by the distension of the mucous membrane tickling or irritating the nerves, and is at this time dry, causes pain, and not only is not productive of expectoration, but the very jarring irritates the inflamed tissues; hence this cough should be stopped. In the next stage, when mucous secretion begins and later, perhaps, purulent secretion occurs the cough should be encouraged.

If this acute bronchitis is prolonged into a subacute stage, then stimulation should be given to aid the mucous membrane to become normal and cease its hypersecretion.

The indications for treatment are the same as for acute coryza:

1. Prophylaxis.
2. The abortive treatment.
3. The treatment of the acute stage.
4. The treatment of the second stage or subacute condition.

The prophylaxis and the abortive treatment of acute bronchitis are the same as that of acute inflammation of the upper air passages (The Journal, Dec. 28, 1907, page 2163).

Simple acute bronchitis not caused by the influenza bacillus is rarely attended with much fever except in young children and old adults. If deemed best, two or three small doses of one of the coal-tar antipyretics and some cathartic may be administered.

Quinin should not be administered during the acute congestive stage, as there is quite likely to be some congestion of the throat at the same time, and for the same reasons as stated middle-ear inflammation might be encouraged.

In young children a simple diaphoretic may be administered, as:

℞.	c.c.		
Liquoris ammonii acetatis	100	or	fl℥iv

Sig.: A teaspoonful, in water, every hour.

Sweet spirit of niter may be given, but is not of as much value as supposed. If it is administered for this purpose, a half-teaspoonful may be given every half-hour for several hours.

A sedative cough mixture should be given, as:

℞.	gm. or c.c.		
Codeinæ sulphatis	20		gr. iii
Ammonii chloridi	5		ʒiss
Syrupi ipecacuanhæ	5	or	flʒiss
Syrupi acidi citrici	25		fl℥i
Aquæ	ad 100		ad fl℥iv

M. et Sig.: A teaspoonful, in water, every two hours.

The codein stops the irritability of the nerves and prevents part of the coughing which, being non-productive, is useless and harmful. The ammonium chlorid in small doses tends to make the mucous membrane secrete, which will relieve the congestion. The ipecac in this small dose tends to make the mucous secretion thinner, and hence more easily expectorated. (And the ipecac must be in small doses else nausea will be caused and the medicine can not be taken, and the object will be defeated; in other words, this ipecac must be carefully measured and not *guessed* at by the druggist who puts up the prescription.) The syrup of citric acid makes the solution sour, which is pleasing to most patients. It is a sad mistake to give a bad tasted drug like ammonium chlorid in a sickish, sweet mixture. Also, the nauseating so-called expectorant syrups should never be ordered, as they do more harm to the stomach than they can possibly ever do good to the bronchial mucous membrane. The following official syrups should never be administered: Syrupus picis liquidæ, syrupus scillæ, syrupus scillæ compositus (except as an emetic), and syrupus senegæ.

Instead of codein sulphate in the above prescription, 0.0015 of a gram of heroin (1/40 grain) at a dose may be used if preferred. Morphin is more likely to cause nausea as well as constipation, hence it is not so useful as either of the above alkaloids.

If the bronchitis continues into the second stage and the expectoration has become profuse and easier, the cough mixture should be given every three or four hours instead of every two hours. If there is but little more cough than is necessary for expectoration, another cough mixture should be written without the codein (or heroin) and the ammonium chlorid may be increased. Also, if deemed advisable, the ipecac may be left out. If after a few days the bronchial secretion is still profuse, it is well to substitute terpin hydrate for the disagreeable ammonium chlorid, and this is best administered in capsules or tablets, as:

℞.	gm.		
Terpini hydratis	6	or	ʒiss

Fac capsulas 20.

Sig.: A capsule, with water, every four hours.

Or:

℞.	gm.		
Heroinæ	03	or	gr. ss
Terpini hydratis	5		gr. lxxv

M. et fac capsulas 20.

Sig.: A capsule, with water, every four hours.

Both of the above prescriptions may be ordered as tablets if desired.

The National Formulary recommends three elixirs of terpin hydrate as follows:

℞.	c.c.		
Elixiris terpini hydratis (N. F.)	200	or	fl℥vi

Sig.: Two teaspoonfuls, in water, every three hours.

[Each teaspoonful of the above represents 0.065 of a gram (1 grain) of terpin hydrate.]

Except when terpin hydrate is administered to children it is best to give it in tablet, powder or capsule, as the amount that can be dissolved in a teaspoonful of any liquid is too small for an ordinary dose. Unless it is given very frequently, terpin hydrate, to be of any value in bronchitis, must be given in at least 0.30 of a gram (5 grain) doses. On the other hand, it must be remembered when the elixir of terpin hydrate is administered to young children that it contains 40 per cent. of alcohol.

Or the following may be ordered:

℞.	c.c.		
Elix. terp. hydratis cum codeina (N. F.)	100	or	fl℥iv

Sig.: A teaspoonful, in water, every three hours.

[Each teaspoonful represents 0.065 of a gram (1 grain) of terpin hydrate, and 0.008 of a gram (1/8 grain) of codein.]

Or:

℞.	c.c.		
Elix. terp. hydratis cum heroina (N. F.)	100	or	fl℥iv

Sig.: A teaspoonful, in water, every four hours.

[Each teaspoonful represents 0.065 of a gram (1 grain) of terpin hydrate and 0.004 of a gram (1/15 grain) of heroin.]

During the first and second stages of bronchitis the bowels must be made to move daily with some laxative, if such is needed, as many of the above cough mixtures cause constipation, in addition to the constipation which occurs from the fever caused by the cold.

After the cough medicine has been stopped or ordered taken only very infrequently, a tonic should generally be administered, such as small doses of quinin combined with iron and strychnin if deemed best.

If the patient is asthmatic and wheezing râles occur in the chest, or if the bronchitis persists into a subacute state, unless the patient is anemic or debilitated, potassium or sodium iodid in small doses should be given, as:

℞.	gm. or c.c.		
Sodii iodidi	5	or	ʒiss
Aquæ	100		fl℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

This iodid can also be administered in milk or in effervescing water, but it is a mistake to combine an iodid with a nasty, sweet syrup; even the old compound syrup of sarsaparilla should be omitted.

If the patient is anemic and debilitated, iron should be given, and perhaps cod-liver oil or an emulsion of it. A half-teaspoonful, at least, of the pure oil three times a day will generally be as well tolerated as an emulsion. Or one of the several following official emulsions may be ordered:

Emulsum olei morrhuæ.

Emulsum olei morrhuæ cum calcii lactophosphate (N.F.).

Emulsum olei morrhuæ cum calcii phosphate (N. F.).

Emulsum olei morrhuæ cum calcii et sodii phosphatibus (N. F.).

Emulsum olei morrhuæ cum extracto malti (N. F.).

Emulsum olei morrhuæ cum hypophosphitibus.

Emulsum olei morrhuæ cum pruno virginiana (N. F.).

The dose of any of the above is about two teaspoonfuls three times a day.

Creasote is sometimes given for this persistent bronchitis, but, if ordered, should not be administered too long, as it tends, after the first increase of appetite, to interfere with digestion and to disturb the functional activity of the pancreas and liver. A week or two of small doses of creasote, however, can do no harm, and may do good, as:

℞.	c.c.		
Creasoti	1		m. xx
Glycerini	25	or	fl℥i
Spiritus frumenti	ad 100		ad fl℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

Any bronchitis that becomes subacute and then does not stop after several weeks should be treated as a beginning tuberculosis, and such patients should receive the fresh air and rest cure found so valuable in preventing that disease in its incipiency. It is not even necessary to give tuberculin or to vaccinate with tuberculin (if this vaccination is found to be a success) to ascertain whether a tubercle is present somewhere or not, as whether or not the patient has tubercles harbored somewhere, the continued bronchitis makes a most splendid opportunity for the ever present tubercle bacillus to begin its work. Hence, such patients are not safe from tuberculosis until the bronchitis is well.

Patients with acute bronchitis, at least in the climate of most parts of the United States, should remain in the house during the acute stage. Also, there seems to be no doubt that, like any other acute inflammation, it will get well faster when the patient remains at absolute rest in bed. However, in this inflammation that is generally so simple, as soon as the fever has subsided most patients must go about their work. Of course, old people, debilitated patients, and young children can remain at rest in the house until practically well, but the majority of patients have their acute bronchitis attacks last longer than they otherwise would because they must attend to their work, whatever that may be.

However well patients with pneumonia may do in tents or on roof gardens, patients with acute bronchitis do not do well in the early stages under exposure, hence the acute bronchitis patient should not be subjected to the fresh-air treatment of tuberculosis, although, of course, the air in the rooms in which he is should be frequently changed. In other words, the hygiene should be good.

Emulsion of Linseed Oil.

Dr. W. Gilman Thompson, of New York (*Druggists Circular*, November, 1907), uses in his practice the following emulsion of linseed oil, which is prepared by his druggist as follows:

℞.	gm. or c.c.		
Chondri	12		ʒiii
Aquæ	450		℥xv
Olei lini	270		℥ix
Olei gaultheriæ		or	
Olei cinnamomi ... āā,	3		m. l
Alcoholis	30		℥i
Acidi hydrocyanici diluti	6		ʒiss
Glycerini	30		℥i
Syrupi	ad 1000		ad Oii

M.

"A mucilage of the Irish moss and water is prepared according to the National Formulary. The oil is emulsified with the mucilage as directed in the Irish moss emulsion of cod-liver oil of the National Formulary. The other ingredients are then added in the usual manner." The dose of the above would be about two teaspoonfuls three times a day, after meals.

Antiseptic Gargle and Mouth Wash.

Robin (*Gazette médicale de Paris*, Sept. 5, 1907) advises the use of the following solution in the mouth and throat if there are enlarged glands in the neck:

℞.	gm. or c.c.		
Betanaphtholis		10	gr. iss
Sodii boratis	10	or	ʒiiss
Aquæ menthæ piperitæ	500		Oi

M. et Sig.: To be used warmed three or four times a day, to cleanse the mouth and throat.

Celery.

An editorial in the London *Lancet* for Nov. 9, 1907, states that this pleasant article of diet "contains 93 per cent. of water, with a little oil, 3.5 per cent. of starchy material, 1.5 per cent. of nitrogenous matter, 1 per cent. of cellular fiber, and 1 per cent. of mineral salts." The mineral salts consist of sodium and potassium salts, "with a distinct amount of iron." The oil in celery "is allied to the oil in parsley, or apiol," which has slight diuretic action. The food value, then, of celery is simply that of a carminative having possibly slight diuretic action.

Correspondence

Inconsistent Attitude of the Medical Profession in Nostrum Vending and Advertising.

SIDNEY, OHIO, Jan. 4, 1908.

To the Editor:—Your note[1] on the prescribing of nostrums and the discussion of this subject before the Philadelphia Branch of the American Pharmaceutical Association, reported in the same issue, prompt me to call your attention to a favorite method of certain members of the American Proprietary Association. For instance, I have before me an advertisement, in large display type, worded like this: "He Knows. Consult your family doctor freely about medical matters. He Knows. Trust him. Do as he says. Follow his advice. Talk with your doctor about Ayer's non-alcoholic sarsaparilla. . . . Ask him if it aids Nature in building up the general health. We have no secrets. We publish the formulas of all our medicines." Now, at first thought, it would appear that this method is a shrewd way of using the compulsion of law to aid the nostrum interests. Relying on the fact that bold assertions go a long way in allaying suspicion, for them it is fairly safe to assume that the doctor will not be consulted, provided the victim thinks this to be a legitimate doctor's prescription. He is willing to prescribe for himself if he thinks the physician would use the same drugs.

It is scarcely believable that any self-respecting physician would use the pharmacal products of "manufacturing chemists" who bid for public patronage as do other fakers and charlatans. However, in the light of Mr. Bok's assertion that, of 5,000 prescriptions examined 47 per cent. called for proprietary remedies of unknown composition, it is possible to see that these shrewd men with an eye for business know what they are talking about when they say "consult your doctor." If 47 per cent. of 5,000 are of unknown composition, what per cent. are of known ingredients emanating from the laboratories of manufacturers whose methods of reaching the purses of the people are those of the demagogue?

You say truthfully that "there are serious grounds of complaint against a considerable section of the medical profession," referring, of course, to the practice of prescribing. Let me suggest to you one way of reforming this evil; a method well within the province of any member of the Association of Medical Editors. If a large per cent. of men "well known" rather than "eminent" have been led into an indefensible practice, it will be the part of wisdom to learn the origin and abode of the tempter. It would be ridiculous to blame the newspapers. The medical colleges would repel any such insinuation, for the little teaching they give in prescription work is at least ethical. On whom then can we place the blame? Before me is a medical journal of large circulation in three states, for which men both "well known" and "eminent" write to the edification and satisfaction of an appreciative constituency. Nearly every advertisement in this publication is objectionable, and more than 90 per cent. of them have been condemned by the Council on Pharmacy and Chemistry.

If 47 per cent. of city physicians, with their opportunities of correct information, are led into forbidden paths, what might be found in the work of those who depend almost wholly on medical journals for counsel and advice? Think of the tired and perplexed country doctor with a case of neurasthenia on his hands—perhaps an anemic young girl—into whose pale cheeks his favorite old standby, muriate tincture of iron, has signally failed to bring the glow of health. Then his eye alights on the joyful announcement that the "Damon and Pythias of Secondary Anemia Therapy" has been discovered, and is just the thing he wants. Why not? "The hematinic properties of the one ingredient being synergistically strengthened by the metabolic stimulation of the other ingredient which together with its inhibitory influence on cellular katabolism presents a combination in cleoproteid form which meets all conditions of increased tissue waste and entrophic inefficiency." And there you are. Can you blame this doctor for signing a "hand-me-down prescription of the nostropathic variety"?

I ask in all seriousness whether, indeed, there is to be one code of ethics for the men who practice and another for those who publish? Is there no standard of honor to which these men, who edit and publish medical journals, can be held? To assert the negative is absurd. Every society to which a medical editor or publisher belongs, county, district, state or national, has jurisdiction in the conduct of members, and until such authority has been exercised it is absurd to ask the general practitioner to boycott the offending medical journal.

Just criticism has been made of religious publications for their course in giving place to fraudulent advertisements. However, conferences, presbyteries, associations and other bodies of churchmen have passed condemnatory resolutions of the most drastic kind. Ministers, whenever asked to do so, have responded nobly in rebuking the trade in drugs of unknown composition. Doctors have been unsparing in their criticism of newspapers, but so far as I know no official action has been taken by any medical society in any city where an offending medical journal is published, and of which society the editor is a member.

That the protest of churchmen has been effective can be seen by an examination of religious publications. The leading church papers have taken note of the fact that they are being criticised sharply, and have eliminated to a large extent the advertisements of nostrums containing alcohol and opium. The editor, however, having no knowledge of the principles of medicine, can not understand that all such advertisements which profess to cure are fraudulent and so he still gives place to digestive tablets, liniment, hair restorers, pile remedies, etc., for which ignorance he is somewhat excusable. For the medical editor there is no excuse. The Ohio League proposes to carry on its work until every church paper in the state has clean advertising pages. It is hampered continually by the fact that it appears inconsistent to ask of another profession, a condition of purity of which its own hands give no evidence.

D. R. SILVER.

[Dr. Silver modestly refrains from stating that he has been one of the most active members of the Ohio League for the Suppression of Fraudulent Advertising, which has accomplished so much in securing the elimination of fraudulent nostrum-advertising from the religious press. This league, which at first consisted of about ten members and subsequently increased to thirty, was created by the Ohio State Medical Association in 1906, and was the pioneer organization in the work. While the energies of this league were directed especially on Ohio religious journals, its influence spread over the whole country. We have already referred to the number of religious journals that have eliminated fraudulent nostrums from their advertising pages as a direct or indirect result of the work. The report of this league[2] shows that it was found useless to appeal to the editors and publishers of these religious journals; that if results were to be accomplished an appeal must be made direct to the supporters of these papers, i. e., to the clergy and to the subscribers among the church people.

The last sentence of Dr. Silver's communication should be taken to heart by those who want to see nostrum advertising eliminated from religious and other non-medical journals. The experience of this league shows exactly where the power lies to clean up the advertising pages of medical journals. As with the editors and publishers of religious journals, so with the editors and publishers of medical journals; the majority will continue to accept nostrum advertisements so long as the subscribers do not object.—ED.]

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[1] THE JOURNAL A. M. A., Dec. 28, 1907, p. 2155.

[2] Ohio State Medical Journal, January, 1908.

The Toxemias of Pregnancy.

New York, Jan. 13, 1908.

To the Editor:—The editorial in The Journal, January 11, on the value of the newer methods of urine examination in toxemia of pregnancy accepts without question the findings of Williams[1] and Ewing.[2] These writers claim that, by means of special chemical examination of the urine, involving an estimation of the total nitrogen and the comparative percentage of nitrogen excreted as urea, ammonia, kreatinin, kreatin and uric acid, some information may be gained in regard to the amount of liver involvement and the extent of the liver lesion which is supposed to be the cause of the difference in urinary nitrogen metabolism and to be associated with toxemia of pregnancy and eclampsia.

I have been associated and familiar with the work of Ewing and Stone for some years, and at one time was an enthusiastic advocate of the value of the examination of the urine for differential nitrogen partition in the toxemia of pregnancy. However, more clinical experience with these methods has not proved their worth as an indicator of hepatic disease and, correspondingly, of the clinical condition of the toxemic patient. It can not be doubted that in severe diseases of the liver the urea-nitrogen lessens in amount and the ammonia-nitrogen and undetermined nitrogen increase; but there are other factors in the causation of these urinary changes, independent of a supposed lesion of the liver or disorder of the hepatic function. As Stengel[3] has pointed out, the total nitrogen may be greatly reduced by limitation in proteid food or starvation and, at the same time, enormous relative as well as actual reduction in the urea-nitrogen may occur with corresponding increase in the ammonia-nitrogen, uric-acid-nitrogen and undetermined nitrogen. E. and O. Freund, quoted by Stengel, found the urea-nitrogen in the professional faster, Succi, as low as 54 per cent. of the total nitrogen. It can not be asserted that the altered relations are due to the functional disturbance of the liver, when it is possible that the repeated vomiting in toxemia, the effects of the inanition itself with its reduced output of total nitrogen and altered ratio, the decreased ingestion, faulty absorption and defective excretory processes may be the essential causes.

Again, in Williams', Ewing's and Ewing's and Wolf's studies, no attempt has been made to control or estimate the amount of nitrogenous ingestion. Pearce and Jackson[4] have shown, in a recent study of experimental liver necrosis in dogs, that injection of hemagglutinative and hemolytic immune sera may produce hepatic lesions, similar to the hepatic lesions of toxemia of pregnancy with vomiting and eclampsia. In addition, the factor of vomiting and inanition is removed and the dogs were fed on a purin-free diet of casein, cracker-dust and lard. In these experiments it was found that, when hepatic lesions, analogous to those of toxemia or pregnancy and eclampsia in man, were produced, instead of a diminution in the total nitrogen and relative urea-nitrogen percentage, there was an actual increased elimination of total nitrogen with a correspondingly augmented output of urea. The ammonia-nitrogen became diminished at first; but later rose slightly above normal. The augmentation in total nitrogen was more marked and continued in diffuse necrosis of the liver. They draw attention to the fact that in necrosis, although many individual liver cells may cease to functionate, there always remain many normal cells ready and capable of assuming in a vicarious manner the function of those dead. This "factor of safety" is of great importance in the study of the chemistry of hepatic disturbances, and minor liver changes may not alter the chemistry of the urine while large portions of the functioning liver tissue remain, as is well shown by the partial extirpation experiments of Ponfick.

While caution is necessary in transcribing deductions from the results of animal experiments, these results throw great doubt on the supposed alteration of the nitrogen partition in toxemia of pregnancy. On the one hand in dogs, where the liver lesions may be produced experimentally and at will and inanition is absent, the nitrogenous output is augmented and the relative urea-nitrogen is increased, while the ammonia-nitrogen, kreatinin-nitrogen and kreatin-nitrogen are not increased; on the other hand in man, where inanition and vomiting are present and ingestion is decreased, there is diminution in the total nitrogen and urea-nitrogen percentage with a relative increase in the amounts of ammonia-nitrogen and kreatin-nitrogen while the liver lesion can not be extensive and there must be a large "factor of safety" in those patients which survive. It thus seems that the effects of the vomiting and inanition and the decreased ingestion may be the direct cause of such alteration in the nitrogen metabolism, as was noted by Williams and Ewing.

In addition in the study of reports and cases of toxemia of pregnancy by these methods for three years, I have come to believe that the examination of the nitrogen partition in the urine offers no information in regard to the clinical course or extent of the toxemia. It may offer some evidence in regard to the nitrogen ingestion or amount of inanition. The determination of the amount of urea-nitrogen without reference to the nitrogenous intake and the degree of intestinal absorption is valueless and futile, and inanition with lessened nitrogenous ingestion may of itself produce extensive changes in the nitrogen partition in the urine.

Therefore, I beg you to correct the conclusions of your recent editorial that the differential nitrogen examination of the urine may be of value or made a basis for treatment, as has been advised by Williams and Ewing, when such conclusions are unwarranted by facts and unaccepted by scientific men. As Stengel states, "much supposedly scientific labor has been wasted and erroneous deductions based on this useless determination." The consequences are too grave to allow treatment to be based on such incomplete studies.

Ellice McDonald.

[Comment.—We are glad to publish the above communication, setting forth in such detail the evidence that may be advanced against the supposed diagnostic and prognostic value of the ammonia excretion in the toxemias of pregnancy; the letter is of itself an addition of value to the literature of the subject. The editorial in question, however, was concerned chiefly with the evidence indicating how closely related are acute yellow atrophy of the liver, puerperal eclampsia, and certain types of pernicious vomiting of pregnancy; and in considering the present status of our knowledge concerning the cause or causes of these toxemias of pregnancy. The various hypotheses concerning this last feature were discussed, and the occurrence of acidosis naturally was brought forward, this in turn leading to a brief mention of the studies of Williams of the urine in pernicious vomiting of pregnancy. These studies, whether or not one accepts all the conclusions drawn from them, are of great importance in bringing forward the fact that certain forms of pernicious vomiting of pregnancy are associated with extensive degenerative changes in the liver, and in this respect as well as in the urinary changes bear a close relation to acute yellow atrophy and eclampsia. By the same studies it has been shown that some other forms of pernicious vomiting are not associated with corresponding metabolic and hepatic alterations, and these cases seem to be due sometimes to reflex, sometimes to neurotic causes. In stating the conclusions to be drawn from this work we took care to introduce them solely as the conclusions of the investigator who was being quoted. When, in attempting to keep our readers in touch with modern work, we have occasion to discuss theories and problems that are still undergoing development, we can not, of course, assume any right to draw our own conclusions in advance of those who are working on these subjects; we can only quote the opinions of these workers, which must be accepted at their face value. The possibility that part or all the increase in urinary ammonia in pernicious vomiting may be due to starvation, rather than to the pathologic condition itself, has been generally recognized, and has been discussed by Williams himself; but by no means all students of the pathology of metabolism will agree fully with the stand taken by our correspondent. That the starvation which results from the protracted vomiting is not the sole cause of the increased urinary ammonia in toxemic vomiting of pregnancy, seems to be demonstrated by the cases in which equally severe vomiting and starvation due to neurotic or reflex causes have not been accompanied by any corresponding urinary change. Furthermore, we have good theoretical grounds for expecting that toxemic conditions associated with serious hepatic lesions should lead to acidosis and consequent increase in urinary ammonia, since the liver is apparently a most important agent in the oxidation of organic acids formed in metabolism. Therefore, we can hardly discredit so completely the work and the deductions made by such esteemed investigators as Williams, Ewing and the others cited, as Dr. McDonald wishes us to do.—Ed.]

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[1] Johns Hopkins Hosp. Bull., August 11, 1906.

[2] Amer. Jour. Obstet., 1905, li, 145, and 1907, lv.

[3] Trans. of Cong. of Amer. Phys. and Surg., 1907, viii, p. 28.

[4] Albany Med. Annals, January, 1908, or Bender Lab. Reports, 1908, iv.

Vaccination for Pertussis.

Brooklyn, Jan. 8, 1908.

To the Editor:—A curious example of the rediscovery and republishing of a supposed new fact or theory is found in the work of Amat and his colleagues on the influence of vaccination on pertussis, as described in The Journal A. M. A., Dec. 14, 1907, page 2012. About 1890, vaccination as a remedy for whooping cough was tried extensively in this city, and, I doubt not, in other localities. I do not remember who originated the idea, but I remember trying it on about two dozen children. The first two on whom I tried it were in the first week of the paroxysmal cough, and they appeared to be promptly cured by the procedure. Never after that have I seen the slightest beneficial effect. The general opinion of my neighbors, who also gave it a trial, was that there was little if any benefit to be derived from vaccination in pertussis.

D. W. Waugh.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

TREATMENT OF CRUSHING INJURY OF THE LEG.

Chittabalbie, Korea, Nov. 30, 1907.

To the Editor:—I wish to obtain an expression of opinion as to the best procedure in the case here reported: Nov. 19, 1907, a heavy quartz boulder fell on the inner aspect of the right leg of a Korean gold miner. The sharp edge of the stone made an oblique cut in the skin, about 8 inches long, severing the anterior tibial artery, and crushing out a section in the middle of the flexor longus digitorum and tibialis anticus muscles about 2½ inches in length. The periosteum of the tibia was uninjured or at least not perceptibly contused. The saphenous vein stood out clearly and uninjured in the wounded field. There had been little hemorrhage, as a tourniquet was applied immediately after the injury. The injury occurred at 3:30 p. m., and I saw the man one half hour later. I cut away all the contused tissue and attempted to unite the severed ends of the muscles by splicing and holding in place with catgut. The anterior tibial artery was ligated. I covered as much of the wounded area as was possible with the skin, without making tension, but the edges were separated by a space of about two-thirds of an inch. I applied a moist dressing of a 1 to 3,000, solution of bichlorid of mercury, changing it daily. Four days later gangrene set in so rapidly and the patient showed so much toxemia that I advised an amputation above the knee. He refused to submit and was removed from the hospital by relatives. The question that has arisen in my mind is: Is splicing muscular tissue with a view of uniting severed ends a legitimate procedure? Would it not have been better to have removed these severed muscles, altogether, at their tendinous extremities and supplied their function after recovery with artificial apparatus?

J. W. Nolan, M.D.

Answer.—Interpreting the question as applying solely to wounds in which muscular tissue is crushed and lacerated it may be answered in the affirmative to the extent that it is advisable to attempt to save as much of the muscle as is possible, yet it frequently becomes a question of personal judgment in a given case as to whether or not a torn muscle will live and retain its vitality. If it seems certain to die it should be removed at once, even though it take the entire muscle, in which latter case the tendon, should it be preserved, should be transplanted into a neighboring muscle of a similar function. Greater chances may be taken with a muscle of importance which can not be substituted than with one of less importance. Should one's judgment lead one to believe that the torn muscle will live, then it should be repaired by suturing or splicing in the manner which seems best calculated to preserve its function. The great trouble with wounds produced in the manner above mentioned is the fact that the tissues are always ground full of dirt, and in the dirt (soil) are frequently found anaërobic organisms, both saprophytic and pathogenic, some of which may produce a rapidly spreading gangrene. It is always well, therefore, in wounds of this character in which gross dirt or soil is known to have entered, not to attempt to close the wound too much, but after cleansing it as thoroughly as possible, to leave it open freely, drain all the nooks and pockets and apply a moist, hot, non-toxic antiseptic dressing, such as hot boric acid or acetate of aluminum solution or to keep up constant irrigation with the same until the wound cleanses itself; or till a local immunity is established, and the danger of acute gangrene, which always occurs during the first few days, is passed.

DANGER OF DEATH FROM STATUS LYMPHATICUS IN ADENOIDECTOMY.

South Haven, Mich., Dec. 29, 1907.

To the Editor:—What are the facts in regard to the danger of anesthetics in the removal of adenoids? Is chloroform especially more dangerous than ether in this operation?

G. D. Carnes.

Answer.—The lymphoid diathesis, or status lymphaticus as it is termed, is a definite pathologic entity, the chief gross lesions of which are a hyperplasia of the thymus gland and of the lymphatic tissue of the body in general. The lymphatic tissue includes not only the lymph nodes, but also the Malpighian corpuscles of the spleen, the tonsils, adenoids, and the lymphatic apparatus of the intestines. Probably as a result of the hyperplasia of lymphatic tissue autocytotoxins are formed, giving rise to a condition of lymphotoxemia. Blumer suggests that "individuals who are subjects of the status lymphaticus are born with an instability of the mechanism regulating the 'horror autotoxicus,' at any rate so far as the lymphatic apparatus is concerned, so that they are subject to intermittent attacks of lymphotoxemia. During the attacks of lymphotoxemia such individuals are especially susceptible to the action of bacterial or chemical poisons, and also to physical and psychic shocks, which at these times may cause their death under circumstances which would be trivial to a normal individual." A number of very sudden deaths have occurred from a variety of causes in individuals who were subjects of the status lymphaticus and of these causes the administration of an anesthetic is by far the most common. Death has occurred during the administration of ether as well as of chloroform, but as chloroform is more dangerous than ether to normal individuals, the risk to these peculiarly "fragile" individuals must be correspondingly increased. Blumer says: "When we come to consider whether deaths from anesthesia associated with the status lymphaticus bear a relation to any particular disease or diseases, it would seem as though two classes of patients are especially liable to this accident, patients with goiter, either simple or exophthalmic, and patients with adenoid vegetations." While all patients with adenoids are by no means affected with the status lymphaticus, yet the pharyngeal adenoid tissue is a part of the lymphatic system which is always involved in that condition, therefore, all patients with adenoids should be carefully examined for other signs of the disease before administering to them an anesthetic.

TREATMENT OF LEG ULCER.

——, Texas, Jan. 1, 1908.

To the Editor:—Please give me a good remedy for leg ulcer. I can find nothing in my library which gives any account of this disease, which seems to be very prevalent here. The family history of the patient is negative; no syphilitic or tuberculous history or ancestry. Patient has always been sober. The ulcer in this particular case developed on the site of a bruise received twenty-seven years ago, and patient has been treated by numerous physicians, but without relief. He came to me about two months ago for treatment, and I have exhausted all remedies known to me, and so far without avail.

W.

Answer.—The data given in this case are very meager, altogether too much so to convey any kind of an idea as to the conditions present. Nothing is said about the general condition of the patient, of his heart, kidneys, etc. Nothing is said about the local conditions, the site of the ulcer, its size; its surface, whether clean and granulating or foul; its edge, whether hard and indurated, undermined and spreading, or raised and proliferating; the character of the surrounding parts; the presence or absence of varicose veins, etc. One is therefore left entirely at sea as to the character of the ulcer and the reasons why it is so persistent. If varicose veins are present, any kind of treatment which does not take into consideration their cure by some operative means will probably fail. Assuming that an ulcer which has existed for twenty-seven years will be surrounded by considerable hyperplasia and that its surface will present little or no disposition to granulate and that the patient's general condition has been put as nearly as possible in proper shape, the treatment advised for the ulcer is as follows: Put the patient to bed with the leg elevated and apply hot boric acid solution dressings changed several times a day until the surface of the ulcer is perfectly clean and the surrounding tissues softened up. Excise the ulcer completely under the usual rules of surgical cleanliness and graft the area with Thiersch skin grafts. This is the quickest, surest and most satisfactory way of getting rid of the ulcer—assuming that the associated conditions above mentioned are absent or previously properly taken care of.

TREATMENT OF ACETANILID POISONING.

RALEIGH, N. C., Jan. 12, 1908.

To the Editor:—Please outline treatment for chronic acetanilid poisoning, or refer me to the place where I can find this. I remember reading an article in THE JOURNAL about two years ago, but I can not find it now. The poisoning in this case is from excessive use of headache powders. RALPH S. STEVENS.

ANSWER.—We can not do better than quote the treatment advised by J. B. Herrick in THE JOURNAL, Feb. 3, 1906, p. 357: "The treatment of this drug habit is comparatively simple. By gradual withdrawal of the acetanilid, temporary substitution of codein for pain or sleeplessness and the use of tonics, recovery will commonly ensue. Attention to the stomach and bowels is important, as on good digestion largely depends the power of blood repair and the return of weight and strength. Much can be done in the way of suggestive treatment by sympathy and encouragement and by having a frank understanding with the patient as to the nature of the ailment, its dangers and the best way of overcoming them. Difficulties in the way of relapse into the old habits will be encountered unless the patient is in a hospital or sanitarium or at home under the careful watching of a trusty nurse. These patients become in a strict sense addicted to the use of the drug, but it has not the firm hold on them that morphin or cocain acquires on its victims. The habit is, therefore, more easily broken off. While one can not tell how much permanent damage has been done in these patients in the way of injury to heart muscle, kidney, nervous system, blood-making organs, etc., it is remarkable how rapidly they improve and approach the limits of perfect health when the use of the drug has been stopped. Even in the most desperate cases, therefore, one may give a fairly hopeful prognosis."

The treatment of acute acetanilid poisoning consists in washing out the stomach and administering a saline cathartic and supporting the circulation by appropriate cardiac tonic or stimulants, such as strychnin, strophanthus, nitroglycerin, etc. In case of severe dyspnea and cyanosis, bleeding, followed by the injection of physiologic salt solution, may be tried.

SUTURE OF HEART.

VERA CRUZ, MEXICO, Dec. 26, 1907.

To the Editor:—Please tell me how many times suture of the heart has been done in the United States? I ask because I have read that this operation has been done only three times on this continent, and I think this statement an error.

CARLOS MANUEL GARCIA.

ANSWER.—Up to the middle of 1907, Rehn (*Arch. f. klin. Chir.*, 83, 723), was able to collect 124 cases of suture of the heart for wounds, with 49, or 40 per cent., recoveries. Of this number 9 were done in the United States, 5 of them successfully.

COMPOSITION OF BROMIDIA.

VINCENNES, IND., Jan. 11, 1908.

To the Editor:—Will you kindly give me the formula of bromidia? Is there an old formula differing from the present? J. G. JONES.

ANSWER.—Various analyses of bromidia have been published by different observers and at different times. The analysis said to be furnished by the firm of Battle & Co. is as follows:

Every fluidram contains fifteen grains each of chloral hydrate and bromid of potassium, and one-eighth grain each of extract of cannabis indica and extract of hyoscyamus.

Langkopf's analysis referred to in "Hager's Handbuch der Pharmazeutischen Praxis," ii, 178, is:

Potassium bromid	30		℥i
Chloral hydrate	30		℥i
Extract of hyoscyamus		25	grs. iv
Tincture of cannabis indica	5		ʒi
Fluidextract of licorice q. s. ad	200		℥viss
Oil of orange peel	30		gtt. v

The "Arbeiten aus dem Pharmazeutischen Institut der Universität Berlin," vol. li, p. 221, quotes an analysis by F. Hoffmann, published in the *Pharmazeutische Zeitung*, 1893, No. 48:

Each fluidram (3.7 c.c.) contains):

Potassium bromid	15 grains	.972 gm.
Chloral hydrate	15 grains	.972 gm.
Extract of cannabis indica	⅛ grain	.008 gm.
Extract of hyoscyamus	⅛ grain	.008 gm.

An analysis by Molle, given in the same report of the Pharmaceutic Institute is as follows (it varies somewhat from the others):

Potassium bromid	14.45 per cent.
Alcohol. Chloral hydrate. Sugar. Colchicum. Ethereal oil (pomegranate).	Found present as in previous analyses.
Extract of hyoscyamus. Extract of cannabis indica.	Doubtful.

A reliable preparation of this kind is the mistura chlorali et potassii bromidi composita of the National Formulary. Its composition is as follows:

Hydrated chloral (U. S. P.)	200	℥viss
Potassium bromid	200	℥viss
Extract of Indian hemp (U. S. P.)	2	grs. xxx
Extract of hyoscyamus (U. S. P.	2	grs. xxx
Pumice in fine powder and well washed	20	ʒv
Water a sufficient quantity to make 1000 c.c.		Oii

Four cubic centimeters (1 fluidram) of this preparation represent about 0.8 gm. (12 grains) each of hydrated chloral and potassium bromid, and 0.008 gm. (⅛ grain) each of the extracts of Indian cannabis and hyoscyamus. The average dose is 4 c.c. (1 fluidram).

EFFECT OF THE STRENUOUS LIFE ON THE HEART AND CIRCULATION.

GRAND RAPIDS, MICH., Jan. 7, 1908.

To the Editor:—What would be the effect on the heart and circulation of living an intensely strenuous life, under extreme mental strain, with great anxiety, this condition being accompanied by irregularity in eating and drinking? There is no history of infection or of previous sickness of any kind. Would it be probable that under such conditions there would be such an excessively high arterial tension that it would result in transudation of serous fluid into the pericardium or pleural spaces, or both, to such an extent that it could be readily detected? J. G. HUIZINGA.

ANSWER.—A strenuous life and mental strain, with great anxiety might produce increased vascular tension and probably lead ultimately to arteriosclerosis, but it is not usual for transudation of fluid to depend on high blood pressure alone. There is usually some toxic element or some change in the walls of the vessels (different from arteriosclerosis) which brings about edema or other transudation of fluid.

DEATHS FROM USE OF DIPHTHERIA ANTITOXIN IN ASTHMA.

CUBA, N. Y., Jan. 15, 1908.

To the Editor:—Since the publication of the report on the death from antitoxin, in THE JOURNAL, January 4, I have received many letters reporting unpleasant effects from antitoxin in persons with a history of some form of asthma. In order that definite information may be obtained on this question of vital importance to all practitioners, I should be pleased to receive reports of cases in which the use of antitoxin was followed by dangerous symptoms or death. I desire information whether any antitoxin had been administered previously, and whether there was any history of asthma in the subject. As soon as the replies are received they will be tabulated and the results published in THE JOURNAL.

H. F. GILLETTE, M.D.

METHOD OF ELICITING GROCCO'S SIGN.

NEW YORK CITY, Jan. 7, 1908.

To the Editor:—Please give method of obtaining Grocco's sign in pleurisy with effusion. A. L. CEASAR, M.D.

ANSWER.—Grocco's sign is obtained by carefully percussing the base of the chest on the side opposite to that on which the effusion is situated. In many cases, a triangular area of dulness will be elicited, having its base at the lower part of the chest and extending upward along the vertebral column to about opposite the angle of the scapula.

MORPHIN ERROR IN PHYSICIANS' MANUAL OF THE U. S. PHARMACOPEIA AND NATIONAL FORMULARY.

NEW YORK, Jan. 8, 1908.

To the Editor:—The useful "Physicians' Manual of the U. S. Pharmacopeia and National Formulary" is finding wide circulation among students who may not notice some grave mistakes made therein. I therefore take the liberty of pointing out that the strength of liquor morphinæ hypodermicus (Magendie) is given on page 98 as "2 grains to one fluid ounce" instead of "2 grains to one fluid dram." I suggest that you print this correction in THE JOURNAL. B. J.

ANSWER.—Our correspondent is correct. The strength of liquor morphinæ hypodermicus should be given as 2 grains to the fluid dram instead of 2 grains to the fluid ounce, as stated in the Manual.

NE REPETATUR.

SAN FRANCISCO, Dec. 31, 1907.

To the Editor:—I have on my prescription blank the words, "Non-repetatur" to prevent refilling. I find, however, that druggists pay little or no attention to this. Could there not be a provisionary contract devised and printed on the back of the prescription blank that would prevent the pharmacist from refilling a prescription contrary to specific orders? V. C. T.

ANSWER.—We suggest to our correspondent that he and the other physicians of his locality get together and find a druggist who will agree to carry out the instructions on the prescription blank, and patronize such druggist.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 18, 1908:

Bally, H. H., asst.-surg., will proceed to Columbus Barracks, Ohio, for duty to accompany a detachment of recruits to Fort McDowell, Cal.

Bloombergh, H. D., asst.-surgeon, ordered to Jefferson Barracks, Mo., for temporary duty.

Ives, F. J., surgeon, retired from active service on account of disability, to take effect April 22, 1908; granted leave of absence to include April 22, 1908.

Nelson, Kent., asst.-surgeon, relieved from duty at Fort McHenry, Md., and will proceed to San Francisco, and take transport to sail on or about March 5, 1908, for Philippine Islands.

Gandy, Charles M., lieut.-colonel, professor of military hygiene, Mason, C. F., surgeon, and Hanner, J. W., asst.-surgeon, appointed members of board of medical officers to meet at West Point, N. Y., Feb. 4, 1908, for physical examination of the cadets of the first class at the U. S. Military Academy.

Kendall, W. P., surgeon, and Whaley, A. M., asst.-surgeon, appointed members of an Army retiring board, to meet at Fort Sam Houston, Texas, for examination of such officers as may be ordered before it.

Torney, G. H., deputy surgeon-general, Keefer, F. R., and Kennedy, J. M., surgeons, appointed members of board of officers, to meet at the General Hospital, Presidio of San Francisco, Feb. 4, 1908, for examination of such officers of the Medical Department as may be ordered before it to determine their fitness for promotion or advancement.

Banta, W. P., asst.-surgeon, will report in person on Feb. 4, 1908, to Lieut.-Col. G. H. Torney, deputy surgeon general, president examining board at General Hospital, Presidio of San Francisco, for examination for advancement.

Craig, C. F., asst.-surgeon, will report in person on Feb. 11, 1908, to Major W. D. Crosby, surgeon, president examining board at the Army Medical Museum Building, Washington, D. C., for examination for advancement.

Tigno, E. P., dental surgeon, ordered from Madison Barracks, N. Y., to Fort DuPont, Del., for temporary duty.

Hughes, L. S., contract surgeon, returned to Fort McDowell, Cal., from duty in the field, at Goldfield, Nevada.

Sanford, J. L., contract surgeon, returned to Fort Barrancas, Fla., from leave of absence for one month.

Daywalt, G. W., contract surgeon, granted leave of absence for two months, about February 1.

Thorp, C. W., contract surgeon, granted leave of absence for sixteen days.

Marion, G. L., contract surgeon, ordered to San Francisco, Cal., for annulment of contract.

O'Day, S. F., contract surgeon, ordered to Fort Wadsworth, N. Y., for temporary duty.

Bastion, J. E., contract surgeon, ordered to accompany the 23d Infantry from Madison Barracks, N. Y., to San Francisco, Cal., and proceed thence to Fort D. A. Russell, Wyo., for duty.

Hadra, Frederick, contract surgeon, ordered to accompany the 23d Infantry from Madison Barracks, N. Y., to San Francisco, Cal., and proceed thence by first available transport to Philippine service.

Cullen, C. W., contract surgeon, relieved from duty at Fort Sam Houston, Texas, ordered to accompany the 23d Infantry from Fort Ontario, N. Y., to San Francisco, Cal., and proceed thence by first available transport to Philippine service.

Walker, T. C., contract surgeon, ordered from Ashboro, N. C., to Fort Oglethorpe, Ga., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 18, 1908:

Orvis, R. T., surgeon, ordered to the Naval Recruiting Station, St. Louis.

Verner, W. W., P. A. surgeon, detached from the Naval Recruiting Station, St. Louis, and ordered to the Naval Training Station, San Francisco.

Cather, D. C., asst.-surgeon, detached from the Naval Training Station, San Francisco, and ordered to the *Lancaster*.

Spear, J. C., medical director, retired, detached from duty at the Marine Recruiting Station, Philadelphia, and ordered home.

Biddle, C., surgeon, ordered to duty at the Marine Recruiting Station, Philadelphia, and to additional duty in attendance on officers not otherwise provided with medical aid in that city.

Russell, A. C. H., surgeon, detached from the Naval Torpedo Station, Newport, R.I., and ordered to the Naval Recruiting Station, Chattanooga, Tenn.

De Lancy, C. H., surgeon, detached from the Naval Recruiting Station, Chattanooga, Tenn., and ordered to the Navy Yard, New York.

Dennis, J. B., surgeon, detached from the Naval Hospital, Puget Sound, Wash., and ordered to the *South Dakota*.

Parker, E. G., surgeon, detached from the Naval Hospital, New York, and ordered to the *California*.

Dunbar, A. W., surgeon, detached from the *California* and ordered to the *Relief*.

Bagg, C. P., surgeon, detached from the *Philadelphia* and ordered to command the Naval Hospital Puget Sound, Wash., and to additional duty at that yard.

Angwin, W. A., P. A. surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to the *Philadelphia*.

Jacobson, L. C., acting asst.-surgeon, ordered to the Naval Hospital, Norfolk, Va.

Public Health and Marine-Hospital Reports.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 15, 1908:

Stoner, G. W., surgeon, granted leave of absence for 3 days from Jan. 8, 1908, under Paragraph 189, Service Regulations.

Brooks, S. D., surgeon, directed to proceed to Raudburg, Cal., for special temporary dutp, on completion of which to rejoin his station at Los Angeles, Cal.

Berry, T. D., P. A. surgeon, granted leave of absence for 2 months from Jan. 1, 1908.

Earle, B. H., P. A. surgeon, granted leave of absence for 15 days from Jan. 14, 1908.

Spratt, R. D., asst.-surgeon, granted an extension of leave of absence for two days.

Spratt, R. D., asst.-surgeon, granted leave of absence for 21 days from Jan. 14, 1908.

Chapin, C. W., asst.-surgeon, relieved from duty at Detroit, Mich., and directed to proceed to Seattle, Wash., reporting to P. A. Surgeon Cofer for special temporary duty.

Cheney, E. L., acting asst.-surgeon, granted leave of absence for 14 days from Jan. 31, 1908.

Ransom, S. A., acting asst.-surgeon, excused from duty, without pay, for 12 days from Dec. 5, 1907.

Stevenson, J. W., acting asst.-surgeon, excused from duty, without pay, for three months from Jan. 6, 1908.

BOARD CONVENED.

A board of medical officers was called to meet at Seattle, Wash., Jan. 16, 1908, for the purpose of examining aliens suspected to have trachoma. Detail for the board: P. A. Surgeon L. E. Cofer, chairman; P. A. Surgeon M. J. White, and Acting Asst.-Surgeon F. R. Underwood, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 17, 1908:

SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 21-Jan. 4, 16 cases.

Illinois: Alton, Dec. 23-30, 1 case; Danville, Dec. 30-Jan. 6, 1 case; Springfield, Dec. 26-Jan. 9, 29 cases.

Indiana: Elkhart, Dec. 28-Jan. 4, 1 case; Muncie, 1 case.

Kansas: Kansas City, Dec. 28 Jan. 4, 1 case, imported.

Kentucky: Covington, Dec. 28-Jan. 11, 6 cases.

Louisiana: New Orleans, Dec. 28-Jan. 4, 1 case.

Massachusetts: Fall River, Dec. 28-Jan. 4, 3 cases.

Michigan: Grand Rapids, Dec. 28-Jan. 4, 1 case; Saginaw, Dec. 21-28, 5 cases.

Minnesota: Winona, Dec. 28-Jan. 4, 1 case.

Missouri: Kansas City, Dec. 28-Jan. 4, 5 cases; St. Joseph, Dec. 14-28, 2 cases; St. Louis, Dec. 28-Jan. 4, 3 cases.

Montana: Helena, Dec. 1-30, 2 cases.

Nebraska: Nebraska City, Dec. 21-28, 1 case.

New York: Schenectady, Dec. 1-31, 2 cases.

Ohio: Lorain, Dec. 28-Jan. 4, 2 cases, imported.

Oklahoma: Oklahoma City, Dec. 21-28, 7 cases.

South Dakota: Sioux Falls, Dec. 28-Jan. 4, 1 case.

Tennessee: Nashville, Dec. 28-Jan. 4, 6 cases.

Texas: Laredo, Jan. 9, 1 case, imported; San Antonio, Dec. 21-28, 2 cases.

Washington: Spokane, Dec. 21-26, 13 cases; Tacoma, Dec. 21-Jan. 4, 8 cases.

Wisconsin: Milwaukee, Dec. 21-28, 2 cases.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Oct. 15-21, 67 deaths; Nov. 1-30, 147 deaths.

Canada: Winnipeg, Dec. 28-Jan. 4, 3 cases.

China: Amoy (Kulangsu), Nov. 8-23, present; Shanghai, Nov. 24-Dec. 1, 2 cases, 12 deaths, cases foreign, deaths native.

France: Paris, Dec. 14-21, 7 cases.

Italy: General, 160 cases.

Japan: Kobe, Dec. 7-14, 149 cases, 24 deaths; Yokohama, Nov. 30-Dec. 7, 8 cases.

Java: Batavia, Nov. 23-30, 3 cases.

Mexico: Aguas Calientes, Dec. 28-Jan. 4, 1 death; Monterey, Dec. 21-29, 1 death.

Peru: Lima, Dec. 11, 26 cases, in hospital.

Russia: Odessa, Dec. 7-14, 7 cases, 4 deaths; Riga, Dec. 14-21, 9 cases; St. Petersburg, Dec. 7-14, 12 cases, 1 death.

Siberia: Vladivostok, Nov. 21-28, 4 cases.

Spain: Seville, Nov. 1-30, 1 death; Valencia, Dec. 15-29, 42 cases, 2 deaths; Vigo, Dec. 14-21, 2 deaths.

Turkey: Bagdad, Nov. 16-30, 76 cases, 14 deaths.

Venezuela: La Gnaira, Dec. 7-Jan. 4, present.

YELLOW FEVER.

Cuba: Cienfuegos, Jan. 9, 1 case, on schooner *Mercedita*; Santiago, Jan. 15, 1 case.

CHOLERA—INSULAR.

Philippine Islands: Mauila, Nov. 8-16, 6 cases, 6 deaths.

CHOLERA—FOREIGN.

Japan: Osaka, Dec. 7-14, 5 cases, 5 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Jan. 7, 1 case.

PLAGUE—FOREIGN.

Chile: Africa, vicinity of, Dec. 16, present.

Egypt: Alexandria, Dec. 5-12, 5 cases, 3 deaths; Port Said, Dec. 7-14, 1 case; Provinces, Assiout, Dec. 11-18, 7 cases, 6 deaths; Dakalleh, Dec. 10-17, 3 cases, 2 deaths; Garbieh, Dec. 5-12, 4 cases, 3 deaths.

Japan: Osaka, Dec. 7-14, 24 cases, 20 deaths.

Peru: Callao, Dec. 7-14, 1 case; Lima, 3 cases; Paita, 5 cases, 5 deaths; Piura, 2 cases; Truxillo, 1 case.

Turkey in Europe: Kavak, in quarantine station, Dec. 26, present.

Book Notices

Modern Medicine: Its Theory and Practice. In Original Contributions, by American and Foreign Authors. Edited by William Osler, M.D., assisted by Thomas McCrae, M.D. Vol. III. Infectious Diseases (Continued). Diseases of the Respiratory Tracts. Pp. 160. Price $7.50. Philadelphia: Lea Brothers & Co., 1907.

This volume is divided into two parts, one being devoted to the infectious diseases not covered by Volume II and the other to the diseases of the respiratory tract. Malta fever is described by Col. David Bruce of the British army, the discoverer of *Micrococcus melitensis.* Beriberi is presented by Maximilian Herzog, who has made personal investigation of this disease in Manila and Japan, but without demonstration of any beriberi microbe. Anthrax, rabies and glanders are discussed by Ravenel; tetanus by Anders; gonococcus infections by Cole, who gives a good and much needed statement of gonococcal vaginitis in children; leprosy by Dyer. Tuberculosis is divided, E. R. Baldwin giving the history and etiology; W. G. MacCallum the pathologic anatomy, and Lawrason Brown the symptoms, diagnosis, prognosis, prophylaxis and treatment; these are exceptionally strong and valuable articles and the tuberculin treatment is given full and timely consideration. Osler and Churchman treat exhaustively of syphilis, and Thomas R. Boggs presents febricula, glandular fever, infectious jaundice, miliary fever, Rocky Mountain fever, psittacoses, milk sickness and foot and mouth disease, all of which are considered with great clearness and historical detail. T. R. Brown discusses mechanics of respiration and of respiratory diseases; F. R. Packard the diseases of the nasopharynx, pharynx and tonsils; W. P. Dunbar, the discoverer of "pollantin," hay fever; H. S. Birkett the diseases of the larynx; A. M. McPhedran the bronchi; H. A. Hare the lungs; F. T. Lord the pleura; W. P. James pneumothorax, and H. A. Christian the mediastinum. It may be that Dunbar in his directions as to "pollantin" does not regard sufficiently the possible danger of the development in persons using this serum of serum anaphylaxis. As in previous volumes there is great inequality in the matter of references. Standard abbreviations are not employed, the names of the same journals being given in a variety of anomalous forms, and there is no typical arrangement of the references. Journals publishing two volumes yearly are often cited merely by the year. That so important a feature of a work like this as references to the literature should receive such stepmotherly attention by the editors is simply incomprehensible.

The Labyrinth of Animals, Including Mammals, Birds, Reptiles and Amphibians. By Albert A. Gray, M.D. (Glas.), F.R.S.E., Surgeon for Diseases of the Ear to the Victoria Infirmary, Glasgow, Volume I. With Stereoscope Attached. Cloth. Pp. 198. Price, $8.40. London: J. and A. Churchill; Philadelphia: P. Blakiston's Son & Co., 1907.

This beautiful volume is the result of seven years' work by the author on the labyrinth of vertebrates. The book is of special value to the comparative anatomist and student of evolution, and the chapter on the significance of anatomic differences in the labyrinths of animals is of unusual interest. It includes the primates, cheiropters, carnivora, ungulata, edentata and most of the rodentia. The second volume, we are informed, will deal with the rest of the rodents, the insectivora, the cetacea, the sirenia, the marsupialia, the monotremata, as well as the birds, reptiles and amphibia. Fishes have been omitted as having been completely described by Retzius and other anatomists.

For the instruction of the laboratory worker exact directions are given as to the method of making the preparations and of taking the photographs. Briefly, the labyrinth is injected, as soon as possible after death, through the oval window with a 5 to 10 per cent. formalin solution. Following this alcohol, ether, celloidin, xylol and paraffin are used during several weeks, and finally the bone surrounding the labyrinth is decalcified and removed and the latter photographed stereoscopically. The photographed labyrinth, when viewed through the small stereoscope which accompanies the book, stands out as if made of spun glass. Some idea of the great value of the book may be had when we remember that the photographs of semicircular canal, vestibule, ampulla, cochlea, etc., are exact representations of the originals, each one in its proper relation to the others, and therefore of much greater worth than the composite pictures made from sections which adorn the pages of the ordinary anatomic atlas. This is particularly true of the membranous labyrinth. It is also not improbable that the investigation of the pathologic changes which cause deafness, tinnitus, etc., made possible by the author's preparation method may be productive of results of therapeutic value.

Principles and Practice of Modern Otology. By John F. Barnhill, M.D., Professor of Otology, Laryngology and Rhinology, Indiana University, School of Medicine, and Ernest D. Wales, B.S., M.D., Associate Professor of Otology, Laryngology and Rhinology, Indiana University, School of Medicine. Pp. 575, with 305 Illustrations. Cloth. Price, $5.50. Philadelphia: W. B. Saunders Co., 1907.

On glancing through this handsome and well-printed volume of 575 pages the reader can not but admire the beautifully executed illustrations, 305 in number, mostly new and all instructive. In this feature the book compares favorably with any in the market. In further endorsement it must be said that its teaching is sound throughout and up to date. The strongest chapters are those on suppuration of the middle ear and the mastoid cells and the intracranial complications of ear disease. The good judgment in this—the essentially surgical part of the work—and the plain way of directing the treatment and the operations for these important diseases stamp the book a trustworthy advisor to students and practitioners. But in other respects the present volume offers no advantage over many other good text-books in the market. There is no originality in experience or presentation. It might be more concise and often more forcible in the manner of presentation. This is especially true of the chapter on anatomy. The pathology is quite meager throughout and sometimes insufficient. Even in the clinical descriptions outside of the pyogenic diseases the book is not as complete as some similar treatises. We notice, for instance, the omission of reference to epidermis plugs of the external meatus. The influence of nasal diseases in the causation of ear involvement is not sufficiently emphasized, although the relation of the pharynx is well described. Yet notwithstanding these defects the book will rank as a reliable guide for the student of otology.

A Text-Book of Botany and Pharmacognosy. Intended for the use of students of pharmacy, as a reference book for pharmacists, and as a hand-book for food and drug analysts. By Henry Kraemer, Ph.B., Ph.D., Professor of Botany and Pharmacognosy, and Director of the Microscopical Laboratory, in the Philadelphia College of Pharmacy; Member of the Committee of Revision of the Pharmacopeia of the United States of America. Illustrated, with 321 plates, comprising over 1,500 figures. Second edition. Price, $5.00. Philadelphia: J. B. Lippincott Company, 1907.

This book is devoted to the study of the recognition of plant drugs. The author is an experienced teacher, a botanist of recognized ability, and an expert pharmacognosist. The book is the second edition of a much smaller volume, but it has been almost entirely rewritten and brought up to date in every way. The author's name being sufficient guarantee that its subject matter has been selected with great care, the book should be in the library of every progressive pharmacist and food and drug analyst. The chapter devoted to the examination of powdered vegetable drugs and foods is especially valuable; Dr. Kraemer is a leader in this field of investigation and the chapter devoted to this subject gives much evidence of the careful, painstaking work for which he is known.

Medical and Surgical Knowledge of William Shakespeare. By John W. Wainwright, M.D. Cloth. Pp. 78. New York: Published by the Author.

No one individual's works have been studied as have those of Shakespeare, or have been analyzed as to their bearing on such a variety of human interests. Medicine, law and theology; science, art and literature, all find their place in his works. Dr. Wainwright has been delving for that which refers to medicine and this monograph contains the result of his delving. The author does not claim to have appropriated all that Shakespeare wrote on medical subjects, but he has certainly gotten together a large and varied assortment of interesting quotations. The selections are grouped under the headings: Medicine, Surgery, Mental and Nervous Diseases, Obstetrics, Therapeutics, Anatomy, Physiology, Hygiene and Dietetics, Ethics and Medical Jurisprudence. Running comments add interest and aid in bringing out points or ideas that a cursory reading might fail to catch. Medical men who are lovers of Shakespeare—and there are few who are not—will find in these selections both amusement and instruction. The book is tastefully and beautifully printed and bound, and contains a good photogravure reproduction of the Droeshout portrait of Shakespeare.

Blood Stains: Their Detection and the Determination of Their Source. By Major W. D. Sutherland, M.D. Pp. 167. Cloth. New York: William Wood & Co., 1907.

The subject matter is divided into ten chapters, treating of the solubility of blood stains, the chemical tests for blood, the spectroscope in the detection of blood stains, the microscope in the detection of blood stains, and the biologico-serologic tests for blood stains. Each of these subjects is discussed from the standpoint of one who is thoroughly familiar with the development of the technic, with the fallacies of the tests in question, with the application of the tests to forensic purposes, and with the proper interpretation of a positive test. This last phase of the subject is particularly well treated. There can be little question that any test for the presence of blood stains must be considered reliable only when the factors influencing its appearance or non-appearance are perfectly understood. For instance, the old guaiac test for blood reacts with so many substances, other than blood, that its value must be considered only in its negative phase.

It is in the chapters on the serologic tests for blood stains that one will find the most interesting and valuable reading. These tests are comparatively new, but are now recognized as invaluable and specific tests in the recognition of the source of a suspected stain. The precipitin test and the complement deviation test are, as Sutherland shows, the only ones which can at present be used and relied on for forensic purposes. The book is well arranged, is written in a clear, concise style, and should find a place in the working library of every one who is called on to decide as to the origin of a suspected stain. Its scope is wide and its conclusions definite. An excellent bibliography serves the purpose of enabling the worker to make ready reference to original articles when desired.

A Reference Hand-Book of Obstetric Nursing. By W. Reynolds Wilson, M.D., Visiting Physician to the Philadelphia Lying-in Charity Hospital. Leather. Pp. 258, with illustrations. Price, $1.75. Philadelphia: W. B. Saunders Co., 1907.

This is a practical little book though more space is given to the physiology and management of pregnancy than is necessary in a handbook of obstetric nursing. The chapter on care of bottle-fed infants and the methods of preparing the food is simple and practical.

Miscellany

SANITATION IN CUBA.

Description of the Status of Sanitation in the Republic of Cuba.

Havana, Cuba, Oct. 31, 1907.

To The Provisional Governor:

Sir:—I have the honor to forward herewith the report of the chief sanitary officer of the Republic of Cuba, which gives a history of the work of the department during the past year and, as an introduction thereto, a brief statement of its organization and operations antecedent to the date of intervention. Attached to his report is that of the executive officer, showing the internal organization of the central office and the dispatch of business of its numerous divisions.

There can be no doubt that the delay in organizing the National Sanitary Service after the establishment of the Cuban Republic, as well as the loss of the sanitary chiefs by the withdrawal, on May 20, 1902, of the American officers who had been engaged in that work, made an unfortunate relapse in sanitary work throughout the island, but less in Havana than elsewhere, and that the former standards were never entirely regained. This is well shown by the reports which were called for from all local health officers a year ago. All of them told the same story of inadequate appropriations and gross sanitary neglects. A considerable number contained the statement that all sanitary services in the municipality were at an end. But the essential defect of sanitary administration was more deeply fixed, and was a part of the failure of the scheme of autonomous municipal government which had been adopted for Cuba.

It is not proposed to discuss the reasons for this failure further than to say that it was, to a considerable extent, financial and due to a defective scheme of taxation. Thus the sanitary services of the smaller towns were both ill supported and ill administered. That of the City of Havana was supported from the national treasury with lavish liberality and was very efficient.

The Cuban government had also contributed to the sanitary expenses of fourteen other cities, in the budget of the fiscal year 1906-7, the sum of $652,000. An additional item of $200,000 appears in the appropriation for the office of the Secretaría de Gobernación, which was to be expended for the sanitation of cities, at the discretion of the executive. The Cuban congress also made appropriations for a number of very important sanitary undertakings, such as aqueducts and other works of a sanitary nature. It is evident, therefore, that the important sanitary work of the island was supported by the national treasury rather than by the municipal governments, as was the intention of the law. The entire failure of the latter in this respect was well recognized in Cuba, and several laws were proposed in the Cuban congress looking to the nationalization of the municipal sanitary services. One measure, at least, contemplated the establishment of a secretaryship of public health, which would include also the Department of Beneficencia, which, like the Department of Sanitation, was governed by a superior board and was intended to be autonomous, but which had suffered incorporation into the Secretaría of Gobernación. This complete inclusion exposed both departments alike to injurious bureaucratic and political influences, from which they were intended by their form of government to be protected.

Public opinion in Cuba was, therefore, ripe for the assumption by the state of the entire control in matters of municipal sanitation, which was effected by decree No. 894, signed August 26 of this year.

The principal objects accomplished by this law are:

1. The abolition of the municipal boards of health and the transfer of all powers previously vested in them to a national official, the local sanitary officer, who is appointed by the highest executive authority.

2. The assumption by the state of the cost of all municipal sanitary works and services, with the proviso that the municipal governments shall refund to the state, in consideration thereof, one-tenth of their total incomes for each year.

3. An increase in the powers of the chief sanitary officer, who is made, in fact, the administrative authority of the department. The Superior Sanitary Board is at the same time reduced in number and authority, a majority of its members being members *ex officio* of the National Sanitary Board. The rôle of the new National Sanitary Board will be rather advisory than administrative.

The yellow-fever situation has been so fully discussed in the report of the chief sanitary officer that only a little additional comment is necessary. From appendix No. 8 it will be observed that the short, but sharp, little epidemic of the last three months of 1905 was limited to Havana. In the fall of 1906 it again invaded Havana, having obtained an earlier start, but was brought under control somewhat earlier. It also began to invade the rural municipalities.

The feature of this year's invasion is the perfect control of the disease in Havana, although frequently introduced. For cogent reasons no effort has been made to prevent the importation of cases from other foci in the island, and reliance has been placed on the prompt recognition and report of the cases with local fumigations, and particularly on continuous and thorough mosquito work which has kept the city so free from stegomyia mosquitoes that the disease is not able to spread. A sharp epidemic at Cienfuegos, of which the first recognized cases occurred early in August, was handled with such vigor and success that, six weeks after the organization of the campaign against it, the city was clean of cases, and only two additional cases, originating in Cienfuegos, have occurred since the end of September.

Conquered in the centers of population, the disease has adopted revolutionary tactics and taken to the woods, and this extension to the small towns, villages and plantations brings up new and troublesome problems.

It is certain that the work against yellow fever in Cuba is equally thorough in detail and on a wider scale than that conducted in Havana and the other more important cities in 1901.

Why is it not followed by the same prompt success and why did yellow fever at that time not hang on in the rural districts? The disease having been so long endemic in Cuba, the native Cuban population was then truly an immune one, and yellow fever rarely prevailed in the interior, but lay in wait in the seaports for the non-immune immigrants—who were, as a rule, not long in receiving either immunity or death. But since 1900 this process has been checked, and the non-immune population of Cuba has increased with great rapidity. The number of immigrants, chiefly Spanish, has averaged nearly 30,000 a year; in the last two years amounting to 88,000, and the white native population is also increasing with great rapidity. Accepting the doctrine of Guiteras, that the white Cuban child is born non-immune (and the evidence in its favor is steadily accumulating), this still greater source of supply of non-immunes must be added.

The number of non-immunes has already become sufficient to support a yellow-fever epidemic in almost any town or large plantation in the island, and the increase of the facilities for communication by rail and by the construction of good public roads, together with the migratory habits of the Spanish laborers, furnish a ready means for the distribution of the infection, which means existed to a far less degree six years ago. The sanitary forces have pursued the enemy into the country, and wherever a case of yellow fever has been recognized expert diagnosticians and brigades of men trained in the technic of fumigation and mosquito work have been sent from Havana to conduct operations against the enemy. These methods have kept the infection from assuming great proportions, but have so far failed to extinguish it. The reasons for this failure are two: The first is the lack of agencies for the discovery and reporting of cases outside of the large cities; the second, the lack of trained men to carry out carefully and conscientiously and thoroughly the work of mosquito prevention.

Nothing is more difficult than the recognition of mild cases of yellow fever. Cases constantly occur in patients coming into the hospitals of this city which puzzle the Board of Diagnosis of Contagious Diseases, probably the most distinguished body of experts in the knowledge of this disease in the world. Also it must be borne in mind that the majority of cases, and probably in Cuban children a very large majority, are mild and difficult or impossible of diagnosis, with the help of all the resources of medical science. But in the rural municipalities little attention is paid to attacks of fever which are mild or of short duration, and the physicians are not accustomed to employ the diagnostic aids of urinalysis and blood examinations, and usually have not the apparatus and technical training for so doing. Therefore, only the minority of grave or fatal cases are recognized and reported, and the infection spreads, unchecked by preventive measures, until a death gives the alarm. So unaccustomed are the majority of Cuban physicians to consider any Cuban non-immune that even when the fact is admitted in theory it is rarely acted on in practice—and cases of grave illness and even death from this disease are not infrequently diagnosed in this office only by the light of subsequent cases.

While this office can send trained parties to direct works of fumigation in recognized foci, the fundamental protection work of mosquito prevention requires permanent garrisons of trained men in every town and village and even in the great sugar and tobacco plantations.

Such a plan of campaign can be conducted where the area is small and the pecuniary resources practically unlimited, as in the strip ten miles wide and fifty miles long which constitutes the Canal Zone at Panama, but it is, of course, out of the question for the 44,000 square miles of Cuban territory and far beyond the resources of the Cuban treasury, for which, besides, this sanitary war is a matter quite secondary in importance to the great administrative works of government. It is believed, however, to be not beyond the limits of reasonable expenditure to carry on a vigorous mosquito war for the next six months in every city, town, village and plantation in which the disease has appeared this year, and this the new national sanitary organization, now being put into effect, will give the machinery for conducting. The smaller towns will be taught the technical detail of mosquito work by frequent visits of inspection, and this will be aided by the more efficient conduct of the sanitary services of street cleaning, removal of garbage, etc., which are to be expected under the new organization. This will require operations in twenty-nine distinct localities.

The importance of the yellow-fever campaign has not been allowed to entirely overshadow other sanitary work, of which the prevention of tuberculosis in the larger cities, and especially in Havana, is most important. This disease constitutes for the Cuban population the most formidable of all infectious diseases and causes more fatalities than all the other infectious diseases combined. Its alarming prevalence must be ascribed mainly to the excessive overcrowding which exists among the poorer classes in the cities, which evil is aggravated by their traditional fear of the night air, causing them to cut off ventilation as far as possible in the rooms where they sleep. The remedy for these conditions is to be found in the construction of sanitary dwellings at low rents, together with the social and sanitary education of the people. The latter is now being undertaken in connection with the dispensary for tuberculosis maintained by the department in this city, which has been entirely reorganized during the past year; by requiring the physicians connected with it to make domiciliary visits to all patients at their homes, and to instruct them in the methods of preventing infection and in the importance of abundant fresh air and cleanliness. A sanatorium for incipient cases has also been established in a good, elevated location, not far from this city.

Bovine tuberculosis is, fortunately, quite rare in Cuba, and on this account, and also because of the practically universal custom of boiling the milk in order to preserve it, milk can, contrary to the popular belief, be practically excluded as a source of tubercular infection.

It is thought to be unnecessary to invite the attention of the provisional governor to the importance of obtaining as rapidly as possible a water supply and sewer systems for the Cuban cities, as he has already demonstrated his interest in sanitary works of this character. I can not refrain, however, from adding my recommendation to that of Dr. Finlay, for the execution of the plan adopted and contracted for six years ago for the sewering of Havana, and that more recently adopted for securing the imperatively needed water supply and sewer systems for Cienfuegos. Whether existing contracts are in all respects desirable and advantageous to the public is not a matter for the determination of the sanitary authorities, but as to the necessity for the proposed works there can be no question.

J. R. Kean,
Adviser to Sanitary Department.

Increasing the Efficiency of the Medical Department of the Army.

The report of the Secretary of War is just out, and from it we reproduce what Mr. Taft says on the Army medical bill:

ADDITIONAL OFFICERS FOR THE MEDICAL DEPARTMENT.

"A profound conviction of the importance of the subject makes it my duty again to call attention to the inadequate provision which the law as it now exists makes for the Medical Department of the Army. While much has been done since the Spanish War in the direction of enlarging and modernizing our Army, no proper provision has yet been made, although the matter has been repeatedly called to the attention of Congress, for bringing the Medical Department into a condition of strength and effectiveness that would enable it to meet the responsibilities and perform the service that would be exacted of it in time of war.

"The paramount service which a medical corps renders in modern warfare consists largely in sanitary precautions and health measures that will reduce the amount of disease among the troops to a minimum and prevent the effective fighting strength of the Army from being unnecessarily lessened from this cause. The great importance of such service for the Army of the United States in any war in which it will ever be engaged can not be too strongly emphasized, because in such an event our armies will always consist in the main of volunteers, who naturally do not fully realize the immense importance of safeguarding their health and taking care of their physical condition, and if they did, are not trained in the matters that are essential for that purpose.

"The failure to make proper and adequate provision for caring for the health and comfort of the volunteer forces in time of war—and this can only be done by creating a sufficiently large body of competent surgeons with military knowledge and training—not only needlessly prolongs the struggle and involves the country in expenditures of money far in excess of the actual cost of making proper provision in advance, but, most deplorable of all, brings anxiety and sorrow to households all over the land and condemns many a promising youth to unnecessary suffering and possibly to a premature grave.

"A bill to promote the efficiency of the Medical Department was passed by the Senate at the last session, but having failed to come to a vote in the House of Representatives, the Medical Department remains with the same defective organization and urgent needs described in my last report.

"The want of sufficient inducement in the way of pay and promotion caused six young medical officers, among the ablest and most promising in the corps, to resign from July 1, 1906 to July 31, 1907. It also made it impossible to secure more than ten suitable candidates for the last session of the Army Medical School. The result is that there are now twenty-three vacancies in the Medical Department.

"To make up the very inadequate number of regular medical officers, 176 civilian physicians are employed under contract. These so-called contract surgeons have but little, if any, military training or knowledge of the special duties devolving on medical officers in the field, while the professional qualifications required for them are distinctly below those demanded of the regular medical officer. But at the present time, fifty-five of our garrisoned posts in the United States and Alaska, as compared with forty-two last year, are entirely under the medical care of contract surgeons; this means that a large proportion of our troops are deprived of the benefit of the medical services to which they are entitled at the hands of our specially educated medical personnel.

"It is also worth noting that, as a result of this condition, the government has been put to considerable expense in transferring patients to general hospitals and to larger posts, where regular medical officers are stationed.

"The prime importance of scientific sanitation and hygienic measures in modern warfare has been repeatedly demonstrated. The instrumentality for accomplishing this work can not with safety be hastily improvised under the spur of impending necessity. The selection of suitable men for the Medical Department and their efficient military training is a gradual process which takes years of hard and conscientious work. Under the existing organization it would be impossible to prevent a breakdown of the Medical Department in case of war involving the mobilization of volunteer forces, nor would it be possible to spare the necessary regular medical officers to apply in these volunteer forces the modern sanitary measures so vital to the health and efficiency of troops, without which unnecessary suffering is produced and disaster invited.

"Inasmuch as these serious defects in the organization of the Medical Department can only be corrected by legislation, and as the matter presented is one that can not safely be postponed, it is earnestly urged that the bill to promote the efficiency of the Medical Department passed by the Senate in each of the last three sessions of Congress receive the favorable consideration of Congress during the present session."

More About Viavi.—The following letter, which has come into our hands addressed by the Northern Ohio Viavi Co. to one of its agents, may be of general interest for more than one reason, and therefore we have decided to publish it. In the first place, it forms a sidelight on the motives of those who are so energetic in denouncing the American Medical Association as a "trust." The more of such "ordinary methods of medical ways and attempts of cure" as the "Viavi" fake that can have the public opinion "offset" against them, the better for the public health and the general welfare. This wonderful piece of charlatanry was very fully exposed by the *California State Journal of Medicine*, in April, 1907, and the exposure was further circulated in abbreviated form in The Journal, April 27, 1907.—whence, we suspect, comes the vituperation of the Association as a "trust." We are sure that our readers will be much interested in the disclosure of the method by which "letters from cures" are obtained. Write out the testimonials yourself and wheedle the puppet into signing them—even initials will do—as you wheedled her into paying $75 for perhaps 50 cents' worth of material. Simple, isn't it; seeing that there are so many simpletons in the world to practice on?

The Northern Ohio Viavi Co.
Cleveland, Oct. 18, 1907.

Mrs. ——————, ——————,
——————.

Dear Madam:—Do you believe in a trust? You know a trust is a concern controlling the price or prices of an article and its output, no matter whatever it may be, and also in a large measure controls the production. One of the largest trusts or one of the most far-reaching is the American Medical Association, which doctors themselves, with whom we have talked, acknowledge to be a combination of physicians and surgeons in the United States for the purpose of helping each other and destroying competition. There are about 20,000 men in this corporation, and for the past year or two they have been spending a great deal of money in their endeavors to offset public opinion against the ordinary methods of medical ways and attempts of cure.

In your rounds we think you will find it illuminating if you will talk with intelligent people and get their opinions of doctors in general. The writer has done so, and it is surprising the prejudice that arises against physicians in general..

Rabbi Silberman's recent address, of which you have a copy, is a good example of the way the wind is blowing. It is not necessary for Viavi representatives to stir up disputes and strife, but a worker can carefully give information in regard to this Medical Association and some of its methods and do no harm. In fact, the more people know of it, the more they will be inclined to think favorably of Viavi.

We would like to have a few new letters from your cures, or even from women who are vastly improved, and perhaps a suggestion from us will assist you in getting these letters. Do not be satisfied to simply try to get a cure to give you a letter, but write out yourself a letter, such as you think covers the case, briefly yet fully, and submit it to her for her signature, and then if there are any changes they can be easily made. To some women it is a distinct effort to sit down and write a letter of this nature, and they will continue putting you off until finally the matter is never accomplished. You know, of course, that we will supply you with a number of these letters printed on slips without charge. They will be of great help to you in your daily work. If your cure does not care to have her name given, she can merely sign her initials; that will be sufficient.

We had a particularly gratifying case in Cleveland not long ago. A Mrs. S., who had been married for a number of years, has had miscarriage after miscarriage, and finally, in depths of despondency, placed herself under the Viavi System of Treatment, and in less than a year she was delivered of a fine boy. She immediately sent her sister down to the office to advise us of the fact. We are making a collection of pictures of Viavi babies and, as soon as we can, add this to our gallery. We have never known yet of a Viavi baby that was sickly. Have you? Very cordially yours,

The N. O. Viavi Co.

Marriages

George W. Betz, M.D., to Miss Dora Stier, both of Philadelphia, January 4.

Rufus Cole, M.D., Baltimore, to Miss Annie Hegeler of La Salle, Ill., January 2.

Robert C. Lea, M.D., to Miss Henrietta Wright, both of Philadelphia, January 11.

Harry W. Sellers, M.D., to Miss Ethel Losey, both of Louisville, December 25.

French S. Carey, M.D., El Paso, Texas, to Miss Edith Jones, at Baltimore, January 4.

David Riesman, M.D., to Miss Eleanor L. Fleisher, both of Philadelphia, January 20.

Jacob L. Hoffman, M.D., to Miss Elizabeth Wagner, both of Ashland, Wis., January 8.

Harlan Dudley, M.D., Canton, Ohio, to Miss Lulu Porter of Oberlin, Ohio, December 21.

Hugh M. Fletcher, M.D., to Cora Sechrist, M.D., both of Cleveland, Ohio, January 1.

B. L. Robinson, M.D., to Miss Maida McClelland, both of Meridian, Miss., December 31.

M. R. Byrnes, M.D., Crete, Neb., to Miss Alta Eager of Beaver Crossing, Neb., January 8.

Asaph Arent, M.D., Humboldt, Iowa, to Miss Bertha Heise of Algona, Iowa, December 31.

Henry T. Hutchins, M.D., Baltimore, to Miss Elsie Hardenbergh of Minneapolis, January 4.

John R. Johnson, M.D., Arcanum, Ohio, to Miss May Armstrong of Celina, Ohio, January 1.

Melvin Page Burnham, M.D., to Miss Adeline Lydia Martin, both of New York City, December 22.

Frederick Olcott Allen, Jr., M.D., Philadelphia, to Miss Sallie Owens Haskell of Savannah, Ga., January 8.

B. L. Kindel, M.D., Springfield, Ohio, to Miss Eva Winter of Celina, Ohio, at Delphos, Ohio, January 1.

Wilbert McIntyre, M.D., Strathcona, Alberta, to Miss W. J. Harkley of Owen Sound, Ont., January 1.

George W. Teagarden, M.D., Chambersburg, Pa., to Miss Edna Irene Giles of Kittanning, Pa., January 8.

John R. Peterson, M.D., Willmar, Minn., to Miss Thea Sophia Rolefson of Montevideo, Minn., January 1.

Charles Allen Saunders, M.D., Norfolk, Va., to Miss Jennie Carter Cook of Columbus, Miss., January 15.

William Chester Smith, M.D., Glasgow, Ky., to Miss Pearle Hazelip of Smith Grove, Ky., in Tennessee, January 3.

John W. Angle, M.D., Harrisonville, Mo., to Miss Bertha Barger of Nevada, Mo., at Harrisonville, December 29.

Albert Harvey Miller, M.D., Gladstone, Mich., to Miss Gertrude Adams of Sault Ste. Marie, Mich., December 31.

Bernard Montrose Conley, M.D., Wilmette, Ill., to Minnie Agnes Hinch, M.D., of Dunning, Ill., in Chicago, January 15.

Addison B. Clifford, assistant surgeon U. S. Navy, Ypsilanti, Mich., to Miss Grace Kathleen Emmons of Detroit, January 1.

Deaths

John A. Comingor, M.D. New York Medical College, New York City, 1861; surgeon of the Eleventh Indiana Volunteer Infantry during the Civil War; one of the organizers of the Medical College of Indiana, Indianapolis, and for twenty years professor of surgery in that institution; for several years professor of orthopedic and clinical surgery in the Central College of Physicians and Surgeons, Indianapolis; surgeon general of Indiana during the administration of Governor Porter, died suddenly at the home of his daughter in Davenport, Iowa, January 7, from cerebral hemorrhage, aged 79.

Adrian Theodore Woodward, M.D. Vermont Academy of Medicine, Castleton Medical College, 1847; A.M. Middlebury College, 1857; a member of the corporation of Castleton Medical College until 1860, when he moved to Brandon, Vt.; surgeon of the Fourteenth Vermont Volunteer Infantry during the Civil War; for several years professor of gynecology in the Medical Department of the University of Vermont, Burlington; a member and some-time president of the Vermont State Medical Society and Rutland County Medical and Surgical Society; died at his home in Brandon, January 9, aged 80.

George Washington Jones, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1896; a member of the Iowa State Medical Society, and president-elect of the Lee County Medical Society; one of the most prominent practitioners of southeastern Iowa, and professor of surgery in the College of Physicians and Surgeons, Keokuk; who disappeared mysteriously from that city December 25, was found dead near Burlington, January 17, the death being due, according to the verdict of the coroner's jury, to wounds self-inflicted, while temporarily deranged from overwork, aged 32.

Edward Buncombe Goelet, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1888; of Saluda, N. C.; a member of the American Medical Association; one of the most prominent practitioners of North Carolina; died suddenly at the residence of his daughter in Brooklyn, N. Y., January 12, from acute dilatation of the heart, aged 64.

Alfredo Fernandez Blanco, M.D. Medical College of Seville, Spain, 1890; a member of the Medical Society of Porto Rico and of the Red Cross of Porto Rico; formerly health officer of Rincon; died at his home in Añasco, Porto Rico, August 15, from diabetes and tuberculosis, after an illness of one month, aged 46.

Henry James Hebb, M.D. Washington University School of Medicine, Baltimore, 1873; a member of the Medico-Chirurgical Faculty of Maryland and Baltimore County Medical Society; a Confederate veteran and at once time county treasurer and register of wills; died at his home in Randallstown, January 10, from paralysis, aged 65.

Frederick S. Thomas, M.D. Johns Hopkins University School of Medicine, Baltimore, 1878; a member of the American Medical Association; for many years in charge of the General Hospital, Charleston, W. Va.; one of the most prominent practitioners of that state; died at his home, January 7, from pneumonia, after a short illness, aged 57.

T. Ogier Hutson, M.D. Medical College of the State of South Carolina, Charleston, 1889; contract surgeon U. S. Army, on duty at the Army and Navy General Hospital, Hot Springs, Ark.; while on leave and en route to Yemassee, S. C., was killed January 9, by a fall from a Central Railway of Georgia train near Gordon, aged 38.

William H. Berry, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1867; local surgeon at Brookville, Ind., for the Big Four System, and a member of the National Association of Railway Surgeons; died at his home, January 11, from pneumonia, after an illness of two days, aged 67.

Gertrude Cornelia Crumb, M.D. Northwestern University, Woman's Medical School, Chicago, 1894; of Milton, Wis.; a member of the Medical Society of Wisconsin and Green Lake County Medical Society; died in a Milwaukee hospital, January 7, after an operation for the removal of gallstones, aged 42.

Rodney Telfair Trimble, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1868; a member of the American Medical Association, and one of the most prominent practitioners of Clinton County, Ohio; died at his home in New Vienna, January 3, from cancer of the stomach, aged 61.

James Green, M.D. Transylvania University, Medical Department, Lexington, Ky., 1842; for nearly fifty years a practitioner of Washington County, Ky.; of Parkland, Ky., died in the Deaconess Hospital, Louisville, from cardiac asthma, December 24, after an illness of two months, aged 85.

John William Austin, M.D. Baltimore Medical College, 1891; a member of the Medical Society of Virginia and Bedford County Medical Society; president of the Bedford City board of health; died at his home in that city, January 2, from pneumonia, after an illness of a week, aged 41.

Elias Kerner, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1850; a member of the legislature of North Carolina during the Civil War; died at the home of his son in Kernersville, N. C., July 22, after an illness of several months, aged 81.

Frederick C. Semolroth, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1873; formerly postmaster of Walnut Grove, Ill., but later of Peoria; died in St. Francis Hospital in that city, January 8, from cerebral hemorrhage, after a short illness, aged 70.

Martin Coffin, M.D. Long Island College Hospital, Brooklyn, 1875; a member of the Maine Medical Association and York County Medical Society; died at his home in Bar Mills, December 23, from cerebral hemorrhage, after an illness of ten days, aged 69.

Andrew Curtis, M.D. (Years of Practice, Mich., 1900); a veteran of the Civil War, and for 26 years an eclectic practitioner of Big Rapids, Mich.; died at his home, from cerebral hemorrhage, January 10, after an illness of three days, aged 54.

Moses C. Farrar, M.D. Hahnemann Medical College of the Pacific, San Francisco, 1873; for twenty-five years a practitioner of Healdsburg, Cal.; died at his home in that city, December 28, after an illness of several weeks, aged 77.

Frederick H. Foster, M.D. Hahnemann Medical College and Hospital of Chicago, 1872; a specialist on diseases of the eye and ear; died at his home in Chicago, January 18, from nephritis, after an illness of a year and a half, aged 56.

William C. Speece, M.D. Starling Medical College, Columbus Ohio, 1884; formerly of Quincy, Ohio; for many years a surgeon on steamships in the Orient; died at Coramba, New South Wales, October 10, from pneumonia, aged 44.

Henry Rutherford Overton, M.D. College of Physicians an Surgeons in the City of New York, 1889; who had lived i Newfoundland since 1891; died at his home in Exploit Point N. F., January 3, from heart disease.

William Ruser Prowell, M.D. Jefferson Medical College, Philadelphia, 1876; tax collector of Steelton, Pa., for two terms died at his home in Steelton, January 7, from pneumonia, afte an illness of two weeks, aged 53.

De Forest A. Reed, M.D. Kansas City (Mo.) Hospital Colleg of Medicine, 1885; died at his home in Brookton, N. Y., January 6, from complications following pneumonia, after an illness of four months, aged 59.

Edward S. Stauffer, M.D. University of Pennsylvania, Medical Department, Philadelphia, 1902; formerly of Kansas City Mo.; died at the home of his daughter in Marion, Kan., December 21, after a long illness.

Robert Fitz Smith, M.D. Kansas City (Mo.) College of Physicians and Surgeons, 1871; a Confederate veteran; died at hi home in Richmond, Va., December 27, from paralysis, after a illness of 22 days, aged 61.

Jesse Nicholas Talbot, M.D. Miami Medical College, Cincinnati, 1875; a veteran of the Civil War; died at his home i Crawfordsville, Ind., January 5, from pneumonia complicatin heart disease, aged 67.

Henry A. Coleman, M.D. Medical College of the State South Carolina, Charleston, 1860; a member of the America Medical Association; died at his home in Mandarin, Fla January 6, aged 70.

Louis Kern, M. D. Medical College of Indiana, Indianapoli 1870; one of the oldest practitioners of Howard County, I diana; died at his home in Kokomo, January 10, from seni debility, aged 76.

Charles D. De Witt, M.D. New York University Medical Co lege, New York City, 1849; for many years a practitioner Quarryville, N. Y.; died at his home in Katsbaan, N. Y., Jan ary 7, aged 80.

Louis Pease Blair, M.D. Kentucky School of Medicine, Loui ville, 1877; a member of the American Medical Association; McDonough, N. Y.; died in a hospital in Buffalo, January 1 aged 54.

David Allen Hoffman, M.D. Western Reserve University Me ical College, Cleveland, Ohio, 1848; a pioneer practitioner

Oskaloosa, Iowa; died at his home in that city, January 12, aged 82.

Daniel Sayer Hardenburgh, M.D. Albany (N. Y.) Medical College, 1863; surgeon of volunteers during the Civil War; died at his home in Jersey City, N. J., December 31, aged 67.

M. J. McElhaney, M.D. University of Buffalo (N. Y.) Medical Department, 1870; of Greenville, Pa.; died January 6, from pneumonia following influenza, after a short illness, aged 69.

Robert Harper Thaw, M.D. Miami Medical College, Cincinnati, 1873; died at his home in Sistersville, W. Va., November 24, from paralysis, after an illness of three years, aged 58.

George L. Stone, M.D. Hahnemann Medical College, St. Louis, Mo., 1878; died at his home in Richmond, Va., from heart disease, January 9, after an illness of seven weeks, aged 63.

Henry N. Karchner, M.D. Central College of Physicians and Surgeons, Indianapolis, 1899; died suddenly in his office in Indianapolis, from heart disease, January 12, aged 34.

Edward B. Atkins, M.D. Albany (N. Y.) Medical College, 1874; formerly of Saratoga Springs, N. Y.; died in the Denver County Hospital, January 8, after a prolonged illness.

Robert G. Gahrer, M.D. Eclectic Medical College of the City of New York, 1870; died at his home in Brooklyn, January 13, from nephritis, after a prolonged illness, aged 63.

Stephen Nicholson Murphy, M.D. Medical School of Harvard University, Boston, 1899; died at his home in Chelsea, Mass., from pneumonia, January 12, aged 35.

Thomas Wister White, M.D. Jefferson Medical College, Philadelphia, 1846; died at his home in Laurel Grove, Va., November 23, from senile debility, aged 83.

Joseph P. Welch, M.D. Texas Medical College and Hospital, Galveston, 1875; was found dead in bed at his home in Humboldt, Ariz., October 29.

McCurdy Bricker, M.D. Medical College of Indiana, Indianapolis, 1894; of Butler, Pa.; died recently, and was buried in Pittsburg, January 15.

Frederick Bese, M.D. Jefferson Medical College, Philadelphia, 1864; of East End, Pittsburg, died at his home, January 10, aged 84.

Claus E. Sjowall, M.D. University of Stockholm, Sweden, 1879; died at his home in Chicago, January 7, aged 55.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Progress in Ohio.

The January number of the *Ohio State Medical Journal* contains a department on medical economics. This is the first of the state journals to inaugurate such a feature. The attention of members of the auxiliary legislative committee of the state association is specially called to this department by the editor of the state journal, the intention being to pay particular attention to legislative matters.

In the same number appears a report of the Ohio League for the Suppression of Fraudulent Advertising. This association was formed at a meeting of the state medical association at Canton in May, 1906, its object being to enlist the medical men of the state, especially those interested in church work, in a protest against the use of religious publications by the American Proprietary Association for the "furtherance of the schemes of fakers and charlatans." The league took the position that the conditions then existing in the religious press were due to ignorance on the part of religious people and that the medical profession was responsible for this ignorance. Owing to lack of funds it was necessary to limit the campaign. On account of the fact that the general assembly of the Presbyterian church met last year at Columbus, it was decided to select the *Herald and Presbyter*, ostensibly a Presbyterian publication, but owned and published by Monford & Company, as the first object of reform. Accordingly 600 or 700 copies of the reprint of the articles by Samuel Hopkins Adams, as they appeared in *Collier's Weekly*, were sent out by the secretary, copies being sent to the members of the various presbyteries. The result was that these presbyteries adopted resolutions declaring in unmistakable terms that they would refuse endorsement to any church publication which refused to comply with their requests regarding advertising. As a result of the pressure brought to bear, the *Herald and Presbyter* to-day has clean advertising pages. A personal letter from the editor says: "We shall try to keep our paper free from fraudulent advertisements, medical and all other kinds." The *Interior*, another Presbyterian paper, published in Chicago, is stated to have only one objectionable advertisement, and the publishers say that the contract for this will not be renewed when it expires.

The league, in its report, urges every member of the Ohio State Medical Association to become a member, stating that the funds thus obtained would enable the league to send out at least 30,000 copies of the reprint of "The Great American Fraud." The report also states that the general distribution of this little pamphlet will settle the question of fraudulent advertising without any other literature being necessary.

Organization of the Profession in Belgium.

L. Merveille, editor of the *Gaz. Méd. Belge*, has long served as president of the National Medical Federation, and leaves no stone unturned to promote and solidify the organization of the profession in his land. In his last presidential address he reviewed the tasks before the profession which concerted action would carry to successful completion, and related the history of other movements which have already succeeded, to the honor of the profession, such as the popular lectures on the rearing of infants, which are now being delivered at various points to instruct the mothers. He remarked that the day is certainly coming when a phalanx of physicians will be employed at a just remuneration to enlighten the public systematically in regard to the dangers of alcoholism, syphilis, etc., and the means to avoid these diseases. He added that it is not enough to struggle, to struggle courageously and confidently; the struggle must be conducted systematically, according to a well-studied plan, to be truly effective. The local societies should discuss the great questions of general interest from their separate standpoints, and then the national association should gather up the various conclusions and submit them to further discussion between delegates from all points of the country, to study them from the general standpoint. The final conclusions of the national association should then be accepted by physicians everywhere, even although the conclusions may conflict with the interests of one or two here and there. He emphasized further that one of the most important factors in successful cooperation is that the decisions of the majority should be loyally accepted by the individual, quoting in conclusion:

> Le courage fait des vainquers,
> La concorde, des invincibles.
>
> (Courage makes conquerors; concord makes invincibles.)

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

FIFTH MONTH.

FRACTURES AND DISEASES OF BONES.

First Weekly Meeting.

Anatomy of Bones.
Histology of Bone.
Periostitis: Pathology, Symptoms and Treatment.

Second Weekly Meeting.

Osteomyelitis: Etiology and Pathology.
Osteomyelitis: Symptoms and Treatment.
Caries of Bone, Necrosis of Bone.
Tumors of Bone.

Third Weekly Meeting.

Tuberculosis of Bone.
Syphilis of Bone.
Osteomalacia, Rickets.

Fourth Weekly Meeting.

Fractures: Varieties, Causes.
Fractures: Symptoms, Complications.
Fractures: Diagnosis, Treatment.

Fifth Weekly Meeting.

Fractures of Neck of Femur.
Pott's Fracture: Pathology, Treatment.
Colles' Fracture: Pathology, Treatment.

Monthly Meeting.

Principles in the Treatment of Fractures.
Tuberculosis of Bone.
Osteomyelitis.

First Weekly Meeting.

Anatomy.

Classify bones as to shape. General structure of bone. (a) Physical, (b) chemical properties of bone. Demonstrate fresh specimen. Periosteum and its functions. Cancellous structure. Nutrient blood vessels. Influence on location of suppurative or tubercular degenerations. Lymphatic vessels. Distribution. Nerve supply of bone.

Histology.

Haversian system, its canals, lacunæ, canaliculi, etc. Contents of each. Demonstrate microscopic sections. Development of bone. Ossification in membrane. Ossification in cartilage.

Periostitis.

Most frequent cause. Usual termination. Pathology of non-suppurative periostitis. "Typhoid" periostitis. What bones involved. Usual pathology. Symptoms of periostitis. Diagnosis. Treatment of different stages.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Nevada State Board of Medical Examiners, Carson City, February 3. Secretary, Dr. S. L. Lee, Carson City.

New York State Board of Medical Examiners, Albany, February 4-7. Chief of Examinations Division, Charles F. Wheelock, Albany.

Nebraska State Board of Health, State Capitol Building, Lincoln, February 5-6. Secretary, Dr. E. J. C. Sward, Oakland.

Kansas State Board of Medical Registration and Examination, February 11. Secretary, Dr. D. P. Cook, Clay Center.

Wyoming State Board of Medical Examiners, Laramie, February 12-14. Secretary, Dr. S. B. Miller, Laramie.

Reciprocity Between New York and Vermont.—We learn from Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, that reciprocal relations in medical licensure have been established by that board with the Board of Regents of New York. New York now reciprocates with Michigan, New Jersey, Ohio and Vermont. Vermont has reciprocity with the District of Columbia, Illinois, Kentucky, Maine, Maryland, Michigan, New Jersey, New York, North Dakota, Ohio, Wisconsin and Wyoming.

A British View of Medical Teaching in America.—The *British Medical Journal*, Dec. 28, 1907, reviews the impressions of American medicine and medical schools by Dr. Rolleston, a recent visitor to this continent. Dr. Rolleston expressed the opinion that American schools are inclined toward German methods more than toward those of Great Britain. As a rule, there is more systematic work done in the clinical laboratories in this country, but a serious lack of routine ward work in the hospital. This lack he attributes to the fact that the majority of hospital patients are paying patients and, therefore, not willing to undergo examination by students. As compared with Great Britain the relation between the hospitals and medical schools is not so intimate. The danger is suggested that the thoroughness in the clinical laboratory examinations here may lead to less thoroughness in the routine physical examination of patients. Specialism is said to be more extreme here than abroad, and irregular sects in medicine, such as osteopaths and proprietors of "patent medicines," compete more here than elsewhere with the orthodox practitioner. The visitor, however, was favorably impressed with the amount of original research being done and departed with a firm belief in the future of American medicine.

Society Proceedings

COMING MEETING.

Med. Society of the State of New York, Albany, Jan. 28.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, held at St. Louis, Dec. 30-31, 1907.

(Continued from page 232.)

Acquired Atresia of the Common Duct Due to Gallstone.

Dr. John C. Hancock, Dubuque, Iowa, reported the case of a woman, aged 66, on whom he operated for an acquired atresia of the common duct due to gallstone. Patient left the table showing signs of shock and hemorrhage, and died fourteen hours later from complete exsanguination. A partial autopsy confirmed the findings at operation. The gall bladder was contracted to the size of an olive. The common and hepatic ducts were greatly enlarged. At the junction of the cystic and common ducts was found a cicatricial contraction of the cystic duct. In the bladder and duct were several small flat concretions. On removal of the large stone from the lower end of the common duct, the condition of atresia of this duct was discovered. The lower end of the duct was perfectly smooth, without a sign of opening into the duodenum and might be likened to the blind finger end of a rubber glove. Macroscopically, the liver presented the appearance of hypertrophic cirrhosis, but under the microscope the changes of atrophic cirrhosis were present. Macroscopic examination showed atresia of both the common duct and that of Wirsung. The duct of Santorini could not be found, and there was entire absence of the papilla on the duodenal side. Microscopically, the ductus choledochus, that of Wirsung, the pancreas and duodenum, show chronic inflammatory changes, but no malignant elements. Bile was present in the common duct. The stone was found to be a mulberry calculus, composed almost entirely of cholesterin, with the poles made up, superficially at least, of bile pigment and calcareous salts.

DISCUSSION.

Dr. Charles H. Mayo, Rochester, Minn., said that he and his brother have done 2,200 operations on the gall bladder and ducts. Of this number, there are over 600 cholecystectomies, and about 300 operations on the common duct. A few years ago they had a leaning toward the removal of the gall bladder if there was any disease of the mucosa perceptible, while now they are inclined to leave the gall bladder if the cystic duct is open. The operation, however, of the removal of the gall bladder, as a secondary procedure, is not as serious as operations on the common duct which may be necessitated later, after the removal of the gall bladder. They believe that the removal of the gall bladder results later, in a majority of cases, in the distension of the common duct. They have had five cases of reformation of stones in the common duct, and three of them after the removal of the gall bladder. In all of the series of cases, the speaker only recalls two in which, after the primary operation of removing gallstones from the gall bladder, stones reformed in that viscus.

Dr. C. H. Wallace, St. Joseph, Mo., reported the case of a woman on whom he operated some two years ago for the removal of stones in the gall bladder. The gall bladder itself was found in a fairly good condition; the mucosa was not diseased, not very much enlarged, and the walls not much thickened. A number of stones were removed, and drainage established. Some two or five weeks ago this woman began to have attacks again. In the third or second attack she passed three or four small gallstones. This is a case in which the question arose as to whether in doing a second operation the gall bladder should be removed or drainage again tried. He thinks surgeons get the impression from those who do a large amount of gall-bladder surgery that if in a given case there is a healthy gall bladder with stones in it, where the mucous membrane is not diseased, if the stones are removed and the gall bladder drained, the patient can be assured that he or she, as the case may be, will get well. Occasionally, however, such patients return, and the guarantee of such a prognosis can not be given now with as much assurance as in former years.

Dr. J. E. Summers, Omaha, Neb., seven or eight years ago reported a case in which there was a tight stricture at the lower end of the common duct, and also of the cystic duct, the common duct acting as a reservoir. The liver was very much hypertrophied, as was also the spleen. The technic employed was to open the common duct and to make an anastomosis between this and the duodenum. The patient recovered.

Dr. James E. Moore, Minneapolis, referred to two cases with ordinary gallstone symptoms. In one the stones were removed and the gall bladder drained. The symptoms recurred and gallstones were found in the gall bladder; the gall bladder was diseased and cholecystectomy was performed. The interesting feature about these two cases is that these women are suffering again with gallstone colic. What should be done for them? The only hope is that there is a stone in the common duct that may be reached.

Dr. John C. Morfit, St. Louis, reported two cases of bowel obstruction due to gallstones. In one case the bowel was obstructed at about 18 inches above the ileocecal valve by a stone an inch and a quarter in diameter and an inch and a half long, which evidently came from the gall bladder. The woman, aged 80, made a very satisfactory immediate operative recovery. However, pneumonia developed on the eleventh day, and she died on the fifteenth day after the operation. A postmortem examination was not made, but the question arose as to the pathologic anatomy in the region of the gall bladder. How did this stone get into the intestine? Did it come through the common duct or did an inflammatory anastomosis occur between the gall bladder and some portion of the alimentary canal? He believes that there was, as a result of pre-existing inflammation, an ulceration or anastomosis between the gall bladder and duodenum, or possibly some portion of the small intestine. In the second case he found a stone in practically the same location at once, the stone being of the same size and consistency. The intestine was opened by a linear incision, the stone liberated, the incision closed, and the patient made an uneventful recovery.

Surgical Treatment of Hallux Valgus, with Bunion.

Dr. Charles H. Mayo, Rochester, Minn., recommends for this condition a curved incision, base down, over the metatarsophalangeal joint. The bursa of the bunion is preserved, and left attached to the base of the first phalanx. The head of the metatarsal bone with the greater part of the bunion is removed. The bursa is turned into the joint in front of the cut end of the bone. Thus is utilized a ready formed bursa to prevent joint fixation, a result which is obtained in other joints with difficulty by turning fatty tissue into a joint to develop such bursa. The general function of the joint is nearly perfect, and continues to be so after many years.

Removal of Whole or Part of Humerus.

Dr. E. M. Sala, Rock Island, Ill., said the removal of the whole or a part of the humerus is a comparatively safe operation, and one which should be carefully thought of in all cases where amputations were formerly the first aid to the injured in serious disturbances of the humerus. He thinks too many arms have been sacrificed in the past that might have been saved had the surgeon cared to try an extirpation of only the diseased portion of bone. That it is possible for a whole or a part of the humerus to be extirpated, and the patient given a useful hand and forearm, is beyond doubt. One-third of the upper end of the humerus may be removed, and the patient appear as though nothing had ever happened to the upper extremity, except shortening on that side. The whole humerus may be removed without serious disturbance to the hand and wrist, especially if care is exercised in saving the musculospiral nerve in its separation from the bone. Dr. Sala reported two cases, operated on some thirteen years ago, in which the results of conservative surgery are remarkable.

DISCUSSION.

Dr. Roland Hill, St. Louis, referred to a case in which the upper part of the humerus was involved, and which was removed. This man had been taken ill in 1892 with a septic condition involving the upper part of the humerus and also the glenoid part of the scapula. In the winter of 1905 Dr. Morfit opened the joint and removed some dead bone from the upper part of the humerus and also from the scapula. The patient returned home at the end of five weeks in a much better condition, but in the summer he began to be septic again. He returned in July, at which time there was a constant discharge of pus. He opened up the parts freely, removed the head of the bone, cleaned out the cavity thoroughly and packed it. The patient improved very much, went home, but the point did not heal up. There was a constant discharge, and in March, 1906, the patient came back with the idea of having the arm removed. Dr. Hill made one more effort to save it, opened it up, curetted the diseased tissue, and found there was some necrosis at the head of the bone extending down to the medullary cavity, which was removed. He thoroughly dried it and sterilized the parts with carbolic acid and alcohol and then filled the cavity with Moorhof's bone mass. The arm was not dressed again for a week. In about six weeks thereafter healing had taken place. The arm was kept in a sling for four months, at the end of which time patient was able to use it, and has been using it ever since.

Dr. W. D. Haines, Cincinnati, mentioned a case in which he removed the humerus almost down to within two inches of the condyles. No attempt was made to save the periosteum. The patient to-day has a useful arm. He endorses this method with reference to primary amputation, stating that amputation, if really necessary, can be done later.

(To be continued.)

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Twentieth Annual Session, held at New Orleans, Dec. 17-19, 1907.

(Concluded from page 233.)

Treatment of Fibroids of Uterus Complicated by Pregnancy.

Dr. Lewis S. McMurtry, Louisville, stated that the association of pregnancy with uterine fibromyomata adds very materially to the dangers of this condition, and, while the clinical fact that a considerable proportion of the cases come through in safety is indisputable, the mortality of the entire number of cases left to Nature is high. While indiscriminate operation in uterine fibromyomata associated with pregnancy is not to be advised, the mortality of this condition when unaided is so great as to justify an extension of the field of operative treatment, both myomectomy and hysteromyomectomy, and every case should receive individual consideration so that a judicious selection of cases for operation may be observed. The author reported six cases in which operation was successful.

DISCUSSION.

Dr. Geo. H. Noble, Atlanta, Ga., said that where the pelvis is impacted completely, where it is impossible to make a digital examination, and the upper part of the uterus is smooth, free from the tumor, the surgeon may do either a Cesarean section or a myomectomy. Since Cesarean section is a simple operation, it would be desirable in the interest of the mother and of the fetus. Myomectomy can be carried much further in well-selected cases.

Dr. H. J. Boldt, New York, reported the case of a woman three months pregnant. She had a fibromyoma in the lower anterior segment of the uterus. He advised non-interference, but stated that if any serious symptoms were encountered it might be necessary later to do a Cesarean section in case she could not be delivered naturally. Myomectomy was decided on and done to prevent an abortion. The woman made a perfect recovery. She is now eight months pregnant.

Dr. Henry D. Fry, Washington, said that one must recognize the increased danger in these cases from postpartum hemorrhage. The retraction of the uterus is not sufficient at the site of the placental attachment, and postpartum hemorrhage is likely to occur. Again, if the woman passes through labor satisfactorily and safely, there may be infection or necrosis of the fibroids. He has had that occur twice. Supravaginal hysterectomy was done. The woman got well, but in cutting down on the tumor it was found to be disintegrated and necrotic. As to the time of operation for these fibroid tumors, he thinks surgeons ought to tide the cases along until the child reaches the period of viability, get as near the full term of gestation as possible, and then do a Cesarean section and supravaginal amputation of the uterus.

Dr. Ernest S. Lewis, New Orleans, mentioned the case of a woman, five months pregnant, who had a fibroid attached to the body of the uterus and filling about one-half of the pelvis. It was not suspected until it caused pressure symptoms and pain. The cervix was pressed against the symphysis pubis. The abdomen was opened, the tumor enucleated from the back portion of the uterus, the abdomen closed, the patient made an uneventful recovery, went to full term, and was delivered with forceps.

Dr. J. Wesley Bovée, Washington, thinks that there are a great many such women who will go to full term and be delivered naturally, so that he thinks we can not lay down any rule that will apply to every case. Each case is to be considered individually. If any operation is to be done, it is well to follow the plan Dr. Fry mentioned. He is loth, however, to do a myomectomy where the growth is intimately connected with the body of the uterus, as he feels it would be apt to induce abortion. The case of Dr. Boldt impressed him as being unique, from the fact that operation was done to prevent abortion, and abortion did not occur, yet it was threatened before operation was done. As a rule, he would expect the opposite to be the case, and he doubted whether surgeons can follow Dr. Boldt's plan as a routine measure. In a number of cases he has done myomectomy without interfering with the pregnancy.

Dr. George Ben Johnston, Richmond, believes that when fibroids can be removed early in pregnancy, this should be done, but unfortunately many of the patients do not reach the surgeon until a stage of pregnancy has been reached when this can not be done safely. When a pregnancy is known to exist and is complicated by fibroids, such a patient should be watched closely, so that prompt operation may be performed, if necessary, and it is not uncommon for such a pregnancy to go on to the period when the child is viable. He has had experience in fifteen cases. He has not had a fatality among the mothers, but has been able to save only one child.

Treatment of Dislocation of Shoulder Joint Complicated with Fracture of Humerus.

Dr. J. M. Mason, Birmingham, Ala., reported the case of a man who sustained a subcoracoid dislocation of both shoulders with fracture of the surgical neck of the right humerus. The left shoulder was reduced by the Kocher method, and the right was treated by arthrotomy and reduction six hours after the receipt of the injury. The fracture was wired and primary union was secured. A perfect result was obtained, and the patient has neither atrophy, pain, nor weakness in the arm, and there is no restriction of motion in any direction. A comparison of the result in the shoulder subjected to operation with the one where simple reduction of the uncomplicated dislocation was practiced shows no difference.

Fracture of Femur in Forcible Delivery.

Dr. Charles R. Robins, Richmond, is convinced that such fractures are more common than the scant mention in the literature would indicate, and that successful treatment offers serious difficulties. In the treatment of such a fracture it is absolutely necessary to adopt some method that will permit handling of the child for nursing without disturbing the limb, that will permit changing of napkins, that will not become soiled, and that will not excoriate the delicate skin. These indications can not be met by any of the methods in vogue for treatment in older persons. He described a splint which he designed for this purpose.

Results of Hodgen Splint Treatment of Fractures of Thigh as Shown by the X-Rays.

Dr. George S. Brown, Birmingham, demonstrated the changes he has made in the original splint of Hodgen. First, he uses one piece of cloth as a hammock to take the place of the underlapping strips of roller bandage, which are troublesome about rolling up in strings and otherwise getting out of order. Second, he has placed small tent blocks on the supporting cords by means of which the level and hang of the limb in the splint can be adjusted in a most satisfactory manner. Third, he has placed two wire loops at the distal corners of the wire frame, through which are passed the traction strips of muslin which are pinned to the traction adhesive strips at the malleoli; these, being passed through these loops, are tied together across the sole of the foot, thus holding the limb firmly in the frame and doing away with the foot block which was formerly used, as in the Buck's. The loops of the small suspension cords are hung on the hook of a spring scales, which, in turn, is hung to the sash cord that goes over the pulley wheel in the ceiling.

The writer claims that, while the limb is swung up from the bed and the suspension cord is at an angle, the pull is bound to be constant, and that this splint is the only apparatus so far devised that will give a constant pull. He asserted that the principle that should be followed in the treatment of fractures should be that of gradual reduction by a moderate, steady pull constantly maintained, under which the muscles would entirely give up their resistance. Reduction under ether is unnecessary and useless.

The essayist showed a number of skiagraphs taken of patients, most of whom had been treated some years before the discovery of the *x*-ray. In all but two of the pictures the results were excellent, and these, he explained, had not had the advantage of proper treatment. Two pictures of fractures through the great trochanters showed perfect union, and the same could be said of several of the shaft.

Value of Intestinal Exclusion as a Surgical Procedure.

Dr. John Young Brown, St. Louis, reported 3 cases in which intestinal exclusion of the afferent and efferent bowel was made, followed by end-to-end anastomosis. The first case was one of strangulated, umbilical hernia in which the cecum, appendix, ascending and transverse colon were found gangrenous in the sac. At the primary operation an artificial anus was made at the umbilical ring. Ten weeks after this operation the abdomen was opened through a median incision and bilateral exclusion of the ileum and descending colon was done, followed by direct anastomosis of ileum to sigmoid, anastomosis being made with the Murphy button. The patient made an excellent recovery, and the prolapsed bowel, which remained after intestinal continuity had been restored, was removed later under cocain anesthesia by clamp and cautery.

The second case was one in which an artificial anus was made at the hernial site for a gangrenous, inguinal hernia of the right side. The abdomen was opened through the right rectus, the afferent and efferent loop of ileum excluded, and end-to-end anastomosis made with a button. The result was exceedingly satisfactory.

The third case was one in which typhlotomy was done through a gridiron incision, and at the same time the entire large bowel was excluded, except the cecum. The turning of the fecal current resulted in healing of the old sinuses. The intestinal continuity was later restored by an exclusion of cecum, and a lateral anastomosis of the ileum to the ascending colon.

Hematuria in Pregnancy.

Dr. Edward A. Balloch, Washington, D. C., reported the case of a woman of 31, a septipara, with a history of almost continuous pregnancies. Blood appeared in the urine during the fifth pregnancy, the hematuria ceasing when the child was born. It skipped the sixth pregnancy, but appeared during the seventh. It did not cease with the birth of this child in March, 1906, but persisted until she came under observation in October, 1906. She was anemic from the continuous loss of blood, which cystoscopy showed to be from the left kidney. All medical means had been tried without avail. Nephrectomy was advised and accepted, followed by good recovery. After her return home, after operation, she immediately became pregnant. Hematuria was present, but disappeared with the birth of the child. The pathologic changes in the kidney were those of glomerular nephritis, with interstitial changes. Accepting the hematuria as a symptom of chronic nephritis, the cause of the latter was discussed and considered to be mainly an autotoxemia from perverted metabolism, of maternal or fetal origin, or both. As this is the second instance in the writer's experience where an uneventful pregnancy has followed a nephrectomy, he does not consider that the loss of one kidney has much effect on subsequent pregnancy.

Sensitive Short Uterosacral Ligament.

Dr. Edward J. Ill, Newark, N. J., drew attention to the sensitive short uterosacral ligament as a pathologic entity. The condition should not be confounded with intraperitoneal adhesions, nor with shortening of the base of the broad ligament, due to scars resulting from puerperal injuries. Outside of the acute pelvic exudate, the writer knows of no condition so painful on pressure as the short and sensitive uterosacral ligament. During the last twelve years 5 per cent. of all his operative gynecologic cases suffered with a short and sensitive uterosacral ligament. When but one ligament is diseased, it occurred in 73 per cent. on the left side. The disease may be congenital or acquired either in childhood or during active sexual life. Because of the short ligament a fixation of the uterus results. The circulation of the organ becomes impaired. Catarrhal and metritic changes result in menstrual disturbances. Sterility is a frequent symptom, and abortion sometimes results from a very short ligament. The treatment suggested by the writer consists of a most thorough stretching of the tense and sensitive uterosacral ligaments, while the patient is under profound anesthesia, until the uterus becomes freely movable. A free dilatation of the uterus with graduated steel sounds, curettage, etc., should be added.

Cyst of the Pancreas.

Dr. Rufus B. Hall, Cincinnati, said that true cysts of the pancreas are retroperitoneal tumors, while pseudocysts are intraperitoneal accumulations of fluid. The tail of the pancreas is the favorite anatomical location for the development of these cysts. The diagnosis of pancreatic cysts should be based on the character of the contents of the tumor rather than on the supposed demonstration of anatomic connection. The author reported a case occurring in a woman, 42 years of age, on whom he operated successfully.

Transperitoneal Ureterotomy for Ureteral Calculus.

Dr. Gefry R. Holden, Jacksonville, Fla., reported one case and pointed out the reasons why an abdominal extraperitoneal operation was impossible on account of the thick abdominal walls. He does not believe that transperitoneal ureterotomy for ureteral calculus is often the operation of election. He does believe, however, that it is the best operation when the stone is impacted at or just above the uterine artery, provided one is reasonably assured that infection is either mild or else absent altogether.

Inconsistencies of Gauze Pack.

Dr. Hubert A. Royster, Raleigh, N. C., said that a strip of gauze is simply a means of applying the law of capillary attraction. Rubber tube and tissue have been substituted, because the gauze so frequently fails to drain, acting as a successful stopper to the outlet. When intended for a drain, gauze should be inserted after the manner of a lamp-wick; when used for hemorrhage, it should be packed in like wadding with a ramrod. There is a field for gauze in packing sinuses, fistulæ and granulating wounds, so that healing may take place slowly from the bottom. The use of gauze to wall off septic matter in abdominal operations is fraught with danger. It necessitates a long incision, undue handling of the viscera, and almost always uninfected regions are in contact with pus-soaked gauze. Exposure of the peritoneum to gauze soaked with pus is just as dangerous as the presence of pus itself among the intestines.

Suppurative Phlegmonous Gastritis.

Dr. J. Wesley Bovée, Washington, reported a case of circumscribed suppurative phlegmonous gastritis in which he resorted to gastrostomy. With the exception of infection of the abdominal incision, which required resuturing, she made an uninterrupted recovery.

Harmful Involution of the Appendix.

Dr. Robert T. Morris, New York, said that normal involution of the appendix is often a harmful process and produces many of the symptoms ascribed to other organs. Differential diagnosis is easily made by two features: First, a persistent or frequently recurring sense of discomfort in the appendix region; second, a hypersensitiveness of the right lumbar ganglia. To find the right lumbar ganglia, draw a line from the navel to the right anterior superior spine of the ilium. An inch and a half from the navel on this line will be found the diagnostic point on deep pressure. McBurney's point is six or eight inches away, at the other end of the line. McBurney's point has reference to acute inflammatory processes in the appendix itself. The point described by Dr. Morris has reference to reflex disturbances caused by the appendix. If the right lumbar ganglia alone are tender on pressure, the appendix alone is responsible for disturbances of the stomach and bowel that are ascribed to other causes. If the disturbance proceeds from some organ in the pelvis, both right and left lumbar ganglia are tender. If the disturbance proceeds from the bile tract, or from eye-strain, or some point above the navel, neither the right nor left lumbar ganglia are tender.

Surgery of the Heart and Pericardium.

Dr. Rudolph Matas, New Orleans, said that it may safely be concluded that heart wounds far from being invariably fatal give three chances in four for survival long enough to permit surgical intervention; one chance in ten to heal spontaneously, and one in two to be cured by surgery. Further progress in cardiac surgery, he said, can only be accomplished by methods which will diminish three great factors in the mortality—namely, shock, hemorrhage, and infection.

Other Papers Read.

The following papers were likewise read: "Some Recent Factors in the Elucidation of Chronic Joint Disease," by Dr. C. E. Caldwell, Cincinnati, Ohio; "(a) Tracheotomy for Foreign Bodies, 53 Successful Cases; (b) Fracture of the Clavicle," by Dr. Willis F. Westmoreland, Atlanta; "Some Remote Symptoms and Effects of Cholelithiasis," by Dr. A. M. Cartledge, Louisville; "Hare-lip and Cleft Palate," by Dr. Alex. Hugh Ferguson, Chicago; "Leverage in Spinal Disease," by Dr. J. D. Bloom, New Orleans; "Suture of the Urethral and Vesical Sphincters for the Cure of Incontinence of Urine, with a Report of a Case," by Dr. Hugh H. Young, Baltimore; "Operation for Relief of Rectovaginal Fistula," by Dr. George H. Noble, Atlanta.

Medicolegal

Points from Alleged Malpractice Case as to Admissibility of Evidence, Expert Testimony, Results as Test, and Presumptions.

The Supreme Court of Vermont says that the plaintiff in the alleged malpractice case of Sheldon vs. Wright, while in the employ of a company, suffered a fracture of the tibia of his right leg. The fracture was oblique as distinguished from transverse. The plaintiff's family physician was forthwith called, set the fractured bone, and attended to the leg for three or four days. Then the defendant was called by the plaintiff, and took the case, because the company, whose contract duty it was to furnish the medical and surgical services required, designated him to perform them. Subject to objection and exception, the plaintiff was allowed to take the testimony of the defendant to the effect that he drew a yearly salary from the company, and that his compensation did not depend on the number of cases he treated for the company, except that in some cases the company added to his salary. In this, the court holds there was no error. It says that the plaintiff had the right to call the defendant to the witness stand, and, with the privileges of cross-examination, to inquire into his relations to this case, and, since his relations thereto involved his relations to the company, to inquire into those so far as the above recital showed that they were inquired into.

Subject to objection and exception, the plaintiff testified that, some time after his case had been discharged by the defendant, another physician put a plaster cast on the leg, that this was worn about two weeks, and that it assisted the plaintiff in getting about. This testimony was properly heard. The history of the leg from the time of the fracture to the trial, the treatment it had received and the results thereof, whether beneficial or injurious, were calculated to throw light both on the question of liability and on the question of damages.

Also, subject to objection and exception, the plaintiff testified that he was not able to run and travel on the leg as formerly. The objection was that the condition of the leg at the time of the trial, its condition as to strength, and how it compared with what it was before it was broken had no tendency to show any negligence on the part of the defendant. But, on any theory as to what would and what would not tend to show negligence, it would have been impracticable, undesirable and improper, the court says, to keep from the jury the condition of the leg at the time of the trial, its condition before the fracture, and the nature of the fracture, to say no more. These things were essential to make intelligible the expert evidence on both sides.

An *x*-ray picture of the plaintiff's leg was in evidence without objection. This was shown to one of the defendant's medical experts, and, under objection and exception, he was allowed, in substance, to state that the bearing of the two fragments of the broken bone as shown by the picture was not exactly in line. The defendant's counsel claimed that this testimony was erroneously received, because the jury could tell about the matter as well as any expert. But the physician was using the picture for the purpose of demonstration, and, the court says, could rightly point out things which his practiced eye discovered, so far as they were of significance. It was as though the expert had used the leg itself for the purpose of explaining its condition to the jury. The picture was referred to, and an examination of it was quite convincing of the propriety of medical testimony as to what it really showed.

The defendant requested that the jury be instructed that "the negligence or lack of skill of the defendant is not to be tested by the results of the treatment." The court says that the proposition contained in this request is a sound one, was applicable here, as, in general, it is in malpractice cases. But it was sufficient that the jury was instructed to the effect that there was no liability on the part of the defendant, unless there was a failure on his part to have and exercise the requisite degree of skill, and unless damage to the plaintiff resulted from such failure; the statement of the case and of the issues, what was said on the question of liability and nonliability, and the tenor of the entire charge being such that the jury must have understood that the results did not test or determine the question of negligence or want of skill on the part of the defendant. It says that, since apparently malpractice cases are sometimes brought simply because of dissatisfaction with the results of a surgical operation, and since evidence of the results is usually connected with other evidence in such a way that the results can be held up before the jury in both the opening and closing argument for the plaintiff, and since the members of the medical profession are often called on to act when disease or accident makes heavy the odds against the accomplishment of the desired result, the jury should always be made to understand in malpractice cases that results do not determine whether or not a physician or surgeon has performed his duty.

Again, the jury were instructed: "The testimony of professional or scientific witnesses on the subject of their special knowledge forms a class by itself; but it is governed by the ordinary rules. It is true that the opinion of one who has given special study to a particular subject and had large experience in connection with it, in whom you feel that you have confidence, is entitled to very careful consideration, and may be of controlling weight. But you are not bound to accept the statements or conclusions of expert witnesses. Their testimony is simply one kind of evidence, to be considered in connection with all other evidence bearing on the same point. In considering the testimony of an expert witness you take all his testimony together and see what the fair result of it is. You exercise your judgment in considering and weighing the testimony of an expert the same as you would in considering any other kind of evidence." Especial complaint was made of the sentence: "But you are not bound to accept the statements or conclusions of expert witnesses." But this sentence in its connection, the court says, was in no way misleading. The conclusions of the experts were conflicting. If some were right, others were necessarily wrong. The jury were left to determine the matter on the whole evidence, and this course was entirely right, as, in any view, the strictly expert evidence was without value, except as it was based on facts which the jury might find from other evidence.

The ordinary witness testifies as to facts about which the jurymen have or should have knowledge of their own; but, nevertheless, they must apply their own good judgment to the testimony of such witnesses in determining what facts are proved. The expert in a case like this testifies to facts of a different class, or to the interpretation of facts, matters, for the most part, about which the jury are not expected to have knowledge of their own, but nevertheless they must apply their sound judgment to the comparison, sifting and weighing of such testimony and to a consideration of the sources from which it comes.

In the charge here there was no encouragement of the idea, somewhere suggested, that the introduction of expert testimony constitutes chiefly an agreeable diversion, or a restful surcease of practical combat, during which all concerned in the case may be refreshed and entertained with the niceties of abstract theories and distinctions. The charge presents the sound and sober view that the jury are to hear and weigh the expert testimony, however conflicting it may be, with the same feeling of duty and responsibility as rests on them in hearing and considering the other testimony, to the end that they may get from it all the aid it can give them in coming to a right decision of the very case in hand.

It is believed to be the law that there can not be a recovery for malpractice in the case of an operation like this under consideration without medical expert testimony to show lack of the requisite skill and care on the part of the defendant. But there may be such testimony, and yet the witness giving it may display such a lack of candor, such feeling, such advocacy, he may testify in such a way as to facts which are matters of common knowledge or which are established by the testimony of non-expert witnesses, that the jury feel that they can not in good conscience accept his strictly expert testimony.

Where in a case like this there is no expert evidence which the jury can accept tending to show malpractice, the jury must give a verdict for the defendant.

The defendant requested the judge to charge as follows: "The law presumes that the defendant had and exercised the requisite degree of care and skill, and this presumption is in the nature of evidence in behalf of the defendant and should be thrown into the scales and weighed with the other evidence in the case making in favor of the defendant." The judge did not comply with this request, and the defendant excepted. The defendant further excepted, in substance, to a failure to instruct the jury that the law presumed that the defendant did his duty in the premises, and to a failure to charge that there was a legal presumption to that effect, which was in the nature of evidence, and which was to be weighed by the jury in connection with the other evidence in the case. The court, however, does not think that there was any legal presumption here. There was rather an absence of such presumption. Negligence was not to be presumed, and the burden of showing negligence was on the plaintiff. With regard to this burden, the judge charged fully and correctly. The defendant was not entitled to have the request last mentioned complied with, and the failure of the judge to charge in the respects pointed out was simply a failure to wander into error.

It is true that the decisions of some courts have more or less clearly indicated a legal presumption against negligence in malpractice cases. Such a case is State to Use of Janny vs. Housekeeper, 70 Md., 162, quoted from by the defendant. But the outcome of what is said in the opinion in that case is that negligence can not be presumed, but must be affirmatively proved. In a recent malpractice case determined in

Minnesota, and not cited by the defendant, the court of the state says: "The ubiquitous protectorate which jurisprudence extends to all material interests and to every science and to every art takes note of our common fate, with possibilities of failure in the professional treatment of disease, and accords the medical practitioner in every case the presumption that he has done his full duty." Martin vs. Courtney, 87 Minn., 197. But this somewhat vague declaration with regard to presumptions simply leads up to the conclusion that a plaintiff who alleges negligence must prove it if he would win his case.

In view of the doctrine in Vermont, that a true legal presumption is in the nature of evidence and is to be weighed as such, unguarded and inexact expressions about presumptions should here be scrupulously avoided. The defendant argued that there must be in the state the legal presumption which he asserted in favor of physicians and surgeons, since, if a physician brings what is called an action of assumpsit to recover for professional services, he is not called on in his opening to negative lack of skill and care in his treatment; but he is not so called on because of the application of a rule of pleading and practice which makes lack of skill and care a matter of defense.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

January 9.

1 Practical Applications of Opsonic Therapy. (To be continued). T. C. Beebe. Jr., Boston.
2 *Mexican Mining Practice from Tuberculosis Point of View. I. S. Kahn, Velardena, Durango, Mexico.
3 *Chronic Dyspepsia. J. B. Deaver, Philadelphia.
4 *Method of Obtaining Extension for Fractures in Upper Two-thirds of Humerus. H. A. Lothrop, Boston.

2. **Mexican Mining Practice.**—Kahn gives an interesting description of the general conditions, life, practice, financial returns, amusements, etc., offered by a Mexican mining camp. The article is written with a view to offering practical assistance to physicians afflicted with tuberculosis, who are unable to give up their work and wish to practice it under conditions favorable for cure.

3. **Chronic Dyspepsia.**—The cause of chronic dyspepsia. Deaver states, is chronic disease in the gastrointestinal canal or associated glands, and also factors that disturb the equipoise of the abdominal sympathetics, such as ptosis of any organ or organs within the abdomen. The appendix plays the most important part of any abdominal organ in both acute and chronic indigestion. Deaver discusses gastric and duodenal ulcer, cholelithiasis and dilatation of the stomach from pyloric obstruction, and outlines his treatment for chronic dyspepsia with reference to the details of thorough abdominal examination, examination of the stools, use of test meals, the chemical and microscopical examination, etc. A gastric or gastrointestinal neurosis must be excluded before opening the abdomen. If necessary the patient must be referred to a neurologist. There is too great a tendency not to realize our limitations.

4. **Fractures of Upper Humerus.**—Lothrop reports an ingenious method of his own devising for obtaining extension in fractures of the upper two-thirds of the humerus. It consists of an internal angular tin splint, the short arm of the splint being applied to the forearm, the longer vertical arm reaching to the level of the axilla. A stiff felt shoulder cap of suitable size and shape is then selected and placed on the outer side of the shoulder, so that its front portion overlaps the vertical arm of the internal angular splint. It is then fixed by means of strapping to that splint in such a position that while the bottom of the shoulder cap has its lower corners in contact with the angle of the splint, its upper, rounded extremity is two inches above the convexity of the shoulder, thus leaving a considerable space. A pad is placed in either axilla. By proper bandaging it will be seen that downward pressure on the top of the shoulder cap must produce extension proportionate to the force employed, while pressure directed backward will carry the upper end of the lower fragment in the same direction. The essential points, then, are a large free space above the shoulder and under the upper end of the shoulder cap, and the application of the bandage so as to exert pressure on the top of the cap downward and backward. All turns of the bandage should pass from before backward around the affected side and from behind under the opposite axilla.

Medical Record, New York.

January 11.

5 *The Plague. A. H. Doty, New York.
6 *Renal Complications and Sequelæ of Influenza. H. Stern, New York.
7 *Influenza of Nose, Throat and Larynx. W. S. Bryant, New York.
8 Duchenne of Boulogne. A Biography and an Appreciation. J. Collins, New York.
9 *Relation of Accidents to Functional Nervous Diseases and Psychoses; Medicolegal Considerations. A. Gordon, Philadelphia.
10 *Fetid Breath—Bromopnea. W. J. Lederer, New York.
11 Forms of Tubercle Bacilli Which Can Not Be Colored by Ziehl-Neelsen Stain. C. A. Treuholtz, Fort Bayard, N. M.

5. **Plague.**—Doty considers the history of plague and other epidemics, and argues therefrom that when modern sanitary regulations are carefully enforced, particularly in communities where people aid rather than obstruct the health officers, outbreaks of infectious disease can surely be brought under control, and that the ravages which they have caused in the past need never occur again. He guards against belittling the dangers, but points out that the conditions which are responsible for the havoc wrought by plague in India could not occur in any part of the world where modern sanitary regulations can be enforced.

6 **Renal Complications of Influenza.**—Stern insists that renal disease as a sequence of influenzal poisoning is underestimated. He distinguishes three forms of renal complications of influenza: (1) Cases with acute symptoms of renal involvement; (2) cases in which occurs an aggravation of pre-existing renal disease; (3) postinfluenzal nephritis. He discusses these forms in detail, and states with regard to acute nephritis that it is comparatively infrequent, which fact must be ascribed to the slight virulence of the influenza poison to the kidneys. Postinfluenzal nephritis is less of a complication than sequel. Stern is of the opinion that the majority of chronic interstitial nephritides not due to constitutional causes are the consequence of an acute infectious disease. In all cases of a long protracted convalescence from influenza, or of bodily decline after this infection, the state of renal efficiency should be ascertained by the phloridzin test. He shows that of fourteen sets of kidneys tested in this way only three pairs functionated properly.

7. **Oronasal Influenza.**—Bryant's thesis is that the influenza bacillus enters through the mucous membrane of the pharynx. The diagnosis is readily made in the great majority of cases as soon as symptoms appear. It is amenable to appropriate treatment. The complications of the upper air tract can be avoided by prophylactic care of the nose or serious results can be prevented by early operation after infection has taken place.

9. **Accidents and Psychoses.**—Gordon says that in cases of railway or other injuries caused by neglect of those who have in charge the management of transportation cars, it is no more than just that the injured person should be compensated for disability. On the other hand, simulation or exaggeration of incapacity should be condemned. The physician is indispensable to the law. In the name of justice he invariably must be reserved in his statements. His opinion must be formed after a thorough study of each individual case. He must not forget that, while some severe traumatisms produce mild symptoms, some insignificant ones cause marked disturbances of the nervous system. The degree of the disability and the prognosis of the affection vary in different cases. The recognition of the affection, the recognition of the influence of the accident on its manifestations, finally the discrimination of a genuine malady from a simulated one can be acquired only when the physician is properly prepared. In view of the practical importance of the subject, a continuous study of it is indicated.

10. **Fetid Breath.**—Lederer discusses fully the nature, origin and causes of the various forms of fetid breath, besides those

due to conditions of the respiratory and gastrointestinal tract. Nervous disturbances, emotion, the menstrual period and sexual intercourse, all affect the breath in certain cases. He emphasizes the fact that systemic disturbances will not always produce general systemic symptoms, and that bromopnea, so frequently treated unsuccessfully as a condition *per se* and often not treated at all, is frequently the signal of masked systemic disturbances.

New York Medical Journal.

January 11.

12 *The Voice as an Index to Diseases of Throat, Nose and Ear. G. H. Makuen, Philadelphia.
13 Advantages of Sanatorium Régime in Tuberculosis, Especially in the Treatment of Extrapulmonary Lesions. F. M. Pottenger, Monrovia, Cal.
14 *Acute Pulmonary Edema as a Complication of Epileptic Seizures. W. T. Shanahan, Sonyea, N. Y.
15 *The First Week of Infant Life. D. H. Sherman, Buffalo.
16 Abortive Treatment of Gonorrhea in the Female. F. Bierhoff, New York.
17 *Cerebral Contusion. C. White, Washington, D. C.
18 Hospital Dietetics. D. Roberts, Brooklyn.
19 Causes of Appendicitis. A. W. Armstrong, Canandaigua, N. Y.
20 Inspection and Chemical Examination of Baltimore Milk Supply. W. E. Hoffman, Jr., Baltimore.
21 Bier Clinic at Berlin. M. H. Brown, New York.

12. **The Voice.**—Makuen discusses the character of the voice as an index to the physical, moral and cultural qualities of its owner. He points to the weak and almost inaudible voice of the very sick person, the so-called ministerial voice of the minister, the sympathetic voice of the physician, and the colder and more judicial tones of the lawyer, as well as to the generally recognized cultured voice of highly educated and refined people. Defects of voice, however, dependent on physical causes, may be overcome by training, as when one is surprised to find enlarged tonsils or relaxed palates or elongated uvulas in the throat of famous singers. He goes into detail concerning the hoarse, the throaty, the tremulous, the muffled, the whispered, the falsetto and the nasal voice. The hoarse voice is always pathognomonic, either of intralaryngeal disease or of some disease of the central nervous system having an intralaryngeal expression. Acute laryngitis, incipient tuberculosis, intralaryngeal tumors and ulcers are instances. The tremulous voice is found in those debilitated by overwork or extraordinary vocal effort. It often becomes a nervous habit, a veritable fear neurosis. The whispered voice is found in hysterical aphonia and in acute laryngitis with mechanical obstruction of the cords. It must be remembered, however, that the hysterical element may be not the cause but a subsequent development. The voice of the deaf is an unmodulated voice. The muffled voice indicates faucial or nasal obstruction. The falsetto voice rarely indicates a special lesion. It is due to erroneous conception of the true tones. The nasal voice is due generally to inadequacy of the velum palati.

14.—Abstracted in The Journal, Nov. 16, 1907, page 1703.

15. **Infant Life.**—Sherman calls attention to some neglected precautions that can be taken on behalf of the infant in its first week of life, and emphasizes the necessity of asepsis. He reviews the statistics of infant mortality as indicating the following points requiring careful attention: The first is the body temperature. The temperature in the rectum should be kept above 98; the birth temperature is about 99.5, and in one hour is apt to be 96 or 97, and not for a week can the child easily maintain it at 98. The amount of food ingested is important. The scales are of value in this connection. Pain due to the giving of too little water, to which a small amount of alkali should be added, is another factor. Uric-acid infarction of the kidney of the new-born is not infrequent. The rougher methods of performing artificial respiration when necessary form another cause of physical depression. Sherman considers the various sources of infection of the new-born infant in considerable detail and their manifestations, commonly thought due to other diseases—gastrointestinal disturbances, respiratory troubles, skin diseases and nervous conditions—all of which may be due directly or indirectly to infection. Icterus and melena of the newborn are considered in detail.

17. **Cerebral Contusion.**—White discusses the symptomatology, diagnosis, prognosis and treatment of cerebral contusion, reports two cases and states the following general conclusions: Cerebral contusions, when fatal, are due to laceration or hemorrhage. Prolonged coma is a reliable indication of increased pressure. A conscious period followed by coma indicates hemorrhage. High blood pressure is an early and reliable symptom of pressure. Trephining is indicated in plus intracranial pressure from hemorrhage or edema. Venesection is of doubtful value.

Lancet-Clinic, Cincinnati.

January 4.

22 *Treatment of Pneumonia in Children. F. H. Lamb, Cincinnati.
23 *Symptomatic Toxemia from Local Infection. B. Holmes, Chicago.
24 Preparation and Postoperative Treatment of Surgical Cases. L. G. Bowers, Dayton, Ohio.

January 11.

25 *Inoperable Sarcoma of Neck Treated Successfully with Coley's Toxins. J. C. Oliver, Cincinnati.
26 Gonorrhea and Marriage. T. M. Reade, Springfield, Ohio.
27 *A Duty to Society Only Partially Performed by the Medical Profession. B. H. Blair, Lebanon, Ohio.
28 Diagnostic Value of Cutaneous and Ocular Reactions to Tuberculin. H. Schroer, Cincinnati.

22. **Pneumonia in Children.**—Lamb discusses the treatment of bronchial pneumonia and lobar pneumonia in children, and among other points emphasizes the following: Digitalis does not act so well in children as in adults. A reliable preparation of strophanthus is safer and better than digitalis. Caffein is an excellent drug for a weak heart when cerebral congestion is not marked. Camphor as a heart stimulant is not appreciated by most physicians, but it is one of the best we have. A child of one year may take 1 dram of camphor water every two hours. Alcohol is rarely of service in bronchial pneumonia. In collapse from heart failure a hypodermic of ether may be given immediately, followed by the slower-acting but more persistent strychnin sulphate (from 1/50 to 1/30 grain for a child of one year), or by a syringeful of camphorated oil. In lobar pneumonia cold compresses are of great value in the early stages. In most children the dosage of drugs is proportionately larger than in adults, and in pneumonia they should be given to the limit of tolerance. Finally, he says, never give up in pneumonia, but stimulate to the bitter end.

23. **Symptomatic Toxemia.**—Holmes reports five cases illustrating toxemia manifesting itself in the circulatory apparatus by a mild carditis and tachycardia. He says that the source of secondary diseases of the kidneys, heart or nervous system should always be sought in a hidden toxemia. Frequently, infection of the mucous cavities of the body, cholecystitis and cholangitis originate a toxemia manifesting itself in a myocarditis, symptomatically expressed by tachycardia, dyspnea and dilatation of the heart. Cholecystostomy and prolonged biliary drainage terminate the toxemia and restore relative health. There is a toxemia in practically every case of mental aberration, requiring commitment to an institution.

25.—Abstracted in The Journal, Jan. 18, 1907, page 233.

27. **The Medical Profession and Society.**—Blair recites the various public services rendered by the medical profession to humanity, in its influence on the progress of civilization and commerce, the discovery of the cause of various infectious diseases and their consequent reduction, the saving of sight and hearing in infants, and the preservation of the public health by general sanitation, by the regulation of labor, particularly in the case of women and children, and by other economic measures. The importance of its work, however, in the exposure of quacks and quackery, and especially of the nostrum evil, is not so generally recognized as it should be, even in the profession itself, as being a work on a par with those above named. Yet such it is, for this evil involves the consumption of enormous quantities of alcohol, opium, and other deleterious preparations undermining the general health, or creating enslaving habits. It is further charged against the nostrums that their claims are mostly exaggerated, misleading and fraudulent; they foster a belief that serious illness exists or threatens when such is not the case; they discourage and postpone a correct diagnosis, on which alone a rational treatment can be founded; until a period, perhaps, when the remediable has become irremediable. By their insistence

also, on the all importance of the drug remedy, they tend to divert public attention from those important matters of diet, hygiene and regimen to which drug treatment should really be an auxiliary; many of them are absolutely immoral in their purposes; they create false standards of professional excellence and of religion and philanthropy. It is clearly, then, the duty of the medical profession to fight these evils in every way, by teaching individually their patients and associates, by public lectures, by supporting those leaders, journals, agencies and organizations, lay or professional, engaged in suppressing fraudulent medicines and practices or immoral advertising. Finally, Blair commends the Public Health Defense League, and urges on physicians, as a step toward strengthening themselves for this work, the devoting of more time to the study of pharmacology, the Pharmacopeia and the National Formulary, together with the work of the Council on Pharmacy and Chemistry.

Journal of Medical Research, Boston.

December.

29 *Study of Gonococcus by Fixation of Complement. O. Teague and J. C. Torrey, New York.
30 *Relation of Eosinophilic Cells of Blood, Peritoneum and Tissues to Various Toxins. C. P. Howard, Montreal, Can.
31 *Elastic Tissue Proliferation. S. W. Sappington, Philadelphia.
32 Study of the Diphtheria Group of Organisms, with Special Reference to Fermentation. H. Zinsser, New York.
33 *Pathologic Histology of Rabbits After Double Nephrectomy. P. A. Lewis, Boston.
34 *Difference in Results Obtained After Inoculation of Tumors into Individual in Which Tumor Had Developed Spontaneously and into Other Individuals of Same Species. L. Loeb and S. Lepold, Philadelphia.
35 *Function of Tonicity in Human Isohemagglutination. F. P. Gay, Boston.
36 *Determination of Alexic Activity of Human Blood Serum. Id. and J. B. Ayer, Jr., Boston.
37 Alexic Activity of Blood Serum of Cadavers. F. P. Gay, Boston.

29. **The Gonococcus.**—Teague and Torrey found that the serum of an animal immunized to one strain of gonococcus may not cause fixation of complement when tested against an antigen obtained from another strain. This confirms the view, already advanced, from a study of the agglutinins and precipitins of the gonococcus, that this in reality is a heterogeneous family of organisms. In applying this method of fixation of complement to the differentiation of the gonococcus from other micro-organisms erroneous conclusions are consequently likely to be drawn, on account of this heterogeneity. The use of serums immune to several selected strains may prove to be a solution of this difficulty. In attempting the diagnosis of gonorrheal infections by this method of complement, fixation extracts of several different strains must be employed.

30. **Relations of Eosinophiles to Toxins.**—Howard concludes that there is a prompt and general diminution of the eosinophilic cell in the blood of the general circulation following subcutaneous, intraperitoneal and intraocular injection with sodium chlorid, egg albumin, typhoid toxin, *Streptococcus pyogenes* and *B. anthracis*. On intraperitoneal inoculation there is a definite and often marked decrease of the eosinophilic cell locally, while after inoculation into the anterior chamber of the eye there is no appreciable local attraction of this cell. Hence, the eosinophilic cell is a specific cell and reacts differently to these substances from the polynuclear small granular cell.

31. **Elastic Tissue Proliferation.**—*B. Hoffmanni, B. diphtheriæ,* and *B. xerosis* can be readily differentiated on the serum-water-sugar media; the first causing acid in none of the sugars used; the last two differing in that *B. diphtheriæ* ferments dextrin but not saccharose, and *B. xerosis* ferments saccharose but not dextrin. These results are different from those of other observers.

33. **Pathologic Histology of Rabbits After Nephrectomy.**—Complete destruction of the function of the kidneys in rabbits, either by double nephrectomy, ligation of both renal arteries, or ligation of both ureters, as a constant result, causes the development of an acute parenchymatous fatty degeneration and interstitial proliferation in the myocardium, an accumulation of fat in the endothelial cells lining the sinusoids of the liver and the accumulation of a substance, probably fat, in the blood serum. The experiments are an interesting illustration of the severity and character of the anatomic alterations which may develop in the body of an animal by its own perverted forces to the exclusion of extraneous poisons or infectious agents. So far as these experiments may be assumed to bear on the problem of the origin of the chronic myocarditis associated with nephritis arising under natural conditions in man and animals, they tend to support the view that the pathologic changes in the heart are a direct consequence of the kidney disease and independent in their origin of the vascular disease so often associated with both. The life of the animal after double nephrectomy is so short that the experiments can hardly be held to preclude the possibility that disease of the blood vessels might also be a direct although a later consequence of kidney disease.

34. This article is discussed editorially in this issue of The Journal.

35. **Human Isohemagglutination.**—Gay finds that there is evidence for the belief that isoagglutination of human blood may be due simply to physico-chemical variations of molecular concentration, and independently of the presence of any hypothetical new chemical complex (agglutinin).

36. **Alexic Activity of Human Blood.**—As fixed unit for determination of the lytic activity of human serum, 1 c.c. of beef blood corpuscles saturated with the inactivated (56 C.) serum of rabbit immunized against beef blood was employed. In cases of insanity, normal as regards physical condition, the lytic activity of the serum as determined by this method was found to correspond very closely in the majority of cases and also in several determinations made at different times on the same individual.

American Journal of Obstetrics, New York.

December.

38 *Best Method of Teaching Gynecology. J. N. West, New York.
39 *How to Teach Diagnosis in Diseases of Women. J. R. Goffe, New York.
40 *Teaching Methods in Gynecology. C. Jewett, Brooklyn, N. Y.
41 *Teaching by Charts, Models and Modeling. R. L. Dickinson, Brooklyn, N. Y.
42 Two Cases of Abdominal Section for Trauma of Uterus. J. B. Sutton, London, Eng.
43 Primary Squamous-Celled Sarcoma of Body of Uterus. C. C. Norris, Philadelphia.
44 Case of Deciduoma Malignum. A. M. Vance, Louisville, Ky.
45 *Intra-abdominal Torsion of Omentum without Hernia. R. E. Skeel, Cleveland.
46 *Nymphomania as Cause of Excessive Venery. C. C. Frederick, Buffalo, N. Y.
47 Myofibroma Complicating Pregnancy; Hysterectomy. E. J. Ill, Newark, N. J.
48 *Conservative Medical Treatment of Salpingitis. Id.
49 *Consistency in Aseptic Surgical Technic. J. E. Sadlier, Poughkeepsie, N. Y.
50 *Deciduoma Malignum. M. F. Porter, Fort Wayne, Ind.
51 Unusually Large Dermoid Tumor in Ovary. W. M. Humiston, Cleveland.
52 Nephrocolopexy. H. W. Longyear, Detroit.
53 Large Echinococcus Cyst of Liver; Operation and Recovery. H. E. Hayd, Buffalo, N. Y.
54 Cotarnin Phthalate in Uterine Hemorrhage. O. Maier, New York.
55 Hydramnion; Acrania with Spina Bifida. J. M. Rector, Jersey City, N. J.
56 Case of Puerperal Eclampsia. W. E. Lippold, Brooklyn, N. Y.
57 Telephonic Curette. A. C. Jacobson, Brooklyn, N. Y.

38. **Teaching Gynecology.**—West suggests a union of medical colleges into a medical university under the control of the state, which should assign to public hospitals according to the number of their beds a certain proportion of medical students in their fifth year, and by placing work now done by nurses, such as taking pulse and temperature, and administration of massage, hydrotherapy, in the hands of the medical students in their last year, the hospitals might diminish the number of nurses, greatly increase the number of internes, and carry out useful forms of treatment which under our present system are almost neglected. The need of postgraduate schools at present is enormous. Their proper function consists in bringing before graduates the latest procedures and refreshing their minds on the most improved methods of diagnosis and treatment.

39. **Id.**—Goffe emphasizes the fact that the genital organs of woman do not constitute the entire woman. At present the symptom-group of nervous exhaustion—anemia, backache, bearing down, difficult walking, ovarian pain and menstrual disorders—although often without the least gynecological significance, is usually the signal for a gynecologic diagnosis. Yet these very exacting symptoms may be wholly due to nerve

strain, or to loss of brain control over the lower nerve centers, and not to direct or reflex action from some supposed uterine disorder. Neither need they necessarily come from some existent real, tangible and visible uterine lesion. The invisible, impalpable, imponderable nervous system may be the sole delinquent. All the uterine symptoms may be the outcome of the woman's sorrows, and not of her local lesions. She may be suffering from a sore brain and not from a sore womb. In all cases the heart, the lungs and the kidneys should be examined first of all. As to the tactus eruditus, it resides not in the finger but in the brain, and is that faculty of mind which consists in making a mental picture of what the sense of touch conveys to it. By cultivation it reaches the highest perfection in the blind. In vaginal examination the first need is a fixed line of departure. When the patient is lying on her back on the table, the axis of the vagina lies parallel with the table. Passing the finger in direct extension from the forearm, which is parallel with the table, it reaches the cervix, whose direction to the axis of the vagina must be either perpendicular or parallel. If perpendicular and pointing posteriorly, the uterine position is normal and the fundus must be normally anterior. If the cervix is parallel to the vaginal axis, a pathologic condition is present, and the fundus must be either anteflexed, retroflexed or retroverted. As perfect perpendicularity or parallelism is not to be found, we must determine the approximation to either, and this is done by noting how the finger approaches the anterior lip, the os and the posterior fornix, or point of attachment of the posterior wall to the cervix, respectively. Goffe then describes in detail his method of instructing in regard to the position of the fundus and the varying conditions thereof, and the search for the ovary.

40. **Id.**—Jewett discusses the lecture, the quiz, practical training, diagnosis, operations on the cadaver, surgical clinics and casts for teaching, and describes the making of the latter with plaster, paraffin wax, molding composition, glue or gelatin and glycerin, and paper or papier mache.

41. **Id.**—Dickinson describes the methods of making and storing wall charts, and that of teaching by casts, modeling clay and glue molds. Two figures show the value, by contrast, of lines or washes of color on charts. He suggests that Clarence Webster's sketchy colored plaster casts of the every-day vulva and cervix and the common defects and injuries and of the steps of the operation for their repair, could well be reproduced for a few cents, like the medallions Italians sell, and sold to students or lent to them. The glue molds might be used in teaching suture of primary perineal injuries. The surface should be dusted with any white powder, and as the scissors make the denudation the red material shows up. The material is that used in the grotesque faces sold by street fakers; it is used by all plaster workers for matrices, the only addition being that of a little brown sugar.

45, 46, 48, 50. Abstracted in THE JOURNAL, Oct. 5, 1907, page 1213.

49. **Aseptic Technic.**—Sadlier considers that the difference in mortality statistics between equally careful, painstaking and competent surgeons lies in consistency or inconsistency of asepsis. He insists on the value of having material prepared, packed and unpacked, by one's own well-trained nurse, who may be, indeed, one's first and often only assistant. Sterile rubber gloves are insisted on. They should be used also between operations when making examinations, changing dressings, etc.

American Medicine, Philadelphia.

December.

58 Ready Tables for Modified Milk. J. O'Malley and A. O'Malley, Philadelphia.
59 *Clinical Observations on Uncinariasis. E. C. Shattuck, Manila, P. I.
60 Syphilitic Enlargement of Salivary Glands. B. C. Gile, Philadelphia.
61 Congenital Anatomic Deficiencies. C. H. Muschlitz, Philadelphia.
62 *Unusual and Interesting Muscular Anomalies. H. E. Radasch, Philadelphia.
63 Sanitary Score Card as Factor in Inspection of Dairy Farms. E. M. Santee, Washington, D. C.
64 Intumescence of Lower Turbinate; Saw Knife for Its Reduction. J. G. Parsons, Brookings, S. D.
65 Doubling Reading Power in Amblyopia by Crossed-Cylinder Reader. G. M. Gould, Philadelphia.

59. **Uncinariasis.**—Shattuck gives an account of recent work done on uncinariasis in the Bilibid prison, Manila. For some time past routine examinations have been made of the blood, urine and feces in all cases. Since Oct. 29, 1906, approximately 1,000 examinations have been made, showing 243 cases of uncinariasis admitted from quarantine to hospital. Of those admitted to the hospital from all sources he had notes of 492 cases. Among the symptoms noticed in the majority of these cases were headache, vertigo, insomnia, dyspnea, palpitation, colic, constipation or diarrhea, brown or yellow mucus or bloody stools, albuminuria and edema. In many cases there was moderate fever. A number were complicated by amebic dysentery or beriberi. Some cases showed no clinical symptoms, the microscopic test alone revealing the condition. The most severe cases were those complicated with chronic intestinal catarrh. With timely treatment, the prognosis in uncomplicated cases is good. He has used with good effect Phillip's formula, which is as follows: 2.5 grams of oil of eucalyptus; 3.5 grams of chloroform, and 40 c.c. of castor oil, divided into two doses and given on an empty stomach half an hour apart. He has increased the dose by giving 30 c.c. of the same formula, repeating it in half an hour; the patient first receives a dose of magnesium sulphate, and two hours after the second dose another dose of magnesium sulphate. Fasting is necessary. Both thymol and eucalyptus produce good results, but Shattuck prefers the latter.

62. **Muscle Anomalies.**—Radasch reports the following muscle anomalies: A third head to the gastrocnemius; an accessory extensor pollicis (?); a digastric extensor brevis pollicis, and an accessory palmaris longus.

Journal of the Missouri State Medical Association, St. Louis.

December.

66 Plea for State Provision for Nervous Invalids. J. Punton, Kansas City.
67 Malformation of Rectum and Anus. W. H. Coffey, Kansas City.
68 Above All, the Clinician. W. G. Moore, St. Louis.
69 *Alimentary Intoxication in Infants. J. Zahorsky, St. Louis.
70 The Eye and the Nervous System. A. E. Derwent, Clinton.

69. **Alimentary Intoxication.**—Zahorsky holds it more reasonable to consider the alimentary intoxication in infants as coming from bacterial products in the intestine, than, as Fiukelstein does, as due to faulty metabolism. He enumerates the three recognized types—the indolic, the saccharobutyric, and that type in which the proteids, hydrocarbons and carbohydrates are subject to bacterial decomposition, describes their mode of production and asserts that in any case the clinical syndrome known as alimentary intoxication deserves clinical recognition. Sugar is by no means a harmless substance. The old maxim that sweets may produce severe illness in children is corroborated, he asserts, by modern observations. He can recall many cases of sudden collapse in children fed on condensed milk and other foods high in carbohydrate content. He feels convinced that these were cases of alimentary intoxication. Even in breast-fed infants the collapse may occur if they are fed on other foods also.

Mississippi Medical Monthly, Vicksburg.

January.

71 President's Address before Tri-County (Miss.) Medical Society. D. W. Jones, Fernwood.
72 *Gunshot Wounds. O. N. Arrington, Vicksburg.
73 Three Cases of Constipation. H. C. Buck, Friars Point.

72. **Gunshot Wounds.**—Arrington confines his remarks to S. & W pistols and shotguns as being the cause of practically all the gunshot wounds seen by the majority of practitioners. Such wounds are always emergency cases to the physician first called in, and every practitioner should be well posted in this class of injuries in all its phases. Arrington considers the subject under the general head of gunshot wounds of the extremities, the skull and spine, the thorax and abdomen, with special consideration of injuries to vessels, nerves and bones. Common sense and proper appreciation of the end in view should govern the treatment in all cases. Gunshot wounds may be considered aseptic in the absence of positive evidence to the

contrary. Wounds of the chest without shock call for no interference; severe continuous shock demands enlargement of the wound for inspection. Wounds of the spinal cord are treated on the same general principles as fracture of the spine. The prognosis is always bad.

Texas State Journal of Medicine, Fort Worth.

December.

74 Mission of Municipal or State Sanatorium for the Tuberculous, and Urgent Need of More Institutions of This Kind. S. A. Knopf, New York.
75 *Trachoma in School Children of Dallas. W. E. Howard, Dallas.
76 Operative Treatment of Appendicitis. A. C. Scott, Temple.
77 Two Cases of Renal Tuberculosis. P. Howard, Houston.

75. **Trachoma.**—Howard finds that in Dallas, out of an aggregate of 7,171 school children, 310, or about 4 per cent., had trachoma. For treatment he suggests that in the proliferative stage the lids should be rolled, followed by massage and a bichlorid solution. In corneal involvement the eye should be splinted with atropin and at times a pressure bandage applied; selected cases respond readily to the copper sulphate stick lightly applied. Pannus should be treated by massage with boric acid powder sprinkled between the ball and the lid. In the atrophic stages of the disease copper cataphoresis can be used to advantage.

Journal of the Michigan State Medical Society, Detroit.

December.

78 The Psychasthenic States. C. W. Hitchcock, Detroit.
79 One Year's Experience in Home Treatment of Tuberculosis. W. M. Donald, Detroit.
80 *Diet in Tuberculosis. J. A. Johnson, Greenville.
81 Tuberculosis from a Surgical Standpoint. D. K. Black, Greenville.
82 Cases of Oto-Antritis, Tympano-Mastoiditis, and Cerebellar Abscess. E. Amberg, Detroit.
83 Rectal Valves. J. A. McVeigh, Detroit.

80. **Diet in Tuberculosis.**—Johnson discusses diet in tuberculosis and incidentally mentions two important points: 1, to make sure that the patient is not taking some nostrum in addition to what has been prescribed for him, a practice which is not uncommon, as quick cures are always attractive; secondly, that nationality and usual mode of life of the patient are factors to be considered. Many diet lists intended for tuberculous patients are taken from works of German writers. A German or German-American might thrive on them, whereas an Englishman, Frenchman or American would find it difficult to take some of the articles advised, and vice versa. Johnson considers that alcohol is best avoided except in the last stage. Here again, however, he says nationality and habit must not be disregarded. A quantity of wine or beer at dinner varying with individual needs may be allowed.

Colorado Medicine, Denver.

December.

84 Acute Bronchopneumonia. J. G. Hughes, Greeley.
85 *Treatment of Pneumonia. C. Johnson, Montrose.
86 Pneumonia in Infants. W. T. Little, Canon City.
87 Case of Syringomyelia. F. L. Barrows, Boulder.

85. **Pneumonia.**—Johnson discusses the treatment of pneumonia and states that in the hospital with which he is connected a palatable mixture, which can be kept for a considerable time without deterioration, and has the following formula, is kept in stock: Sodium bromid, fluidextract of ergot, alcohol, of each ℥i (30 c.c.); glycerin, ℥ii (60 c.c.); pure water Oi (480 c.c.). A teaspoonful is given every hour, or as directed. As soon as the effect of the hourly dosage is shown by the lessened pain and expectoration, the interval between doses is lengthened to two or three hours and the administration in this way is continued for several days. The treatment seems to work equally well with children and adults, though alcoholics respond poorly.

Alabama Medical Journal, Birmingham.

December.

88 *General Principles of Abdominal Drainage. G. S. Brown, Birmingham.
89 Symptoms and Treatment of Pyonephritis and Nephrolithiasis. G. Torrance, Birmingham.
90 Diagnosis and Clinical Types of Malarial Fever. S. H. Mann, Ensley.
91 Dysentery, Etiology and Pathology. J. Douglass, Birmingham.

88. **Abdominal Drainage.**—Brown emphasizes the fact that the principles of drainage are more important than the selection of drainage material and the application. Because of the superior resisting power of the peritoneum it is not necessary to drain the peritoneal cavity merely because it has been contaminated, but this can not be said of the muscle and fat of the wound of the abdominal wall, which may become infected by a gangrenous appendix, for instance, being drawn over it. The terms "pack" and "drain" should not be used interchangeably. A drain will not pack and a pack will not drain. The idea of a drain should not be to conduct the secretions out of the wound, but to insure the wound staying open so that the secretions can get out.

Illinois Medical Journal, Springfield.

December.

92 *Hysteria and Neurasthenia; Their Nature and Treatment Contrasted. L. H. Mettler, Chicago.
93 *Practical Venereal Prophylaxis. D. Lewis, Chicago.
94 *Rapid Osteoclasis Versus Osteotomy. F. B. Lucas, Peoria.
95 *Paralysis of Legs in Children. E. W. Ryerson, Chicago.
96 *Scopolamin and Morphin as a Preliminary of General Anesthesia. C. U. Collins, Peoria.
97 Estivoautumnal Malaria. C. A. W. Zimmerman and W. Wilhelmj, East St. Louis.

92. Abstracted in The Journal, June 22, 1907, page 2150.

93, 95 and 96. Abstracted in The Journal, June 22, 1907, page 2151.

94. **Osteoclasis Versus Osteotomy.**—Lucas considers the advantages of osteoclasis over osteotomy to be: 1, Elimination of possible infection dangers from open incision method; 2, rapidity of operation; 3, the fact that pain is not complained of once in twenty cases and is never severe; 4, rapid union on account of slight periosteal disturbance; 5 (and this is not mentioned anywhere in any available authorities), increase of stature after bowlegs and anteriorly bent tibia correction.

Journal of Cutaneous Diseases, New York.

December.

98 *Opsonic Method in Skin Diseases. A. Whitfield, London, Eng.
99 *Bacterial Injections in Treatment of Suppurative and Tuberculous Diseases of Skin After Method of Wright. V. M. von Eberts, Montreal, Can.
100 *Bacterial Injections in Treatment of Diseases of the Skin. J. F. Schamberg, N. Gildersleeve and H. Shoemaker, Philadelphia.
101 *Cytoryctes Variolæ; Organism of Smallpox. G. N. Calkins, New York.

98. Abstracted in The Journal, Oct. 5, 1907, page 1215.

99, 100 and 101. Abstracted in The Journal, Oct. 5, 1907, page 1214.

Journal of Advanced Therapeutics, Rahway, N. J.

December.

102 *Action of Radiant Light Bath in Nervous Diseases. T. D. Crothers, Hartford, Conn.
103 Production of Sterility by Roentgen Rays. F. B. Granger, Boston.
104 *Is Sterility at Will Possible Under Application of Roentgen Rays? J. Rudis-Jicinsky, Cedar Rapids, Iowa.
105 Cancer and Its Treatment by Cataphoric Sterilization. (Continued). G. B. Massey, Philadelphia.

102. This article appeared in the *New York Medical Record*, Nov. 23, 1907, and was abstracted in The Journal, Dec. 7, 1907, page 1953.

104. **Voluntary Roentgen-Ray Sterilization.**—Rudis-Jicinsky's article suggests that the Roentgen ray is an efficient agent for sterilizing males without interfering with the sexual appetite and capacity.

Buffalo Medical Journal.

December.

106 *Sanitary Work in the State of New York. E. H. Porter, Albany, N. Y.
107 Acinitis Prostatica. J. H. Dowd, Buffalo, N. Y.

106. This article was published in the *New York Medical Journal*, Nov. 9, 1907, and was abstracted in The Journal, Nov. 16, 1907, page 1715.

Wisconsin Medical Journal, Milwaukee.

December.

108 *Nerve Lesions Complicating Simple Fractures of Long Bones and Their Treatment. K. Doege, Marshfield.
109 *Simple Ulcer of Bladder in Female. M. W. Dvorak, La Crosse.
110 *Early Diagnosis of Gastric Carcinoma. W. Ackermann, Milwaukee.
111 *Management of Labor. F. W. Epley, New Richmond.

108 to 111. Abstracted in THE JOURNAL, Aug. 31, 1907, page 794.

American Practitioner and News, Louisville.

December.

112 Diagnosis and Treatment of Tuberculosis of the Kidney. J. M. Morris, Louisville, Ky.
113 Emergencies and Short Reports of Emergency Cases. E. Marshall, Louisville, Ky.
114 Anesthesia, General and Local. C. E. Montgomery, Louisville, Ky.

Journal of the South Carolina Medical Association, Greenville.

January.

115 Medical Diplomacy. R. E. Hughes, Laurens.
116 Scarlet Fever. D. Furman, Greenville.
117 Uncinariasis. W. Weston, Columbia.
118 Strangulated Hernia. C. B. Earle, Greenville.
119 The Stomach. A. D. Cudd, Spartanburg.

Journal of the Kansas Medical Society, Columbus.

December.

120 Senility. L. O. Nordstrom, Assaria.
121 Essential Points in the Diagnosis of Nervous Diseases, with Case Report. O. D. Walker, Salina.
122 Significance of Hydrochloric Acid in Gastric Carcinoma. J. G. Sheldon, Rosedale.
123 The Sunflower. J. N. Winegar, Hamilton.
124 Scarlet Fever. G. M. Anderson, Beverly.
125 How Not to Do It. E. T. Shelly, Atchison.
126 Mercurial Stomatitis. D. D. Haggard, Philipsburg.

Ophthalmology, Milwaukee.

October.

127 Ophthalmoscopic Appearances in Chronic Cyanotic Polycythemia. E. Jackson, Denver.
128 Killian Frontal Sinus Operation; Its Relation to Ophthalmology. Use of Roentgen Ray in Sinus Disease. H. G. Langworthy, Dubuque, Iowa.
129 Pulsating Exophthalmos Treated by Incision of Dilated Orbital Vein. H. Gifford, Omaha.
130 Keratitis Disciformis. W. Zentmayer, Philadelphia.
131 Posterior Sclerotomy as a Preliminary to Iridectomy in Secondary Glaucoma. C. Zimmerman, Milwaukee, Wis.
132 The Fogging Method Applied to Treatment of Eyestrain. P. Fridenberg, New York.

Annals of Otology, Rhinology and Laryngology, St. Louis.

September.

133 Etiology of Erysipelas. C. R. Holmes, Cincinnati.
134 Purulent Affection of Labyrinth Consecutive to Disease of Middle Ear; Pathology. C. J. Blake, Boston.
135 Symptomatology and Diagnosis of Labyrinthitis Consecutive to Purulent Otitis Media. H. O. Reik, Baltimore.
136 Treatment of Purulent Affection of Labyrinth Consecutive to Disease of Middle Ear. J. D. Richards, New York.
137 Suppurating Middle Ear Diseases of Infancy and Childhood. S. J. Kopetzky, New York.
138 Influence of Imperfect Nasal Respiration on Oral Cavity. E. E. Foster, New Bedford, Mass.
139 Duty of Restoring Hearing by Operation in Chronic Aural Suppuration. C. J. Heath, London, Eng.
140 The Lymphoid Tissues of Fauces in Systemic Infections. J. L. Goodale, Boston.
141 Case of Profound Streptococci Infection of Aural Origin Treated by Operation and Vaccination with Antistreptococcic Serum, Followed by Death from Meningitis. W. S. Bryant, New York.
142 Rosenmueller's Fossæ and Their Importance in Relation to the Middle Ear. F. P. Emerson, Boston.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

December 28.

1 The Personal Factor in Diet. C. J. MacAlister.
2 Constitutional Development and Social Progress of Boys and Girls from Infancy. F. Warner.
3 Four Cases of Infantile Gangrene of Cornea in Which the Treponema Pallidum Was Found. S. Stephenson.
4 Revealed Tuberculosis in Children at School Ages, from Four to Fifteen Years. H. C. Lecky and W. C. Horton.
5 Cases of Streptococcal Meningitis. W. J. Wilson.
6 Case of Diarrhea, Erythema and Asthma Apparently Due to Nasal Disease. J. W. Stenhouse.
7 Treatment of Pyorrhea Alveolaris by Inoculation with Bacterial Vaccine. D. W. Carmalt-Jones and J. E. Humphreys.
8 Appendicostomy in Chronic Dysentery. J. A. Pottinger.
9 Non-tuberculous Intranasal and Postnasal Abnormalities; Their Recorded Association with Tuberculosis. W. C. Rivers.

British Medical Journal, London.

December 28.

10 *Mental Origin of Neurasthenia and Its Bearing on Treatment. D. Drummond.
11 *Tuberculous Chlorosis. A. James.
12 *Automatic Rhythm of the Heart. A. M. Gossage.
13 *Locomotor Ataxia; Its Early Recognition and General Management. E. A. Dent.
14 Open Method of Ether Administration. F. W. Bailey.
15 Open Method of Administering Ether. A. Brownlee and J. L. Thomas.
16 Malignant Endocarditis Lasting Over Six Months Without Bruit. R. Capes.

10. **Neurasthenia.**—Drummond maintains that neurasthenia is a definite, genuine disease of mental origin and amenable to treatment. Its physical symptoms are without pathologic basis (in any individual case this must, of course, be ascertained by careful physical examination before diagnosing neurasthenia). The symptoms are as real to the patient as though a physical lesion existed. The determining factor calling attention to a definite organ may be a functional derangement, a recognized and dreaded hereditary tendency or an incautious professional suggestion. The mental history must be sought for; with rare exceptions an established nervous temperament has been inherited. It is unfortunate that there is no word in the language that would be understood by patient friends and physicians alike, to convey the unequivocal significance of the term "nervous." Insanity will not infrequently be found in the family history. In early life, nothing particularly abnormal may have shown, but there is a tendency to attach undue importance to matters that affect personal feelings. For a time usually the patient struggles against the domination of particular ideas or feelings, but later an illness or shock breaks down the remnant of control. He abdicates wil power and takes the path of least resistance. Drummond holds that overwork, mental strain, the grief of bereavement or alarming shock do not themselves produce neurasthenia, and can not be said to be its cause, though they contribute to its development. He emphasizes the damaging effect of uncontrolled bad habits of thought in early life. It is much to be regretted that the terms neurotic, neurasthenic, hysterical and hypochondriacal are, on the lips of the majority of clinica teachers, terms of opprobium, and this is further emphasized by the entire omission of the subject from ordinary teaching and examination. He cautions against giving suggestions to or hurting the susceptibilities of nervous patients, for it i impossible to foresee the effect of a careless statement on none too stable mental organization. Among the points indicating the neurotic nature of symptoms is a tendency of th patient to refer to them as constant, to describe them in exaggerated terms and as always increasing, and to bring wit him to the physician some sympathetic friend who will emphasize his story. In neurasthenia there is an ever-increasin nervousness, a valuable diagnostic point; for it commonly happens that in case of organic lesion, complicated, and it may b masked, by neurasthenic symptoms, the functional aspect becomes less noticeable and the patient acquires increasing control as the serious mischief advances. A judicious and exhaustive physical examination serves the double purpose setting at rest the question whether or not there is organi disease, and of convincing the patient that the physician full understands his case. The personal factor can not be ove looked or depreciated, after a careful and correct diagnosi Treatment calls for a combination of insight, firmness and sym pathy, with courage to speak and act firmly. What we hav to treat is not a group of morbid symptoms, but a specif morbid state of mind and nervous system, and the only rational line of treatment consists in an honest and straigh forward statement to the patient, dealing with the facts of t case, entering fully into the pathology and passing lightly ove symptoms. The power to help and encourage our nervou invalids undoubtedly increases with experience and practic The key to success lies in the proper management of the patient's mental state. The all-important element of the We Mitchell treatment is the isolation under the physician's co trol. The other matters are purely subsidiary. The numb of lasting cures obtained in this way year by year strengthe Drummond's conviction that the theory is true and the pra tice sound.

11. **Tuberculous Chlorosis.**—James looks on this condition one that occurs in individuals, who, as the result of hereditar or acquired causes, have given indication that they posse that low resistance power to the tubercle bacillus that is be described by the old-fashioned phrase, "the tendency to co sumption." In what way and to what extent this blood d fect may be salutary as regards tuberculous lung disease c

only be conjectured. James' idea is that it may be so by inducing an air hunger, thus stimulating lung function and nutrition. As the quality of the blood is good in such cases the improvement of the general health, rather than of the blood, is what is required.

12. **Automatic Rhythm of the Heart.**—Gossage reviews the arguments as between the myogenic and neurogenic causation of the automatic rhythm of the heart, and concludes that the myogenic theory is not incompatible with any known phenomena of the heart beat, while it affords the best explanation of many of them. The complete myogenic theory having the more weighty evidence in its favor should be accepted until stronger arguments are brought against it. The conception that the rhythm is purely muscular in its origin does not preclude the possibility of the beat being influenced by outside nervous impulses, which would give a sufficient explanation of the large nerve supply to the heart.

13. **Locomotor Ataxia.**—Dent discusses locomotor ataxia in the preataxic, the ataxic and the paralytic stage. He considers the general management of this last stage and the special indications in regard to the bladder, dyspnea or laryngeal crises, perforating ulcers, fractures of bones and ataxia. For this last he considers Frenkel's exercises the best form of treatment, and describes their application. In some cases Roentgen rays may be serviceable, though he regards the improvement gained as the result of psychical impression. Thermal treatment and suspension, as well as faradic and galvanic currents, have been used with varying success, though even here the psychical effect is probably the most important. Tabetic patients ought not to marry. Cold and damp aggravate, equable warm and dry climate alleviates, the pains. For drugs he considers potassium iodid and mercury over-rated. Aluminum chlorid two or three times a day is beneficial, especially for the pains. Zinc phosphate and gold chlorid have been used successfully, and arsenic is undoubtedly of service. strychnin, ergot, cannabis indica, calabar bean, nitroglycerin and sodium salicylate have their advocates. Phenacetin and antipyrin are useful, but not without danger. Testicular juice, spinal cord and brain substance and spermin have not proved satisfactory in his experience.

Medical Press and Circular, London.

December 25.

17 *Serum Treatment of Typhoid. Chantemesse.
18 *Interstitial Keratitis from a Modern Standpoint. S. Stephenson.
19 Eyestrain. H. C. Mooney.
20 Effects of Roentgen Rays on Lymphatics and Myeloid Leukemia. E. Epstein.
21 Tuberculosis as Factor in Irish Death Rate. W. R. Macdermott.

17. **Typhoid.**—Chantemesse says that during the six years, April, 1901, to July, 1907, 5,621 cases of typhoid were treated in the Paris hospitals, with a death rate of 17 per cent. Since then a thousand patients have been treated in his fever wards, with only 4.3 per cent, mortality, the treatment comprising cold baths and the antityphoid serum. The improvement is more marked the earlier the serum is injected after the onset of the disease, i. e., before the organic resistance has broken down. He has not lost a single patient in his fever service during the last six years in whom the injection has been made within the first seven days of the disease. The blood pressure goes up within a few hours of the injection, enough often to dispense with cardiac tonics. The urinary secretion is increased. The influence of the serum on the temperature curve is appreciable for ten or twelve days, after which either convalescence sets in, or the temperature continues to fall until recovery. Convalescence is usually rapid in patients treated early. Complications have been infrequent. He speaks highly of the ocular reaction and describes the preparation of the test solution and its method of application.

18. **Interstitial Keratitis.**—Stephenson says that interstitial keratitis is not a primary affection of the cornea, but is prob- part of the uveal tract. It is nearly twice as frequent in females as in males, and four-fifths of the cases occur between the ages of 5 and 15 years. In about two-thirds of all cases it is associated with hereditary syphilitic stigmata, dental, facial or ocular. Tuberculosis, acquired syphilis, influenza, ma- ably in every instance secondary to changes in the anterior laria and sleeping sickness are other causes. Given a predisposition, any local or general lowerer of resistance may excite it. Ulceration of the cornea is frequent. Keratitis is bilateral in three-fourths of the cases, though the interval between the attacks of the eyes may be several years. Recurrences occur in one-fifth of the cases, and are more intractable in cases treated without mercury. The cause is the deposit and multiplication in the cornea of the *Treponema pallidum*, derived primarily from the uveal tract. The disease does not form more than 1 per cent. of the cases in a special eye department. In mild cases the opsonic curve is high, even before the injection of the serum, viz., 2-1. In sèvere cases it is low before the injection, after which there is a sudden and marked rise during the three or four following days, corresponding to wholesale destruction of bacilli throwing toxic products into the blood of one already intoxicated. Care must be observed to avoid giving the patient too severe a shock, or there is risk of inhibiting the production of opsonins. The opsonic curves explain Chantemesse's dictum of 1902 that: "The graver the illness the smaller must be the dose of the serum." He continues the use of the cold baths because they are necessary to assist the patient in resisting the pyrexial reaction that follows the injection.

Dublin Journal of Medical Science.

December.

22 Presence of a Trypanosome in an Irish Bat. A. E. Mettam.
23 Functional Spastic Paraplegia. J. Craig.
24 Intestinal Colic. C. G. Sherlock.
25 Biology and Therapeutics. R. J. Rowlette.

Indian Medical Gazette, Calcutta.

November.

26 Fowl Spirillosis. M. F. Reaney.
27 Blackwater Fever in Jeypore Agency. F. G. de Cruz.
28 What Is Really Known of the Cause of Elephantiasis. S. R. Christophers.
29 Recent Developments in Eye Surgery. J. M. Macphail.
30 Some Forms of Headache. R. H. Elliott.
31 Radical Cure of Hydrocele. L. G. Fink.
32 Operative Treatment of Hydrocele. L. M. Banerji.
33 Cases of Hydrocele. W. C. Benthall.
34 Case of Viperine Snake Poisoning. Recovery. F. Wall.

December.

35 Notes on Twenty-six Cases of Malta Fever in Natives of India. W. F. Brayne.
36 Relapsing Fever. E. Landon.
37 Sixty-one Eye Operations in One Day. H. Gidney.
38 Case in Which Thoracic Duct Was Injured During Removal of Cancerous Glands of the Neck. T. C. Rutherford.
39 *Rats and Guinea-Pigs as Plague Barometers vs. Rat Destruction. R. O. Saigol.
40 *Quinin Sulphate as Factor in Causation of Blackwater Fever. D. McCay.
41 Multiple Abscesses of Liver. Recovery. R. M. Das and F. G. Hurst.
42 *Case of Snake-bite. R. Gandoin.
43 *Russell's Viper Bite Treated by Permanganate of Potash. E. J. Murphy.

39. **Rats as Plague Barometers.**—Saigol argues the futility of trying to exterminate rats, for even where the efforts have been most successful, and rats have been slaughtered in hordes, no appreciable result appears to have been made on the rat tribe. The true course lies in rat-proof houses, sanitation and cleanliness. But he further makes the novel suggestion that guinea-pigs or rats should be kept in cages in the house. This measure would act as a plague barometer, for if any of the rats died, they could be examined for plague. Also they would act as flea catchers and retainers, for the fleas will stay with them rather than attack humans. Finally, they would be locality indicators, for the sick rat has a tendency to wander, and the finding of a dead plague rat does not necessarily indicate that the plague was contracted where the rat was found, whereas the infection of a caged rat renders it clear that the danger spot is there. The animals should be periodically inspected by the officials and freed from their fleas if necessary.

40. **Quinin Sulphate and Blackwater Fever.**—In a special note, McCay, as the result of experimental investigation has found that sulphates in any form upset the normal osmotic equilibrium between the red blood cells and the plasma, causing a serious decrease of the salts in the latter, and thus increasing endosmosis into the red cells and causing them to burst and extrude their hemoglobin. He suggests that the hemolysis in blackwater fever is due to: 1, The injury to the stroma of the

red blood cells caused by the malarial parasite; 2, the presence of a hemolysin; 3, administration of sulphates. Where the first two conditions are insufficient of themselves to produce blackwater fever, the sulphates, by abstracting the salts from the plasma, may act as the determining factor. It was further found that the chlorids, on the other hand, increased the resisting power of the blood, especially quinin hydrochlorid combined with sodium chlorid and dilute hydrochloric acid. Quinin hydrochlorid should, therefore, be substituted, with or without sodium chlorid and dilute hydrochloric acid, in malarial cases in regions where blackwater fever is prevalent. Alkaline carbonates and compounds of alkalies with vegetable acids and potassium salts should likewise be avoided in malaria.

42. **Snakebite.**—Gandoin reports a case of cobra bite of the index finger treated with ligature, scarification, kneading and hot water applications to encourage bleeding, while potassium permanganate was well rubbed into the wound. Dry gangrene set in and the finger was removed fourteen days later. The man recovered with extended and stiff fingers.

43. **Id.**—Murphy records a case of bite on the right foot by a Russell's viper. Warm irrigations with permanganate solution, one gallon of a 10 grains to the ounce solution, was used. The wound was then dressed with potassium permanganate. The patient was under treatment for two months, but recovered.

Clinical Journal, London.

December 18.

44 New Growth of the Lung. N. Moore.
45 Dysentery. F. M. Sandwith.
46 Clinical Afternoon at Poplar Hospital for Accidents. Openshaw, Poland, Rigby.

Annales de l'Institut Pasteur, Paris.

November, XXI, No. 11, pp. 833-927.

47 Coloration of Brown Bread. (Mode de coloration du pain bis.) G. Bertrand and W. Mutermilch.
48 Manner of Growth of Zopf Bacterium. (Tropismes du "bacterium zopfii" Kurth.) E. Sergent.
49 Hematozoon of the Squirrel. (Hæmamœba vassali Lav.) J. J. Vassal.
50 Pigmented Cells of the Vertebrates. E. Golovine.
51 Preventive and Curative Power of Human Serum in Infection Due to the Trypanosome of Nagana. O. Goebel.
52 Six Trypanosomiases of Western Africa. Cazalbou.

Bulletin de l'Académie de Médecine, Paris.

December 9, LXXI, No. 41, pp. 401-416.

53 Alcoholism and External Tuberculous Processes in Adults and Children. P. Reynier.

December 17, No. 43, pp. 477-570.

54 *Pulmonary Tuberculosis and Atheroma of the Aorta. (Tuberculose pulmonaire et athérome.) E. Boinet.
55 Malignant Branchiomas of the Neck and Mediastinal Tumors. H. Duret.
56 *Case of Black Sweat. (Cas de melanhydrose.) R. Blanchard.
57 Epidemiology of Barracks. (Epidémiologie des casernes.) E. Delorme.

54. **Pulmonary Tuberculosis and Atheroma of the Aorta.**—Boinet states that he found evidences of atheroma in the aorta and other large arteries in 125 out of 385 tuberculous cadavers. He analyzes the various forms of tuberculous processes encountered in this material, calling attention to the necessity for prophylactic measures against tuberculosis in persons with atheroma. The comparative frequency of the combination of atheroma and tuberculosis and the dangers of the frequently ignored tuberculosis in these conditions render the subject one of vital interest. Pulmonary tuberculosis accompanying atheroma is generally a torpid, latent process, easily overlooked unless systematically sought for. Many elderly persons with atheroma, who are supposed to have merely an ordinary catarrhal affection of the air passages, are in reality tuberculous and their sputum is liable to spread infection. The fibrous form of tuberculosis is most frequent in the atheromatous. It is characterized by sclerosis, emphysema of the lungs and dilatation of the right heart. The suprarenal capsules were the seat of tuberculous lesions in 65 of the total 125 cases. The complete suprarenal syndrome with Addisonian pigmentation and asthenia was observed in 20 cases; it coexisted always with sclerous or tuberculous lesions of the suprarenal capsules.

56. **Case of Black Sweat.**—Blanchard's patient was a boy of 13 and the pigmented sweat appeared only on the lids and nostrils and below the eyes, where it formed patches like black varnish. These patches had appeared at times during the last three years, and their symmetrical arrangement, their intermittency and their connection with normal sweat conditions and with the state of the weather suggest that the chromhydrosis is a kind of neurosis, but not a trophoneurosis, as there are no organic lesions. Blanchard classes it with essential asthma and vitiligo as an exokinetic neurosis, that is, a neurosis determined by excitation from without, either meteorologic or physico-chemical. Chemical study of the pigment showed properties resembling those of the fuscin or brown pigment of the retinal epithelium, and the localization of the main deposits of the pigment on and below the lower lids confers additional interest on this fact.

Presse Médicale, Paris.

December 14, XV, No. 101, pp. 813-820.

58 *Treatment of Metritis by Suction Hyperemia. (Traitement des métrites par l'application de ventouses sur le col—méthode de Bier.) F. Jayle and R. Lœwy.
59 Acute Suppurative Periostitis. A. Bernard.

December 21, No. 103, pp. 829-836.

60 Combined Action of Gastric and Pancreatic Juices on Starch. (Action synergique des sucs gastrique et pancréatique sur les feculents.) H. Roger and L. G. Simon.
61 Functioning of the New Outlet to the Stomach After Gastroenterostomy with a Permeable Pylorus. M. Guibé.

December 25, No. 104, pp. 837-844.

62 Bismuth in Stomach Affections. (Le sous-nitrate de bismuth dans les maladies de l'estomac.) F. Levy.

58. **Suction Hyperemia in Treatment of Metritis.**—Jayle and Lœwy report seven cases of metritis in which local hyperemia was induced with a special cupping glass devised to fit over the cervix. The suction pump connected with it is arranged so that the pressure of the thumb on the piston aspirates the contents of the glass, leaving the other hand free. All the patients were relieved of pain and were much improved otherwise. The suction glass aspirates the secretions and detritus in the cervix, and induces hyperemia. If there is ulceration there may be some bleeding from the surface, and the thin walls of a cyst may be ruptured. After a few applications the congestion in the pelvis subsides and the symptoms of inflammation in and around the uterus and adnexa gradually disappear, while ulcerations heal over. The suction is generally painful. On the whole, they say, this method of treatment is simple and easy, and the practitioner will be well content with it if he does not expect too much of it. Two illustrations are given of the cupping glass in place.

Semaine Médicale, Paris.

December 25, XXVII, No. 52, pp. 613-624.

63 Intestinal Occlusion Due to Inflammation in and Around the Sigmoid. (Les sigmo-perisigmoidites à forme d 'occlusion.) F. Lejars.

Archiv für Gynäkologie, Berlin.

LXXXIII, No. 3, pp. 505-743. Last indexed Nov. 30, 1907, p. 1880.

64 *Suprarenals and Osteomalacia. (Nebennieren und Osteomalacie.) M. L. M. Bossi.
65 Ovarian Carcinoma from Primary New Formation of Follicles. ("Folliculoma ovarii.") A. Ingier.
66 Menstruation and Ovulation. G. Leopold and A. Ravano.
67 Activity of Ovary During Pregnancy. (Thätigkeit des Eierstocks in der Schwangerschaft.) A. Ravano.
68 Case of Ovarian Pregnancy. (Eierstocksschwangerschaft.) Busalla.
69 *Value of Puerperal Bacteriology. O. P. Mansfeld.
70 The Senile Uterus, Especially the Behavior of the Arteries. E. Fraenkel.
71 Elimination of Chlorids During Pregnancy, Especially in the Dropsy of Pregnancy and Albuminuria. (Ausscheidung der Chloride in der Schwangerschaft.) R. Birnbaum.
72 Present Status of the Ergot Question. (Heutige Stand der Mutterkornfrage.) A. Bennecke.
73 Brain Defects Due to Intrauterine Cerebral Hemorrhage, and Congenital Encephalitis. (Gehirndefecte und Encephalitis congenita.) L. Seitz.
74 Tumors Interfering with Childbirth. (5 Fälle von Geburtsstörungen durch Tumoren.) C. Riemann.
75 Instrumental Perforation of the Uterus. E. Weil.

64. **Osteomalacia and the Suprarenals.**—Bossi here reviews his theory in regard to the connection between the suprarenals and osteomalacia, and analyzes his experience with thirty-four patients with osteomalacia and his experiments on animals. In the first place he warns against assuming any special connection between osteomalacia and goiter, as nothing in his experience suggests its probability. He then gives the details

of the cases of osteomalacia in pregnancy in which the patients recovered under treatment with suprarenal extract. Skiagrams are added showing the increasing density of the bones of the pelvis after 23 injections of the suprarenal extract in the first case. The second patient, a woman of 39, required 104 injections before similar results were attained. The condition in this case was true osteomalacia marasmus, with very low resisting powers; the pregnancy was at the sixth month. After about 24 injections the treatment had to be suspended each time on account of symptoms of intolerance, a tendency to suffocation, chills, general discomfort and trembling, with a drawing feeling behind the sternum. These phenomena appeared about 20 minutes after the injection and gradually subsided after lasting about half an hour; they grew more severe with the increasing number of injections, so the injections were interrupted and resumed after a few days. The dose of 1 c.c. of 1 to 1,000 adrenalin was given three times a day, and the entire treatment was concluded between January 1 and March 3. The abdominal tension subsided under the injections and increased when they were suspended, giving the impression that the bones of the pelvis softened and sank in when the adrenalin was not being taken, and that they became hard again when it was resumed. This impression is confirmed by the skiagrams taken during the treatment and since. Both these patients had an almost painless delivery at term, but the second one required Cesarean section before the disproportionately large child could be delivered. In another case the osteomalacia pains recurred seven years after castration and continued for three years, when they vanished under suprarenal treatment. Another patient, a woman of 37, was freed from the disturbances of osteomalacia for four years by castration after her seventh pregnancy. Then pains and disturbances in gait recurred and skiagrams showed the bones of the pelvis to be very porous. Under treatment with suprarenal extract for thirty-three days the disturbances subsided and the general health rapidly improved. Ruffi, Tanturri and Gotelli have reported to him also a case each of recovery under suprarenal treatment. He gives skiagrams of four sheep before and after one suprarenal had been removed, the bones becoming markedly porous after the operation, with phosphaturia and general signs of osteomalacia. In conclusion he calls attention to the difference in the results in the acute and chronic cases, and especially in osteomalacia in the aged. The suprarenal treatment undoubtedly acts by improving the metabolism in general, and in senile osteomalacia the vital processes are at too low an ebb for much to be expected. The results of the experiments on sheep seem to confirm the assumption that the osteomalacia is the outcome of insufficiency of the suprarenals, especially during pregnancy. It is possible that the preparations of suprarenal extract promote the formation of bone by their dissolving properties. If the latter assumption is confirmed, it suggests the application of suprarenal treatment in rachitis, especially as a prophylactic measure. He has thus treated two little girls and a number of new-born puppies and rabbits, skiagrams in each instance showing increased ossification and more solid ossification than in the controls. Bossi's dosage was given in his former communications summarized in these columns. He used American or Italian suprarenal preparations in the different cases.

69. **Importance of Puerperal Bacteriology.**—Mansfeld states that examination of 40 afebrile and 14 febrile parturients showed that the lochia contained streptococci in a very large proportion of each series, but that the number of streptococci present was very much larger in the febrile cases. In all the cases of severe puerperal infection the streptococci were found in pure culture, while in the milder cases there was always mixed infection. An important finding was that in all the cases of extragenital fever the lochial discharge was found to be sterile.

Beiträge zur klinischen Chirurgie, von Bruns', Tübingen.

November, LVI, No. 1, pp. 1-262.

76 Prevalence of Echinococcus Affections in Mecklenburg. A. Becker.
77 Central Luxation of the Femur. A. Wörner.
78 *Experiences with Iodoform Filling for Bone Cavities According to von Mosetig-Moorhof. (Iodoformknochenplombe.) Meurers.
79 *Causes of Death After Laparotomies. (Todesursachen nach Laparotomien.) F. Selberg.
80 Indications for Posterior Gastroenterostomy. L. Arnsperger.

78. **Experiences with Iodoform Filling for Bone Cavities.**—Meurers writes from Marwedel's clinic at Aachen to describe in detail 45 cases of extensive bone defects in which the gap was filled with Mosetig's iodoform filling. It was found extremely valuable for the purpose, insuring rapid healing. It is especially useful in filling tuberculous foci in bones and in ostitic processes with or without concomitant joint affections. The filling permits more conservative treatment in resection of a joint, as it is generally sufficient to remove a thin sheet of cartilage and bore out the focus extending higher up into the stumps of the joint, filling the hole with the iodoform preparation. In osteomyelitic foci in bones the filling should not be injected until the affection has reached a chronic stage, and if there is still considerable suppuration the cavity should be cleaned out and kept open for several days under a tampon before the hole is plugged with the iodoform filling.

79. **Causes of Deaths After Laparotomies.**—Selberg has studied 100 cases of death after laparotomies at the Augusta Hospital at Berlin since 1900. Aside from the cases in which appendicitis, ileus or pancreatic necrosis were responsible for the fatal outcome, there were 20 cases in which the heart and lungs alone were responsible, including 3 cases of "chloroform death," 5 of heart failure after an aseptic laparotomy, and 3 of embolism. Examination revealed unsuspected cancer in 13 of the 20 cases, including all of the "lung deaths," 5 of the "heart deaths" and one of embolism. Some anatomic cause for the fatality could be discovered in every case, so that none can be attributed to pure shock. The heart failure occurred always in less than twenty-four hours after the laparotomy, while death did not occur in the lung cases until between the sixth and eleventh days, and the deaths from embolism occured on the fifth and sixth days.

Centralblatt für Chirurgie, Leipsic.

December 21, XXXIV, No. 51, pp. 1473-1504.

81 *Origin of "Pressure Cyanosis" of the Head. (Entstehung von Stauungsblutungen am Kopfe.) L. Kredel.
82 Operation of Esophageal Diverticulum. (Operation des Speiseröhrendivertikels.) Goldmann.
83 Plastic Restoration of Esophagus. (Zur plastischen Bildung eines neuen Oesophagus.) E. Bircher.

81. **"Pressure Cyanosis" of the Head.**—This condition of congestive hemorrhage in the head is generally induced by severe injury causing compression of the trunk. Kredel has recently had occasion to observe the pressure cyanosis in an infant on whom he had just operated for a large umbilical hernia, seventeen hours after birth. During the operation the liver had been handled and a powerful wave of blood driven through the liver and portal veins, backing up the blood above. The face and brow were soon studded with punctate hemorrhages. Reflex closure of the glottis and abdominal straining evidently cooperate in the production of the condition, as could be seen in the case described, which was almost like a physiologic experiment from the clear oversight of the phenomenon.

Centralblatt für die Grenzgebiete der Med. u. Chir., Jena.

December 19, X, No. 23, pp. 881-928.

84 *The Latest Researches on Osteomalacia. D. G. Zesas. Collective review. Commenced in No. 21.

84. **Recent Research on Osteomalacia.**—Zesas reviews 340 works on the subject of osteomalacia that have appeared since 1890, all dealing with the etiology and pathologic anatomy. The literature on symptomatology and treatment is to be studied later.

Centralblatt für Gynäkologie, Leipsic.

December 21, XXXIV, No. 51, pp. 1577-1608.

85 *Gigli's Contributions to Obstetrics. L. M. Bossi.
86 Twins from Single Ovum with Common Amnion and Knotted Cord. (Fall von einieiigen Zwillingen.) G. Pallin.
87 *Mammary Gland and Ovary. (Brustdrüse und Eierstock.) P. Alsberg.
88 *Decapsulation or Slitting of Kidney in Eclampsia. (Nierenaushülsung oder Nierenspaltung bei Eklampsie.) A. Sippel.
89 Ventrofixation of Uterus or of Round Ligament. P. Rissmann.
90 Instrumental Perforation of Uterus. Kuntzsch.
91 Operative Treatment of Suppurative Parametritis. C. Francke.
92 To Avoid Leaving Compresses in Abdomen. (Schutz gegen das Zurücklassen von Bauchtüchern im Abdomen.) F. Lehmann.

85. **Gigli's Contributions to Obstetrics.**—This is an open letter by Professor Bossi to the Italian minister of public instruction and was published in the lay and medical press of Italy. The purpose of the letter is to call attention to Gigli's invention of the wire saw and of pubiotomy, both of which have carried his name around the world. In appreciation of his services to science, the authorities are entreated to appoint him on the faculty of the medical school at Florence. At present he is unattached, and Bossi asks the position of privatdocent for him.

87. **Connection Between Mammary Glands and Ovaries.**—Alsberg reports two cases of removal of both ovaries and tubes on account of cysts or abscesses, followed ten days and six weeks later by secretion of colostrum and milk in the breasts, so that drops of milk can be squeezed out. Grünbaum has recently published a similar case of secretion of milk after castration. One of Alsberg's patients had never been pregnant; the other had borne a child three years before, but did not have milk for it. In five other cases in which the uterus was retained after bilateral salpingo-oöphorectomy, menstruation apparently continued in two instances. The periodical bleeding in these cases presented the characteristics of the menses. In all these patients the mammary glands commenced to secrete colostrum and milk in two or three weeks after the operation. The menstrual type can thus be retained even after all ovarian tissue has been removed. Possibly scraps of ovarian tissue might have been accidentally left behind, but this does not explain the invariable absence of mammary secretion when part of the ovary was intentionally left.

88. **Decapsulation of the Kidney in Eclampsia.**—Sippel calls attention to a certain condition of the kidneys in eclampsia which indicates operative treatment. The intracapsular pressure is abnormally high, and slitting the capsule relieves the tension. The kidney does not feel hard but is soft or puffy. It is generally enlarged, with the properties of edematous tissues. Primary injury of the capillaries in the kidney by the action of a toxin allows serous fluids to pass through their walls, causing compression of the kidney tissue and consequent impairment of the kidney functioning. The assumption that eclampsia is due to toxic action explains these findings in the disease. The condition comes on more gradually than the "kidney glaucoma" due to congestion in the veins or ureter region. Incising the capsule relieves the tension or allows the escape of the accumulating transudation, and it is thus indicated in both forms. In the edematous variety it is indispensable that the uterus should be evacuated beforehand when the amount and the composition of the urine indicate serious impairment of normal kidney functioning. If pressure on the kidney causes pain, the trouble is probably the glaucomatous form, while absence of pain speaks for the toxic variety. The size of the organ is not a reliable criterion. Decapsulation alone may be sufficient in the toxic form, but the glaucomatous may require an incision besides.

Deutsches Archiv für klinische Medizin, Leipsic.

XCII, Nos. 1-2, pp. 1-198. Last indexed, Dec. 28, p. 2171.

93 Changes in the Nuclei of the Neutrophile Leucocytes. (Zu Arneth's "Verschiebung des neutrophilen Blutbildes.") H. Politzer.

94 Experimental Research on Posthemorrhagic Anemia and Its Relation to Aplastic Anemia. R. Blumenthal and P. Morawitz.

95 Influence of the State of Nourishment on the Size of the Heart. (Einfluss des Ernährungsstandes auf die Herzgrösse.) Schieffer.

96 Clinical and Bacteriologic Notes on Typhoid Fever, Especially Its Complications. (Abdominaltyphus.) H. Bennecke.

97 Polycythemia. F. Lommel.

98 Experimental Research on Formation of Deposits in Bile. (Bildung von Niederschlägen in der Galle.) L. Lichtwitz.

99 Mutual Relations of Tissues in Blood-forming Organs. (Wechselbeziehungen der Gewebe in den blutbildenden Organen.) P. Morawitz and E. Rehn.

100 *Action of Morphin Administered by Different Routes. (Wirkung des Morphiums bei verschiedenen Administrationsweisen.) R. Friberger.

101 Connection Between Anatomic Changes in the Glomerulus and the Kidney Functioning in Experimental Nephritis. (Anatomischen Glomerulusveränderungen und Nierenfunktion.) R. Takayasu.

102 Case of Intermittent Cramp of the Arms. (Dyskinesia intermittens brachiorum.) Oehler.

100. **Varying Action of Morphin Administered by Different Routes.**—Friberger writes from Upsala to describe tests of the action of morphin when administered by the mouth or rectum or by subcutaneous injection. He accepts the miosis induced by the action of the morphin as a reliable index of the effect of the drug on the system, and grades the results according to its degree and duration. He gives an illustrated description of the pupillometer he used for the tests.

Münchener medizinische Wochenschrift.

December 17, LIV, No. 51, pp. 2513-2580.

103 Application of Opsonins in Pulmonary Tuberculosis. (Opsoninbestimmung und ihre Anwendung bei Lungentuberkulose.) R. Bine and H. Lissner.

104 Comparative Tests of Diagnosis of Typhoid with Emulsion of Bacilli and with Ready-made Typhoid Diagnosticum. P. Schrumpf.

105 *Functional Behavior of Vessels in Trophic and Vasomotor Neuroses. (Funktionelles Verhalten der Gefässe bei Neurosen.) H. Curschmann.

106 *Bacteriologic Differentiation of Otitic Sinus Thrombosis, etc. F. Nuernberg.

107 *Roentgen Treatment of Renal Tuberculosis. (Nierentuberkulose.) E. Bircher.

108 Operative Cure of Pulsation Diverticulum of Esophagus. H. Gehle.

109 *Treatment of Inoperable Carcinoma of Uterus with Acetone. G. Gellhorn.

110 Infarcts in the Lungs as a Complication of Acute Gonorrhea. Mühlig.

111 Gangrene of Skin of Scrotum After Use of Tincture of Iodin. (Hodenhautgangrän nach Gebrauch von Iodtinktur.) O. Hanasiewicz

112 Aims of Instruction in Gynecology. (Frauenheilkunde.) O. von Franqué.

105. **Behavior of the Vessels in Neuroses.**—Curschmann reproduces tracings showing the functioning of the vessels in trophic and vasomotor neuroses. They demonstrate that in Raynaud's disease and sclerodermia presenting Raynaud symptoms, the arteries of the limb involved do not respond with normal reaction to stimuli but sometimes give a paradoxical reaction. He discusses this fact, coming to the conclusion that it must be due to a primary disturbance in the innervation. The plethysmographic findings were about the same in the cases of intermittent limping as in the trophic neuroses and in acroparesthesia of the vasoconstriction type—showing the relationship between these various affections.

106. **Bacteriologic Differentiation of Otitic Sinus Thrombosis.**—Nuernberg examined the sinus blood in five cases of sinus thrombosis and found streptococci in each specimen. He calls attention to these findings as an aid in differentiating otitic sinus thrombosis from other affections accompanied by high fever, before local manifestations develop. He describes an instructive case of high fever coming on a week after mastoid operation and evacuation of an abscess in the brain, six days after childbirth. The fever might have been due to incipient mastitis, puerperal fever, meningitis or sinus thrombosis, but the absence of other symptoms excluded the first three. An operation on the sinus was contemplated but postponed on account of the negative bacteriologic findings in the blood in the sinus. The severity of the symptoms caused the negative bacteriologic findings to be disregarded and preparations were made to open up the sinus, when signs of erysipelas were discovered, thus clearing up the diagnosis. Negative findings in the sinus blood should therefore exclude sinus thrombosis; at least, he asserts, they justify postponing the operation. The puncture to obtain the blood must be made deep and close to the bulb of the jugular vein, and during fever; otherwise there is danger of obtaining a negative result even when thrombosis actually exists, especially in case of isolated thrombosis of the bulb of the jugular vein.

107. **Roentgen Treatment of Tuberculous Kidney Affections.**—Bircher reports two cases of tuberculosis of the kidney in which the indicated and advised nephrectomy was refused. He exposed the affected kidney region to the Roentgen rays, keeping up the Roentgen treatment for a long time and witnessing the subsidence of the tuberculous affection and recovery of the patients. The rapid change in the aspect of the urine under the influence of the Roentgen exposures was most striking. The general health rapidly improved, the fever soon subsided and the cystitis was entirely cured. He believes that the Roentgen rays have an injurious influence on the development of the tubercle bacilli. No ill effect from the exposures

on the epithelium in the kidney was apparent. The rays were applied daily for fifteen minutes with a moderately hard tube at a distance of from 20 to 25 cm. The exposures were kept up for three months with a two weeks' intermission, in the first case. After three years of health the patient returned with slight urinary disturbances which promptly subsided under a few exposures. Both kidneys had been affected in this case. In the other case the left kidney alone had been involved, and Roentgen treatment was kept up for five weeks, followed by a health trip to the mountains. The patient is now in perfect health.

109. **Acetone in Treatment of Inoperable Uterine Cancer.**—Gellhorn's first report on this subject was published in THE JOURNAL, April 27, 1907. Further experience has confirmed the benefits of this palliative treatment of inoperable cancer.

Virchow's Archiv, Berlin.

CXC, No. 2, pp. 177-380.

113 A Blood Vessel Endothelioma Spreading in the Enlarged Vessels of a Diffusely Myomatous Uterus. (Blutgefässendotheliom.) Beckhaus.
114 *Secondary Cancers of the Skin. (Sekundäre Hautkrebse.) S. Daus.
115 Mesenteric Cysts of Embryonal Origin, with Remarks on Development of Cortical Substance of the Suprarenals and on Chorioepithelioma. F. Niosi.
116 Leukemia in Fowls. (Leukämie beim Huhn.) J. Kon.
117 Metaplasia of Epithelium in Bronchopneumonia. I. McKenzie.
118 Formation of Giant Cells in the Decidua. (Riesenzellbildung in der Decidua.) S. Oberndorfer.
119 Reobtaining of Diphtheria Toxin from Its Combination with the Antitoxin. (Wiedergewinnung des Diphtherietoxins aus seiner Verbindung mit dem Antitoxin.) J. Morgenroth and K. Willanen.

114. **Secondary Cancers of the Skin.**—Daus tabulates the particulars of 38 cases from the literature in which a primary internal cancer was followed by metastasis in the skin. He also relates a case of cancer of the stomach in a pauper of 77 which was accompanied by about 280 small hard tumors on the trunk and thighs, movable on their base with the skin above them. It is possible that the lumps in this case had existed prior to the cancer and had assumed cancerous properties later. In almost half the cases of secondary cancers of the skin on record, the primary tumor was in the digestive tract, in a fifth in the female genitals and in a sixth in the lungs.

Zeitschrift für Geb. und Gynäkologie, Stuttgart.

LXI, No. 1, pp. 1-183. Last indexed, Dec. 28, 1907, p. 2171.

120 Protection of the Ureter and Method of Draining in Extensive Evacuation of the Pelvis for Uterine Carcinoma. J. A. Amann.
121 *Practical Value of Leucocyte Count for the Diagnosis of Inflammatory Affections of Female Genitals. (Leukozytenbestimmung.) H. Albrecht.
122 *Conservative Treatment of Inflammatory Affections of Adnexa and Pelvic Connective Tissue. (Was leistet die konservative Behandlung bei entzündlichen Erkrankungen der Adnexe und des Beckenbindegewebes?) A. Hörrmann.
123 Bilateral Metastatic Ovarian Carcinoma with Primary Carcinoma of Sigmoid Flexure. F. Brunner.
124 Genital Tuberculosis with Bilateral Dermoid Cystoma. K. Logothetopulos.
125 *Primary Carcinoma of Female Urethra. (Primäres Karzinom der weiblichen Harnröhre.) Y. Karaki.
126 Hematoma of the Vulva. K. Rothlauf.

121. **Practical Value of Leucocyte Count for Diagnosis of Inflammatory Affections of Female Genitals.**—Albrecht's long monograph on this subject is based on 164 out of 200 cases in which the leucocyte count was made. The affections in question were acute pelvic peritonitis, a palpable tumor in the adnexa, a large exudate or abscess in the small pelvis, puerperal or abortion sepsis, or postoperative inflammatory processes. A number of case histories under each class are given in detail, the leucocyte count proving surprisingly instructive and reliable, especially the quantitative count, re-enforcing the findings of the qualitative count. The percentage of polynuclears at the time is an index of the severity of the affection, but large numbers of polynuclears do not indicate an unfavorable prognosis if only the absolute number of the polynuclears is increased in proportion to their percentage. The disappearance of eosinophiles and mast cells suggests severe infection. A decline in the absolute number of polynuclears with a simultaneous reduction in their percentage shows that the infection is subsiding. Sudden decline in the absolute number of polynuclears while their percentage shows only a small decline or an increase is a sign of unfavorable prognosis as it demonstrates that the emigration of polynuclears no longer keeps pace with their consumption, owing to exhaustion of the blood-forming organs or for other reasons. A sign of absolutely unfavorable prognosis is further a sudden decline in the absolute numbers of lymphocytes. When the number of lymphocytes is considerably below normal the infection may be regarded as especially serious. In all the cases studied the turn toward recovery was manifested in the blood picture by the marked relative increase in the absolute numbers of mononuclears and eosinophiles, sometimes rising above normal figures. Among the examples cited is one of puerperal sepsis with 14,300 leucocytes, including 84 per cent. polynuclears, 15.4 per cent. lymphocytes and 0.6 per cent. eosinophiles. The prognosis was regarded as favorable in this case, and the patient soon recovered. In another case the leucocytes numbered 28,000, including 74.5 per cent. polynuclears, 24 per cent. lymphocytes, and 1.5 per cent. eosinophiles. The fifth day there were 79.3 per cent. polynuclears, 19.3 per cent. lymphocytes, and 1.4 per cent. eosinophiles, pyemia then developed and the leucocytosis constantly increased to 52,000 on the day of death, with 88.5 per cent. polynuclears, 10 per cent. lymphocytes, and 0 eosinophiles. In another case the eosinophiles were 1.5 per cent., then 0.5 per cent., then 0 per cent. the thirteenth day when an abscess was discovered and evacuated, after which the patient rapidly recovered, the eosinophiles numbering 4 per cent. six days later.

122. **What Can be Accomplished with Conservative Treatment of Inflammatory Gynecologic Affections.**—Hörrmann refers especially to treatment with "weighting" and with superheated air in inflammatory affections of the adnexa and pelvic connective tissue. Such good results have been obtained with them that the percentage of cases in which an operation is regarded as indicated has been materially reduced in the last few years at Amann's clinic at Munich where he is assistant, being now only about 1 per cent. of the total material. An operation is regarded as unavoidable in all cases of acute, threatening symptoms from inflammation of the adnexa, pelvic connective tissue and peritoneum, and in all cases of tuberculosis of the adnexa and when conservative treatment fails to relieve and seems to be unable to restore conditions to normal. In a total of 1,600 cases these indications were present in only 7 out of 1,244 cases during the last five years, that is in 0.56 per cent. All the other patients recovered under conservative measures. These included, besides puncture and drainage, hydrotherapeutic measures, alcohol applications, thermophors, hot compresses, hot vaginal douches, superheated air and "weighting," that is application of a colpeurynter filled with mercury in the vagina, according to Pincus' technic. Massage is seldom used. With these conservative measures 99 out of every 100 women were clinically cured without operative intervention. The weighting treatment—*Belastungstherapie*—gave particularly good results in chronic inflammatory changes in the adnexa and around the uterus with their consequences (retroflexion), but it is contraindicated in all acute and subacute processes to which the system reacts with rise of temperature. It was applied in 70 cases. Fixed retroflexion is favorably affected by it. In 2 cases the uterus became freely movable after three or four sittings and all disturbances subsided. The method is unequaled, he asserts, for many cases of retroflexion, as it corrects the condition in such a simple and easy way. The colpeurynter does the whole work and the patient lies tranquilly in bed, the only disadvantage being that the vaginal passage sometimes becomes considerably stretched. The weighting also allows the differentiation of a solid tumor from an exudate and inflammatory tumor in the adnexa. One patient had a movable, round tumor to the right of the uterus, with pains in the region, no fever. Five applications of the mercury colpeurynter failed to alter in the least the palpation findings, and operation revealed a dermoid tumor in the right ovary. Another patient had a tumor in the adnexa on each side. The left tumor subsided under the mercury colpeurynter and measures to promote absorption, but the right persisted. The operation six months later revealed a large ovarian cyst in the right ovary. Another patient was attacked suddenly with vomiting, colic pains in the left abdomen and fever. After subsidence of the pains under bed rest and ice,

a large tumor could be palpated in the left ovary and the diagnosis wavered between pyoovarium and dermoid. After six applications of the mercury colpeurynter the tumor had vanished, leaving merely a hard resistance about the size of a plum, which is assumed to be a hematoma of the ovary. Pincus says in this respect that the weighting method protects the physician against serious errors. "In private practice," he adds, "the fate of the patient is at the same time the fate of the physician." His technic was followed in every respect. It was summarized in The Journal, May 20, 1905, page 1650.

125. **Primary Carcinoma of Female Urethra.**—Karaki reports a case which brings to twenty-nine the authentic cases of primary cancer of the female urethra on record. None of the patients was under thirty-six years old. The tabulated cases show that only two of the patients is known to have succumbed to recurrence after extirpation of the growth. Most of them are continent, although continence was not secured in the case reported.

Zeitschrift für klinische Medizin, Berlin.

LXIV, Nos. 3-4, pp. 193-376. Last indexed Nov. 2, 1907, p. 1565.

127 Behavior of Leucocytes of the Blood Under Action of Cold. (Verhalten der Leukozyten des Blutes bei Kälteeinwirkung.) Schnütgen.
128 Determination of Acetone in the Urine. (Azetonbestimmung im Harn.) S. Möller.
129 Absorption from the Stomach. (Magenresorption.) A. v. Torday.
130 Anatomic Changes in the Suprarenals in Arteriosclerosis. (Nebennieren bei Arteriosklerose.) H. Landau.
131 Clinical Importance of Urobilinogen, Its Chemical Properties and Color Reactions. ("Ehrlichsche Aldehyd-" und "eigelbe Diazoreaktion.") K. Thomas.
132 Dicrotic Pulse as Diagnostic Symptom in Aortic and Mitral Insufficiency. (Dikrotie.) L. F. Dmitrenko.
133 Transcortical Sensory Aphasia. (Eine als transkortikale sensorische Aphasie gedeutete Form aphasischer Störung.) M. Lewandosky.
134 Influence of Sitz Baths on Distribution of Blood. (Einfluss der Sitzbäder auf die Blutverteilung.) O. Bruns.
135 Blood Stasis Under Stimulus of Cold. (Rückstauung bei Kaltreizen.) Id.
136 Granulation of Red Corpuscles in Anemic Conditions. (Körnung der roten Blutkörperchen bei anämischen Zuständen.) S. Askanazy.
137 *Improved Method of Roentgen Therapy. (Neues radiotherapeutisches Verfahren.) R. von Jaksch.
138 Metabolism of Salts in Experimental Renal Dropsy. (Salzstoffwechsel bei exp. Nierenwassersucht.) H. Schirokauer.
139 Alcaptonuria. O. Gross and E. Allard.
140 Neutrophile Blood Picture in Infectious Diseases. (Neutrophiles Blutbild bei Infektionskrankheiten.) T. Brugsch.
141 Methods of Determination of Pepsin. E. Fuld.

137. **Improved Method of Roentgen Treatment.**—A thin sheet of lead allows the passage of rays that are liable to induce a dermatitis, and von Jaksch has found that silver is superior to it in this respect. A sheet of silver 0.02 mm. thick allows the passage of the rays that have a penetrating action while it seems to hold back all that can injure the skin. He has been using for some time and in numbers of cases a round protecting shield of silver of this thickness, and has been impressed with the penetrating action of the rays with entire absence of any cutaneous reaction. He describes in detail a case of myeloid leukemia in which rapid, intensive Roentgen treatment was applied, followed by the subsidence of the enlarged spleen and by the expected change in the blood picture. The rays were applied for eighteen hours and forty minutes in forty-four days, different points being exposed for a total of from 50 to 175 minutes. The interposition of the thin silver plate, however, prevented any injury to the skin. Considerable but transient hyperemia was observed at three points which had been exposed for 125, 125 and 90 minutes. His silver shield is 140 mm. in diameter, enclosed in a celluloid capsule and set in a square frame of lead, 0.6 mm. thick, and about half a yard square, covered with black cloth. He gives an illustration of the silver shield and of the lead-lined protecting cabinet with lead glass window in which the operator sits. He uses a Bauer lamp, as hard as possible, at a distance of 20 cm., protecting all unexposed parts of the patient's body with sheets of lead 0.6 mm. thick. He thinks that these experiences with the silver shield indicate that it is possible that certain metals allow certain rays to pass and arrest others, so that we may learn to apply only those rays to the parts to be treated which are particularly indicated by the affection in question, thus obtaining a specific radiotherapy for the various organs. He is engaged in research along this line, but for the present contents himself with the announcement that the interposed silver plate is certainly an important progress in radiotherapy.

Archivio per le Scienze Mediche, Turin.

XXXI, No. 4, pp. 323-412.

142 Necrotic Inflammation of Bacterial Origin. (Aortite ulcerosa con aneurismi—Enterite necrotica.) F. Vanzetti.
143 Cultural Diagnosis of Paratyphoid Bacilli and the Neutral Red Reaction. (Paratifi.) M. Segale.
144 Elements of Lymphoid Type in the Bone Marrow. (Elementi di tipo linfoide del midollo delle ossa.) U. Parodi.
145 Endotheliomas of the Meninges. (Memoria quinta intorno ai tumori endoteliali.) E. Ravenna.
146 Distribution of Phosphorus in the Organs and Decomposition of Organic Phosphorus Compounds. (Fosfori negli organi.) G. Satta.

Gazzetta degli Ospedali, Milan.

December 1, XXVIII, No. 144, pp. 1507-1522.

147 Protecting Action of the Vagus Against Increase of Internal Temperature. (Azione protettiva del vago.) G. A. Pari.
148 Clinical Study of Action of Sodium Formiate. A. Michelazzi.
149 Jaundice and Collapse Following Use of Maretin. C. Zille.

December 8, No. 147, pp. 1539-1547.

150 Bacteriologic Research on Pellagra. G. Tizzoni.
151 Presence of Phenol in the Blood in a Fatal Case of Poisoning. (Presenza del fenolo nel sangue nei casi di avvelenamento.) O. Modica.
152 Experiences with Tansini's Technic for Mammary Cancer. G. Campari.
153 Four Cases of Successful Serum Treatment of Tetanus. A. Gasparini.

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156. **Injections of Air in Treatment of Tuberculous Peritonitis.**—Napoleone taps the ascitic fluid and then injects atmospheric air into the peritoneal cavity in tuberculous peritonitis, and relates very favorable results of this technic. The case reported in detail is that of a woman of 28 presenting symptoms of tuberculous peritonitis for a year, with no apparent benefit from the usual measures. The debility was so extreme that a laparotomy seemed too hazardous and intervention was restricted to tapping, followed by an injection of a small amount of air. A little ascitic fluid collected again, and the injection of air was repeated a month later, after which recovery rapidly progressed. The patient is at present in the best of health. Kawahara's experience has demonstrated the harmlessness of injection of air. He ascribes almost a specific action to the air and its saphrophytes in respect to tuberculous lesions. Napoleone adds that the air holds the intestines apart and thus prevents formation of adhesions. He proposes the injection of air only for cases in which a laparotomy is contraindicated for any cause, assuming that the benefit from the laparotomy is due in large measure to the air introduced.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Medical Diagnosis. By Charles Lyman Greene, M.D., Professor of Theory and Practice of Medicine in the University of Minnesota. Second Edition revised. Pp. 691, with 248 illustrations. Flexible leather. Price $3.50. Philadelphia: P. Blakiston's Son & Co., 1907.

Light and X-Ray Treatment of Skin Diseases. By Malcolm Morris, F.R.C.S., Edin., Surgeon to the Skin Department of the Seamen's Hospital and S. Ernest Dore, M.D., Cantab., Assistant in the Skin Department of Middlesex Hospital. Cloth. Pp. 172, with 12 illustrations. Price $1.50. Chicago: W. T. Keener & Co., 1907.

Aphorisms and Reflections. From the Works of T. H. Huxley. Selected by Henrietta A. Huxley. Cloth. Pp. 199. Price $1.00. New York: Macmillan Co., 1907.

Transactions of the Thirty-third Annual Meeting of the Oregon State Medical Association. Paper. Pp. 158. Portland: Irwin-Hodson Co., 1907.

Proceedings of the American Society for Psychical Research. Vol. I. Part III. Paper. Pp. 722. Price $2.00. Boston: Small, Maynard & Co., 1907.

Studies from the Bender Hygienic Laboratory, Albany, N. Y. Vol. IV. Paper. Pp. 160. Albany: Brandow Printing Co., 1907.

Eighty-Seventh Report of the New York Eye and Ear Infirmary. Paper. Pp. 50.

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Original Articles

CONSERVATIVE OPERATIONS ON BONE TUMORS,

BASED ON THE CLINICAL AND PATHOLOGIC STUDY OF THE RELATIVE DEGREE OF MALIGNANCY.*

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BALTIMORE.

The object in the treatment of a bone sarcoma is to insure, if possible, a permanent cure. Amputation is a mutilating operation. The question naturally arises: Can some bone tumors be completely removed without amputation and with the same assurance of a permanent result?

From a personal study, now extending over a number of years, of cases treated in Dr. Halsted's surgical clinic of the Johns Hopkins Hospital, and those in my own practice, and of a number communicated to me through the courtesy of colleagues, and collated from the literature, I have found that, with rare exceptions, the permanently cured patients suffered from tumors of similar pathologic anatomy, and such cures were accomplished in properly selected cases by conservative operations just as well as by amputation. In the class of cases in which cures were not accomplished, the pathology of the tumor is very much alike and entirely different from that in the first group. In this latter group, in spite of amputation at the highest joint, patients succumb to internal metastasis.

I shall discuss, first, bone tumors for which the extent of the operation is governed by the local growth, and for which amputation is indicated only when the necessary local resection would leave a limb without function. When amputation is demanded by the local growth of the tumor the highest point need not be selected.

BONE CYSTS.

There are two varieties: The first, the dentigerous cyst, which is observed in the jaws. Undoubtedly it arises from an embryonic residue, mesoblastic or epiblastic, of the dental tissue. This cyst originates within the bony cavity of the upper or lower jaw, and in its growth expands the bone, producing a cystic tumor with a bone capsule. This is thin in places and may give rise to parchment or ping-pong-ball crepitation. The cyst can be recognized only at the exploratory incision. The soft parts are normal; the periosteum, as a rule, strips back easily; the thin shell of bone is not infiltrated. As this piece of bone is removed a thin connective-tissue capsule is seen composed of an outer layer of dense, white fibrous tissue which strips from the bone more readily than the periosteum; and an inner layer of reddish vascular tissue. The cyst usually contains only clear, viscid serum. In the majority of my cases I have found no epithelial lining; in two cases the cyst was lined with adamantine epithelium, and the fluid in these two cases resembled that of an atheromatous cyst of the neck. These cysts may be multilocular.

In order to accomplish a cure, it is simply necessary to remove the membranous lining. The amount of bone capsule to be excised should be governed by the extent of the deformity; resection of the jaw is never indicated.

The second variety of bone cysts occurs in the medullary cavity of the long pipe bones, rarely in the short and the flat bones. It differs from the dentigerous cysts in the absence of a connective tissue capsule. The fluid is usually hemorrhagic. Islands of cartilage may be found in the bone capsule. Clinically there is a uniform expansion of the shaft, usually near the joint end, of slow growth. Fracture may be the symptom of onset. Union may take place, but the swelling does not disappear. The *x*-ray shadow does not differ from that seen in any medullary tumor which produces in its growth bone absorption and retains a bony capsule. The benign nature of the lesion can only be ascertained with certainty at the exploratory incision. Curetting and drainage of the cyst will accomplish a cure.

THE ADAMANTINE EPITHELIOMA.

This can not be distinguished clinically from the dentigerous cyst when it arises within the bony cavity of the jaw, nor from the so-called epulis, when it begins beneath the mucous membrane of the alveolar border of the jaw. At the exploratory incision the adamantine epithelioma can be distinguished from the dentigerous cyst by the coarse, white granular tissue filling the single or multiple cavities. This tumor must be completely excised with its bony wall, but in the excision one can keep close to the tumor. I have never observed metastasis, and all patients under my observation have remained permanently cured. Further study may demonstrate that in the early stage this tumor may be curetted with the preservation of part of the bone capsule, or one may practice subperiosteal resection and thus limit the mutilation of the operation. When the adamantine epithelioma occurs as an epulis, local removal with excision of the alveolar border of the jaw only is necessary. As this is the accepted operation in all pathologic varieties of epulides, a differential diagnosis is not necessary.

MEDULLARY FIBROMA.

This rare condition may be looked on as a solid bone cyst, because there seems to be a definite relation between the two. Both may have the same origin; in one liquefaction predominates, in the other fibrous tissue—ostitis fibrosa. I have tissue from two cases. It is not a malignant tumor, and a conservative operation is sufficient.

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* Read before the American Orthopedic Association, Washington, D. C., May 8, 1907.

GIANT-CELL SARCOMA.

This tumor usually originates in the medullary cavity of the long pipe bones, although periosteal growths have been recorded. It is the most common form of epulis which may be looked on as a periosteal growth from the alveolar border of the jaw. I have observed two cases, however, in which the tumor was a medullary growth in the lower jaw.

This tumor has a characteristic appearance in the fresh state. When first seen at the exploratory incision, it strikes one by its very hemorrhagic mottled coloring. The majority of areas are red, with here and there specks or smaller masses of a pinkish white. The tumor is friable and can be broken up into irregular masses. At first sight it resembles hemorrhagic granulation tissue, but it is firmer and less succulent.

When the giant-cell tumor occurs as a medullary growth it expands the bone like the cyst just described. It may be as slow of growth as the cyst. The *x*-ray shadow does not distinguish it positively from any other medullary tumor having a bone shell. This tumor has been permanently cured by simple curetting. Recurrences have followed curetting, but were permanently eradicated by a second operation of curetting, resection or amputation. In over one hundred cases of the pure tumor none has given metastasis. It seems justifiable at the first operation, therefore, to attempt the most conservative method, even with the risk of a local recurrence, which, if it does occur, apparently is not associated with any danger of metastasis.

One should not attempt curetting unless there is a thick shell of bone, so that the curette or chisel removes a zone of bone beyond the tumor. When the shell of bone is thin, subperiosteal resection should be performed; when the periosteum and surrounding muscles have become infiltrated, total resection is indicated. In one of my recorded cases in which a cure was effected and in which there was infiltrated muscle, the microscope demonstrated the giant-cell tumor within a few millimeters of the plane of resection.

For the periosteal giant-cell tumor local resection with chiseling of a zone of bone beneath is sufficient. To one not familiar with the fresh appearance of this giant-cell tumor a rapid frozen section will be of great value for diagnosis.

As this tumor is relatively frequent, and as in this country amputation has been the method of choice, a knowledge of its characteristic appearances should be acquired by surgeons who desire to cure bone tumors with the least mutilation compatible with absolute safety.

MYXOMA.

The pure myxoma is a very rare tumor. It may occur as a medullary growth or as a periosteal exostosis. In the former it is associated with the bone shell; in the latter with a partial bony wall. I have observed but one case—a patient of Dr. Halsted's. The myxomatous appearance of the tissue was sufficiently characteristic to allow a diagnosis. This tumor should be subjected to the same treatment just discussed for giant-cell sarcoma.

ENCHONDROMA AND MYXOCHONDROSARCOMA.

There is no difficulty in recognizing pure enchondroma; it is benign, and local resection is sufficient.

In myxochondrosarcoma the cartilage and myxomatous tumor usually occur together and most often with sarcomatous degeneration. I have been surprised, however, at the excellent results after complete removal. Metastasis is rare, but possible. Curetting should never be employed, but local resection is justifiable. This tumor is very common in the antrum of the upper jaw.

PERIOSTEAL OSTEOSARCOMA.

I am of the opinion that the term osteosarcoma should be given only to that bone tumor associated with new bone formation. As a matter of fact this is observed, to any extent, only in the periosteal tumor.

This sarcoma of bone, characterized by spicules of new bone formation radiating from the shaft between which tumor tissue is present, occurs most commonly on the lower jaw. In my experience none of the cases has given metastasis. Local resection should be the operation. The tumor has a distinct capsule and does not infiltrate the surrounding muscles; it must, however, be removed with the shaft of the bone which it surrounds.

At first sight it might seem difficult to differentiate in the *x*-ray picture the following periosteal lesions: ossifying periostitis, osteoma and exostosis, ossifying myositis and periosteal osteosarcoma. Lack of space prevents a detailed discussion here; but the *x*-ray shadows of these diseases are, as a rule, sufficiently characteristic at least to distinguish the benign from the malignant lesion, and the tissues exposed at the exploratory incision are of sufficient difference to confirm the impression gained from the *x*-ray.

PERIOSTEAL FIBROMA AND EXOSTOSIS BURSITIS.

I have observed periosteal fibroma only on the jaw. Local excision is sufficient, even when the tumor has become a fibro-spindle-cell fibrosarcoma.

Exostosis bursitis is a benign lesion which clinically may resemble a rapidly growing sarcoma. The congenital small exostosis springing from the outer table of the bone gives no symptoms. The first rapid swelling observed by the patient is due to the filling of the bursal sac with fluid. Clinically there is a rapidly growing tense tumor apparently of periosteal origin. Unless *x*-rays are taken from numerous directions the exostosis may be missed. This lesion is recognized at once if an exploratory incision is made. In one of my cases the patient was sent to me for an inoperable sarcoma of the upper end of the femur over the trochanter, and I must confess, after a careful study of the case, that this diagnosis seemed feasible. The patient's consent to a hip joint amputation was obtained. Fortunately, I followed my rule never to amputate without some positive assurance of the nature of the tumor, and for this reason I made an exploratory incision. There was a distinc sac with a hemorrhagic lining, bloody contents and springing from the trochanter, an exostosis with a cartilage covering.

OSTEOPERIOSTEAL LIPOMA.

A lipoma springing from the periosteum and simulating a periosteal growth is possible. Its nature is, o course, recognized the moment the tumor is explored The literature on this subject has recently been collecte by Schwarz and Chevrier.[1]

The more malignant sarcomata of bone are rarely permanently cured in spite of the highest amputation performed in many instances a few weeks after the firs symptom. Death is due to metastasis, usually to th lungs. The entire duration of life is seldom over tw ears. I have never observed a permanently cured case. In the literature there are a few, and it is very sugges-ive that among this group of tumors more cures have een accomplished by local resection than amputation. It is true that naturally local resection was selected ecause of the smaller and more circumscribed charac-er of the tumor. Even in this group, therefore, local esection is justifiable in the early stage of the neoplasm.

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[1] Rev. de Chir., 1906, xxxiii, p. 469.

These more malignant sarcomata consist of various orms of the round and spindle cell tumor and the an-ioma sarcoma, chiefly the perithelial.

The medullary growth eats its way through the corti-al bone and does not produce bone expansion. Patho-ogic fracture may be the symptom of onset. The peri-steal tumor also rapidly infiltrates the cortical bone eneath. In both, the character of the tumor tissue is o different from the neoplasms previously discussed hat there should be no difficulty in making a differen-ial diagnosis. This diagnosis is suggestive by the evi-lence of bone destruction in the *x*-ray.

CONDITION OF URINE IN BONE TUMORS.

Before summing up, I wish to call attention to the mportance of an examination of the urine in all cases f bone tumors. In the multiple myeloma of bone, Bence-Jones bodies are present. Clinically, this hope-ess disease of medullary tissue may in a few instances resent itself as a single bone lesion. In this stage, ven *x*-ray studies of other bones may fail to show any ther lesion. If the urine is not examined the surgeon would proceed to a radical operation on the apparent ingle bone lesion without any suspicion of its multiple ature. The medullary growth of the myeloma in its arly stage expands bone and resembles the giant-cell arcoma or bone cyst. Later, the bone capsule is de-troyed. It is important to remember that in some in-tances the benign bone cyst may be a multiple lesion. he cases thus far recorded have been associated with steomalacia. Multiple giant-cell tumors have been ob-erved in a case of ostitis deformans by Rehn.

THE CONDUCT OF A PLAGUE CAMPAIGN.*

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SAN FRANCISCO.

In a brief paper intended merely to enumerate the radicative measures in operation in San Francisco, I hall not touch on the economic importance of the prob-em to the city, state and nation. In this connection it hould be mentioned that plague is considered by some pidemiologists as the most difficult of all diseases to radicate; indeed, there are those who maintain that here the infection has once taken root, the disease never ies out entirely. The success which crowned the efforts f the health authorities of Oporto in 1899, Glasgow n 1901, Naples in 1903, and San Francisco in 1903 nd 1904, renders this theory untenable. Let no one e discouraged by these prophecies of evil, but let him emember that whenever organized bodies, having the operation of the people, have taken the field the dis-se has been vanquished.

To be successful, the campaign of eradication must be ased on a knowledge of the etiology, mode of transmission and the causes of the continuance of the disease. First of all, the campaign should be conducted by a trained corps of medical men having few local affiliations or prejudices, able to devote their entire time to the work, and backed by the strong arm of the government. No matter how earnest and conscientious the local authorities may be in the discharge of their duties, their plans of operation do not always meet with that acceptance and approbation which is accorded an outsider. Personal and political differences often arise to hamper the best efforts of an honest and capable board of health, and often render futile the plans which would have ensured a successful issue. Given a special plague department, heartily backed by the local authorities, and the people they represent, provide them with sufficient funds and power to act, and the stamping out of the disease is almost certain.

The duties of this department, briefly summarized are: The location and determination of plague cases, both human and rodent; the tracing of the source of infection in each case, and the destruction of the infecting agents. The destruction of rat habitations as far as possible; the abolition of the means of rat sustenance; and the protection of all places of human residence against the ingress of rodents.

To expand on these basic principles: First, the location and determination of plague cases both human and rodent. This entails a careful examination of all dead bodies, the examination of all sick persons, and the isolation and observation of all suspicious cases and contacts. For this purpose inspectors of the dead should be appointed, and no corpse removed or buried until it has been viewed by an inspector and a permit issued. Bodies of persons dying of plague should be cremated or buried in metal coffins with quick lime. The local practitioners should report all cases coming under their observation which in any way resemble plague. Whenever any doubt exists as to the diagnosis, skilled diagnosticians from the plague department should be called. In addition, whenever a person is found sick on the sanitary survey, the diagnosis should be determined by the officer in charge of the district, either by a visit to the attending physician or by consultation with him, should this be considered necessary.

The city should be divided into districts and a trained medical man placed in charge of each district. He should establish a centrally located and convenient headquarters, and should be given men and supplies sufficient for the conduct of the work. His first duty is to make a rapid sanitary recognizance of his district, employing for this purpose sanitary inspectors who report on the street and number of each house, the number of persons residing therein, the sanitary condition of the premises and the occurrence of sickness in the two months prior to the epidemic. Special attention should be given to stables, bakeries, markets and junkshops, it being borne in mind constantly that the prime object of the campaign is the destruction of the rat and his parasites. If domestic animals have died with any of the symptoms of plague, or if there is an unusual prevalence of suctorial insects, such as fleas or bed bugs, it should be noted, and the house treated with some insecticide. The reports of the sanitary survey should be filed in a suitable card index so that information as to the sanitary condition of all premises in the district is available at a moment's notice. In addition, a map showing the occurrence of human and rat plague should be kept so that the medical officer in charge of the district may know where to concentrate the efforts of himself and his men.

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* Read before the San Francisco Academy of Medicine, Nov. 26, 907.

In plague times any patient with the symptoms of an acute infection of any kind, such as chill, headache, backache and rise of temperature, should be kept under observation until the diagnosis is clear and plague can be excluded. All cases of plague, or disease resembling it, should be isolated carefully in a rat-proof compound, and persons who have come in contact with such cases kept under observation for the full period of incubation. It is advisable, especially if the case is of the pneumonic type, to administer an immunizing dose (10 c.c.) of Yersin's serum to each person exposed to the infection. In uncomplicated bubonic cases recourse to this method is not considered necessary as the probability of infection from exposure to such cases is remote. Haffkine's prophylactic should not be administered to contacts on account of the negative phase which it induces, thereby greatly endangering the contacts' chances of recovery, provided he already has the disease.

The destruction of the infecting agents may be accomplished by the fumigation and disinfection of the infected house, for the purpose of destroying suctorial insects and surface bacteria. After careful sealing of the rooms, to prevent the escape of gas, fumigation should be performed with sulphur, in the proportion of five pounds to the thousand cubic feet of initial air space. Twelve hours exposure should be given. Formaldehyd does not kill insects or other vermin, and therefore should not be used. Bedding, old clothing and other articles contaminated with the excretions of the patient should be destroyed by burning. The carpets should be removed and beaten, the house swept and the sweepings burned, and the floors washed down with an active antiseptic solution. The yard should be well sprinkled with a strong carbolic solution, and the outbuildings thoroughly limed to inhibit rats, fleas and scavenger insects.

The following excerpt from the instructions issued to medical officers in the field outlines the routine measures for plague infected localities:

Upon the occurrence of a case of plague in a block, and when the infection is thought to have been contracted in that locality, concentrate a sufficient force to carry out, in as short a time as possible, the following measures in addition to the disinfection of the infected house.

1. A rapid sanitary survey of the infected and contiguous blocks. (a) Note the cases of sickness at the time and for the past six weeks in each house; (b) number of stables, their condition as to sewer connections, character of flooring, number of stalls, and the meat markets and bakeries for the same conditions; (c) sanitary condition of occupied premises and vacant lots with regard to rat food and harboring places; (d) note the prevalence of rats, and especially if dead rats have been seen recently. The inspector will enter every house in search of this information and impress on householders the necessity of destroying rats and rat-food, and of making their homes rat-proof. If a case of plague has gone unrecognized in the family, as shown by the sanitary history of the house, the facts should at once be reported to headquarters.

2. The rat-holes and runs in the infected and adjoining houses should be flooded with carbolic solution (1 to 40) or bichlorid of mercury solution (1 to 500) and then treated as follows: Holes in wooden floors to be sealed with tin or sheet metal; brick or concrete, with cement; earthen holes to be filled with broken glass and brick.

3. (a) Place poisons, preferably phosphorus and arsenic pastes, in holes and runs in the infected and contiguous blocks; (b) place traps, both spring and cage, over the same ground. (c) Danysz' virus of high virulence should be placed in cellars, kitchens and households generally.

Depopulation of infected sections with the destruction of infected buildings has succeeded in several instances in the present epidemic in stopping the march of the disease. This applies particularly to the irregular camps in the North Beach and Lobos Square districts. In dark, damp places, without adequate means of ventilation, alterations should be made to correct these insanitary evils. Lime-washing is an old but effective measure, and may be applied by spray pumps or brushes.

When plague continues to manifest itself in a house, or a locality after a thorough disinfection has been done, make a careful search in the neighborhood for the cause of the continuance. All harboring places and places in which rat-food is found in abundance should be looked on with suspicion. Defective wooden floors, and walls of the infected house and the adjoining houses may be torn out and a search made for rat cadavers. Stables and restaurants may be treated in a like manner. In 1903, 87 dead rats were found in the walls of a Chinese restaurant. Eleven rats showed plague infection. After the destruction of this focus no further cases occurred.

"When plague has once occurred in a house there is a great tendency in subsequent years for the same house, or that adjoining, or that on the opposite side to be attacked with plague" (Simpson). This may be accounted for by the lack of protection against the ingress of rats. Such houses on inspection will show rat-holes, burrows and free entrances in the basements, and refuge-places in the ceilings and walls. Obliterate them and plague will not reappear.

It is a curious fact that the morbidity and mortality rate from plague in rats is frequently low. This fact probably assists in keeping the disease alive, for if it spread rapidly among the rats they would soon be exterminated and the chief source of infection to human beings would cease. Under the closest observation during the Hong Kong epidemic only 7 per cent. of the rats examined had plague, while in the present epidemic in San Francisco the percentage has been found to be less than one per cent. The disease also exists in chronic forms in rats, the bacteria being encapsulated in the viscera and cervical and inguinal glands. The service laboratory in Chinatown, during the previous epidemic, demonstrated the virulence of the organisms recovered from the bodies of such rats. These rats were found alive, emaciated to be sure, but still ambulatory foci for the spread of the infection. This, in my opinion, is one of the principal causes of the continuance of the disease and the long intermissions between cases.

The connection between rats and human plague is a matter of ancient observation and is recorded in the literature of the Assyrians, Hebrews, Egyptians and Greeks. The researches of modern times have confirmed these observations, and a great deal has been added to the literature of the rat, especially in relation to plague. Three varieties have been found in San Francisco: *Mus decumanus*, the so-called Norway rat, is the most common; *M. rattus*, the black rat, is less frequent, while a sub-variety, *M. alexandrinus*, is still rarer; *M. musculus*, the common mouse, is very numerous.

Types of the disease in rats: "In Hong Kong (second epidemic), the blood showed the organism (septicemic) in 100 per cent.; spleen, 92 per cent.; lungs, 38 per cent.; intestinal contents, 33 per cent.; urine, 16 per cent.; mucus of mouth, 22 per cent.; in all cases examined" (Simpson). These figures illustrate the dangers to be apprehended from the entrance of plague-sick rats into a house, and explain how infections of the lungs and alimentary canal may ensue from breathing or eating the dried excretions of the animal. The flea, while an important factor in the dissemination of infection, is not the only one to be reckoned with in eradicating the disease.

This knowledge suggests several important measures in plague eradication; namely: 1. All houses should be made rat-proof. 2. The screening and protection of food. 3. Disinfection of infected houses to destroy bacteria as well as suctorial and scavenger insects.

In a study of 310 human cases in Hong Kong there were: Bubonic, 55 per cent., divided into femoral, 35.4 per cent.; axillary, 21 per cent., and inguinal, 0.6 per cent.; septicemic, 40 per cent.; pneumonic, 4.1 per cent. (Simpson). The large number of septicemic cases, showing mesenteric and retroperitoneal glandular involvement, would indicate infection through the alimentary canal by contaminated food.

The fact is often overlooked that it is as important to find and eradicate plague infection among rats as it is among human beings. Careful search, then, should be made for the cadavers of rats during plague times. Those that have died recently should be sent in for bacteriologic examination; bodies in which putrefaction has occurred should be burned. The measures that should be adopted to stamp out rat-plague are the same as those recommended for human plague. Every rat focus should be considered as a possible human focus, and the most active measures instituted immediately on its discovery. Rat contacts should be kept under observation and inspected daily for a period of seven days.

All defective buildings in which rats dead of plague have been found should be vacated at once to prevent the occurrence of the disease among human beings. The same rule applies to adjoining houses. Buildings in which plague continues to appear, in spite of the measures enumerated above, should be vacated and destroyed. These rules are in addition to careful general sanitation, the disinfection of infected houses, and the isolation of those sick of the disease.

Of the means employed in San Francisco for the destruction of the rat, trapping and poisoning on a large scale are chiefly relied on. Two varieties of traps are used, the cage and the spring, or snap-traps. These are apportioned between the laborers, one of whom cares for from 30 to 40 traps in a forenoon, the afternoon being used in placing poisons. Cheese, bacon, fish, sausage, green fruits and vegetables are used for bait. The poisons used have included plaster-of-Paris flour, phosphorus and arsenic pastes. The latter two are the most reliable. The pastes are made by heating together cheese, lard or suet, rye flour and sugar and incorporating the poisonous element while the mass is cooling. During the Chinatown epidemic (1903), exalted cultures of Danysz' virus were used with great success. Fifty per cent. of the rats trapped alive and quarantined in the laboratory died of the disease, and the *Bacillus typhi murium* was recovered from their spleens and other organs. On account of rapid deterioration Danysz' virus should be distributed at frequent intervals.

As previously stated, all rat food and harboring places should be destroyed. The city should be given a thorough cleaning, the piles of débris removed and lumber piled two feet above ground. All places of human residence should be made rat-proof by the concreting of basements, the screening of all windows and entrances near the ground level, and the careful fitting of plumbing to the holes through which it enters and leaves the house. Stables and markets are a great menace. All stables should be concreted, connected with sewers, have proper manure boxes and metal-lined containers for feed and grain. The stable which does not conform to the above should be condemned and vacated. Warehouses should be similarly rat-proofed and the articles stored therein protected against the lodgment of rats.

In view of the danger of the shipment of infected rats in freight, the wharves and piers should be constructed of stone or concrete and all goods stored thereon placed on platforms elevated from one to two feet above the floor level. Long piers extending into the harbor of a city in which plague prevails should be protected by a drawbridge which can be elevated at night. A less expensive arrangement for the accumulation and temporary storage of cargoes could be made by sectioning off a part of a wharf by rat-proof fences and placing suitable guards on the ceilings, girders and rafters.

There can be no doubt that rats and similar vermin mechanically transfer other diseases from the sewers to human dwellings. Therefore, I would recommend the rat-proofing of sewers. Wherever possible, the old brick and mortar sewer should be replaced by concrete, metal or vitrified clay sewers of proper diameter. The junction of the soil pipe and the main is the weakest point and one brick out of place in this locality forms a point of ingress and egress for the sewer rat who gorges himself with all manner of filth and pollution to return and disseminate the disease germs to man. To prevent stagnation of contents, the sewers should be flushed frequently. This also washes out large numbers of dead rats that have died of plague and may infect their kindred which are liable to feed on these carcasses.

Other infections of the rat are: Trematodes, or flukes; cestodes, or tape worms; nematodes, or round worms; protozoa, or trypanosomes; insects and vegetable microbes. Of the rats examined in San Francisco, 34 per cent. are infested with tape worms; 25 per cent. with trypanosomes, and 65 per cent. with nematodes, and the *Tricocephalus dispar* (Lloyd).

Little has been said of the rôle of the flea in the transmission of plague. While this insect bears an important relation to the transference of the disease, it is not the only factor, and if we destroy the host there is no longer danger of infecting the parasite. I have, therefore, used the short time at my disposal in dealing with what seems to me to be the more important elements in the problem of eradicating plague.

401 Fillmore Street.

The Obstetrician's Remuneration.—We realize that obstetric work is underpaid, but we likewise realize that the medical profession is to blame for this condition of affairs. So long as physicians neglect to give the best of care to patients previous to labor, so long as physicians neglect to make antepartum examinations, so long as physicians are satisfied to say that most cases are normal and that all will end well, so long as physicians continue to practice obstetrics as midwives do, just so long will we be paid, and ought we to be paid, as midwives are.—G. A. Hipke, M.D., in *Wisconsin Medical Journal.*

THE TREATMENT OF GONORRHEA IN WOMEN.*

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NEW YORK CITY.

In the treatment of gonorrhea in women it is essential to bear in mind that in the great majority of acute cases the disease is limited to the lower part of the urogenital tract, and that if we can bring the patients at once under proper care, we can generally hold the disease in check so that the upper parts of the genital tract will not be infected.

The opinions as to the proper treatment of this affection are as divergent as they were in the case of diphtheria before the discovery of the anti-diphtheritic serum of Behring. There is no unanimity of opinion; each method of treatment has its advocates and likewise its strong opponents. Most authors, however, are agreed in stating that no active treatment should be employed during the acute stage. Cleanliness, restricted diet and rest are recommended in this stage by nearly all. When the acute stage has subsided, local treatment is begun; but in the employment of local treatment the use of vaginal douches is generally discarded. The secretions should be wiped out dry with absorbent cotton. The most favored remedy for local applications is a 5 per cent. solution of protargol. When the cervical canal is infected this remedy is applied by means of an applicator. In corporal infections the remedy is applied to the uterine cavity. Cysts of the vaginal portion of the cervix should be punctured. If the portio is intensely diseased and the affection does not seem to yield to local treatment Augustus A. Hussey[13] advises amputation.

George T. Harrison[15] is, in my opinion, somewhat contradictory in his essay. He says that "in infections of the tubes even the slightest operation on the genital organs may prove dangerous;" yet he highly recommends the method of treatment of the late Dr. Pryor, namely, a thorough curetting to cut off the main source of the infection. He then opens the cul-de-sac of Douglas, and with the finger introduced through the opening, frees the tubes and ovaries. The tubes are then brought out of the opening. Passing a probe through the fimbriated extremity, he inserts a strip of iodoform gauze which is removed when he is through with the rest of the manipulation in the pelvis. Next he packs the uterus and the whole cul-de-sac with iodoform gauze. The uterus is restored to its normal position, and finally the vagina is also packed with iodoform gauze.

J. B. Killebrun[16] favors curetting as soon as possible in acute gonorrheal endometritis. He believes that when the uterus is affected the adnexa are likewise diseased and should be treated. He advocates Pryor's method.

In the early stages Henry T. Byford[18] advocates prolonged irrigation with hot water as a basis, and dwells on its advantage in preventing the spread of the disease to adjacent parts. It does not injure the epithelial covering, and thus it tends to limit the infection to superficial areas; furthermore, it removes more germs and pus cells than either astringents or disinfectants can destroy. Later, when the discharge becomes scanty the irrigations are not used so frequently, and the application of a non-irritating solution of a silver sal may follow each hot water treatment. Byford's view is correct, so far as my own observation from experience is concerned.

C. F. Marshall[21] considers the treatment with douches insufficient, because it is impossible to reach the whole of the vaginal surface. He advises wool tampons saturated with medicated fluids and medicated soluble pessaries. The urethritis is treated with copaiba and santal. For endocervicitis he employs a solution of sulphate of copper, forty grains to the ounce. If severe, the cervix should be dilated and the uterus curetted.

A. d'Hotman de Villiers,[22] for instance, considers as insufficient for a cure of gonorrheal vulvo-vaginitis all local remedies other than nitrate of silver, which he uses in a strength of 1-20. No internal treatment is ordered by him.

G. Rossier,[23] on the other hand, is a believer in the value of disinfecting injections, and he does not sanction curetting in endocervicitis until all other remedies have failed.

Th. Perrin,[24] for infections of the urethra, cervical canal and uterus, uses medicated tampons applied by means of a specially constructed instrument. These tampons are left *in situ* about fifteen minutes. He considers yeast a valueless remedy, as opposed to the opinion of O. Abraham.[25] In ulceration of the cervix, the employment of the cautery—the earlier the better—is highly spoken of.

Kiss, quoted by Engelbreth,[26] has demonstrated that gonococci soon disappear with the use of plain water douches. He favors the local use of nitrate of silver as the best remedy for abortive treatment.

Dr. Max Ziessel[28] says that in the beginning of the acute stages antiphlogistic measures should be used. In acute gonorrheal endometritis local treatment should not be begun until the acute symptoms have diminished. Curetting should be limited to those cases in which there is copious bleeding.

Dr. v. Franqué[29] warmly recommends mud baths during the residual stages.

Johansen[30] warns against curetting and other intrauterine therapy.

A. Martin[31] uses physiologic salt solution, occasionally with the addition of thymol, etc. He has found yeast to yield most beneficial results.

Rudolph Savor[32] uses vaginal douches containing an antiseptic. Local therapy is not begun until the pelvic organs are no longer sensitive to bimanual examination. Curetting should be avoided, because it does not destroy the glandular structure to the deepest parts, and on regeneration the cocci have a new fertile field.

Massasse[33] favors internal treatment with a mixture containing Rad. sarsaparillæ, Hb. portulacæ, and Hb. veronicæ, in addition to mild local therapy.

Dr. Prowe[34] maintains that the gonorrhea of prostitutes can invariably be eradicated so that they will not infect the opposite sex. He further says that endometritis corporis gonorrhea is often primary and the cause of the lower tract infection. Curetting in acute gonorrheal endometritis is advised. Those who were thus operated on remained healthy. Those who were not operated on, on the other hand, after a time came to be treated for swelling of the vulva, salpingitis, endometritis decidua and perimetritis. Those who practiced curetting are, according to Prowe: Doléris, Erand, Trélet, Vulliét and Walton. The objection to curetting is called a theoretical pretext. His deductions are based on 313 cases. In his experience curetting never induced pelvic inflammation. Adnexa disease may be lessened by such radical treatment. He uses a solution of ichthyol after curetting. An irritating application after curetting often provokes contraction of the uterus, which affects the tubes. He further advocates the tamponing of the uterus with iodoform gauze.

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* Part of a paper read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-eighth Annual Session, June, 1907. The complete paper has been published in the Transactions of the Section and in the author's reprints.

13. Brooklyn Med. Jour., April, 1903.
15. N. Y. Med. Jour., Jan. 7, 1905.
16. Med. News, Jan. 25, 1902.
18. Am. Jour. of Obst., l, 408.
21. Midland Med. Jour., Jan. 1905.
22. Traitement et guérison de la vulva-vaginite Blennorrhagique, 1905.
23. Le blenorrhagie chez la femme, 1902.
24. Rev. Méd. de la Suisse Rom.
25. Centrbl. f. Gyn., 1903, No. 15.
26. Monatsh. f. prakt. Derma., 1903, No. 10.
28. Gonorrhea in Women and Its Complications, Vienna.
29. Centrbl. f. Gyn., 1906, No. 34.
30. Centrbl. f. Gyn., 1903, No. 8.
31. Berlin. klin. Wochschr., March 28, 1906.
32. Die Hellkunde, March and April, 1902.
33. Centrbl. f. Gyn., 1903, p. 64.
34. Berl. klin. Wochschr., Nov. 11, 1901.

It is evident, from the quotations made, how widely the treatment of gonorrhea varies and how futile it would be to look among the therapeutic measures at our command for any specific that could be depended on to abort an attack. He who has seen the suffering a patient endures when treated by the method advised by Ricord, with strong silver nitrate solutions, is not likely to advocate it. Furthermore, we must remember that all remedies so far known (strong solutions of chlorid of zinc excepted) have only a superficial action and do not affect the deeper layers of epithelial cells. Physiologic salt solution, as suggested by Martin, or some mild antiseptic in plain water, has decided therapeutic value to wash away the superficial cocci and is not painful. This treatment should, however, be relied on only during the acute stages. When the acute stage has passed we get quicker results by using more heroic treatment. The silver preparations are by far the most reliable remedies. I prefer protargol in 10 per cent. solution. After all secretions have been thoroughly wiped off with absorbent cotton, the vaginal mucosa is freely painted with protargol solution; a pledget of absorbent cotton soaked in the solution is then applied over the vaginal portion and is held in place by an ordinary wool tampon. If simple erosions are present on the portio, they are painted with a 5 to 10 per cent. silver nitrate solution, this having been found the most effectual remedy. Follicular erosions must be treated by opening the follicles with a scarifier. If urethritis is still present an application is made to the urethra by means of an intrauterine applicator syringe (Fig. 1). The medicament is aspirated into the barrel and the long tip is evenly wrapped with cotton. The patient should have urinated shortly before the application to the urethra, so that the superficial gonococci on the urethral mucosa are washed out. The cotton-wrapped syringe nozzle is then carefully introduced the required distance and the medicament injected into the cotton. This is left in the urethra by compressing the thin tampon at the meatus and withdrawing the syringe nozzle. The cotton is left for ten or fifteen minutes and is then removed by the patient. The ducts about the vulva are carefully examined and, if infected, the secretion is gently expressed and the medicament injected. A cotton pledget saturated with the same solution is placed between the labia and is covered with a non-absorbent cotton pad, which is held in place by a napkin. The treatment is repeated every second or third day. During the interval, the patient is directed to use copious vaginal douches consisting of four quarts of mild boric acid solution about four times daily. So long as the disease remains as a specific urethritis and vulvo-vaginitis, the treatment is comparatively simple, and in most instances it can be limited to these sections of the genital tract, if we can get the patient under care in the early stages of the disease. No internal treatment, beyond restriction in diet, is prescribed. If the ducts of Bartholin are involved, they must be treated on surgical principles. If a cyst forms, it should be exsected. If an abscess results, it should be opened by a long incision parallel to the inner lip of the labium. The cavity, after being cleansed, may be swabbed with pure phenol, followed immediately by pure alcohol, and then packed with iodoform or other gauze.

In instances where the infection remains obstinate in the small ducts, I split them and use the actual cautery. Condylomata are best removed with a cautery knife. Each one is seized with a pair of thumb forceps and cut off, and a dry dressing is then applied.

The use of the silver solutions is based on our knowledge of their strong antibacterial action. Yet the fact that so many are placed on the market makes it evident that there is not one that can be considered infallible. So far as my observation goes, no matter which one of them is employed, the disease takes about the same length of time to cure. Some patients are cured in from four to six weeks, while others are not entirely well after six months' treatment. I have frequently observed that women with subacute infection which has not encroached on parts above the cervical canal do much better if they can keep themselves free from physical exertion. I have a number of times seen women from whom I could no longer get gonococcal secretion, but who, after a couple of weeks' physical exertion, came back complaining of more discharge and of a fullness in the vagina. On microscopic examination, the secretion showed the presence of cocci, due to the fact that isolated gonococci had remained latent in the deeper epithelial layers, while as a result of exertion they had again become active. Generally the purulent discharge increases at the commencement of active local treatment, but soon it becomes less and loses its purulent character. It is important in all cases to see that the husband is made to appreciate the danger of reinfection, so that cohabitation is not permitted until both husband and wife are absolutely cured.

A more serious matter is the treatment of gonorrhea when it has passed beyond the vulvovaginal and urethral tract, so that the cervix, uterine cavity, adnexa or pelvic peritoneum is invaded. A number of physicians, deserving of the distinction which they hold as authorities in the medical world, treat gonorrheal endocervicitis so that the local treatment is limited to that part. After wiping out the secretion with a cotton-wrapped applicator, the vulvovaginal tract having previously been carefully cleaned, an application of the remedy to be employed is made to the cervical canal. If the os uteri is small, as is the case of multipara, the cervix should first be dilated, or, as Brunn recommends, a discision should be made. If a discision is made, the wound must first heal before the local treatment is begun. The remedies mostly approved of are silver preparations. Other applications are the insertion of a strip of gauze saturated with a 5 to 10 per cent. solution of ichthyol in glycerin, the application of strong solutions of sulphate of copper, mild chlorid of zinc solutions, etc. The preference is altogether a matter of individual opinion.

While it must be accepted as correct that for a time the gonococcic invasion may remain limited to the cervical mucosa, it must also be admitted that it is extremely difficult to determine just when in some patients the invasion has reached the uterine cavity. I have, therefore, recently placed myself on the side of those who at once attack the entire uterine mucosa. Opinion on this point is more divided than on any other question involving the treatment of gonorrhea in women.

If a patient permits me to follow my preference, she is put under anesthesia and the genital tract is disinfected with most scrupulous antisepsis. The uterus is copiously irrigated with a double current bladder catheter; then the cervix is dilated slowly and gently so that no tears are caused, but the dilatation should be thorough to be effectual. Next, a thorough curetting is done with a sharp curette. I prefer a Martin curette for the first general abrasion of the mucosa, and then substitute for this a small size sharp curette to use around the tubal openings. After the effectual abrasion has been done, the uterus is again copiously irrigated with plain sterile water or a mild antiseptic solution and is then fully tamponned with a long strip of gauze soaked in a 5 per cent. protargol solution. The rest of the genital tract is tamponned with iodoform gauze and the patient is put to bed. If urethritis is still present, this is at the same time locally treated, as are also the ducts if they are infected. The gauze is removed on the following day and the entire treatment is repeated, excepting the curetting, and again on the third day. The repetition of treatment should not cause much annoyance to the patient if the cervical dilatation has been sufficiently effectual.

If consent to curetting is not given, office treatment is used. An intrauterine application is made by means of the intrauterine applicator syringe. The intrauterine tampon is left in the uterus for two or three hours, and the patient is directed then to remove it, which can readily be done by means of a string which is tied to the proximal end of the tampon before it is introduced. The intrauterine tampon is left in by grasping the proximal end around the silver nozzle with a pair of dressing forceps and holding it while the syringe is withdrawn. A medicated tampon is then placed in the upper part of the vagina, if desirable, and is held in position by a plain non-absorbent wool tampon. The strings of the vaginal tampons are marked so that the patient may know which to extract first. At first the intrauterine tampons are necessarily quite thin, so that they may be readily introduced, but afterward the cotton wrapped around the syringe nozzle may be increased in thickness, because the remaining of the intrauterine tampon causes the cervical canal to become more readily dilatable. After removal of the tampons a copious antiseptic douche is made by the patient. Although every precaution is used as to cleanliness, I consider this treatment not so desirable as the more heroic treatment first described, as it is fraught with more risk of subsequent pelvic inflammation. With my present views I feel justified in calling it "tinkering," and hence not to be employed if a patient will consent to take an anesthetic and have curetting done. It is obvious that other infected parts of the genitourinary tract should also be treated at the same time. The treatment should be repeated every second or third day.

In unusually obstinate cases of corporal gonorrheal endometritis I have a few times, with benefit, resorted to very heroic intrauterine treatment with chlorid of zinc, sometimes as strong as a 50 per cent. solution. It is applied in the same manner as protargol solution, but one should not have more than from three to five drops of the solution in the syringe barrel, depending on the size of the uterine cavity and on the quantity of cotton that is wrapped around the nozzle. If more of the full strength solution is used, there is danger that it will come in contact with the cervical canal and cause a subsequent stenosis, which I have never observed when the quantity was limited to the amount stated.

The disadvantage of the chlorid of zinc treatment is that it sometimes causes intense pain. It is, therefore, advisable to let a patient go to bed for a day or two after its application, in order to determine what its action will be in this particular. Should pain ensue, absolute quiet is insisted on, and also the application of an ice bag on the lower abdomen. Sometimes the pain also necessitates the administration of a narcotic. A further disadvantage of chlorid of zinc solution is that its destructive action may go too deep; thus almost the entire endometrium may become destroyed, with subsequent atrophy of the uterus and the cessation of menstruation for a few months.

In using the solution with the precaution mentioned I have never seen it cause such a result permanently; the longest resulting amenorrhea lasted five months. I repeat, however, that this treatment must be reserved for the most obstinate and protracted cases. It takes from three to five days before the intrauterine tampon is sufficiently loosened to permit of its removal. I have seen only one instance in which it was necessary to repeat the treatment more than three times, and usually one or two treatments suffice. I have never been able to observe any marked beneficial action from the use of iodin, which, besides, causes considerable pain, just as often as does the intrauterine use of chlorid of zinc.

THE INTRAUTERINE APPLICATOR SYRINGE.

The advantage of a perfectly-made intrauterine applicator syringe (Fig. 1) over all other methods for applying intrauterine medication through a cervical canal that has not previously been dilated by mechanical means, can not be overestimated. The tip should be four and one-half inches long and slightly curved near its terminal end. It should be absolutely smooth and even in its entire length and have only one opening at the terminus. It should be made perfectly tight at its proximal end so that no fluid can escape there while the medicament is being ejected into the cotton. The medicament comes into direct contact with the parts for which it is intended, because the cotton is soaked first at its very end and is gradually saturated with the medicament from above downward. If, on the other hand, the medicament is applied by means of one of the various applicators that are on the market, the active value is lost to a greater or less extent in its passage through the cervical canal. This holds good especially with nitrate of silver solution, which becomes coated with albuminoids before the applicator reaches the fundus. Besides, if it is intended to use a medicament possessing irritating qualities, as, for instance, tincture of iodin, the passage of a medicated applicator is more or less impeded through a cervical canal of ordinary diameter. It took a long time for me to get the instrument perfected in all its requirements. The ready leaving of the intrauterine tampon *in situ*, if this is desired, is facilitated by slightly anointing the tip with vaselin.

While the treatment by copious intrauterine irrigation with weak antibacterial solutions gives fairly satisfactory results, as is evidenced by the number of its adherents, yet in my hands it has not been so satisfactory as the before-mentioned methods, especially that with curetting. Furthermore, with the latter method the danger of the irrigating fluid entering the peritoneal cavity is obviated, if the treatment is properly carried out and the pressure is not too great.

It should be remembered that even after the disappearance of the gonococci in the secretions there is still some discharge, which is best eradicated by the use of mild astringent douches.

In case of menorrhagia, which sometimes complicates gonorrheal endometritis, I have found patients to be benefited by the internal administration of hydrochlorid of cotarnin. This is given in doses of three grains, in gelatin capsules, three times daily, if the previously instituted treatment did not have the desired effect; alone, however, without local treatment, as curetting, it gave unsatisfactory results.

There is a class of patients in whom menorrhagia and metrorrhagia are almost uncontrollable; this condition tries the endurance of both patient and physician to the extreme. Such patients are multipara with firm uteri, and in connection with the gonorrheal infection they have a chronic metro-endometritis. I have tamponned such women with gauze saturated in strong solutions of ferropyrin, iodoform gauze, etc., practically without any benefit. The best remedy that I have found in such cases was to await a non-bleeding period and then make intrauterine applications of pure carbolic acid, leaving the intrauterine tampon *in situ* for a couple of hours. The treatment must be repeated every second day until from six to eight treatments have been applied, and at the next menstruation interval it should be repeated. Despite the dangers mentioned by a number of authors in connection with the local application of carbolic acid to the uterine cavity, I have not seen an instance of serious result, although I have made the application hundreds of times.

INFECTIONS OF THE ADNEXA.

We now come to that class of patients in whom the invasion of the disease has passed beyond the limits of the uterus. In acute gonorrheal infections of the adnexa, with or without invasion of the pelvic peritoneum, it is of the greatest importance to enjoin absolute rest in bed and the application of an ice coil. If this is not readily obtainable, ice bags will do or, what I have found still better, a mixture of cracked ice with linseed meal, made into the shape of a large poultice and applied to the abdomen.

It is further desirable to keep the intestinal peristalsis at a minimum, and for this purpose the administration of some form of narcotic is necessary; this preferably should be so administered as not to tax the stomach, which can best be done by the employment of suppositories. If the diagnosis of an acute inflammation of the pelvic organs has been made, subsequent local examinations should be avoided, unless there is a special reason for making a bimanual examination, because even the slightest traumatism may be productive of harm. Should it be desirable to make a bimanual examination the greatest care should be exercised to avoid rude handling.

In most instances where the patients are treated by the method outlined, improvement begins to show itself in a few days. This, however, should not lead us to permit the patients to be less careful, and we must give them the most nutritious and easily digested food stuffs during the entire course of their illness.

As soon as the most acute symptoms have subsided we may begin with warm vaginal douches containing a mild antiseptic. The douches should be of large quantity, at low pressure, and be given at frequent intervals. The cold applications should not be discontinued until the temperature is normal and the patient is free from pain. Neither should such a patient be permitted to leave her bed until the temperature has remained normal or nearly normal for at least a week. After the subsidence of the acuteness of the ailment we may, with benefit, begin with local treatment consisting of sufficiently large absorbent cotton tampons to cover the entire vaginal roof, saturated with a 5 to 10 per cent. solution of ichthyol in glycerin and held in place by a wool tampon. The tampon should remain in place for from twelve to twenty-four hours, and after its removal the patient should use a copious hot water douche. The temperature of the water should be as high as the patient can bear without discomfort. Intrauterine treatment must still be avoided, even if the discharge from the cervical canal is purulent, because of the danger of causing a fresh attack of salpingo-oöphoritis with pelvioperitonitis. Should the patient at any time show an exacerbation of symptoms she should at once be returned to bed and the rest treatment be resumed. Once the adnexa have been implicated, intrauterine therapy should never be used until all evidence of adnexal disease has disappeared, unless, as will be considered later, it is intended to resort to a thorough surgical intervention.

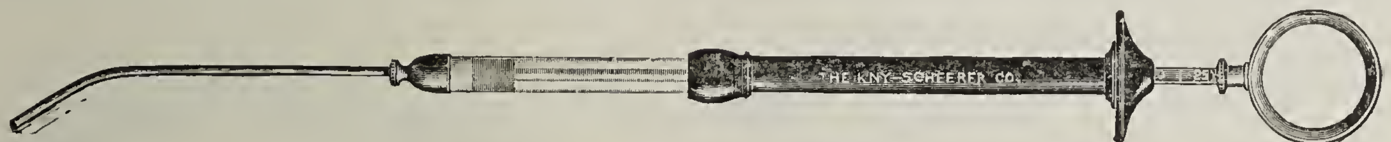

Fig. 1.—Intrauterine applicator syringe.

Furthermore, frequent bimanual examinations during the course of absorption treatment are to be avoided. It will be found that most patients will make a good recovery by employment of the conservative treatment outlined, and some may even go to a *restitutio ad integrum* and subsequently become pregnant.

Should at any time the Fallopian tubes become distended with pus and gravitate to the floor of the pelvis so that a bulging is felt behind the uterus, further delay with the purely conservative treatment should not be practiced, not even in the presence of acute pelvioperitonitis, although we know that by a continuance of the treatment as previously outlined, the danger to life is not only not imminent, but, in fact, the majority of such patients recover from the attack. I believe that it is a better and safer procedure for the patient's future to resort to surgical treatment. The patient should be anesthetized and the cul-de-sac of Douglas be widely opened. For this purpose I prefer the pelvic abscess instrument (Figs. 2 and 3) which I devised some years ago, for the greater safety in not causing injury to the larger blood vessels in the case of such a large opening. The Fallopian tubes can then be incised and evacuated, and a strip of gauze placed in the incision after they have been washed out, to prevent the incision from at once closing. The uterus at the same time should be thoroughly curetted and packed with a strip of gauze saturated with whatever medicament is preferred. The cul-de-sac should now be packed with iodoform gauze. The dressings should be changed as frequently as may be necessary; the first dressing may be allowed to remain in position three days, but after that the dressings usually need to be changed every second day, if not every day, this depending on the amount of secretion which exudes. While I have never seen a complete *restitutio ad integrum* in any such case, nor a subsequent pregnancy, yet the latter possibility has been reported by a number of other observers. A symptomatic cure will result often by this method of treatment, more often, I believe, than if the non-surgical treatment is relied on. The recognized surgical axiom, "where there is pus evacuate it," is applicable in such cases.

Some patients do not recover either by purely conservative medical treatment or by conservative surgical treatment mentioned for the acute cases which develop large pyosalpinx tumors that are attached to the pelvic floor. These pyosalpinges do not settle low down in the pelvis, so that they are not readily approached through the vagina, nor do they attain such size as do those to which allusion has been made as being on the pelvic floor and are best treated by simple incision and drainage.

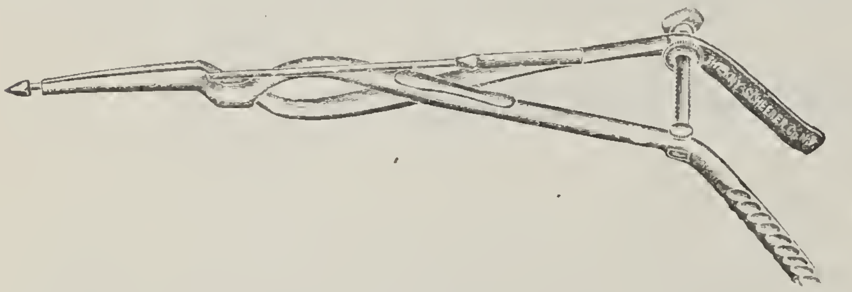

Fig. 2.—Pelvic abscess instrument. For opening Douglas' cul-de-sac.

The patients to whom I now refer have made a good temporary recovery from the acute stage, but they have not regained their health. They suffer more or less pain either constantly or at varying intervals; their menstruation is perhaps irregular and perhaps also painful. Occasionally they have an exacerbation of the acute symptoms which they originally had, although usually in a less marked degree. On bimanual examination one finds the objective symptoms of salpingo-oöphoritis, with a condition of the uterus which may be recognized as metro-endometritis; the organ is perhaps somewhat enlarged, and it may be harder or softer than normal. Its mobility is usually more or less impeded by adhesions, and perimetritic exudate may also be present. The Fallopian tubes are more or less distended with pus, which is recognized by the doughy sensation imparted to the examining finger. It may be that the uterus and adnexa are so matted together in the perimetritic exudate that the pelvic organs feel like a single inflammatory exudate. It may be possible to demonstrate the presence of gonococci, although usually they are not to be found in the urethral, vulval, glandular or cervical secretions in these cases; indeed, they are frequently absent in the pus contained in the tubes, and nearly always so in those patients who have been ill a very long time.

The life of such patients is perhaps seldom or never menaced, if they keep out of the hands of physicians who use intrauterine treatment in such cases or who curette indiscriminately. The health of these patients, however, is undermined. If they belong to the poorer class, those who must attend to their household duties—and the majority of the women who are ill with these affections belong to that class—they should be relieved by operation. Local treatment, no matter of what kind, has been found useless in my experience. Surgical treatment is the only form that holds out some hope. The only question is as to which form of surgical intervention is the most desirable, and here we have one of the numerous classes of women's ailments for which the "specialty of gynecology is not passing," despite what Roswell Park said in his excellent address at the last year's meeting of the New York Medical Society.

To decide what to do in this class of patients demands the experience gained by having under observation a large number of such patients.

Some prefer to do a radical vaginal operation in all instances in which bilateral tubal affection has been diagnosed. I am opposed to such a radical view, as I have stated in an address at the January meeting of the College of Physicians of Philadelphia.[35] There I made it clear that we frequently get a satisfactory result by doing a salpingectomy, provided the tube is exsected from the cornu of the uterus, and in the cornu from which the tube was exsected we implant the corresponding ovary, or a part of it.

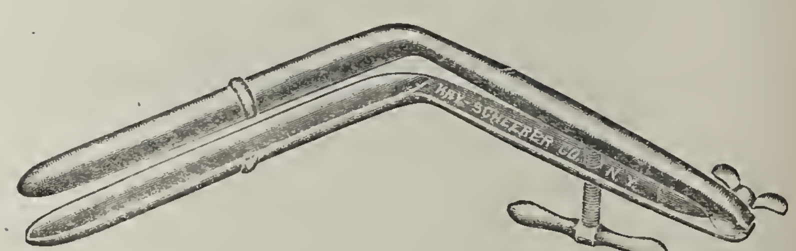

Fig. 3.—Pelvic abscess instrument. For dilating the opening made in Douglas' cul-de-sac.

I stated then that it seldom became necessary to sacrifice both ovaries. Since the delivery of that address it has been my good fortune to have had several cases in which, despite their apparent hopelessness, it was possible to do conservative surgery. What the remote results will be in those cases one can not yet predict with certainty. I can, however, add two additional cases to those cited in the article referred to, in which the ultimate result from the conservative operation was excellent. This means that if there is some reason to expect that conservative technic can be practiced, the vaginal method should not be chosen, but the abdominal route should invariably be selected. If it is necessary to sacrifice both ovaries, then the uterus also should be extirpated.

There is still another class of patients, those in whom the disease has to a large extent become spontaneously cured, so far as the pyosalpinges are concerned, while the residue of old chronic pelvic inflammation is still present. This consists of chronic inflamed adnexa, the tubes thickened and adherent but not containing pus, the ovaries also in a state of chronic inflammation, and the uterus either smaller or larger than normal. Especially in those instances in which the organ is smaller than normal it is likely to be displaced and adherent as the result of an old perimetritis. Menstruation in this latter class of patients is likely to be at long intervals, say from six weeks to three months. In some cases it may be frequent, at intervals perhaps of only two or three weeks, and the amount of blood lost is likely to be variable and the dysmenorrhea usually severe.

When we go carefully into the history of these patients, it may seem doubtful whether, in some instances, they had at any time a suppurative condition of the adnexa. Yet these women, when we get them under our observation, are chronic invalids, despite the fact that they look well, so far at least as their appearance is concerned, if one is to judge from the sometimes ruddy face and the stoutness of some of them. Local therapy rarely benefits these women, who in the majority of instances have always been sterile, but occasionally have had one child. One must exercise judgment as to therapeutic measures. If the suffering is such that the women find it difficult to pursue their vocation because of pelvic pains, and if they have attained an age past the middle of the thirties, a radical vaginal operation is likely to be the most expedient to afford them relief. If younger, then a salpingectomy should be resorted to. In all instances in which a salpingectomy is contemplated, a thorough curetting should precede the opening of the abdomen; not infrequently a ventral fixation of the uterus may become a desirable adjunct of the other surgical treatment. In all instances in which a conservative operation is resorted to, we must state clearly to the patient that the object of the proposed operation may not be achieved by conservative measures, that after a radical operation may eventually become necessary, and that she must herself assume the responsibility of deciding what is to be done.

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[35] Am. Jour. of Obst., April, 1907.

UNRECOGNIZED GONORRHEA IN THE FEMALE.*

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We readily recognize gonorrhea in the male. We diagnose, under difficulties, gonorrhea in the female. The element which attracts attention in the male is the primary urethritis, accompanied by pain, burning and discharge. From this come all the subsequent troubles. Through this urethral channel the various genitourinary complications arise. In the female the urinary and genital organs have separate canals and urinary and genital involvements by gonorrhea may occur independently or may be of different degrees of severity. An originally acute localized involvement in women often attracts little or no attention. A subacute invasion may, and frequently does, attract no attention at all.

An acute urethritis in the female often causes such slight annoyances that the patient does not seek the services of a physician. Acute gonorrheal urethritis in the female has a tendency to heal without treatment in six to eight weeks. In other cases the discharge gradually becomes less, the symptoms improve, but a secretion persists, either because of the deep involvement of the mucosa of the urethra or because of an involvement of the urethral glands. Such a condition can be seen to develop after an acute gonorrheal urethritis. Chronic urethritis is apt to be found if every case is carefully examined. In some of these cases the urethra remains diffusely infiltrated for months and years and the secretion consists almost entirely of pus cells, and gonococci can be found by careful examination. Macula gonorrhoica are often present.

Many women, however, come suffering from chronic urethritis without any marked evidences of genital lesions, though in many cases there is an associated cervical catarrh. Massage of the urethra done several hours after the last urination discloses a white, milky mucoid discharge. The urethra may be sensitive and infiltrated. Examination of the discharge shows a few pus cells and huge numbers of squamous cells of various shapes and sizes. Bacteria and cocci of different forms are often present, but no gonococci are found. There may be a history of relatively acute onset, the symptoms manifested at that time being frequency of urination and burning micturition. The findings under the microscope in patients seen for the first time years after the beginning of their annoyance are exactly like those obtained in some of those acute cases which become chronic under our eyes. Is the same etiology to be considered? The clearest cases are nulliparæ in whom no pregnancy could have produced a septic involvement of the urethra and in whom there never was opportunity for the production of a catheterization cystitis and in whom no fistulæ are present. The absence of gonococci in the secretion and the presence of pyogenic cocci and bacterium coli is no reason for excluding an original gonorrheal etiology. I am of the opinion that the majority of such cases are due to a previously existing gonorrheal infection.

The unusual location of a gonorrhea may prevent its recognition at that particular point. Involvement of the anus and rectum by the gonococcus is by no means so rare in children and certainly not in adults. Baer found that in 191 cases of gonorrhea there was rectal involvement in 30 per cent. There is a sensation of heat and burning increased on defecation and characterized especially by fissures. In four cases in children and in many cases in adults suffering from fissure of the anus, pain on defecation, sometimes accompanied by the presence of blood, I have been able to obtain smears in which the gonococci were readily found. I have been surprised to find this condition in several cases in adults who complained only of the rectal annoyance and who had not the slightest subjective symptom of a gonorrheal infection. That such a rectal and anal condition may exist without the finding of gonococci is to be expected, for a study of gonorrhea in other locations shows that eventually secretion is diminished or absent and the cocci disappear or can not be found. In the majority of such cases we should find objective evidences of a cervico-uterine involvement.

Because the symptoms resemble other conditions, a gonorrheal etiology is often overlooked. A gonorrheal infection in children may spread upward into the uterus, up through the tubes and involve the peritoneum with such rapidity that the vulvo-vaginitis has scarcely time to attract attention. In other instances the vulvo-vaginitis, as is the rule, causes so few annoyances that little attention is paid to it. An involvement of the pelvic peritoneum and of the general peritoneum by the gonococcus is by no means unknown in children. It occurs with all the evidences of peritonitis and is sometimes very sharp in its onset, producing rigidity of the recti, temperature, pain, vomiting and abdominal distension. In the absence of a recognized cause, it is generally diagnosed as appendicitis and frequently operation is performed for this indication. The rule should be formulated that every attack of peritonitis in female children which simulates appendicitis should have the gonorrheal possibility excluded. While operation is not followed by bad results, yet these cases improve on symptomatic and non-operative treatment.

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The same point holds good in adults in those cases where there is rapid upward extension and infection, there being often no local symptoms whatever to call attention to the specific etiology. The symptoms are those of a peritonitis. In those instances in which adhesion of the tube does not occur quickly and in which the pus is poured out into the peritoneal cavity and is accumulated in the cul-de-sac of Douglas, bimanual examination in patients with very tender abdomen and with rigid recti may give no tangible evidence of involvement of the adnexa. The diagnosis may then be in doubt. In such cases where a local specific infection is not thought of, and looked for, the diagnosis of appendicitis is often made and only operation discloses the real condition of affairs. In gonorrheal peritonitis, the appendix is as a rule reddened, inflamed and edematous, and if a small incision be made, the real condition may be overlooked.

A frequent cause of failure to recognize the existence of gonorrhea is due to the mild nature of the infection. To most of us, if the first five days after labor are passed without a rise of temperature or pulse, the probability of a postpartum infection of any sort is generally not feared. Yet there are cases in which, at the end of the first week, or more particularly at the second week, rises of temperature, not always high, are noted. Examination may show no parametritis, no involvement of the peritoneum, there may be no pain. Frequent and continued examination of the lochia will disclose in many of these patients the presence of the gonococcus. Continued routine examination persistently carried out in obstetric clinics often shows the gonococcus to be present in postpartum cases even when no rise of temperature is noted. Krönig examined 179 cases of puerperal endometritis and found gonococci in the lochia of 50. Dr. William S. Stone reported seventeen cases, which were studied in the wards of the Lying-In Hospital in 1904, and were collected from 172 cases of pregnancy. Only selected cases were examined for the gonococcus, and in suspicious cases repeated examinations were made until positive or negative results could be obtained. In these seventeen cases gonococci were found. All of these seventeen patients were primiparæ, although a certain number of multiparæ were delivered in the clinic. Bumm says that although in the cervix of pregnant women cocci may be found only in small numbers, yet in the lochia from the cervix and uterus on the second to the fifth day postpartum they are found in huge numbers. Toward the third week of the puerperium they are hard to find if the secretion becomes mucoid. In some cases it is easy to find them for weeks if the secretion is not mucoid. In the early puerperium there is generally no fever and no symptoms. If there is temperature it is low and lasts for two or three days. This is either due to an absence of extension or to a slow extension or to slight virulence. In the late puerperium, after the patient gets up, there is observed a marked tendency to an ascending inflammation.

Such involvement results in the so-called "one-child sterility" and in changes in the tubes.

Gonorrhea is often unrecognized because the original characteristics have worn off in the course of time.

When an abscess involves the gland of Bartholin and calls for incision, very few doubt that the gonococcus is at fault. There are many instances of gonorrheal infection of the gland of Bartholin, in which no abscess results. The duct is not closed and in the course of time, the discharge becomes less purulent, finally becomes mucoid and often of a normal color. If then atresia or obstruction of the duct occurs, a cyst of the gland of Bartholin results. While not generally so considered, there is no reason to doubt that many of these instances are to be referred to a gonorrheal infection of the gland, existing perhaps for years, and even to be referred back to the time of childhood. Therefore, the resulting cyst contains an accumulation in which no gonococci are found and which seems under the microscope scarcely pathologic.

The finding of purulent secretion and the absence of gonococci therein under microscope does not exclude gonorrhea. Vulvo-vaginitis in children is attributed to various irritative causes, to various saprophytes and bacteria and to the gonococcus. In children an acute vulvo-vaginitis with purulent discharge, in which the gonococci can be found, is by no means seldom. When the condition becomes less acute, although numerous pus cells are present in the discharge, gonococci are not so readily discovered. At a still later stage, when the pus cells are still fewer in number, it is a wearing task to find gonococci. In those long-continued chronic cases there is involvement of the cervix and of the uterus and, as is also observed in the adults, the microscopic finding of the gonococcus is by no means an easy procedure. The vaginal speculum in children shows a granular vaginitis and cervical erosion. Therefore these old chronic forms as well as cases which are subacute and nonvirulent from the beginning are often considered, because of the absence of gonococcus findings, as due to other bacteria, whereas a large proportion of them are undoubtedly gonorrheal in etiology.

In diagnosing chronic gonorrhea of the cervix and uterus in adults we are dealing with greater obstacles than hamper the genitourinary surgeons in making their microscopic examinations. It is rare that a gleet or a pathologic prostatic secretion or threads in the urine appeal to anyone save as an evidence of a previously existing posterior urethritis of gonorrheal nature. In women other bacteria are concerned in producing inflammatory involvement after labor, abortion, artificial abortion, etc. When looking for gonococci in the prostate one may use the so-called beer or coitus or silver tests and by massage of the prostate may obtain a secretion showing gonococci. In women we are limited to frequent examination, especially after menstruation. The advisability of using intrauterine applications for increasing the secretion is a matter of dispute, but when done is of great aid. In women we find still greater difficulty, for the cervical mucus makes the discovery of gonococci by microscope or by culture difficult or impossible. Gonorrhea in the female may heal to all intents and purposes, as well as in the male. Fluor is reduced to a minimum and no evidences are present in the external genitalia. In fact, in the vast majority of cases no alterations are present in the external genitalia. A history such as is always present in the male is often absent. If in a chronic prostatitis gonococci can not be found and if the chronicity of the lesions is attributed to other associated bacteria or cocci the disease is nevertheless gonorrheal in origin. The same is true in women, for when other bacteria and cocci come into the field the gonococci tend to disappear. We must parallel the experience of genitourinary surgeons and adopt the principle that the absence of gonococci in a pathologic cervical and uterine secretion or even the absence of an evident secretion by no means of itself excludes the gonorrheal etiology of an active or passive, objective or subjective alteration of an inflammatory nature.

The use of the microscope has done much to hinder the diagnosis of old or subacute cases of gonorrhea in adults. A casual examination resulting in the discovery of no negative Gram diplococci has in innumerable instances excluded gonorrhea as the cause. In old cases the staining of several slides and several hours spent in their study are necessary to the finding of the much sought for cocci. When gonorrhea of the cervix and uterus becomes chronic, the discharge lessens and becomes mucoid or mucopurulent and mixed with many squamous epithelia which may contain cocci. When this occurs, says Bumm, the prognosis is doubtful for the cocci may disappear for weeks and then reappear. The only symptom is discharge which is mucoid and often yellow or green, yet according to Bumm gonococci may be present even when the mucus is clear. Chronic gonorrhea of the cervix and uterus, according to Bumm, means the presence of mixed bacteria, together with the gonococci, a fact which still further confuses an attempt at diagnosis by microscope or culture.

Are we in a position clinically to diagnose chronic gonorrhea when few pus cells and no gonococci are found? I believe certain cervical alterations are of importance in this connection, especially when a chronic urethritis is not present, when macula gonorrhoica or other external evidences are absolutely absent, and when tubal and peritoneal changes are not marked.

Erosion of the cervix is a condition which is extremely frequent and generally noted in nulliparæ suffering from cervical or uterine catarrh. It is due to the maceration and destruction of the squamous epithelium about the external os and its replacement by the cylindrical epithelium which normally lines the cervix. When this condition exists in nulliparous women who have not been curetted, or in whom other means of infection are to be excluded, a gonorrheal infection must be considered. (After close observation, I have adopted the axiom that cervical erosions plus a pathologic cervico-uterine discharge in nulliparæ is presumptive evidence of cervico-uterine gonorrhea.) In addition to erosions, there is often a characteristic cervical catarrh. The cervix is dilated, there is an extremely thick plug of mucus filling the cervix and protruding from the external os. Its color is white or yellow. With it there is a reddened external os, if erosions are not present. Examination of the secretion shows mucus, squamous epithelia, and many leucocytes. Pure pus in this cervical type is not found. The mucus has a destructive action on all the cells which are taken up in its structure and their form is changed. Bacteria are almost never found in the mucus. For that reason, gonococci, unless the cervical wall is scraped or unless the uterus is actively involved, are very rarely found. This condition is seen to develop in patients who have been treated for localized cervical gonorrhea, and is most frequent in those cases in whom the main activity of the gonococci seems to be limited to the cervix.

When such a cervical condition is found in nulliparæ and when present to a marked degree in uniparæ, it is to me extremely suggestive of the existence of a cervical gonorrhea, even if no erosions are present, and even if no involvement of the adnexa can be made out. I base this opinion on the fact that many such patients have salpingitis and oöphoritis and on the finding, in one-third of the cases, of gonococci after prolonged examination. Another diagnostic aid is the examination of the posterior parametrium.

Parametritis posterior is a very frequent condition. This is a lesion which occurs in nulliparæ and, especially in women who have borne one or more children. In the latter it often manifests symptoms shortly after childbirth, but may give no symptoms then. It consists of a slowly progressive chronic infiltration of the uterosacral ligaments and the pelvic connective tissue, surrounding the posterior fornix. The parturient cases have only slight or no temperature reactions, suffer from pain in the back, convalesce slowly. Bimanual examinations show an exceedingly tender, edematous or infiltrated posterior parametrium. There is also present a reddened external os and slight or large amounts of cervical discharge. Careful early examination in these cases may disclose the gonococcus. In other cases the gonococcus can not be found, but the parallel with other instances makes this etiology extremely probable. When this condition continues, there results a sclerosis of the uterosacral ligaments on one side, or both sides. Associated with it is a chronic cervical catarrh, though the latter in the course of time may so improve as to give only minimal evidences. This condition is by no means infrequent in nulliparæ suffering from chronic cervical catarrh, in whom no other factor but gonococcus can be referred to as the cause. Its presence in nulliparæ in conjunction with erosions, red external os and pathologic cervical discharge means, for me, the diagnosis of gonorrhea.

Those who have observed the tendency to the indiscriminate use of the curette for the cure of primary sterility and for the cure of uterine catarrh, have noted that in many cases the cervico-uterine catarrh did not improve, that in some cases it was made distinctly worse and that in many cases the eventual result of dilatation of the cervix and of the curettage, was pelvic pain. Examination discloses an involvement of the parametrium on one side or the other, or an inflammatory involvement of the uterine adnexa of one side or both sides. In fact, a large proportion of cases of sterility associated with pain which I have had the privilege of observing, are in patients who have been curetted for primary sterility. Infection of the usual septic character can often be excluded and we are forced to the conclusion that dilatation of the cervix and curettage often set into more active being the slumbering cocci of a non-recognized gonorrheal catarrh of the cervix and uterus.

There is found in many women suffering from sterility, and especially in such as have been curetted for sterility, a mild one-sided or double-sided salpingo-oöphoritis, associated with pain in the region of the ovaries. In these cases there may exist erosions or cervical catarrh, or these conditions may not be marked. If tuberculosis can be excluded and if a previous appendicitis has not existed, the cause in the vast majority of instances in nulliparæ is to be referred to a mild gonorrhea. On operation these cases not infrequently show closure of the tubal ends or adhesions around the tube and ovary which to all intents and purposes close the ends of the tubes. This condition is frequently one-sided and, after abdominal operation and more frequently if a curetting be combined with the operation, an extension to the other side in the course of time is noted. (In this condition there is not infrequently found small cystic degeneration of the ovaries. Particularly in those cases in which the ovary contains one large cyst the size of a walnut the probabilities are that we are dealing with an infection of a ruptured Graffian follicle which, after closure, becomes distended by the accumulation of secretion within it.)

Sterility in very many cases is to be referred to such lesions of the tubes. Given a sterile woman with well developed uterus and ovaries (if the spermatic fluid is found normal), and, if stenosis of the cervix and the internal os can be excluded by treatment or operation, the cause of the sterility must be referred to the tubes. Such cases are frequently found after curetting. We may safely take it for granted that there exists a mild inflammatory involvement of the Fallopian tubes, perhaps only markedly affecting that part close to the uterus, but sufficient to interfere with the activity of the ciliated epithelium. As a result the ovum can not enter the uterus and sterility is the sequence. In this way can be explained many cases of pregnancy occurring years after marriage, especially in those cases where treatment was finally given up and several years have elapsed during which time the natural resistance of the patient has restored the tubes to a normal condition.

The cause of ectopic gestation is to be referred, in the majority of cases, to some obstruction in the inner lining of the tube. There is either a mild fresh salpingitis, or there is an old nearly cured salpingitis. The ciliated epithelium in the outer end of the tube is not yet involved or else has been restored to normal activity, but beyond that the tube is either obstructed by adhesions of tubal mucosa or by an edematous mucosa or else the ciliated epithelium is not functionating. The finding of cilia in sections of the inner area of the tube has been very extensively used as a refutation of this causation. It may be said that finding cilia is no proof of their activity, for even in pyosalpinx in certain areas the ciliated epithelium is to be found. Therefore, an ovum given off from the ovary, if fecundated, passes along the tube up to the point where there is an obstruction or edema or where ciliated epithelium no longer functionates, rests there, continues its growth, and ectopic gestation results. The occurrence of ectopic gestation after long periods of non-artificial sterility, the occurrence of repeated ectopic gestation, the frequent finding of adhesions or "scars" on the tube and the by no means rare involvement of the opposite tube speak for such a tubal alteration in many cases. In several cases in which at operation I paid particular attention to the opposite tube, there was found a thickened tube with closed outer end. Adhesions were present about that tube and ovary, i. e., alterations of such a character as to warrant removal. Therefore I am of the opinion that gonorrheal infection is the cause in a goodly proportion of cases.

The main reasons why the conditions to which I have referred constitute unrecognized forms of gonorrhea are threefold. Either the original gonorrheal infection was so situated as to cause bearable annoyances, as is often the case with gonorrhea of the urethra, and involvement of the cervix if both remain localized, or the situation is unusual and occurs with symptoms resembling other diseases, or else the original infection was of so mild a character as not to attract the marked attention of the patient at the time. Such is the case in the vast majority of gonorrheal infections which take place in the female. They are the result of old, or chronic, or supposedly cured, or supposedly harmless involvements of the prostate or seminal vesicles. Such gonococci have a tendency to form superficial involvement and there is nothing in the character of the infection to attract notice. In these mild cases the urethra is rarely involved for the simple reason that the infecting cocci are mixed with the seminal and prostatic secretion and are deposited in the vault of the vagina. There results finally a cervical catarrh. Extension is favored by rough intracervical manipulation, by curettage, by operation, by labor and by abortion. In an acute gonorrheal involvement, it is not easy after a certain period to find the gonococci extracellular or intracellular. In those milder cases it is extremely difficult to find them because of the mucoid character of the cervical discharge and because the cocci in the depths of the glands are not cast off in slumbering cases without stimulation or irritation. Were such conditions to be found in multiparæ alone, it would be difficult to form a definite opinion. Even here, the fact that a woman has borne several children does not exclude the existence of a cervical infection. Many women with a cervical gonorrhea which remains localized go through successive pregnancies. It is probable that an involvement of this mild nature which does not, postpartum, extend upward and involve the uterus, tubes and peritoneum after the first labor and which therefore permits of a second pregnancy, will, in all probability never extend further than the cervical lining and if it does so its course will be mild. When gonorrhea of the cervix and uterus becomes chronic, the discharge becomes less and then mucoid or mucopurulent and many squamous epithelial cells appear which may contain cocci. When this occurs, says Bumm, the prognosis is doubtful, for the cocci may disappear for weeks and then reappear. The only symptom is discharge which is mucoid and often yellow or green. The milder lesions referred to and which affect the cervix, the post-parametrium, the uterus, the peritoneum and the ovary are frequently found in women who have borne one child, but very frequently in women who are sterile. In the majority of such cases no other etiology than gonorrhea can be found. No etiology can be considered, except mild infection from below by the gonococcus from a dormant male prostatitis. I have come to this conclusion from a study of cases acutely infected by the gonococcus and in whom the gonococcus was clearly demonstrated. In the course of months and years, the original typical character of the inflammation changes to a type so often found on the first examination of long suffering patients. Therefore when such cases, particularly in nulliparæ, are seen for the first time and evidence the typical picture of erosions, of cervical catarrh, uterine catarrh, salpingitis, mild salpingo-oöphoritis, mild tubal adhesions and sterility, and if other causes can be excluded, the only conclusion to be reached is that we are dealing with subacute infection probably by a non-virulent type of gonococcus. Examination of the husband will disclose a prostatitis or show threads in the urine or divulge the history of a new infection after marriage.

Many observers will not grant that there is a difference in the virulence of gonococci. They say that when transplanted to new soil any gonococci may cause acute infection in favorable soil. Mild attacks, they say, are due to the resistance of individuals or to the element of localization.

Bumm says that the severity of the infection depends on the localization; that gonorrhea is light if located in the cervix or urethra and severe if it extends upward quickly. Bumm says that it is often isolated in the cervix, while Wertheim says that it is in the uterus much more often than we think.

Making the analogy from our knowledge of other bacteria, we have the right to predicate various degrees of virulence in different gonococci. It is natural to expect that gonococci few in number and found with difficulty in the male prostate years after the original infection may cause a less acute involvement of the cervix, than the cocci from a fresh or recent gonorrhea in the male. While I have no warrant for this statement on the basis of experimental proof, I may quote the opinion of Döderlein that acute gonorrhea in the female comes from acute gonorrhea in the male and that subacute gonorrhea comes from a chronic subacute disease in the male. The subacute form has none of the symptoms of the acute form, often presenting only a discharge. With this statement I agree, on the basis of clinical facts and microscopic examination.

DISCUSSION

ON PAPERS OF DRS. BOLDT AND BANDLER.

Dr. Reuben Peterson, Ann Arbor, Mich., emphasized the fact that whatever may be the cause of these inflammatory pelvic conditions, the practical point is the treatment. There are, he said, two varieties of gonorrheal infection of the female genital tract. One, perhaps the most uncommon, is subacute from the start, with very little pus in the tubes. After the disease has gone on for some time, the tubes and ovaries are bound down to the pelvis by extensive inflammatory adhesions. In the second class of cases—in his experience the less frequent of the two—there is a small or large collection of pus in the tubes or in the ovaries, or in both. The treatment of these cases has changed in the past ten years. Dr. Peterson here mentioned the good work done by Dr. Price and others of the bold operators who started the younger surgeons in abdominal surgery. In about 1891 he wrote to Dr. Price and asked his advice in regard to the treatment of a certain patient, a woman, who had had suppuration in the pelvis, with a discharge of pus into the rectum. He was advised by Dr. Price to open the abdomen and take out the pus tubes. He did so, and the patient got well. That, he said, was the practice in those days, to remove all pus tubes by way of the abdomen, and surgeons thought they were doing the right thing. As time went on, however, Dr. Peterson found that his mortality was much higher than was pleasant to contemplate, although he was operating more and more and acquiring more and more experience. He found that although he could operate successfully on a certain number of patients with purulent appendages (and fewer women out of a hundred died), yet a certain number succumbed. In 1896 a woman would not let Dr. Peterson take out her tubes. He made a wide incision through the vagina and evacuated the pus, but thought it bad surgery. Much to his surprise the woman got well, and as other women came to him he operated in the same way with a decided improvement in the mortality. Now it is very seldom that with a large collection of pus in the pelvis he attacks it through the abdominal route. Whether these pus tubes are high up or low down, he usually operates by way of the vagina and drains, with better results than he had when he went in by the abdominal route.

Dr. Joseph Tabor Johnson, Washington, D. C., stated that there is abundant evidence to show that anywhere from 75 to 95 per cent. of abdominal operations are required on account of the infection by the gonococcus. There is no doubt, he said, that at least 50 per cent. of abdominal operations done throughout the world are done because of gonorrhea. It will be recalled also, he continued, that there are a large number of women all over the United States suffering from this disease; married women infected by husbands who thought and were told they were cured by their physicians who had ignorantly given the opinion that it was safe for them to marry. A very great amount of sterility is produced by this disease, when it is not considered sufficiently severe to require mutilating operations, on account of the effect of the gonrrheal infection on the mucous lining of the Fallopian tubes. In most of these cases the operations required result in sterility of the patients. A great proportion of sterility in the male is due to gonorrheal epididymitis, so that the great question of sterility comes back in at least 50 per cent. of the cases on the female side and 16 to 30 per cent. on the male side, to gonorrheal infection. An important part of the subject, Dr. Johnson said, is that of vulvovaginitis in little children. Those in charge of institutions are reporting more and more extensively the number of epidemics of this infection occurring in foundling hospitals. These cases are in a large percentage due to gonorrheal infection. Investigations have almost positively proved, in many cases, and inferred in others, that much of the dysmenorrhea and amenorrhea and sterility occurring in women later in life is due to the effect of gonorrheal infection during childhood, which has prevented the development of their pelvic organs.

Dr. L. McMurtry, Louisville, Ky., thought that the remarks of Dr. Johnson would portray the far-reaching importance of this subject. Those familiar with the literature know that the admirable papers which Dr. Johnson has presented in the last few years have done much to impress the great body of the profession, who looked on this affection as simply one of the numerous gynecologic diseases, as a subject having a great many different bearings.

Dr. McMurtry is not in accord with the plan of treatment of these cases advocated by Dr. Peterson. The highest authorities in this country, he said, advocate the abdominal method of operating. To the French the gynecologic picture is altogether from the floor of the pelvis. A French gynecologist will close the abdomen suprapubically and open the pelvis from the vagina in order to complete the operation. Peterson, he thought, ought to readopt his old method, go back to the method which he thought was dangerous. In these cases of suppurative gonorrheal salpingitis and ovarian abscess, Dr. McMurtry knows of no operation from which the results are so satisfactory as abdominal section, separation of adhesions, with ofttimes the necessity for the removal of an infected appendix along with the tubes, and restoration to normal positions of organs. The operation of vaginal puncture and drainage is, in the majority of instances, an incomplete operation, and a large proportion of patients will require a suprapubic operation for their recovery, and those that do recover after vaginal incision and drainage happen to be a fortunate class, with the abscess enclosed in a sac, which never can be recognized beforehand. In a word, one never can tell beforehand just which of these cases may be curable by vaginal incision. In Dr. McMurtry's hospital service, which is limited almost entirely to the surgical treatment of such patients, the patients make splendid recoveries. In the Trendelenburg position the enucleation can be done safely, and Dr. McMurtry stated that he knows of no operation in the entire range of gynecologic surgery which is more satisfactory and more uniformly successful. He asserted that the very best results can be obtained from a suprapubic abdominal section in these cases.

Dr. A. B. Miller, Syracuse, N. Y., asked how much advancement has been made since 1879, when the subject was introduced by Noeggerath. It has been shown since then, first, that this disease is confined largely to the external organs of generation; second, that often it is in the cervical canal. Nothing is known as to when its existence will cease; it is capable of continuing for all time. Further, Dr. Miller asked, are any advances being made in the consideration of this subject? Ought not the profession instead of discussing the treatment of the surgical complications of the disease, direct its thoughts to the treatment of gonorrhea in its inception, and the lessening of its seriousness and frequency? Text-books say that antiseptic douches and washes should be used. Few physicians are treating their patients in that way; they are allowing them to go on and then treating the pathologic results. If the infection is confined to the vulva, is there any line of treatment that will arrest it at the portal? If there were such a line of treatment, it would be possible to prevent the extension of the disease. Such a method, Dr. Miller said, would be the dry treatment. Although these parts can not be made absolutely dry, it is possible, by surgical means, if it is feared that the disease will extend to the cervix, to lessen its virulence. Suggestions were asked for.

Dr. E. Garceau, Boston, Mass., considered the most important point in connection with the whole subject the question of treatment of pus tubes in the pelvis. Many methods have been tried, some with success and some without. The operation of vaginal hysterectomy, first performed by Pean of Paris, has now practically been abandoned. There is too much danger of wounding the bowel or injuring other important organs, and the operation may be followed by intestinal obstruction. Dr. Garceau thought that most surgeons would hesitate to perform an abdominal section in a case of serious pelvic suppuration, cases of extensive suppuration, when the woman is very ill, with rapid pulse, high fever, sweating, and in a generally bad condition. In these cases, he believes that a vaginal incision is a simple matter. It requires only a few minutes to do it, does not occasion great shock, and drainage is secured, usually in a most satisfactory manner. If further treatment is required, a later abdominal operation for removal of the tubes, at a time when there is no active inflammation, is attended with little risk.

Dr. C. S. Bacon, Chicago, emphasized the point made by Dr. Bandler that the diagnosis of gonorrhea by means of the microscope is very uncertain. This is a fact which he learned some years ago when he made a systematic examination of quite a series of cases of pregnant women, and discovered not only that it is frequently impossible to determine positively that the organism in the discharge is the gonococcus, but also that very often, where there was undoubted gonorrhea, no gonococcus was found at all. Much reliance is placed on the microscope, and rightly, but Dr. Bacon urged that other means of diagnosis be considered. His own experience has been that the treatment of gonorrhea of the vaginal tract from the uterus down is very unsatisfactory, if by the treatment is meant the permanent cure of the disease. He would not like to say in any case that the disease was cured, in the sense that it would not return. The condition seemed to be alleviated, and the patient left in a state of no special danger, unless there occurred some special incitement to a return of the disease. Dr. Bacon feels that the treatment is largely that of favoring Nature's cure. Nature cures these cases, if the patient can be left absolutely quiet. If the patient with acute gonorrhea is made to lie in bed the disease is soon under control. This treatment also applies to gonorrhea of the tubes. Dr. Bacon is positive that in puerperal gonorrhea the patient comes out the best if she is left absolutely quiet for weeks, until the large tubes have so contracted that practically nothing can be felt. This can be aided by the modern methods of conservative gynecology, as the hot-air treatment.

Dr. L. H. Branson, Iowa City, Iowa, referred to a statement published in the British Medical Journal, May, 1907, that from 10 to 25 per cent., possibly more, of the cases of sterility in man are caused by gonorrhea, and that from 75 to 90 per cent. of cases of sterility in women are caused by gonorrhea. These figures, she said, speak for themselves, and impose on physicians the duty to act, if for no other reason than to remedy this, as guardians of the youth of the present and protectors of the future unborn. Of course, continued Dr. Branson, the most important part of the subject is the prevention and the cure of gonorrhea. One of the sequelæ of gonorrhea in women, which has made Dr. Branson think it an indicator in diagnosis, is stricture of the urethra. In many instances she has proven this to be the result of a previous attack of acute gonorrhea. This stricture may at times be the only symptom. There may be normal urine; there may be no hyperemia, no inflammation of the urethra, nothing but this one symptom of stricture. It may be general throughout the entire urethra, or it may be annular. These rings may occur singly or at several places along the urethra. Dr. Branson has therefore come to look on this stricture as a diagnostic feature of comparatively great value.

Dr. Joseph Price, Philadelphia, stated that although it was said of Noeggerath's paper that a copy of it should be found in every Sunday School library of the land, he (Price) came very near being excommunicated from his profession by commending this paper. Now there are six or more societies, one with a membership of 600, for the prevention of the social evils, and Dr. Price claimed that every physician should be identified with one of them. Dr. Branson, he said, made one good point, in speaking of the prevention of the disease. Oliver Wendell Holmes, in answer to the inquiry of when a child's education should begin said one century before it is born. The great American people, morally, physically and intellectually, should be a stronger people than ever. The tendency is to retrograde, to be a weaker people morally, physically and intellectually with the influx of 40,000 perverts and degenerates from Europe. Dr. Price claimed that at the present time puerperal sepsis is more common than it has been for a number of years. There has been a laxity in the management of puerperal cases and maternity hospitals. In Pennsylvania the mortality has been appalling. In regard to the use of the curette, he said that in infections, the precise nature of which could not be determined, it has been common to use the curette. It has been difficult to save those patients. Some are operated on and saved and some are not operated on. Nor does the vaginal route give any aid. Those particular patients are not saved by the vaginal route nor by drainage. Dr. Price has seen many soldiers returned from tropical service marry the flower of the family. They have sought specialists and undergone the most thorough treatment and been given certificates of health. Subsequently he attended their wives when they had suppuration of tubes and ovaries. Dr. Price was quite certain that the former heroic measures gave better results than our present mild practices. He said also that what Dr. J. Tabor Johnson has written on this subject ought to be put into book form and distributed. The disease is terribly common and children should be instructed how to avoid it. Dr. Price said that the big abscesses Dr. Peterson spoke of are usually ovarian abscesses. In 10 per cent. of all tubo-ovarian abscesses on the right side there is involvement of the appendix. The appendix is removed at the same time, but generally there is an omental adhesion that must be dealt with and a coiled ileus and obstructions that must be relieved. The vaginal operation can be done easily and quickly and with splendid results. It is very curious, Dr. Price said, that one man may remove an abscess from above by the dry method with a low mortality, whereas if he uses the wet method he has a high mortality. Dr. Price prefers the wet toilet. He said he could wash out 100 abdomens and have 98 or 100 patients get well.

Dr. Reuben Peterson, Ann Arbor, Mich., stated, in explanation, that he had to limit himself in the discussion, and chose the method of treating pus in the pelvis following gonorrheal inflammation. To the specialist, he said, it makes no difference whether he operates from above or below, except as he finds that his results are different. Personally, he does not consider it as satisfactory to operate from below, speaking from the standpoint of so-called clean pelvic surgery. It is much cleaner to operate from above, opening the abdomen, removing the tubes, severing adhesions, removing the appendix, etc. The point, however, is that in these cases of pelvic suppuration one can save more lives by first making a large incision through the vagina and then draining. There is practically no shock from such an operation. After a while the woman recovers from her sepsis, and then, if it becomes necessary, the appendages can be removed with comparative safety.

Dr. A. H. Goelet, New York City, said that it is only too true that the examiner is responsible for the continuance of this disease. He could mention innumerable instances in illustration. Some, he said, may regard the conclusions of Dr. Bandler as rather extreme. He decidedly agrees with Dr. Bandler. One thing which has enabled Dr. Goelet to make the diagnosis of these conditions comparatively easy is the application of electricity to the cervical canal. Twenty-four or forty-eight hours afterward he can detect bacteria that he did not know were in the discharge.

DR. PHILANDER A. HARRIS, Paterson, N. J., suggested that the use of the curette ought to be limited by some very particular privilege granted by a board of examiners. It is too easy for the curette to be used. Dr. Harris endorsed what Dr. Peterson said regarding the indication for discharging considerable quantities of pus from the pelvis by the vaginal route. It is the very safest way, oftentimes of affording relief, and in one case out of five a permanent cure is thereby effected. Dr. Harris said he referred, of course, to treatment employed in the acute inflammatory stages of the disease when it would seem unsafe to go above and do what Dr. Price advised. He believes that there are cases in which one will do much better by operating through the vagina. He agreed with Dr. Bandler that there are a great many cases of unrecognized gonorrhea in the female. It will crop out every now and then. Another point, he said, not mentioned particularly by recent writers, is the production not exactly of sterility, but of a condition which favors pregnancy in the tubes.

DR. DANIEL H. CRAIG, Boston, Mass., stated that he knows of no field of gynecologic science in which so much is taken for granted as in the percentages variously offered of the frequency of gonorrhea in women. The ground is taken, he said, when we can not find another cause for erosions of the cervix, that the condition is probably gonorrheal. If surgeons are going to take that view, Dr. Craig thinks it only fair that in an equal number of cases they should take the ground that it is improbable that the case is one of gonorrhea. That view he accentuated in his work on endotrachelitis. In approximately 100 cases of endotrachelitis, all of which were treated by Dr. Craig's method, he had careful examinations of the scrapings made, and the question of diagnostic origin was gone into carefully. He was much surprised to find the infrequency with which he could demonstrate a bacterial origin in the cases which have been so long classed as probably gonorrheal. Repeated examinations failed to demonstrate the gonorrheal origin. Therefore, there is ground for the supposition that a great deal of what is passed as gonorrhea may not be gonorrhea at all. Dr. Craig feels that it never will be possible to give any accurate statistics of the frequency of gonorrhea in women. As to the infiltration behind the cervix which Dr. Bandler found to disappear after the cure of the endotrachelitis (in a way which would be impossible for inflammation of organized type to disappear), Dr. Craig thought that the prompt disappearance of all thickening behind the cervix is due to the relaxation of the uterosacral bands.

DR. THOMAS S. CULLEN, Baltimore, Md., some years ago carefully examined all scrapings and also the endometrium in every case in which the uterus had been removed, and in the course of four years found 48 cases of endometritis. In other words, he had only one case of endometritis every month during the four years in the large gynecologic service of the Johns Hopkins Hospital. In many cases of pus tubes he was much surprised to see that there was a perfectly normal endometrium. The endometrium of both the cervix and body had evidently been inflamed at one time, but on account of excellent drainage, due to the position of the uterus, had regained its normal state. The tubes, on the other hand, when once occluded, kept on accumulating the secretion of the cells, and dropped lower and lower, thus excluding absolutely any possibility of natural drainage. With regard to the examination of these cases for gonorrhea, Dr. Cullen said he is rarely able to demonstrate the gonococci except in very early cases, and in his experience the early cases have not been referred to him. Operative interference, in his opinion, whether done above or below, depends on the individual case. He felt that in many cases where we have been prone to ascribe the infection to gonorrhea, the primary cause has not been the gonococcus, but an acute appendicitis with secondary involvement of the tubes and ovaries.

DR. SWITHIN CHANDLER, Philadelphia, some time ago began to examine the cervix in gonorrhea, and in many cases found the gonococci. If not examined early, as Dr. Cullen stated, they most probably will not be found, but when Dr. Chandler secured a sufficiently recent case, he did find the gonococci in the glandular tissue, and if he destroyed the gonococci at that time there was, in the great majority of cases, no extension whatsoever up into the tubes. In some chronic cases also he found the gonococci. The method of treatment employed was the injection of pure lactic acid directly beneath the mucous membrane. If this is done carefully it does not cause a slough. No gonococci were found in the scrapings of the uteri. Chandler believes that in many cases in which dilatation and curettage are done a tract is opened (especially cervical), and gonococci are allowed to infiltrate and infect the deeper tissues, thereby spreading the infection.

DR. H. J. BOLDT, New York City, was confident that the gentlemen who discussed the method, meant to say that in all acute cases, where there is an acute inflammatory condition of the pelvis with pus, that to do an abdominal section would cause a rate of mortality entirely unjustifiable; but, that in that class of cases in which there is an accumulation of pus, and the Fallopian tubes are distended with pus, and because of their weight gravitate to the floor of the pelvis, it is better to incise and drain and thus give the patient an opportunity to recover from the inflammatory condition. After that, time will tell whether it is necessary to resort to further surgical intervention. It is impossible to say that by draining such tubes the patient will be cured. In a large number of cases, however, those patients will become cured spontaneously, so far as symptoms are concerned. Regarding the question of gonorrheal infection, Dr. Boldt said that if the case is acute, the diagnosis is not difficult, but it is difficult in some of the chronic cases. Dr. Cullen's results, so far as the examination of the endometrium is concerned, practically correspond with his observations, but that does not answer the question. What he is trying to ascertain is—taking it for granted that there is an infection and that disease has extended to the cervical canal, and if one can so far demonstrate the presence of gonococci in the cervical canal, with, possibly, involvement of the endometrium—can the infection of the Fallopian tubes in that class of cases be prevented by treatment of the intrauterine mucosa? Dr. Boldt's observation has been that patients so treated are not so liable to have infection of the adnexa. In a large number of patients infected with gonorrhea there will subsequently be tubal infection, and if such patients become pregnant, they often have ectopic gestation. Therefore the proper method of treatment of cases of endocervicitis should be determined, whether or not to limit the treatment to the cervix, or attack the endometrium at once, provided the adnexa are not affected.

DR. S. W. BANDLER, New York City, thought that the gonorrhea which causes salpingitis and no pyosalpinx represents a milder form of infection, due either to immunity on the part of the infected individual or to inherent resistance, or else it is due to the fact that the gonococci at the time of infection are not virulent. If such infections extend into the tube, there results a mild salpingitis which causes sterility. Some of these cases have adhesions about the ends of the tubes. Can it be proved that these cases are gonorrheal or are they due to some other cause? Dr. Bandler has come to the conclusion that a great many of these conditions are due to gonococci, even if there are none of the usual corroborative evidences present, such as urethritis, changes in the excretory ducts of the glands of Bartholin, no history of acute infection. The fact that Dr. Craig finds nothing in his examination of the scrapings, he said, proves nothing. It is nulliparæ who have endocervicitis who are subject to this condition of sterility and salpingitis. A woman who has had one child and who has this same condition does not ask why it is that she is secondarily sterile. If a woman has no baby at all, then she comes because of the primary sterility. These are the cases in which it must be determined whether the infection is due to streptococci, staphylococci, bacterium coli or to gonococci. In one clinic in which hundreds of women come with a history of having had a number of children, Dr. Bandler almost never finds erosions in these patients, almost never a characteristic cervical discharge. In another clinic, however, five out of ten of the women are sterile, and in these cases there are present the very discharges of which he spoke. The cocci which cause these cervical changes are the elements which cause the tubal changes resulting in sterility. He has examined different slides from some of these patients for days and days before he found the gonococci, and he finds them in one-third of the cases. Dr. Bandler was emphatic in saying that the microscope should always be used, but if gonococci are not found under the microscope, the gonorrhea must not be excluded as the cause of the trouble. Personally, Dr. Bandler uses the word endometritis only for inflammatory conditions. Not every woman who menstruates too many days has endometritis. The majority of such cases are due to hyperplasia of the endometrium and to fibrosis of the uteri.

SPEECH RESULTS OF CLEFT PALATE OPERATION.*

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In consideration of what one may safely promise those who contemplate surgical operation for the closure of cleft palates, and more or less complete correction of the defects from which such persons suffer, there are many elements that must be taken into account.

First.—Above and beyond all else is the individual feeling on the part of the afflicted ones, which no normal person can fully comprehend, that their palates are whole, that they are as their fellows.

None can know what this means save those who have reached sufficient age to suffer the scoffs and jibes of school children, the heart-trying struggle to keep up in school or college with the handicap of imperfect speech, or the bitterness of social ostracism even though largely self-inflicted through supersensitiveness, and the untold trials of wage earning in competition with the anatomically perfect, though often less gifted mentally.

Second.—More healthful conditions of nose and pharynx, which means in greater or less degree better general health, and particularly protection against deafness due to middle-ear disease that so commonly results from unusual Eustachian exposure through open palate fissures.

Third.—No plates, obturators, or any sort of mechanical appliance could give either of the two foregoing benefits.

Fourth.—There is the infinite satisfaction of knowing that throughout life continued speech improvement is possible and that whatever may be accomplished in this direction is permanent. It is not subject to the uncertainties of accidental loss or breakage or change in perfection of adjustment through absorption or growth of surrounding structures, with attendant difficulties of reconstruction, neither is it subject to the necessity of again becoming accustomed to a new or altered appliance; all of these possibilities must, in the natural course, be expected with artificial appliances, to say nothing of the uncleanliness of natural tissue as compared with uncleanliness of plates under these conditions.

Fifth.—Some degree of immediate improvement in speech, for almost invariably speech becomes easier and is effected with less effort, but, beyond this, progress is dependent on a number of modifying factors. These are the subject of our special consideration at this time.

CONCLUSION FROM PHONOGRAPHIC SPEECH RECORDS.

Phonographic records that I have taken from patients before operation in all the different degrees of palate fissure have demonstrated some curious facts. Chief among these, in point of interest, is evidence that sometimes an individual with only a bifid uvula will speak more imperfectly and with greater exaggeration of the nasal and other defective sounds common to persons with cleft palates than others whose fissures are of much greater degree. In fact, some with complete fissure through both hard and soft palates are able to speak more clearly than those almost imperceptibly defective ones.

Many individuals with practically no palate at all sing well, even though unable to speak words with sufficient correctness to be understood.

CONDITIONS WHICH GOVERN SPEECH PROGRESS AFTER OPERATION.

Postoperative results show that, although there is always more or less noticeable defect present in speech, some patients gain marked improvement almost immediately, and this with comparatively little conscious effort or speech training. In other cases, voice change for the better is exceedingly slow and can be acquired only after long and patient effort. In considering the different factors that must necessarily play a part in this condition of results, I desire to call attention as of primary importance to one element of purely etiologic character.

THE INFLUENCE OF ETIOLOGIC FACTORS.

It is my custom, wherever practicable, to trace the family history of each patient through at least three generations. In approximately 10 per cent. there appears to be a history of direct heredity in the family on one side or the other in which there have been persons affected by either harelip or cleft palate or both. The number in which maternal impressions play a part is so small as to be of little significance. Many of the stories told by mothers and relatives of shock, fright or other maternal impressions during pregnancy when investigated show that the incidents occurred too late to make such a factor of etiologic importance. Careful study of these family histories, however, almost invariably reveals the fact that relatives have been subject to mental peculiarities, nervous affections, diseases of the heart, aneurism, tuberculosis, cancer or paralysis. These and other affections occurring with astonishing regularity, one naturally finds comparatively little difficulty, therefore, in tracing on either the paternal or maternal side, and sometimes both, those evidences of unstable nervous system and irregular or insufficient bodily or mental development which make arrest of development during the embryonic period easily accounted for.

The bearing of this on my subject, however, is made apparent chiefly by an important fact which I have been unable to find attention previously called to by other writers. It has been so frequently met with in my own dealing with these cases as to warrant mention and is, in my opinion, one worthy of considerable thought.

Not by any means invariably, but frequently, I have noticed that either the father or the mother of a cleft-palate patient has some peculiarity of speech. In none of these cases has the peculiarity been noticed or associated in any way with cleft palate, and, though I have been unable to examine all cases, it is fair to assume that in the outward appearance of the palate there was no defect. Nevertheless, careful attention has demonstrated the fact that there was unquestionably a tendency to nasal or imperfect speech such as are more markedly noticeable with cleft-palate patients. It would seem, then, that there must be in these individuals either a nervous inefficiency in the speech mechanism or a slight imperfection of anatomic development, either of which in the next generation has become exaggerated into complete fissure and consequent speech difficulty.

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CLINICAL CASE IN ILLUSTRATION.

That this is possible is demonstrated in a general way by many persons whose palates are only slightly imperfect in having a bifid uvula, both velum and hard palate being complete. More specifically it is proven by the case of a little girl about 6 or 7 years old who had apparently a perfect palate throughout and a normally developed uvula. Her speech was practically the same as many patients that have come under my care with fissures through hard and soft palates, and the exceedingly careful training that she had received had been insufficient to overcome this difficulty. On my first examination of her, I was able to discover no abnormal condition of development, but a more careful later study revealed the fact that the posterior border of the soft palate, although covered with tissue in a normal way, was insufficiently developed. At its central portion it was shaped the same as commonly occurs where there is cleft of the soft palate extending for a short distance into the hard palate. Thus we see that this tendency to arrested development which apparently had been overcome by later developmental processes was, nevertheless, sufficient to alter muscular adjustment and prevent the normal physiologic action of the velum palati in speech.

SIGNIFICANCE OF CORRECTIVE INFLUENCES IN EMBRYO.

That Nature does repair both harelip and cleft palate in embryo is frequently demonstrated by individuals who have a mark extending the full length of the lip with notch at the labial border, such lips having the appearance of having been imperfectly operated on in early infancy, although no such operation had been performed, because the lip was in this condition at birth.

The full signifiance of these indications of tendency to embryonic irregularity are certainly worthy of greater study in the solution of these problems than thus far has been given.

SPEECH DEFECTS DIRECTLY DUE TO POSTOPERATIVE IMPERFECTIONS.

Observation of patients after operation and particularly those in which, on account of imperfect operative methods, there has been little or no improvement, speech progress under training being slow, leads to the following conclusions in explanation of these difficulties in many instances:

Ill-Advised Operations in Early Infancy.—Where forcible means have been employed in early infancy to bring the sides of the fissure into direct or too close approximation, the arrested development of the maxillary bones makes the anterior portion of the mouth too small for accommodation of the tongue in the utterance of word sounds. This disadvantage is increased by the fact that, on account of early derangement of the developing teeth through forcible compression of the parts, not only are the incisors, cuspids and bicuspids erupted in such position as to reduce the size of the dental arch, but frequently one or more teeth erupt almost in the central portion of the palate.

Under these conditions, words beginning with c, d, g, h, j, k, l, n, r, s, t, x, z, all of which the tongue utters principally behind the teeth, and with little or no assistance from the lips, are exceedingly difficult, if not practically impossible, to speak correctly.

Disarrangement of the anterior teeth, since the teeth are more or less involved in pronunciation of all letters, widens the range of defective sounds materially. Where any portion of the protruding premaxillary has been removed for the purpose of facilitating lip closure in infancy, the non-eruption of teeth in this region is also a serious disadvantage and one that by all means should be avoided.

Scars that stiffen and distort the lip and which are so commonly noticeable on account of improper operative treatment in infancy affect all words beginning with b, f, m, p, v, w.

Mal-Developed Nasal and Other Parts Accessory to Speech.—Imperfection from wrong methods of early treatment, as noses that have the characteristic appearance of leaning to one side, with the cartilaginous wing more or less flattened, usually have deflection of the septum with tendency to unequal development, amounting to partial stenosis on one or both sides. One naris may be unusually large, with corresponding enlargement of the turbinal bodies. Hypertrophy of the nasal mucous membrane and other pathologic conditions that are in natural sequence to these conditions tend to nasal speech sounds even in persons otherwise normal, and obviously are more disadvantageous when other speech difficulties incident to cleft-palate speech habits act as a still greater complication.

Hard Palate Too Short and Too Flexible.—Shortening of the hard palate in its antero-posterior measurement often occurs from wrong operative methods. Failure to develop cartilaginous or bony tissue of sufficient firmness to act as a sounding board or to give the degree of resistance required for proper muscular action from points of attachment thereto is another result due to operative errors. This is a matter of much importance, since physiologic action of the muscles of the soft palate depends on the outline and character of the posterior border of the hard palate. Methods of operation by which the periosteum is carried over accurately and with as little injury as possible to be united in the central palatal line are advisable because they favor formation of bone. Conversely, methods by which flaps are turned over and the relation of the periosteal and mucous membrane surfaces are altered, while they may be successful in closing the palate fissure, are ill-advised, because a membranous yielding tissue covering the region of the hard palate can not give as good speech results as one more firmly resistant.

Velum Insufficient Through Abnormal Hard Palate Borders, Scars, Etc.—On account of ill-formed hard palate at the posterior border or because of its own insufficiency, the velum palati, after being closed by operation, is sometimes too short. It may be drawn too tightly or stiffened by scars in such a manner as to prevent it approaching the pharyngeal wall or meeting the base of the tongue with sufficient readiness to properly perform its speech function in governing escape of air through nose and mouth in sound making.

POSSIBILITIES OF IMPROVEMENT OF THESE CASES.

A study of the principal difficulties that stand in the way of speech improvement for those who have had cleft palates closed by operative means leads naturally to the query, Can something more be done for their benefit? This I am glad to answer in the affirmative.

Along two distinct lines lie methods by means of which almost incalculable assistance may be given such patients, and these are: First, improved operative methods; second, better speech training.

The lesson to be read from the results of imperfect or ill-advised treatment is that exceedingly great care should be exercised in order that no unnecessary violation of natural processes of development in early infancy or later developmental periods should be done. We are also taught that through operative means much may be accomplished by reconstruction, readjustment and improvement of the malformed parts by surgical operation.

In a large class of cases there is no development of the dental arch anterior to the cuspid teeth. If the incisors are erupted at all, they are in such form as to be of little practical assistance in restoring the contour of the face and giving necessary labial support as well as speech assistance in the utterance of dental sounds.

Reconstruction of Deformed Lips.—The lip often is too long, or on account of scar contraction on the inside has a tendency to curve inward instead of the natural outward roll. Sometimes the lip is too short or distorted through wrong muscular attachment. These and other lip deformities can be much improved and the lip made more useful for labial speech office.

CORRECTION OF DEFORMITY OF THE DENTAL ARCH.

There is also in those cases a frequent necessity of restoring the dental arch to its natural form and relation to both the lips and occlusion with the lower jaw. The simplest, most direct and satisfactory means of accomplishing this is by the insertion of teeth arranged in proper form and attached to teeth in the jaw.

The next class of intraoral deformity cases comprises those in which the teeth are erupted, but in malposition with the dental arches. The arch may be expanded and the teeth placed in proper relation so that the tongue may have sufficient room to give proper speech assistance, while both buccal and labial tissues are held in better form. This operation should only be attempted with great care and due appreciation of control of pressure so that no separation of the line of palate union may occur and an unfortunate reopening of the palate be brought about. Methods as usually employed in correction of dental irregularities must be avoided or carefully modified.

The results of the foregoing methods have been very gratifying to me in a large number of cases. In one case recently, the velum after closure was less flexible than seemed desirable. This was due to the fact that the patient was 30 years old before I performed the operation, and, though no scar stiffening interfered with movement, the tissue was so scant through want of development as to give this result. I reoperated by making an incision on each side and carrying tension sutures of wire through from one side to the other without interfering with the central portion of the palate at all, allowing granulation to fill the division in the tissue thus made, and in that way gaining additional freedom for the soft palate.

The speech results in this case, although the operation has been performed within the last few months, are such as to promise exceedingly good results.

CORRECTION OF DEFECTS BY OPERATIVE ASSISTANCE.

The question of reoperation in the region of the hard palate where tissue covering fissure has remained too flexible is one that requires great consideration for fear of doing injury to what has already been accomplished in the matter of closure of the fissure with tissue. Under favorable conditions, however, the mucoperiosteal flaps can be separated from the bone surfaces and carried to the center as for the original palate operation, thus gaining an increase of the surface which best promises cartilage or bony development. When I have done this operation, it has usually been coincident with an operation demanded for some other purpose, but the results are such as to convince me that there is hope for future improvement of many otherwise comparatively hopeless cases.

SIMPLE METHODS OF SPEECH TRAINING BEST.

In the matter of speech training, my plea is for greater simplicity of method. In the first place, due recognition must be given to all of those factors incident to individual adaptability and talent. These I have called attention to in my earlier description of conclusions drawn from phonographic records of these patients which mark the tendency in this as in any other education to slow or to rapid progress.

After an experience of several years during which I have devoted myself specially to the work of this character, and thus have had unusual opportunity to observe the results of speech training under widely different conditions, I feel called at this time to urge most strongly the avoidance of all methods of instruction that are unnecessarily technical or complicated. However alluring these may be from the theoretic standpoint of more or less limited observation of some views of this many-sided question, I am convinced that the easier and more naturally the directions which are given to such persons may be followed, the earlier improvement will be noticed.

As an example of this, I cite the cases of two boys, each about 14 years of age. Each had had his palate closed in infancy and each suffered in almost the same degree from contraction and ill-development of both hard and soft palates, with eruption of the teeth well in toward the central portion of the palate. With each I used successfully the same method of correction by gradual expansion and reshaping of the palates and dental arches. One of these had had constant instruction from his earliest days, not only in efforts to pronounce English words, but had also been taught French, with a view to assisting improvement, the learning of foreign languages for such patients being one of the accepted forms of favoring speech development.

The other little patient had had practically no training at all. His parents wisely considered that unless the anatomic defects from which he suffered could be corrected it were better that he be saved the trial of comparatively useless effort to improve. As might be expected, the boy who had been taught French, being unable to make English sounds correctly, was unable to do much better in French. Therefore, he had acquired wrong speech habits in two languages instead of one. This is a point that should be remembered by others who may wish to undertake this means of improvement.

The wonderfully complicated studies of consonant sounds on which he had spent many hours that could have been more beneficially employed out of doors only tended to confuse his mind and lessen the quickness of response of the many elements of speech mechanism. The difference was markedly apparent through the fact that the boy who had had no previous training made rapid progress toward improvement as soon as conditions were more favorable, whereas the one of much training, though equal in general intelligence, was found to be exceedingly slow in this respect, effort toward improvement being difficult.

I am indebted to Professor Carberry of the Wisconsin Conservatory of Music for the following suggestion, which has proven to be exceedingly useful in the management of these cases. As vocal instructor he is accustomed to teach that the Italian a (ä) is the basal tone, modification of which with but slight alteration of physiologic action allows sufficient change to utter clearly each of the other vowels, and even the consonants. With the organs in position to make this tone at the beginning of the sound, all parts are under the least possible strain, therefore the resultant sound effect will be most natural. For this reason it can be carried on up through the various registers of the voice to higher notes without sacrificing purity, as must necessarily be the case if there is the least strain on the voice or the sound-producing mechanism connected therewith at the moment of inception.

Applying this to the speech training of these individuals, I find that much of the confusing and complicated systems which involve special direction of the attention of the patient to lips and tongue as involved in speaking each particular letter of the alphabet are unnecessary. Not only are they unnecessary, but in some instances at least are most unadvisable, for over-anxiety causes undue nervousness and a tendency to unconscious contraction of all muscles. The added difficulties of other speech defects induced by nervous conditions that so commonly affect these patients make it evident that the simpler the form of training the more easily and rapidly speech improvement will take place. The easiest and the most natural way to overcome these unfortunate speech habits seems to be the use of the voice in singing. Detailed methods of instruction in these cases will be given in a future article.

SUMMARY.

No individual with cleft palate, no matter how bad the condition, need be utterly discouraged.

In nearly every case operation for closure of palate fissure should be performed, and at almost any age (one of my unexpected satisfactory patients just discharged from the hospital was 50 years old at time of operation).

No unnecessarily forcible methods should be employed in early infancy.

Defects of lip, nose and palate due to imperfect operative results, which are frequent causes of slow progress, may be much benefited by corrective operation.

Avoid complicated methods of speech training.

DISCUSSION.

Dr. Robert T. Oliver, West Point, N. Y., agreed with the author in doing the operation for correction of speech, whether from clefts of hard or soft palate, or both, at any age. From personal observation he does not believe in the theory of the early infancy operation being the only one that proves of value in the production of a speaking voice. He has seen several patients from 25 to 41 years of age who regained voice and speech control. While it is true, he said, that the bones are fully developed in these cases and the periosteal flaps, however nicely joined at the median line, will be slow in the production of osteoblasts and the regeneration of osseous tissue; yet there are some distinct advantages in these late operations, one being the individual's intelligence and eager willingness to assist in carrying out methods prescribed in teaching him to develop and use his new found speaking voice.

Dr. E. A. Bogue, New York City, had an opportunity to examine some of Dr. Brown's patients without his knowledge, and found the results to surpass anything he had anticipated. He does not believe that the limit is reached when we must say there is no hope; there is no help.

Dr. V. A. Latham, Chicago, referred to one patient operated on by eastern men, in England and Ireland, who sent her over to America to the best operators. Every attempt was a failure. The patient was over 50 years. Dr. Brown operated on the woman with Dr. Latham and got a good result. There was no tissue to work on. The velum was drawn up and distorted. It had been fixed in a former operation in the middle of the palate. There was loss of speech. The doctor restored this and the patient has gained in weight and is happy. Every time she took a mouthful of water or food it came out through the nose. The sepsis, intoxication and poisoning from the nose and fauces was very bad. She was troubled with her ears and speech all the time. After the operation there was no trouble whatever. Her speech has been much improved, and she no longer wears the artificial velum.

Dr. G. V. I. Brown, Milwaukee, Wis., stated that he does not advocate putting off the operation until advanced age, because he believes in operating as soon as it is possible to do so without endangering the life of the infant. He commended Dr. Schamberg's work with the Roentgen ray.

THE ANTIMICROBIC ACTION OF BROMIN.*

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PREFACE.

The marked potency of iodin as a germicide in a comparatively weak solution as shown experimentally by myself[1] and clinically by Prof. N. Senn, for several years both previous and subsequent to these experiments, raised the question whether another member of the halogen group would prove of equal or superior value, considered from the same standpoint. For the purpose of determining this question Dr. Senn requested that bromin be made the subject of a similarly conducted research. A review of the more common antiseptics has been incorporated in my previous article and will, therefore, be omitted here.

EXPERIMENTAL TECHNIC.

(*A*) *Method of Preparation of Bromin Solution.*—An aqueous solution of bromin was employed, using as the mother solution one equal to 1 per cent. Since bromin is a heavy liquid, this solution was made by volume after the following formula:

Bromin	5 c.c.
Distilled water	495 c.c.

In order to get this amount of bromin in solution it became necessary to add the water to the bromin in small quantities and to shake thoroughly in glass container, then pour off into another container and add more water, repeating the process until the designated amount of water was used. On account of the intensely irritating effect of bromin fumes on the eye and throat, the preparation of solution should be carried on under a hood. The solution being volatile and corroding, must be kept in retainer with glass cork in order to preserve its strength.

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* Because of lack of space a large portion of this article, including many of the tables giving details of the experiments, are omitted from The Journal. The complete article appears in the author's reprints.

[1] The Journal A. M. A., Aug. 26 and Sept. 2, 1905.

From the 1/100 solution, strengths of 1/200, 1/300, 1/500 and 1/1000 were made by aqueous dilution.

Asepticity of Solutions.—These solutions were now tested as to their sterility, the plate method being employed. Five drops of solution were used to inoculate a melted agar tube from which a plate was made. Three plates were made from each strength solution. These were incubated six days, at the end of which time no colonies had appeared, thus proving the solution to be sterile. This was further confirmed by inoculations from the different strengths on 6 per cent. glycerin potato. After six days of incubating no growths had appeared, hence they were sterile.

(*B*) *Micro-organisms Employed.*—The micro-organisms employed were of a comprehensive range, including bacilli, with and without spores, pathogenic and non-pathogenic, cocci, and fungi. This gave a great enough variety for the solutions to act on, thus permitting reliable deductions to be made of their anti-microbic value.

The micro-organisms were: (1) *Bacillus prodigiosus;* (2) *Bacillus anthracis* and spores; (3) *Bacillus tuberculosis;* (4) *Staphylococcus pyogenes aureus;* (5) *Streptococcus pyogenes;* (6) *Blastomyces dermatidis;* (7) *Actinomyces bovis.*

(*C*) *Method Used in Conducting Experiments.*—These were conducted with the micro-organisms *in vitro*, a large number of tubes being used. In order to approach as nearly as possible to the condition an antiseptic would have to meet when used to combat an infection in the tissues, solid media were employed exclusively. Before beginning the experiment the growths on them were allowed to become extensive, both in area and in thickness, the latter permitting the penetrating power of the solution to be tested. On these various growths in the test tubes the bromin solutions were deposited by means of a sterilized pipette until the surface of the growth was entirely covered. Then, after varying periods of time, which are designated in the tables, loops of growth, thus acted on by solution, were transferred to the tubes of sterile media and well inoculated. These tubes were next put in the incubator and watched for growth. No attempt was made to wash the inherent bromin solution from the loops on account of the danger of washing away the bacteria.

For each time of exposure three tubes were used, each being covered by a control tube made from the culture immediately before it was acted on by solution. In every case the bacterial growths transferred were macroscopic in size. This method seemed to offer the least possibility of error—one which would undervalue rather than overvalue the anti-microbic power of the solution.

KEY TO TABLES.

A, B, C = Tubes to which bacteria, acted on by bromin solution, were transferred.

A′, B′, C′ = Control tubes, inoculated with original healthy bacteria.

The figures indicate the extent of growth. They are based on the unit of 1 as the denominator of growth. This 1, purely arbitrary and used for the sake of comparison, means a transverse growth from line of about ⅛ of an inch.

GROUP 1.—ACTION OF SOLUTIONS ON BACILLUS ANTHRACIS PLUS SPORES (FIVE-DAY-OLD CULTURES).

Table 1.—Bromin 1-1000. Exp. 15 Min.

Day.	A	A′	B	B′	C	C′
1	4.	3.1	3.8	4.	4.	3.8
2	4.6	4.3	5.1	5.2	5.2	5.1
3	5.3	4.9	5.4	5.3	5.4	5.3
4	5.7	5.2	5.6	5.5	5.8	5.7
5	5.8	5.7	5.8	5.7	6.	5.8
6	5.9	5.8	5.9	5.8	6.	5.9
7	6.	5.9	6.	5.9	6.1	6.

Table 2.—Bromin 1-1000. Exp. 30 Min.

Day.	A	A′	B	B′	C	C′
1	4.	3.2	3.7	3.9	4.1	4.
2	5.1	4.4	4.7	5.	5.3	4.9
3	5.4	5.1	4.9	5.3	5.7	5.3
4	5.5	5.2	5.1	5.5	5.9	5.8
5	5.9	5.8	5.3	5.7	6.	5.9
6	6.	5.9	5.4	5.8	6.	6.
7	6.2	6.	5.4	5.9	6.1	6.1

Table 3.—Bromin 1-1000. Exp. 60 Min.

Day.	A	A′	B	B′	C	C′
1	4.	3.4	3.8	3.9	3.8	3.9
2	5.	3.9	5.2	5.2	5.1	5.2
3	5.3	4.9	5.4	5.3	5.3	5.4
4	5.7	5.3	5.5	5.6	5.6	5.8
5	5.9	5.7	5.7	5.7	5.7	5.9
6	6.	5.8	5.8	5.8	5.8	6.
7	6.	5.9	5.9	5.9	5.9	6.

Table 4.—Bromin 1-500. Exp. 15 Min.

Day.	A	A′	B	B′	C	C′
1	2.	2.	2.5	3.3	3.2	3.1
2	4.	3.5	4.1	4.1	4.5	4.
3	4.7	4.5	4.5	4.5	4.9	5.
4	5.3	5.2	5.6	5.5	5.5	5.5
5	5.7	5.5	5.8	5.8	5.8	5.8
6	5.8	5.6	6.	6.	5.9	5.9
7	6.	5.8	6.1	6.1	6.	6.

Table 5.—Bromin 1-500. Exp. 30 Min.

Day.	A	A′	B	B′	C	C′
1	.1	3.1	1.	3.4	0.	2.8
2	3.5	4.	3.9	4.4	3.2	3.9
3	4.1	4.3	4.2	4.9	4.1	4.7
4	5.3	5.3	5.1	5.5	5.	5.4
5	5.5	5.7	5.5	5.9	5.4	5.8
6	5.9	5.8	5.5	6.	5.8	6.
7	6.1	5.9	5.6	6.1	5.9	6.1

Table 6.—Bromin 1-500. Exp. 60 Min.

Day.	A	A′	B	B′	C	C′
1	0.	3.1	0.	3.3	0.	2.
2	1.5	4.	3.4	4.2	0.	2.8
3	3.	4.5	4.1	4.5	.1	3.4
4	4.1	5.1	4.8	5.1	.3	4.7
5	5.1	5.4	5.2	5.7	1.2	5.2
6	5.7	5.7	5.5	5.8	2.3	5.5
7	5.8	5.8	5.7	6.	3.2	6.

Table 7.—Bromin 1-300. Exp. 15 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.2	0.	2.2	0.	2.3
2	.1	3.4	.8	3.5	.3	3.6
3	.2	4.4	2.	5.7	.6	5.5
4	.2	5.2	4.	5.9	1.	5.8
5	.2	5.4	4.5	6.	2.	5.9
6	.2	5.7	5.4	6.1	3.4	6.
7	.2	5.9	5.7	6.2	3.5	6.1

Table 8.—Bromin 1-300. Exp. 30 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.3	0.	2.8	0.	2.2
2	?	2.8	3.	3.1	?	3.3
3	.01	3.4	4.5	4.5	.02	3.9
4	.01	3.9	5.1	5.3	.02	4.6
5	.01	4.5	5.5	5.7	.02	5.5
6	.01	4.9	5.8	5.9	.03	5.9
7	.01	5.7	6.1	6.2	.03	6.1

Table 9.—Bromin 1-300. Exp. 60 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.1	0.	3.	0.	2.8
2	?	2.9	.5	3.8	?	3.4
3	.1	3.5	2.4	4.5	.01	3.5
4	.2	4.2	4.3	4.7	.01	3.9
5	.2	4.9	4.5	5.3	.01	4.5
6	.2	5.4	4.9	5.9	.01	5.5
7	.3	5.8	5.8	6.1	.01	6.2

Table 10.—Bromin 1-200. Exp. 15 Min.

Day.	A	A′	B	B′	C	C′
1	0.	1.2	0.	2.	0.	1.2
2	.2	3.1	0.	4.1	.7	4.2
3	.5	3.9	.1	4.7	1.9	4.9
4	.8	4.2	.1	4.9	3.2	5.2
5	1.9	5.	.1	5.5	3.8	5.6
6	2.8	5.7	.1	6.	4.5	5.8
7	3.1	5.9	.2	6.2	5.4	6.

Table 11.—Bromin 1-200. Exp. 30 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.	0.	1.9	0.	2.2
2	0.	2.4	0.	2.9	.01	2.8
3	.3	3.	0.	3.2	.01	3.5
4	.5	3.9	.01	3.7	.02	4.2
5	1.4	4.5	.01	3.9	.02	4.9
6	3.1	5.5	.01	4.4	.02	5.6
7	4.8	6.	.01	5.7	.02	5.9

Table 12.—Bromin 1-200. Exp. 60 Min.

Day.	A	A′	B	B′	C	C′
1	0.	3.	0.	2.8	0.	2.9
2	0.	3.4	.3	3.1	0.	3.3
3	.03	3.9	1.2	3.6	0.	4.
4	.05	4.4	1.7	4.5	.01	4.6
5	.1	5.4	3.8	4.9	.01	5.2
6	.2	5.8	4.8	5.4	.01	5.7
7	.2	6.1	5.1	5.8	.01	5.9

Table 13.—Bromin 1-100. Exp. 60 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.9	0.	1.5	0.	2.1
2	0.	3.4	0.	3.	0.	4.1
3	0.	4.8	0.	3.8	0.	4.3
4	0.	5.4	0.	4.5	0.	5.3
5	0.	5.8	0.	5.	0.	5.7
6	0.	5.9	0.	5.4	0.	5.9
7	0.	6.2	0.	5.7	0.	6.2

Table 14.—Bromin 1-100. Exp. 45 Min.

Day.	A	A′	B	B′	C	C′
1	0.	1.6	0.	1.7	0.	2.1
2	0.	3.1	0.	3.5	0.	3.4
3	?	4.2	0.	5.1	0.	5.
4	.01	5.2	0.	5.8	0.	5.9
5	.03	5.8	0.	5.9	0.	6.
6	.03	6.	0.	6.	0.	6.1
7	.04	6.1	0.	6.	0.	6.2

Table 15.—Bromin 1-100. Exp. 30 Min.

Day.	A	A′	B	B′	C	C′
1	0.	3.	0.	2.4	0.	2.3
2	0.	3.5	0.	2.9	0.	3.1
3	0.	4.2	?	3.6	0.	4.
4	.01	4.9	.01	4.5	0.	4.5
5	.01	5.4	.01	4.8	0.	5.
6	.01	5.9	.01	5.2	0.	5.6
7	.02	6.1	.01	5.7	0.	6.1

Table 16.—Bromin 1-100. Exp. 15 Min.

Day.	A	A′	B	B′	C	C′
1	0.	3.	0.	2.4	0.	2.9
2	0.	3.7	0.	2.9	0.	3.7
3	?	4.	0.	3.7	?	4.6
4	.01	4.5	0.	4.7	.01	5.4
5	.01	5.2	0.	5.2	.01	5.7
6	.03	5.8	0.	5.8	.02	5.9
7	.04	6.1	0.	5.9	.02	6.2

Thus, in explanation, 2 equals twice the denominator, or ¼ inch; 3 equals three times denominator, or ⅜ inch, etc.

0 = No growth.

? = Slight growth, but not equal to 1/32 of an inch.

Day = Day of growth, figures designating days of growth. Thus, 1 means growth on first day, or 24 hours after inoculation; 2 means growth on second day, or 48 hours after inoculation, etc.

The strength of solution employed and the time of exposure to same are designated in each table.

ANTHRAX EXPERIMENTS.

The tables of Group 1 (on opposite page) show the results of the experiments with anthrax cultures.

CONSIDERATION OF EXPERIMENTAL EVIDENCE OF ANTHRAX.

1/1000 for *fifteen* minutes is negative in action.
1/1000 for *thirty* minutes is negative in action.
1/1000 for *sixty* minutes is negative in action.
1/500 for *fifteen* minutes is negative in action.
1/500 for *thirty* minutes shows an inhibitory effect.

The first day A gives 1/31 of control growth, B less than 1/3 control growth and C no growth. On the second day there is a very rapid increase in growths on A, B and C, their growths being but approximately .5 less than controls. On he third day the growths are relatively the same as on the second day. On the fourth day A equals control, B and C gain on controls. From the fifth to the seventh day, inclusive, A increases gradually, surpassing its control, while B and C, ncreasing more slowly, finish about .6 behind controls.

1/500 for *sixty* minutes shows a considerable inhibitory effect. On the first day there is no growth. On the second day C gives no growth, A equals ⅜ control, B, growing rapidly, s only .8 behind control. On the third day, A and B have gained on their controls, while C shows a very small growth. From the fourth to the seventh day, inclusive, A increases progressively, equaling control on sixth and seventh days. B increases also, being .3 behind control on seventh day, C grows slowly and is equal to a little more than one-half conrol growth on seventh day.

1/300 for *fifteen* minutes shows a considerable inhibitory effect, irregular in character. On the first day there is no growth. On the second day, A and C show small fractional growths and B a larger fractional growth. On the third day A has increased but .1, now equaling .2. No more growth folows, and it is about 1/26 of control growth on seventh day. Likewise, on the third day B increases rapidly, being over 1/3 of control growth, while C increases fractionally. The fourth day shows a rapid growth on B and a slow one on C, the latter being about 1/6 control. From the fifth to the seventh days, inclusive, B and C increase gradually, equaling, repectively, on seventh day 11/12 and ½ controls.

1/300 for *thirty* minutes exhibits a considerable irregular nhibitory effect. The first day shows no growth. On the second day A and C show questionable growths and B practically equal control growth. The third day A gives a very minute ractional growth which does not increase on succeeding days, C gives minute fractional growth which increases very slightly on following days, while B equals control and does so from this point on.

1/300 for *sixty* minutes shows a considerable irregular inhibitory effect. The first day there is no growth. The second day A and C show questionable growths and B gives 1/7 of control growth. On the third day A shows a small fracional growth; B, a marked increase, being over ½ control rowth; C, a very small fractional growth. From the fourth ay on A barely increases a small fraction in growth, C does not increase at all, while B increases rapidly, almost equaling ontrol on seventh day.

1/200 for *fifteen* minutes gives a medium irregular inhibitory ffect. On the first day there is no growth. On the second day A equals 1/16 of control, B shows no growth, C equals 1/6 f control. On the third day A increases slightly, B gives a mall faction of growth, C is over 1/3 of control. On the ourth day A increases slightly, equaling 1/5 of control, B remains the same and does not gain till seventh day, and then nly .1, C increases, being over ½ control. From fifth day on A and C gain consistently, equaling, respectively, on seventh ay about 3/5 and 11/12 of control growths.

1/200 for *thirty* minutes shows quite a considerable inhibiory effect, irregular in character. The first day there is no rowth. The second day A and B remain free from growth, while C shows a very small fraction of growth. This fraction but doubles during the rest of the time. On the third day A gives a fractional growth, B no growth. The fourth day A increases fractionally and B shows a minute growth which does not increase on following days. From the fifth day on A increases rapidly, being 5/6 of control growth on seventh day.

1/200 for *sixty* minutes exhibits a considerable irregular inhibitory effect. The first day there is no growth. The second day A and C show no growth, while B gives a fractional one. On the third day A gives a minute fraction of growth, B increases rapidly, equaling 1/3 control growth, C no growth. On the fourth day A increases by a small fraction, B increases moderately, and C gives a very small fractional growth which does not increase on following days. From the fifth to seventh day, A grows a small fraction and B, increasing rapidly, almost equals control.

1/100 for *sixty* minutes shows no growth throughout.

1/100 for *forty-five* minutes is almost effective. B and C show no growth throughout. A remains free from growth till third day, when a questionable one appears. This increases by minute fractions of growth on succeeding days, being less than half a unit on seventh day.

1/100 for *thirty* minutes shows an extremely marked inhibitory effect. C shows no growth throughout. On the first and second days A and B are free from growth. On the third day A gives no growth, B a questionable one. On the fourth day A and B both give very small fractional growths, which in A increases but a small fraction on following days, while in B it remains stationary.

1/100 for *fifteen* minutes presents a very marked inhibitory effect. B gives no growth throughout. On the first and second days A and C are free from growth. On the third day both show questionable growths, which, on fourth and fifth days, develop into small fractional growths. On sixth and seventh days these increase a very small fraction.

SUMMARY OF EVIDENCE ON ANTHRAX BACILLI.

In summing up the effect of solutions on *Bacillus anthracis* plus spores we must consider: 1, The actual death point of micro-organism as expressed by the strength of solution employed and the time of exposure to same; 2, the inhibitory effect of solution on the growth of micro-organism, depending also on the strength of solution employed and time of exposure to same, which is shown before the death point is reached.

Considering, therefore, the first division, the evidence shows that in order to produce the death of *Bacillus anthracis* plus spores a 1/100 bromin solution must act for sixty minutes. The inhibitory effect, or the second consideration, first shows itself after an exposure of the organism to a 1/500 solution for thirty minutes. It is well marked for the first day and then disappears. A sixty minute exposure increases inhibition, being especially marked during the first two days, being very irregular in type. The 1/300 solution gives an increased inhibition, thoroughly irregular in character and not increasing for time increase. The 1/200 solution has no more inhibitive power than preceding strength and resembles it in irregularity and lack of effect of increased exposure. When, on reaching the death point, we decrease the time exposure, an extreme inhibition is shown which remains the same although time of exposure is shortened progressively to fifteen minutes for the 1/100 solution. Marked irregularity in action is the character of inhibition throughout.

PRODIGIOSUS EXPERIMENTS.

The tables in Group 2* show the results of the experiments with cultures of *Bacillus prodigiosus*.

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* Tables and details omitted. See footnote at beginning of article

SUMMARY OF EVIDENCE ON PRODIGIOSUS.

Taking for consideration first the strength of solution and time of exposure to same necessary to produce death of *Bacillus prodigiosus,* we find that a 1/100 solution has to act for ten minutes before the death point is reached. The same solution for a shorter period of time or a weaker solution for an hour are not effective. The second factor, or the sphere of inhibition, begins late, first appearing on an exposure of fifteen minutes to a 1/300 solution. It is then slight in character. This inhibition increases progressively and irregularly for longer exposures to same strength. The inhibitory effect is moderately increased, for respective times of exposure, over 1/300 solution on using 1/200 solution. Again, it is characterized by irregularity of action, although more or less progressive as time of exposure is lengthened. On exposing to a 1/100 solution for a shorter period of time than produces death we get a marked irregular inhibitory effect, mainly shown during the first three days of experiments.

Thus it is seen that the inhibitory sphere in this series is rather contracted and markedly irregular in type, giving the impression of being more or less unreliable.

GROUP 4.—ACTION OF SOLUTION ON STAPHYLOCOCCI PYOGENES AUREUS (FIVE-DAY-OLD CULTURES).

Table 49.—Bromin 1-1000. Exp. 15 Min.

Day.	A	A′	B	B′	C	C′
1	0.	3.	1.7	2.4	0.	3.
2	0.	3.8	2.1	3.	.02	4.
3	0.	3.9	3.	3.5	.02	4.4
4	0.	3.9	3.1	3.6	.02	4.5
5	0.	4.	3.1	3.7	.02	4.5

Table 50.—Bromin 1-1000. Exp. 30 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.8	0.	2.5	?	3.
2	0.	3.2	0.	2.9	.01	3.4
8	0.	3.7	0.	3.2	.01	3.6
4	0.	3.8	0.	3.5	.01	3.9
5	0.	3.9	0.	3.6	.01	4.

Table 51.—Bromin 1-1000. Exp. 60 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.7	0.	2.8	0.	2.9
2	0.	2.9	0.	3.1	0.	3.2
3	0.	3.3	0.	3.5	0.	3.7
4	0.	3.6	0.	3.7	0.	3.9
5	0.	3.7	0.	3.7	0.	4.

Table 52.—Bromin 1-500. Exp. 30 Min.

Day.	A	A′	B	B′	C	C′
1	0.	3.	0.	2.7	0.	3.5
2	0.	3.3	0.	3.	0.	4.
3	0.	3.7	0.	3.2	0.	4.2
4	0.	3.9	0.	3.4	0.	4.3
5	0.	4.	0.	3.6	0.	4.3

Table 53.—Bromin 1-500. Exp. 15 Min.

Day.	A	A′	B	B′	C	C′
1	0.	4.8	0.	2.6	0.	3.8
2	0.	4.9	0.	2.7	0.	3.8
3	0.	4.9	0.	3.	0.	3.9
4	0.	5.	0.	3.1	0.	4.
5	0.	5.	0.	3.3	0.	4.1

Table 54.—Bromin 1-500. Exp. 10 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.4	0.	3.	0.	2.8
2	0.	2.7	0.	3.3	0.	3.1
3	0.	3.	0.	3.5	0.	3.4
4	0.	3.1	0.	3.7	0.	3.7
5	0.	3.6	0.	3.9	0.	4.

Table 55.—Bromin 1-500. Exp. 5 Min.

Day.	A	A′	B	B′	C	C′
1	0.	3.	0.	2.6	0.	3.1
2	0.	3.3	0.	3.	0.	3.2
3	0.	3.5	0.	3.4	0.	3.6
4	0.	3.7	0.	3.5	0.	3.9
5	0.	3.8	0.	3.6	0.	4.1

Table 56.—Bromin 1-500. Exp. 4 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.2	0.	1.	0.	2.3
2	0.	2.4	0.	1.2	0.	2.5
3	0.	3.	0.	2.	0.	2.6
4	0.	3.4	0.	2.7	0.	2.9
5	0.	3.7	0.	3.	0.	3.1

Table 57.—Bromin 1-500. Exp. 3 Min.

Day.	A	A′	B	B′	C	C′
1	.02	2.3	0.	3.4	.3	3.
2	.2	2.5	0.	3.5	1.1	3.3
3	.3	2.7	0.	3.8	1.4	3.9
4	.5	3.	0.	3.9	1.6	4.
5	.6	3.3	0.	4.	1.7	4.1

Table 58.—Bromin 1-500. Exp. 1 Min.

Day.	A	A′	B	B′	C	C′
1	3.2	3.	3.2	3.4	2.8	2.3
2	3.9	3.8	4.	3.9	3.4	2.7
3	3.9	3.8	4.1	4.	3.6	2.9
4	3.9	4.	4.3	4.2	3.8	3.
5	4.	4.1	4.4	4.3	4.1	3.1

Table 59.—Bromin 1-300. Exp. 3 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.1	0.	2.8	0.	2.7
2	0.	2.4	0.	3.	0.	3.3
3	0.	2.6	0.	3.2	0.	3.6
4	0.	2.8	0.	3.5	0.	4.
5	0.	3.1	0.	3.6	0.	4.2

Table 60.—Bromin 1-300. Exp. 1 Min.

Day.	A	A′	B	B′	C	C′
1	0.	2.1	0.	2.8	0.	3.
2	0.	2.5	0.	3.	0.	3.1
3	0.	3.1	0.	3.2	0.	3.3
4	0.	3.2	0.	3.4	0.	3.6
5	0.	3.4	0.	3.5	0.	3.8

TUBERCULOSIS EXPERIMENTS.

The details of the experiments with cultures of *Bacillus tuberculosis* are detailed in Group 3.*

SUMMARY OF EVIDENCE ON TUBERCULOSIS.

Taking for consideration, first, the strength of solution and time of exposure to same necessary to kill the *Bacillus tuberculosis,* the experiments show that a 1/100 solution must be employed for thirty minutes, a weaker solution. or a shorter exposure to the same strength not being effective.

The inhibitory power, being the other factor to be considered, of solution on this micro-organism is very slow in making its appearance. It comes into evidence very slightly for the first time on an exposure of thirty minutes to a 1/300 solution. A longer exposure to same strength gives a still slighter inhibition, showing its unreliability as an inhibitive in this strength. The 1/200 solution, however, is much more satisfactory, giving a medium inhibition for fifteen minutes exposure and increasing in effectiveness, progressively, for long-exposures. When, on exposing to the 1/100 solution for shorter periods of time than the death point (less than thirty minutes), we first get a very extreme inhibition, which progressively becomes less as time of exposure is decreased. In short, inhibition in this series is slow in making its appearance and is even then, for a period, of such unsatisfactory character that it should be disregarded until the 1/200 solution is reached. From this point inhibition is progressive and reliable in type.

STAPHYLOCOCCUS PYOGENES AUREUS EXPERIMENTS.

The tables in Group 4 show the results of the experiments made with cultures of *Staphylococcus pyogenes aureus*.

CONSIDERATION OF EXPERIMENTAL EVIDENCE ON STAPHYLOCOCCUS AUREUS.

1/1000 for *fifteen* minutes shows a very considerable inhibitory effect, irregular in character. A is free from growth throughout. On the first day B shows ½ control growth, C no growth. On the second day B has increased to 2/3 its control, while C gives a minute fraction of growth, which on following days does not present any increase. From the third day to the fifth day, inclusive, B increases slowly, being about .5 behind control at all times.

1/1000 for *thirty* minutes gives the most extreme inhibitory effect, being almost effective. A and B remain free from growth throughout; C shows a questionable growth the first day. On the second day it is a very minute fraction of growth which, on the following days, gives no increase.

1/1000 for *sixty* minutes shows no growth throughout.

1/500 for *thirty* minutes shows no growth throughout.

1/500 for *fifteen* minutes shows no growth throughout.

1/500 for *ten* minutes shows no growth throughout.

1/500 for *five* minutes shows no growth throughout.

1/500 for *four* minutes shows no growth throughout.

1/500 for *three* minutes shows a very considerable inhibitory effect, irregular in character. B is free from growth throughout. On the first day A presents a minute fractional growth and C a small fraction of growth. From the second day on A increases by small fractions, equaling on fifth day 1/5 control growth. During same period of time C increases a little more rapidly, equaling on last day 1/3 of its control.

1/500 for *one* minute is negative in action.

1/300 for *three* minutes shows no growth throughout.

1/300 for *one* minute shows no growth throughout.

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* Tables omitted. See note at beginning of article.

SUMMARY OF EVIDENCE ON STAPHYLOCOCCUS PYOGENES AUREUS.

The death of micro-organisms is produced by any one of several strength solutions acting for periods of time markedly and rapidly shorter as strength of solution employed is increased. Thus a 1/1000 solution is effective in sixty minutes, a 1/500 solution in four minutes, and a 1/300 solution in one minute. Since the death point is so soon reached, the inhibitory sphere must, of necessity, be a very small one. It begins at once for the fifteen minute exposure to the 1/1000 solution and is then marked. The thirty minutes exposure shows an augmentation in inhibition far out of proportion to the time increase. Considering the 1/500 solution for an exposure less than required to produce death (less than four minutes) we find a three minute exposure of marked inhibitory value, while an exposure of one minute is devoid of power in this respect. The 1/300 solution, being effective in one minute, is absolute in action, hence possesses no sphere of inhibition.

It is shown, therefore, that bromin has a peculiar, specific effect on *Staphylococcus aureus*, being reliably effective in very weak solutions for very short periods of exposure to same.

STREPTOCOCCUS PYOGENES EXPERIMENTS.

The tables* in Group 5 show the results of the experiments with cultures of *Staphylococcus pyogenes*.

CONSIDERATION OF EXPERIMENTAL EVIDENCE ON STREPTOCOCCUS PYOGENES.

1/1000 for *fifteen* minutes presents an extreme inhibitory effect, being almost effective. B and C show no growth throughout. A gives no growth until the fifth day, when a very minute fraction of growth appears, which increases but a minute fraction on succeeding days.

1/1000 for *thirty* minutes shows no growth throughout.

1/1000 for *sixty* minutes shows no growth throughout.

1/500 for *ten* minutes shows no growth throughout.

1/500 for *five* minutes shows no growth throughout.

1/500 for *four* minutes shows no growth throughout.

1/500 for *three* minutes gives a very extreme inhibitory effect, being almost effective. B and C are free from growth throughout. A is free from growth until the fourth day, when a minute fraction of growth appears. This increases slightly during remaining days and is only a small fraction of growth on the last day.

1/500 for *two* minutes presents a very marked inhibitory effect. A and C are free from growth throughout. On the first day B gives a minute fraction of growth, which increases by minute fractions until the fourth day. From this point on it increases by small fractions, equaling on last day 1/5 of control growth.

SUMMARY OF EVIDENCE ON STREPTOCOCCUS PYOGENES.

Streptococcus pyogenes is killed by an exposure of thirty minutes to a 1/1000 solution. The same is true of an exposure of four minutes to a 1/500 solution. Like in the preceding series, the sphere of inhibition is here a limited one because the points at which inhibition and death occur closely approximate each other. An exposure of fifteen minutes to a 1/1000 solution presents extreme inhibition, the next length of exposure giving death. And when we expose to a 1/500 solution for a period shorter than necessary to produce death we get a very extreme inhibitory effect, which becomes slightly less marked for a still shorter exposure. It is, therefore, evident that bromin has a marked selective action on the *Streptococcus pyogenes aureus*, to a smaller degree, however, than it has on the preceding series.

BLASTOMYCES EXPERIMENTS.

The experiments with blastomyces cultures are detailed in Group 6.*

CONSIDERATION OF EXPERIMENTAL EVIDENCE ON BLASTOMYCES.

1/1000 for *fifteen* minutes gives a marked inhibitory effect. There is no growth until the fourth day, when B gives a small fraction of growth, while A and C are still free from growths. On the fifth day A shows no growth, B increases a fraction, C presents a small fraction of growth. On the sixth day A is free from growth, B and C increase fractionally. On the seventh day A shows a small fraction of growth; B and C increase fractionally, the former equaling 1/6 and the latter 1/16 of control growths. From this point on till the tenth, or last day, all increase progressively by small fractions. On the tenth day A equals 1/15 of its control, B 1/5 of its control and C 1/6 of its control.

1/1000 for *thirty* minutes shows a quite marked inhibitory effect. A is free from growth throughout. B is free from growth until the ninth day, when an extremely minute fraction of growth appears, which does not increase on following, or last day. C is free from growth till the fifth day. A small fractional growth then appears, which, from day to day, increases fractionally and equals 1/7 of control growth on tenth day.

1/1000 for *sixty* minutes is free from growth throughout.

1/500 for *fifteen* minutes is free from growth throughout.

1/500 for *ten* minutes shows a quite marked inhibitory effect. A remains free from growth throughout. B remains free from growth till the eighth day, when a minute fraction appears which increases moderately, equaling 1/7 of control growth on tenth day. C shows no growth till the ninth day, when a minute fraction appears. This increases by a small fraction on tenth day.

1/500 for *five* minutes presents a marked irregular inhibitory effect. A and B are free from growth throughout. C shows no growth until the sixth day, when a fractional growth appears. From the seventh day on this increases very rapidly, equaling on tenth day 4/5 of the control growth.

1/300 for *five* minutes shows no growth throughout.

1/300 for *two* minutes shows no growth throughout.

1/300 for *one* minute shows no growth throughout.

SUMMARY OF EVIDENCE ON BLASTOMYCES.

The death of *Blastomyces* is produced by: (1) A 1/1000 solution of bromin acting for sixty minutes; (2) a 1/500 solution acting for fifteen minutes; (3) a 1/300 solution acting for one minute. As we would expect from the efficiency of solution on this fungus, the range of inhibition is limited.

An exposure of fifteen minutes to a 1/1000 solution gives marked inhibition, which is increased proportionately for the thirty minute exposure. On exposing to a 1/500 solution for shorter periods of time than necessary to produce death (less than fifteen minutes) we get marked inhibition, decreasing somewhat for decrease in time of exposures. The action of the 1/300 solution is absolute, hence there can be no place for inhibition. In this series bromin acts vigorously and consistently.

ACTINOMYCES EXPERIMENTS.

The experiments with *Actinomyces* cultures are detailed in Group 7 (on page 350).

CONSIDERATION OF EXPERIMENTAL EVIDENCE ON ACTINOMYCES (BOVIS).

1/1000 for *fifteen* minutes shows a marked inhibitory effect, regular in character. There is no growth on experimental tubes until the fifth day, when B gives a small fraction of growth, A and C being free from growth. On the sixth day A is still free from growth, B increases a small fraction, and C presents a minute fraction of growth. On the seventh day A gives a small fraction of growth, B increases fractionally, C increases to a fair fractional growth. From this point on to the tenth day all present a progressive, though moderate, increase. On the tenth day A equals less than 1/3 its control, B equals 1/3 its control and C ½ its control.

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* Tables omitted. See note at beginning of article.

* Tables omitted. See note at beginning of article.

1/1000 for *thirty* minutes gives a marked inhibitory effect, slightly less than preceding, though regular in type. There is no growth until the fifth day, when C shows a small fraction of growth. On the sixth day A gives a minute fraction of growth, B a minute fraction and C a small fractional increase. On the seventh day A and B increase slowly, C rapidly, equaling ¼ its control. From the eighth day on A, B and C increase progressively at a fair rate, equaling respectively on the last day, ½, ⅓ and 3/5 of controls.

1/1000 for *sixty* minutes gives a more marked inhibitory effect, regular in character, than either of the preceding. There is no growth until the sixth day, when C gives a small fraction of growth, A and B being free from growth. On the seventh day A, B and C show small fractional growths which, on following days, increase progressively and equal respectively on the tenth day ⅓, ⅓ and less than ½ controls.

1/500 for *ten* minutes gives no growth throughout.

1/500 for *five* minutes presents an extreme inhibitory effect, regular in type. B gives no growth throughout. C shows no growth until the eighth day, when a very minute fraction appears, which, increasing very slowly, is still a small fraction on the tenth day. On the third day A shows a very minute fraction of growth, which does not increase until the sixth day, and then only a minute fraction. From this point on the increase is small and jerky in character, A being only a small fraction of growth on the tenth day.

1/500 for *two* minutes presents an extreme inhibitory effect, less so than the preceding, however. C is free from growth until the eighth day, when a very minute fraction of growth appears, which does not increase on the following days. A is free from growth until the sixth day, when a minute fraction of growth appears. This does not increase until the ninth and tenth days, when it does so fractionally. On the tenth day it is a small fractional growth. B, on the third day, shows a very minute fraction of growth, which, on the following days, increases very slowly by minute fractions. It is also, on the tenth day, a small fraction of growth.

1/300 for *ten* minutes shows no growth throughout.

1/300 for *five* minutes presents a very extreme inhibitory effect. B shows no growth throughout. On the eighth day A and C show very minute fractions of growth. These also increase minutely on the ninth and tenth days, when both the growths are still found to be minute fractions.

1/300 for *two* minutes presents an extreme inhibitory effect, less marked than preceding. There is no growth until the fifth day, when A shows a minute fractional growth, B and C being free from growth. On the sixth day A remains the same, B shows a minute fraction, C is free from growth. From this point on A increases very slowly, B minutely and C, remaining free from growth till the eighth day, increases slightly then. Thus, on the tenth day all are small fractional growths.

1/200 for *five* minutes shows no growth throughout.

1/200 for *two* minutes shows no growth throughout.

1/200 for *one* minute gives a very extreme inhibition. C gives no growth throughout. A is free from growth until the tenth day, when a very minute fraction appears. B is free from growth until the eighth day, when a very minute fraction appears, which increases only slightly on the following days.

GROUP 7.—ACTION OF SOLUTIONS ON ACTINOMYCOSIS (BOVIS) (SEVEN-DAY-OLD CULTURES).

Table 78.—Bromin 1-1,000. Exp. 15 Min.

Day.	A	A′	B	B′	C	C′
2	0.	0.	0.	0.	0.	0.
3	0.	.4	0.	.4	0.	.3
4	0.	.7	0.	.7	0.	.6
5	0.	1.7	.1	2.3	0.	2.4
6	0.	2.7	.2	4.	.01	3.6
7	.2	3.6	.4	5.	.6	4.6
8	.4	4.8	.8	5.7	.9	5.7
9	.9	5.5	1.6	5.9	1.8	5.9
10	1.6	5.7	2.	6.	2.9	6.

Table 79.—Bromin 1-1,000. Exp. 30 Min.

Day.	A	A′	B	B′	C	C′
2	0.	0.	0.	0.	0.	0.
3	0.	.3	0.	.4	0.	.5
4	0.	.5	0.	.8	0.	.8
5	0.	1.6	0.	2.2	.1	2.1
6	.01	2.8	.02	3.9	.2	3.3
7	.3	3.4	.2	4.9	1.1	4.5
8	.7	4.7	.5	5.6	2.1	5.5
9	1.5	5.6	1.1	5.9	2.4	5.8
10	2.6	5.8	1.9	6.	3.7	5.9

Table 80.—Bromin 1-1,000. Exp. 60 Min.

Day.	A	A′	B	B′	C	C′
2	0.	0.	0.	0.	0.	0.
3	0.	.4	0.	.3	0.	.4
4	0.	.5	0.	.5	0.	.7
5	0.	1.3	0.	1.9	0.	2.
6	0.	2.4	0.	2.9	.1	3.9
7	.2	3.6	.2	3.8	.3	4.5
8	.5	4.5	.5	5.	.6	5.4
9	1.	5.5	1.	5.9	1.1	5.9
10	1.7	5.7	1.8	6.	2.6	6.

Table 81.—Bromin 1-500. Exp. 10 Min.

Day.	A	A′	B	B′	C	C′
2	0.	.2	0.	.1	0.	.1
3	0.	.9	0.	.7	0.	.5
4	0.	1.1	0.	2.	0.	1.1
5	0.	2.4	0.	2.7	0.	1.9
6	0.	3.1	0.	3.5	0.	3.
7	0.	3.9	0.	4.5	0.	3.7
8	0.	4.6	0.	5.6	0.	4.2
9	0.	5.1	0.	5.9	0.	4.9
10	0.	5.7	0.	6.	0.	5.7

Table 82.—Bromin 1-500. Exp. 5 Min.

Day.	A	A′	B	B′	C	C′
2	0.	.1	0.	.1	0.	.2
3	.01	.9	0.	.7	0.	1.
4	.01	1.4	0.	2.	0.	2.1
5	.01	2.4	0.	3.1	0.	3.
6	.02	3.1	0.	3.7	0.	3.7
7	.03	3.9	0.	4.1	0.	4.4
8	.03	4.7	0.	4.5	.01	5.1
9	.07	5.5	0.	5.1	.09	5.4
10	.2	6.	0.	5.8	.2	5.7

Table 83.—Bromin 1-500. Exp. 2 Min.

Day.	A	A′	B	B′	C	C′
2	0.	.2	0.	.1	0.	.1
3	0.	1.	.01	.8	0.	.6
4	0.	3.	.01	2.8	0.	2.
5	0.	4.3	.02	4.	0.	3.5
6	.05	5.	.03	4.8	0.	4.
7	.05	5.3	.1	5.3	0.	4.5
8	.05	5.5	.2	5.5	.01	5.
9	.1	5.8	.24	5.9	.01	5.7
10	.2	6.	.35	6.	.01	5.8

Table 84.—Bromin 1-300. Exp. 10 Min.

Day.	A	A′	B	B′	C	C′
2	0.	.2	0.	.1	0.	.1
3	0.	.5	0.	.6	0.	.5
4	0.	1.4	0.	1.6	0.	2.
5	0.	3.	0.	2.2	0.	3.4
6	0.	3.7	0.	2.8	0.	4.
7	0.	4.5	0.	3.7	0.	4.8
8	0.	5.4	0.	4.7	0.	5.3
9	0.	5.6	0.	5.5	0.	5.7
10	0.	5.9	0.	5.6	0.	6.

Table 85.—Bromin 1-300. Exp. 5 Min.

Day.	A	A′	B	B′	C	C′
2	0.	.5	0.	.5	0.	.4
3	0.	1.5	0.	1.3	0.	1.
4	0.	2.1	0.	2.	0.	2.
5	0.	3.1	0.	2.5	0.	2.7
6	0.	4.	0.	2.9	0.	3.7
7	0.	4.8	0.	3.2	0.	4.4
8	.01	5.2	0.	4.1	.01	5.
9	.02	5.4	0.	4.4	.02	5.2
10	.05	5.7	0.	5.1	.04	5.6

Table 86.—Bromin 1-300. Exp. 2 Min.

Day.	A	A′	B	B′	C	C′
2	0.	.1	0.	.1	0.	.1
3	0.	1.	0.	1.5	0.	.4
4	0.	2.9	0.	3.	0.	1.5
5	.01	4.2	0.	4.3	0.	2.7
6	.01	5.3	.01	5.4	0.	4.2
7	.05	6.	.02	6.2	0.	5.3
8	.2	6.1	.02	6.3	.02	5.5
9	.4	6.3	.03	6.4	.07	5.8
10	.6	6.4	.04	6.5	.1	5.9

Table 87.—Bromin 1-200. Exp. 5 Min.

Day.	A	A′	B	B′	C	C′
2	0.	0.	0.	0.	0.	0.
3	0.	.5	0.	.8	0.	1.
4	0.	1.8	0.	2.	0.	2.2
5	0.	3.	0.	2.9	0.	2.7
6	0.	4.5	0.	4.	0.	3.5
7	0.	5.2	0.	4.3	0.	4.1
8	0.	5.6	0.	4.9	0.	4.5
9	0.	5.9	0.	5.3	0.	4.9
10	0.	6.1	0.	5.6	0.	5.2

Table 88.—Bromin 1-200. Exp. 2 Min.

Day.	A	A′	B	B′	C	C′
2	0.	0.	0.	0.	0.	0.
3	0.	.4	0.	.5	0.	.7
4	0.	1.1	0.	1.4	0.	1.6
5	0.	2.7	0.	2.5	0.	2.7
6	0.	3.7	0.	3.9	0.	3.4
7	0.	4.4	0.	4.2	0.	3.9
8	0.	5.2	0.	4.6	0.	4.3
9	0.	5.7	0.	4.8	0.	4.7
10	0.	6.	0.	5.2	0.	5.5

Table 89.—Bromin 1-200. Exp. 1 Min.

Day.	A	A′	B	B′	C	C′
2	0.	0.	0.	0.	0.	0.
3	0.	.1	0.	.4	0.	.3
4	0.	.2	0.	.8	0.	.6
5	0.	1.1	0.	1.4	0.	2.
6	0.	2.4	0.	3.	0.	4.
7	0.	3.4	0.	3.9	0.	5.
8	0.	4.2	.01	5.2	0.	5.5
9	0.	5.2	.05	5.6	0.	5.8
10	.01	5.5	.2	5.8	0.	6.

Table 90.—Bromin 1-100. Exp. 2 Min.

Day.	A	A′	B	B′	C	C′
2	0.	.5	0.	.1	0.	.1
3	0.	1.	0.	.2	0.	.2
4	0.	2.	0.	.9	0.	1.4
5	0.	3.	0.	2.	0.	2.
6	0.	3.2	0.	2.8	0.	2.7
7	0.	4.	0.	3.5	0.	3.5
8	0.	4.3	0.	4.2	0.	4.5
9	0.	4.6	0.	4.6	0.	5.
10	0.	5.	0.	5.	0.	5.2

Table 91.—Bromin 1-100. Exp. 1 Min.

Day.	A	A′	B	B′	C	C′
2	0.	.1	0.	.2	0.	.2
3	0.	1.5	0.	2.	0.	1.8
4	0.	3.	0.	3.5	0.	3.2
5	0.	4.6	0.	4.9	0.	4.2
6	0.	5.	0.	5.1	0.	5.1
7	0.	5.6	0.	5.7	0.	5.8
8	0.	5.8	0.	5.9	0.	6.
9	0.	5.9	0.	6.	0.	6.2
10	0.	6.	0.	6.1	0.	6.2

1/100 for *two* minutes shows no growth throughout.

1/100 for *one* minute shows no growth throughout.

SUMMARY OF EVIDENCE ON ACTINOMYCES (BOVIS).

The death of *Actinomyces bovis* takes place on an exposure of: (1) Ten minutes to a 1/500 solution; (2)

ten minutes to a 1/300 solution; (3) two minutes to a 1/200 solution; (4) one minute to a 1/100 solution. Thus we find a fair degree of progressiveness in action of various strength solutions. The second factor, or inhibition, begins at once on an exposure of fifteen minutes to a 1/1000 solution and is marked. A thirty minute exposure to the same strength, for some reason, shows a slightly less intense effect, while an exposure of sixty minutes presents an increase in effectiveness: On exposing to a 1/500 and 1/300 strength for less than ten minutes (death point) we find very extreme inhibition, becoming somewhat less as time of exposure is shortened. Inhibition is a trifle more pronounced by the 1/300 solution.

A 1/200 solution for one minute presents a very extreme inhibition. For the 1/100 solution there is death with no sphere of inhibition. The sphere of inhibition in this series, though somewhat limited, is progressive in character.

GENERAL SUMMARY.

In making a summary of the anti-microbic effect of aqueous solutions of bromin of various strengths and acting for various periods of time, it serves our purpose best, for the sake of clearness, to adhere to the two divisions previously indicated. These were: (1) The absolute death point of the micro-organisms as expressed in terms of strength of solution employed and time of exposure to same; (2) the power of solutions to inhibit growth of micro-organisms (depending also on strength of solution and time of exposure to same) exhibited as a forerunner of absolute death.

Considering the first division and making a table of comparative susceptibility of micro-organisms to solutions, beginning with the most easily destroyed and graduating to the most resistent, we find that absolute destruction of micro-organisms occurs on exposing to solutions as indicated in Table 92:

TABLE 92.

Micro-organism.	Strength of solution.	Time of exposure.
Streptococcus Pyogenes	1-1000	30 minutes.
	1- 500	4 minutes.
Staphylococcus Pyogenes Aureus	1-1000	60 minutes.
	1- 500	4 minutes.
	1- 300	1 minute.
Actinomycosis (bovis)	1- 500	10 minutes.
	1- 300	10 minutes.
	1- 200	2 minutes.
	1- 100	1 minute.
Blastomycosis	1-1000	60 minutes.
	1- 500	15 minutes.
	1- 300	1 minute.
Bacillus Prodigiosus	1- 100	10 minutes.
Bacillus Tuberculosis	1- 100	30 minutes.
Bacillus Anthracis plus spores	1- 100	60 minutes.

A very wide range in efficiency of solutions is seen to exist between *Streptococcus pyogenes* and *Bacillus anthracis*. An examination of the table shows that the effectiveness of solutions is exhibited in three main groups: (1) Group 1, consisting of *Streptococcus pyogenes* and *Staphylococcus pyogenes aureus*, where the anti-microbic power is extremely well marked, being almost specific for both micro-organisms, but of special importance for its effect on *Staphylococcus pyogenes aureus;* (2) Group 2, consisting of *Actinomyces* and *Blastomyces*, where less efficiency is shown, but where the effect is still very satisfactory; (3) Group 3, consisting of *Bacillus prodigiosus*, *Bacillus tuberculosis*, and *Bacillus anthracis* plus spores, where there is a very considerable slump in efficiency of solutions. On the spore forming *Bacillus anthracis* the effect is very unsatisfactory.

Taking for consideration now the second division, or the inhibition in growth of micro-organisms due to actions of solutions on them, which, as has been mentioned before, depends jointly on the strength of solutions employed and the time of exposure to same, we will take up this function in relation to the three groups previously made. In the cocci group, the inhibitory sphere, though vigorous and progressive in character, is very restricted because of the close approximation of the points at which inhibition and death occur. In the fungi group, from the same cause, the sphere of inhibition is again very restricted though progressive in character. It presents a slightly greater range in inhibition than does the cocci group. In the bacilli group where, from the tardy appearance of the death point, we would expect to find a long and progressive sphere of inhibition, we find just the opposite. Here, due to the tardiness of its appearance, we get an inhibitory sphere rather contracted in character and one which is markedly irregular in type, giving one the impression of being highly unreliable. Progressiveness in action is strikingly absent.

DEDUCTIONS.

1. In a solution of bromin we have a germicidal agent that presents a peculiar selective action for certain groups of micro-organisms, and then acts more or less indifferently toward another group. In other words, on cocci and fungi a 1/300 solution is effective in a brief time, thus exhibiting a very marked germicidal action on them. On the other hand, on bacilli, especially spore forming, the germicidal effect of solutions is disappointing, a 1 per cent. solution having to act for a very considerable period of time before death is produced.

2. It differs from an ideal antiseptic in that:

(a) It is hard to prepare, being extremely irritating to eyes and mucous membranes.

(b) It is very unstable, having to be kept in a glass retainer. Even then it loses its power gradually, hence fresh solutions have to be made frequently.

(c) It is not markedly penetrating.

(d) It has to act for a considerable period of time to be effective on all micro-organisms.

(e) It coagulates albumen.

3. It approaches an ideal antiseptic in that:

(a) It is non-toxic and non-irritating in a strength that is effective.

(b) It does not produce an appreciable stain.

4. Lastly, it is necessary to state that in order to be effective on all classes of micro-organisms a 1 per cent. solution must be used for the period of one hour.

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LANDRY'S PARALYSIS; RECOVERY, PARTIAL RELAPSE AND COMPLETE RECOVERY.*

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Cases which show the typical symptoms of Landry's syndrome in characteristic form are sufficiently rare to make even isolated instances worth reporting, where they have been minutely observed. Much discussion has been spent on the question of the existence or nonexistence of such a morbid entity as Landry's disease, but a good deal of it has been wasted on the consideration of cases reported as Landry's, but really not properly coming under that title. Whatever name may have been given to these cases and however much confusion may have arisen from imperfectly observed or incompletely described instances, there is certainly a symptom-group which can not be put under the heads of multiple neuritis, of spreading myelitis, or of poliomyelitis. but which does fit the description of "acute ascending paralysis" or Landry's disease. The points of diagnostic distinction are that the onset should be acute, its character generally ascending, with paralysis more or less complete, but with little or no change in sensibility. entire loss of the deep reflexes and usually of the superficial ones, without involvement of the sphincters, and with no distinct or at least no characteristic pain. One of the stumbling blocks of those anxious to settle the classification and pathologic relations of the disease has always been the innumerable supposed causal troubles described: syphilis. alcohol, infected wounds, cold, exposure and so on. Here, too, confusion has probably been caused by the lack of clear distinction by patient or examiner between predisposing and exciting causes. Syphilitic disease and habitual alcoholic excess may render their victims an easy prey to innumerable ailments, but are they to be rated as causes of all the diseases for whose admission to the economy they do no more than unbar the door? We still talk of catching cold as if the "cold" were an entity that went up and down seeking to catch or be caught, and the word itself causes confusion by its association with expressions of temperature. In the case presently to be described the patient's illness was preceded by a thorough soaking in a chilly rainstorm. Is it to be supposed that this wetting caused the trouble? In the next person similarly exposed the result might very likely be a "bad cold," a staphylococcus infection of the upper air passages, while in another a spastic paraplegia might follow.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

The difficulty of explaining the difference in effects of these similar causes resides in their not being really causes. To return to the analogy, such "causes" may open the door, but the results depend not on the open door but on what gets in through it. More probable still is it that causes of which one hears as bringing about so many and diverse acute states, wettings, exposure, sexual excess, blows on the spine, act in some unknown and at present unrecognizable way on disorders already present in the system but undeclared, hurry their development or bring them out in some manner.

Such speculations as these you may perhaps criticise as vague, but until the pathologists can offer us some definite and constant change in nerves or cord to characterize acute ascending paralysis, speculations must serve.

The condition is probably, then, due to some toxin produced by organisms unknown or unidentified present in the blood or the tissues, this toxin product having a selective action on the spinal cord. Other analogous conditions may be similarly explained, multiple neuritis, migratory or spreading neuritis, and that rare affection. family periodic palsy. Multiple neuritis offers in its symptom-complex the nearest approach to the symptoms of Landry's disease. Its onset is rapid, degeneration reaction is early present, the reflexes are lost; but the trunk muscles are not affected in polyneuritis, there are marked sensory changes, pain and tenderness of high degree. The paralysis instead of ascending either appears almost simultaneously in all four extremities or attacks the limbs in pairs and muscular atrophy shows itself very quickly, usually becoming extreme in some muscles. The spread of the affection in polyneuritis, while sometimes very rapid, is less even and symmetrical in its advance. It is rare to find distinct signs of involvement of the cord in pure neuritis, however severe the neural inflammation may be.

The resemblance between acute ascending paralysis and migratory neuritis, such as occurs occasionally soon after wounds of nerves and occasionally as a late sequence of wounds, sometimes not developing until after years of suffering from chronic nerve inflammation, is even a closer one, except in the slowness of the process in the latter disease. In it the cord is sometimes involved, sometimes a secondary involvement of the symmetrical member occurs. There is, owing to the difference in the character of the onset, no diagnostic difficulty involved, and I mention this disorder only to emphasize the point as to the clinical evidence for some toxic influence as a cause of all these troubles.

In a clinical study of injuries of nerves, in 1894, I argued strongly for the probability that a special toxic influence was needed to cause a spreading neuritis, and that few cases could be produced in which nerve inflammation had spread to a serious extent, had involved the cord or had caused death, except when evidence of some poison was present. Cases were there quoted of death from rapid ascending neuritis after influenza and diphtheria, after exposure to severe cold, and after actual wounds.

It is worth while to recall, besides, the instances reported by Graves of chronic ascending neural inflammation from repeated exposure to cold, the earliest account of any form of this disorder.

In family periodic paralysis there is a temporary paralysis which gives for the time being a picture almost exactly like that of Landry's. The onset is even more sudden, an hour or two sufficing for an apparently sound young man to be turned into a perfectly helpless paralytic. The electric reactions are so diminished as almost to be lost, the deep reflexes vanish, the superficial ones sometimes remaining, though much enfeebled; there is no change of temperature, no pain, no sensory disturbance and the sphincters are unaffected. In severe cases the action of the diaphragm is involved, the patient breathing only with the accessory external muscles of respiration. Such a condition as this must mean that the sufferer has been poisoned and that the effects of the poison are chiefly felt in the spinal cord, although there are local effects also, as is evidenced by the loss of electric contractility, even when the current is applied directly to the muscle, as was done in one of my cases by needles inserted into the muscle substance.

Case.—*History.*—The patient at present under discussion, a Russian Jew, 21 years of age, was admitted to the Orthopedic Hospital and Infirmary for Nervous Diseases on April 13, 1905, sent by Dr. H. M. Fisher. His statement (which was somewhat confused, partly from mental dulness and partly from his struggles with the English language) was that he had been exposed in a cold rain storm five or six days previous, was thoroughly wet and chilled, and was obliged to continue at work. The next day he felt rather miserable, but went to work as usual. In walking to work he felt heavy and his use of his legs was awkward. An hour later he found himself unable to lift packages and heavy boxes, which was part of his duty. Before noon he was unable to walk except with support, and when he attempted to return home gave out before reaching there and had to be carried. He grew worse rapidly. He applied to the Pennsylvania Hospital on April 9, complaining of inability to walk and general weakness. The statement from the Pennsylvania Hospital reception ward is that no deep reflexes could be elicited, but that sensation was normal, and that he had some motion of the legs, but was unable to walk. He was complaining of lumbar pain. He stayed only two days in the hospital and left unimproved, applying the next day after at the Infirmary for Nervous Diseases.

On examination on April 13 he had complete paralysis of all four extremities. The hands could be moved a little, but the arms could not be raised from the body, the only remaining movements of the limbs being partial flexion of the forearms. The legs were totally immovable, though one or two muscles seemed to contract in the legs to voluntary effort, a trifle more actively in the left leg than in the right.

It was difficult to determine to what degree the trunk muscles were affected. The patient appeared to be unable to turn over in bed, but this was partly because he could not use his legs at all in the movement and could not help himself with his hands. There was no involvement of the sphincters.

Examination.—Examination of the chest and abdomen was entirely negative. Pulse, temperature and respiration were unaffected, except that there seemed to be a little more than the normal use of the external muscles of respiration. Some complaint of pain was made, but not fixed or constant, and there was nowhere any tenderness. What pain there was was situated in or near the immediate neighborhood of the joints and appeared to be due more to the discomfort of posture and his inability to relieve himself by movement than to anything else. Examination as to sensibility showed perfect preservation in all forms. No reflexes could be obtained at all. There was no clonus nor Babinski reflex. Urinary examination was negative. No wasting of the muscles was present, so far as we could determine.

The patient was a slight, ill-nourished young man, but his muscles, though small in bulk, seemed to be of good quality. The day after his admission an electric examination was made, this being the seventh or eighth day from the attack. Dr. Boyer, the electrician of the hospital, reported distinct reactions of degeneration in the anterior tibial and calf muscles on the right side, and a beginning, less marked, reaction of degeneration in the corresponding anterior tibial group in the left leg, in which, however, the calf muscles were normal in response. The reaction of the thigh muscles was unchanged on both sides, unless perhaps there was a slight lessening of faradic contractility on the right.

Treatment.—The patient was ordered galvanism to the spine, stimulating massage, alternating applications of hot and cold water to the back and small doses of ergot. Eleven days after his admission the cremaster reflex reappeared distinctly on the left side. He was able to make a slight attempt at movement of the left foot in extension. No wasting was observed, nor did he seem to have any definite loss of general muscle substance. The reactions of degeneration were at this time still more marked in the areas already affected.

Sensation was again examined and showed normal condition. The only added observation of these first ten days was that the breathing apparatus seemed very slightly involved during the first week, but this difficulty did not increase and improved with the other symptoms from May 24. By the end of a month from the time of his admission he could turn over in bed, flex the legs on the thighs and the thighs on the abdomen, if the weight of the legs were supported. The power of extension was not improved. He could flex the fore arms, but grip in the hands was almost completely absent. There was still no atrophy.

The last of May the condition remained about the same, with a slight improvement in the ability to move, but with an increase of the degeneration reaction in all the leg and arm muscles except those of the left thigh. The patient was eighty-two days in the hospital and was discharged the first week in July, walking well, though with some remaining weakness of the extensor muscles of the legs. It was reported to me that this improved throughout the summer. I learned afterward that in October he had suffered a slight distinct relapse, with an increased weakness in the legs, affecting the flexor muscles as well as the extensors, but lasting less than a week, when it passed rapidly off and he has been perfectly well ever since.

This later relapse is curious, and it is to be regretted that a better description of it can not be furnished. I saw the patient only for a few minutes and have no exact knowledge of his condition. All his symptoms in the early attack were so much modified and obscured by his excitable, hysteric and apprehensive state of mind as to make it difficult to get a precise statement from him about anything, and it is possible that the later seizure may have been a passing nervous difficulty of an imaginary kind.

DISCUSSSION.

Dr. Robert McGregor, Saginaw, Mich., said that the mode of onset and clinical manifestations of Landry's paralysis are exceedingly characteristic, as clear and unmistakable as those of tabes dorsalis, and there is little risk of confusing the disease with poliomyelitis, and still less with multiple neuritis. The point which requires illumination in Landry's paralysis is the cause. What is the mysterious agent which so profoundly and specifically affects the motor elements? And why is it that the profound debility is sometimes entirely recovered from?

Dr. J. H. McBride, Pasadena, Cal., called attention to the fact that Pasteur found that fowls and birds which have a normal temperature higher than that of man could not be inoculated with malignant pustule. If, however, he plunged a chicken into a bucket of ice water and chilled it, then he could easily inoculate it with malignant pustule, the disease running its usual course. That is to say, the chill reduced the normal resistance of the body and the disease developed. Dr. McBride thought that the experiment shows how any infection may enter the system through conditions that are favorable to its development, and it at least suggests that infections may be avoided by bodily hygiene.

Dr. A. A. Eshner, Philadelphia, affirmed that with respect to many diseases of the nervous system whose etiology is obscure it is perfectly reasonable to think of the possibility of a toxic cause, and this need not be of bacterial origin. It is well known that, as a result of derangements of metabolism, such as occur in diabetes and uremia, for example, and in conjunction also with malignant disease, definite changes occur in various parts of the nervous system. The conditions named are usually chronic, long-standing affections, and it is not difficult to understand how changes in nervous tissue may be brought about.

NERVOUSNESS: ITS SIGNIFICANCE AND TREATMENT.*

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The alarming mortality and widespread prevalence of nervous and mental disorders in recent years is sufficient to attract the attention of every intelligent citizen. At first sight it scarcely seems possible that during four years, viz., from 1900 to 1904, diseases of the nervous system were responsible for more deaths than any other class of ailments. A bulletin on health statistics has just been issued by the United States Census Bureau, which claims that no less than 302.876 persons died from some nervous disorder during this period. This large number of deaths is even greater than those who died from more common fatal tendencies of tuberculosis, typhoid fever, malaria, infectious fever, alcoholism, cancer, pneumonia, and even the epidemics of yellow fever. Hence nervous diseases take precedence of all other classes of diseases as a death producer or destroying agent.

That nervous and mental diseases are increasingly prevalent and widespread in America is very clear to all of us; indeed, so commonly manifest in American life and conduct has the essential characteristics of so-called nervousness become that we are jeeringly dubbed by the Europeans as a race of neurotics. It is certain, however, that this European criticism needs no defense from me, for when we as medical men come to carefully consider the superstrenuous methods associated with our educational, professional, political, social and business life, we are forced to acknowledge the reasonableness of its application, besides recognizing the fitness of the soil to produce such neurotic products.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

By universal consent diseases of the nervous system are roughly divided into two great classes, viz., organic and functional. Now it is not, as a rule, exceedingly difficult to diagnosticate the diseases which have an organic basis, as these present clinical syndromes which are highly characteristic of such lesions. Such, however, is not the case with the so-called functional nervous disorders, as these for the most part are subjective in character, while the lesions themselves are very obscure. It is, therefore, the functional or unclassified nervous conditions that the term nervousness usually implies, and more especially those conditions in which the clinical phenomena is largely of a subjective character, like neurasthenia, psychasthenia, hysteria, incipient melancholia, dementia præcox and similar states. Whenever, therefore, such persons consult us, after excluding all organic diseases, as well as the more typical forms of chorea, epilepsy, goiter, tics and other nervous affections attended with certain other unmistakable objective clinical phenomena, you will, in the vast majority of instances, find associated with the so-called nervousness various mental perversions or lack of mental poise which are at least expressive of some defect of the central nervous system, which clearly indicate their psychical origin.

Hence, instead of a neurosis, we more often have to deal with a psycho-neurosis. The close relation, however, which exists between nervous and mental diseases has not until recently been fully recognized, and while undoubtedly the most conspicuous feature of modern medical progress lies in the effort to bring practical psychiatry into closer touch with general medical practice, yet much still remains to be done before the close alliance which exists between nervous and mental diseases is duly recognized and given that amount of attention by the general medical practitioner it richly deserves. Moreover, modern medical science also enforces the recognition of another principle which, to my mind, exceeds in interest and importance all others yet devised relative to their prevention and treatment. It is this that, while nervous and mental diseases are closely allied and in many instances are identical, yet in practical medicine there is an essential difference to be noted between purely nervous diseases, actual insanity and unsoundness of mind. As already observed, the clinical manifestations of nervous diseases having an organic basis are largely objective in character, hence their diagnosis is not usually attended with much difficulty. Moreover, the more pronounced forms of insanity do not, as a rule, furnish a very obscure problem for diagnosis.

But those disorders in which the neuro-psychologic clinical phenomena are blended in such a way as to obscure the underlying lesion are much more problematic, and it is the diagnosis, prognosis and treatment of these conditions that puzzle the medical practitioner. Such persons usually manifest in their clinical aspects the various kinds of nervous instability plus certain peculiar abnormal mental traits, or suffer from all degrees of unsound mental poise, which are usually considered harmless or of too trivial a character to cause any undue alarm, much less medical or legal restraint. Indeed, many such are told by their family physician that there is nothing the matter with them, that their complaints are all imaginary or that they will outgrow them; that their nervous distress is put on for the occasion and that they can prevent their alleged sufferings if they wish; that it is all nonsense and they ought to know better than be so foolish and irritable as well as nervous. The known progressive transitional character, however, of such obscure functional nervous conditions when neglected should place us on our guard and teach us that the unstable condition termed nervousness constitutes the very soil from which spring and develop all forms and degrees of actual insanity. Admitting that insanity always connotes unsoundness of mind, yet we must also recognize that there are very many persons who appeal to us for the relief of so-called nervousness and who perhaps are scientifically, medically speaking, of unsound mind. The failure to recognize the practical difference between the mental unsoundness which associates itself so commonly with so-called nervousness and actual insanity is, in my judgment, the cause of much confusion and error in diagnosis, prognosis and treatment of diseases of the nervous system. My experience proves that such persons usually present in their clinical aspects all forms and degrees of psychopathic abnormalities, and often by their strange, eccentric and even unreasonable conduct become the source of great anxiety and irritation to their friends and relatives as well as the family physician.

Moreover, their foolish extravagance and injurious dissipated habits may at times invite untold hardships on themselves and others, while their selfish, jealous and impulsive actions may not only render them difficult to control but also foster serious legal complications. Notwithstanding these various morbid mental characteristics, it is also not incompatible for such persons to appear intellectually bright and precocious, quick witted, good conversationalists and apparently able to argue logically, and because of this, their alleged rationality, be considered perfectly well by the general public and in no sense mentally or physically ill; such persons, however, to the educated, experienced physician present certain irrational neuro-psychologic features which at once stamp them as being more or less mentally unbalanced, or at least unsound in mind. Hence rationality and mild insanity are not incompatible and do not militate against the diagnosis of mental unsoundness.

In analyzing the clinical results of 1,200 patients admitted to my sanitarium during the past six years, the experience thus gained would seem to justify the recognition of at least five common types or classes of persons who present themselves to the family physician for diagnosis, prognosis and treatment, suffering from so-called nervousness. They are as follows:

1. The adolescent or youthful class.
2. The phrenasthenic or emotional class.
3. The psychasthenic or exhausted class.
4. The prodigal or dissipating class.
5. The impulsive or vicious class.

In these five classes are included all those persons who manifest the various forms and degrees of so-called nervousness plus peculiar mental perversions or lack of normal mental poise, which in reality constitutes the various types of mental unsoundness or incipient insanity. Such persons, therefore, appeal to you and me for advice, care and treatment as well as proper protection, and while they present differing degrees of mental unsoundness, yet because of this can not be treated as insane or as ordinary lunatics. A slang phrase, however, can with propriety often be applied to such persons when we say that many of them "Don't know where they are going, but they are on their way," viz., to the asylum, reform school, poorhouse or penitentiary. Time will allow but a brief glance at each of these classes, although their enlargement has already been considered in a former paper.[1] In their consideration, however it is sufficient to state that their etiology may consist of both predisposing and exciting factors, and while perhaps the majority are subject to hereditary defects and bad family training, yet there are many who, by virtue of their constant dissipation, strenuous lives, poverty or some infection, may readily acquire the neuro-psychopathic state. Hence the causes may be both congenital or acquired, intrinsic or extrinsic, and subject to wide variation.

I. THE ADOLESCENT OR YOUTHFUL CLASS.

Under the first class we include both boys and girls who suffer primarily from the various neurotic conditions common to youthhood and the pubescent period, such as epilepsy, chorea, hysteria, menstrual disorders, neuralgia, headache, and the more serious complications of mental backwardness or feeblemindedness, like hebephrenia, catatonia, catalepsy and the incipiency of dementia præcox, together with a tendency to become incorrigible and even to commit crime. Such young persons rarely reach the asylums, nor do they in their incipient stages belong there, but they invariably appeal to their family physician for relief and advice, and what to do for them not only proves a vexatious question, but at once propounds one of the most difficult sociologic as well as medicolegal problems of the age; while its present solution by the majority of the states of the Union is, to say the least, most unsatisfactory.

II. THE EMOTIONAL OR PHRENASTHENIC CLASS.

The second class are the emotional or phrenasthenics. Such persons present every degree of emotional weakness or nervous instability, lack of will power and whose feelings are not subject to proper normal control. The chief pathologic conditions represented in this class are the so-called hysterias or phrenasthenias, the hypochondrias, and the morbid jealous and erotic states. Associated with their pathogenic psychologic manifestations are all kinds of stigma or disturbances of the various functions of the nervous system, hence their clinical syndrome is extremely variable, while the symptoms are protean in character. Such persons take to sickness as readily as ducks take to water; indeed, illness with many becomes a profession. As a class, while apparently rational they are exceedingly unreliable in their deportment as well as insincere in their actions, while their statements often lack the dignity of truth and justice. This class is chiefly represented by young females, yet many men are found roaming at large in its undefined pathologic territory. Like the preceding class, they appeal to the family physician for relief, but he, in his dilemma, rarely resorts to anything beyond the application of temporary expedients.

III. THE EXHAUSTED OR PSYCHASTHENIC CLASS.

This class includes a large clinical area of persons suffering from neurasthenia, or nervous prostration, psychasthenia, psychosomasthenia, hypochondria, incipient forms of melancholia, paranoia, delirium, confusion and stupor, which accompany or follow the toxic psychoses, typhoid fever, scarlet fever, pneumonia, malaria, la grippe and other acute infections and poisons, beside those who suffer from the various kinds of sexual perversions. The chief clinical characteristics, however, of this class are seen in all degrees of exhaustion and strain, of the various functions of the nervous system, which leads to morbid self-introspection, selfishness, suspicion, doubt, anxiety and all degrees of morbid fear.

Often their occupation consists in talking about themselves and their ailments, which cause them to become diet cranks, health cranks, religious cranks, besides leading them to readily entertain false ideas about diseases, drugs and doctors, which they juggle with until they finally become easy prey for quacks and quackery, besides willing victims to the knife of the unscrupulous surgeon. Their rational conversation, however, readily acquits them from all forms of medical or legal restraint; hence they are allowed to procrastinate until the curable borderland is passed and their psycho-neurosis becomes sufficiently pronounced and incurable. Then the family physician is finally called on to sign a certificate committing them to the insane asylum, and thus become a ward of the state the rest of their lives.

IV. THE PRODIGAL OR DISSIPATING CLASS.

Such persons by virtue of their mental unsoundness, whether congenital or acquired, more often stray from the paths of physical, mental and moral rectitude, thus becoming willing victims to all forms of temptation and licentiousness. It therefore includes those who indulge in extreme excesses of all kinds, like the reckless sporting libertine, the drug habitués and the inebriates, many of whom suffer from syphilis and other sexual disorders. In this class are, therefore, to be found those who suffer from delirium tremens and other forms of alcoholism; the incipient forms of general paresis, cerebral and other forms of nervous syphilis, beside the various drug addictions.

Socially speaking, they are usually popular business men of talent, first-class mechanics and high-strung women of more than average ability and beauty. Their chief delight is found in fast company, wine, music and all kinds of sport, which indulgence they carry to an extreme degree. Hence they take life easy, spend money freely, and are high livers, frequenting the hotels, clubs, theaters, saloons and similar places to excess, besides enjoying prize fights, horse racing and betting. It includes, therefore, a large and growing class of neuropsychopaths, whose proper medical and legal control at the present is exceedingly lax and most unsatisfactory.

V. THE IMPULSIVE OR THE VICIOUS CLASS.

This class includes those persons whose mental unsoundness or psychopathic tendencies lead them into all forms of impulsive and even vicious conduct. Hence clinically they present all kinds of morbid propensities like that to steal, lie, cheat, set on fire and even commit suicide and homicide. Such persons, therefore, are known technically as kleptomaniacs, pyromaniacs, nymphomaniacs, etc., and as a class represent the more serious degrees of mental unsoundness and perhaps are nearer actual insanity than those belonging to the other classes. Another class might still be added:

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[1] The Borderland of Insanity, Kansas City Med. Index Lancet, January, 1907.

VI. SENILE OR DECADENT CLASS.

This includes both men and women who have passed the active period of life and suffer from the various abnormal psychologic complications incident to second childhood. Owing to their mental weakness, such persons are very restless, irritable, impulsive and quite emotional. They also at times become noisy, vicious and get beyond family control; what to do for them, however, taxes the skill, judgment and knowledge of the ablest clinicians.

DIFFERENTIAL DIAGNOSIS.

In thus alluding, perhaps imperfectly, to the chief clinical characteristics as they appear to me of those persons who consult us concerning the various manifestations of so-called nervousness, or, more properly, those who suffer from mental unsoundness, my remarks may appear at first sight to be of such a general and far-reaching character that some of you, or at least those whose experience is limited, may be tempted to offer the criticism that the clinical pictures thus presented could at least in some of their aspects be made to apply to the great majority of mankind, and which in a measure may be true. But it is the degree of damage existing or made on the higher controlling centers of the brain or the combination of symptoms and circumstances, together with all the facts belonging to the family and the personal life history of the patient, on which the diagnosis of mental unsoundness is based, rather than on any one particular mental peculiarity or even set of circumstances. From this standpoint, if time and your patience allowed, it would be easy for me to multiply reports of cases taken from the clinical records of the 1,200 cases admitted to my private sanitarium during the past five years, which would justly fit each class described, and in which, when made familiar with all the facts and circumstances surrounding them, you would not only agree, but readily discover that while they presented many features in common with the average normal individual, even to the extent of rational conversation and marked reasoning ability, yet there would be sufficient evidence forthcoming to convince even the most skeptical that the clinical syndromes presented not only furnished ample evidence of mental unsoundness, but that also each case came strictly within the province of borderland insanity.

TREATMENT.

For the successful treatment of the various forms of nervousness competent medical authority agrees that certain principles must necessarily be enforced which takes cognizance more especially of the mental as well as the physical organization of the individual, and that drugs and surgery, while meeting the indications of the latter or abnormal bodily conditions, often utterly fail to relieve the subtle pathogenic factors of the former, or those emanating from the mind. We are, therefore, compelled to employ other means and measures, either alone or in combination with drugs and surgery, if only as adjuvants which are also known to be very effectual when used arightly. These consist in the wise selection, judicious use and skillful application of hygienic and mechanical agents such as massage, electricity, hydrotherapy, employment, amusements, exercises, fresh air and sunshine, walking, riding, dietetics and, above all, healthful suggestions or psychotherapeutics, which includes all forms of moral or religious and pedagogic measures. The doctrine of right thinking, right living and right acting must be thoroughly inculcated simultaneous with the use of drugs and other therapeutic measures, as one without the other means certain failure. Moreover, in order that the agents referred to may have their most beneficial effects, it is necessary that they be used early or more especially in the incipient stages and in association with the following principles: 1. The substitution of new for old environments. 2. Isolation from home, friends and even neighbors. 3. Institution of mild discipline or restraint. 4. Removal of the cause, when possible, including peripheral and all other sources of irritation. Time forbids enlargement on the scientific use of all these remedial agents; suffice it to say that when used early and in suitable simultaneous combination they often produce results which are most astonishing. It is, however, in the lack of their early enforcement that so many failures occur. Realizing the extreme difficulty which at times besets the proper enforcement of these principles by the physician, I can not refrain from calling attention to two factors which to my mind play a very important rôle in not only the successful care and treatment of all forms of nervousness, but also in their prognosis and prevention.

I allude first to the inadequacy of the common law to deal with such persons; and second to the need of better state provision being made in their behalf. The legal necessity which now obtains compelling the unfortunate sufferer from neurasthenia, psychasthenia, feeble-mindedness, melancholia, hebephrenia, or any other form of mental unsoundness, to be adjudged insane before receiving state or private medical care, often exacts a severe hardship on many who deserve more lenient consideration. This is very apparent when I cite an example with which no doubt you are all familiar. As it now stands the only provision made for the so-called neurasthenic suffering from morbid fears or sexual misgivings before he can receive state or private medical care is to be adjudged insane, which he refuses to do. The same law also obtains in every other form of mental unsoundness. Moreover, the only provision made for mentally defective children in many of the states is the state feeble-minded institutions or colonies, into which are often dumped the epileptic, the imbecile, all forms of dementia and other undesirable incurable insane conditions, including even the driveling idiot. Such environments can not fail to prove not only a serious handicap, but absolutely harmful to many such persons who are justly entitled to better provision from the city and state, and whose curable or borderland mental condition demands a hospital, free from such depressing associations, yet who, by force of their present circumstances, are compelled to accept the only means offered them, viz., the insane asylum, which, in spite of its charitable aspect, can not fail, in my judgment, to be to such as these an enemy in disguise.

The inability, however, to legally enforce, without being adjudged insane, the medical principle of isolation or mild restraint by the physician often proves a serious stumbling block to the prognosis of his neuropsychopathic patient, besides working a great hardship to many who, by virtue of kinship or social ties, are brought more or less into their daily close personal relationship. Especially is this true of those found suffering from neurasthenia, hysteria, psychasthenia, epiepsy, feeble-mindedness, primary dementia, incipient orms of hebephrenia, melancholia, mania, paranoia, all orms of inebriety, drug habitués and other dissipators, esides those who suffer from hereditary or acquired nervous defects, which lead them to become more or less ncorrigible or display vicious and even criminal ten- encies. Such persons, through lack of proper early egal and medical restraint, are more liable to contract yphilis, enter into some unfortunate marriage relation r get into the clutches of criminal and civil law, and inally land in either the divorce court, the penitentiary r the insane asylum, and thus become a ward of the tate for the rest of their lives. Unless the patient hap- ens to be financially able to provide for himself pri- ate proper and appropriate care, he is usually doomed o neglect or incurability, for the large majority prefer o refuse state aid rather than conform to the legal neces- ity of being adjudged insane, with all of its supposed isgrace and consequent stigma. Moreover, if treated t home by the family physician the chances of recovery re greatly lessened and at best is simply a makeshift. Hence the practical need of state and city sanitariums r psychopathic hospitals, built or arranged expressly or the reception and treatment of those persons found uffering from all forms of neuro-psychopathy and where the rules of admission are destitute of all the present objections of legal commitment, is not only a pressing need but an absolute necessity. In the larger ities special arrangements should be made with the managers of general hospitals to admit such persons and rovide them with proper and appropriate care at the xpense of the city, county or state. When this is done many who now refuse state aid will gladly accept it and hereby greatly increase the percentage of recoveries.

As a result of their psychologic disorders many such ersons now refuse to submit to any form of treatment, much less restraint, even where their condition abso- utely demands it. Such should, therefore, be compelled y law to conform to the dictates of modern medical eaching and experience rather than be allowed to grad- ally merge into a known chronic incurable condition nd later become a ward of the state for the rest of their ves. That the failure of enforcement of early appro- riate treatment due to inadequate legal provision is to large extent the responsible agent for many of those nfortunates who are now legally compelled to spend heir lives in the state hospitals for the insane, is now enerally conceded by all competent authorities. As n economical, as well as a humane, measure, therefore, he various states of the Union could well afford to pro- ide psychopathic or detention hospitals, halfway houses, f you please, between the asylum on the one hand and he home of the patient on the other, where the men- ally unsound or the presumably curable nervous border- ners could receive such early appropriate medical care nd treatment as they richly deserve without being com- elled to be adjudged insane or subject to the many ther objectionable features which now beset their legal ommitment.

By such action the percentage of recoveries would be reatly increased while the pecuniary gain to the state n not having so many incurable insane to keep for the est of their lives would more than provide sufficient unds to build and even maintain such hospitals.

In conclusion, it is, therefore, hoped that these remarks may be the means of stimulating a more earnest eal and enthusiastic interest in the welfare of those nfortunates who, by virtue of some congenital or acquired condition, suffer from the various kinds of mental infirmity or so-called nervousness.

DISCUSSION.

Dr. Julius Grinker, Chicago, objected that Dr. Punton included entirely too much under the term nervousness and borderline insanity. He was reasonably certain that every one has at some time or other in his life attended a horse race, gone to a theater, visited a ball game, or been in a saloon, and done the very things which Dr. Punton pointed out as being characteristic of nervousness. There are periods in every person's life, he continued, when one might indulge in all these things and later realize their harmfulness. However, most of us are neither nervous nor on the borderline of insanity. Nervous persons have certain characteristics by which they are easily recognized. As regards the factor of environment, Dr. Grinker believes it to be inferior to that of heredity.

Dr. Ellen C. Potter, Philadelphia, thinks it a great mistake to take girls of that age out of school and make them drop their studies. She believes that the discipline of the schoolroom is all right, even if the children have to drop off other visitations and go to bed early and get more rest in other ways. She knows many school girls who go to bed Friday night and stay there until Monday morning. Better results followed where they were kept in school under this plan than where they were taken out of school and dropped their studies and associations and interests in school life.

Dr. Wm. J. Sullivan, Lawrence, Mass., asked Dr. Punton to answer a question he was asked on the witness stand by the leading attorney of Massachusetts, in the presence of the Supreme Court justices of that state, in reference to the ability of a certain person to transfer property by will: "Do you recognize the difference between unsoundness of mind and insanity?"

Dr. John Punton, Kansas City, Mo., stated that, while it is absolutely necessary to take into consideration the family and personal history, it is also of considerable value taken in connection with the other symptoms of the case. The difference between unsoundness of mind and insanity has, he said, caused much confusion. The tendency to combine the two terms leads to many mistakes in diagnosis; but Dr. Punton believes that there is such a thing clinically as mental unsoundness which is not actual insanity, and that the medical profession generally does not recognize this distinction.

Moreover, at the present time, the subject is not given the place in medical literature that it deserves. Dr. Punton did not attempt to define these terms, but he is satisfied that there are persons suffering from degrees of unsound mind who can not be termed legally insane.

IODO-FORMIC ACID IN THE TREATMENT OF CHRONIC ULCERATIVE PHTHISIS.

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Since the publication[1] of my experience with formic acid and the iodin-formic acid solution I have received numerous inquiries concerning the employment of the latter in chronic ulcerative phthisis. Aside from the general question as to the preparation of the solution, special information is sought relative to its mode of administration in phthisis, the theory of its action in that condition, the accessory treatment and the history of a case in which the treatment has been employed. In the following I shall attempt to respond to these queries somewhat at length.

PREPARATION OF THE IODIN-FORMIC ACID SOLUTION.

A. To make the "mother preparation" (10 per cent. glycerino-iodo-formic acid) take:

Iodin q. s. (an excess, formic acid, taking up a certain quantity only).

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[1] The Journal A. M. A., April 28, 1906.

Formic acid, 40 per cent. (sp. gr. 1.200)	25 c.c.
Glycerin, C. P. q. s. ad. (1.200)	100 c.c.

The dissolving process must ensue in the cold formic acid and may be hastened by agitation.

B. To make 1 per cent. iodo-formic acid, take:

Glycero-iodo-formic acid (10 per cent.)	10 c.c.
Distilled water	90 c.c.

C. To make iodo-formic acid dil. (for internal administration), take:

Glycero-iodo-formic acid (10 per cent.)	10 c.c.
Glycerin	90 c.c.
Distilled water	1400 c.c.

The iodin-formic acid solutions should be kept in dark-colored glass-stoppered bottles, and scrupulous care should be exercised to prevent any contamination of the solutions, especially with organic matter (dust).

ORAL ADMINISTRATION.

For internal use one tablespoonful of the diluted solution (C), representing 1 c.c. of solution B, is an average dose. In cases of hyperacidity this amount may not be well borne by the stomach. It may then be tried in smaller doses and may be diluted with water so that its acid taste equals that of a weak lemonade. Care must be taken, however, that the daily intake of water is not so large as to interfere with normal gastrointestinal function. The antiseptic influence of the diluted solution (C) on the intestinal tract, if not further diluted, is a very marked one. This, of course, is the greater the more of the solution has been taken by the patient. This antiseptic or antifermentative activity is clearly evinced by the condition of the feces and the absence from the urine of fermentation and putrefaction products.

The solution may be administered in much larger amounts than the average dose, provided the stomach can tolerate the acid. As a rule, the behavior of the stomach to the diluted solution may serve as an indicator of the amount to be imbibed. The diluted solution may be given from two to five times daily *after* breakfast, but *before* the other principal meals. It may also be administered between the repasts and at bedtime. It should never be combined with other drugs and should be administered at least an hour apart from any other medicinal agents.[2] It has no cumulative action in the common acceptation of the term, and may hence be taken for any length of time. It may be given during the period in which intramuscular injections of the 1 per cent. solution are being made.

INTRAMUSCULAR INJECTION.

For intramuscular injection the 1 per cent. solution of iodo-formic acid is exclusively employed. The intramuscular injection method is the only one from which specific results may be anticipated within a reasonable period.

Lack of time, expense and fear of the hypodermic needle, however, prevail on many phthisics to forego this, the only rational mode of administration of the iodin-formic acid. Almost my entire positive results were obtained by the intramuscular employment of the solution. The internal administration, it is true, fulfils a certain purpose. It suppresses tendencies to hyperfermentation and putrefaction and stimulates the appetite and the digestive and assimilative processes in general. The phthisical process in the lungs, however, I think, can only be influenced directly by injecting the solution into the muscles. I usually inject into the thickest portion of the interscapular muscles. The best hypodermic needle for the purpose is one made of platinum with an iridium tip. The ordinary steel needle, however, will also suffice if care is taken of its weakest spot—the soldered junction of the canula and the screw or connecting part. Experience has shown me that an ordinary-sized hypodermic needle is better adapted for the intramuscular introduction of iodo-formic acid than are the larger antitoxin needles commonly employed for the injection of mercurial preparations. Immediately after usage the needles should be well cleaned, dried and threaded.

Barrel and piston of the syringe should be made of glass. The barrel should be graduated and, if possible, have a capacity of three cubic centimeters. Excepting the needle, and possibly the finger rests, nothing but glass should enter into the construction of the syringe. It goes without saying that the piston must be ground to fit snugly into the barrel.

The injection site is prepared by cleaning with ether and placing a few drops of the iodin-formic acid on it. Ether in sufficient quantity exerts also a local anesthetic effect, which property is of decided value in intramuscular injections of any solution. The needle, of course, has to be inserted from above downward and should meet the body (seen from above) at an angle of about 75 degrees. This favors the injection fluid to reach the more massive muscular portions. Experience has taught me that the patient, when the injections are being applied, should be in a sitting posture on a stool or crosswise on a chair facing its back. The physician who is standing behind gains thus better control of his patient and averts, by preventing the patient from watching the necessary preparations, a great deal of psychical and probably also of physical pain. Properly executed the intramuscular administration of the formic-acid iodin solution is not painful at all or causes but a very mild localized sensation of burning for one or two minutes.

I usually start with 10 drops of the solution, of which I inject half into the left and half into the right interscapular muscle-bundles. I repeat this dose for three or four days, after which I administer, in aforementioned manner, 20 drops for another three or four consecutive days. Following this, I generally increase the dose to 30 drops (2 c.c.), injecting it every other day for two or three weeks. After the first month the dose is generally continued at 30 drops, but occasionally increased to 40 drops and administered in the same manner twice a week for a more or less protracted period.

As long as the patient bears well the intramuscular introduction of the solution it matters little how soon the larger dose is started in with and how long it is continued. In certain cases much larger amounts of the solution may be administered with impunity. In some cases, after the first few weeks of treatment, weekly injections of 30 or 40 drops very often suffice. The shortest time in which, according to my experience, the intramuscular administration of iodo-formic acid has yielded positive results was about four months.

THE THEORY OF ITS ACTION IN CHRONIC ULCERATIVE PHTHISIS.

The very small amount of iodin which is taken up by the cold formic acid precludes at once the assumption that the total action of the iodo-formic acid is to be ascribed to its contents of that halogen. The ingestion or injection of the solution never occasions iodism, and the urine and saliva do not exhibit iodin after the oral or intramuscular introduction of the preparation. Even in the presence of well-developed renal disease, symptoms of iodism do not follow the administration of the iodoformic acid. Again, if a specific local iodin action would result from the employment of iodo-formic acid we would invariably find some iodin in the excretions coming from the respiratory tract. The presence of iodin in the liquid discharges from the air passages is, however, the extremely rare exception.

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[2] Until about a year and a half ago I frequently ordered patients to take the solution in some essence of pepsin or therelike, instead of in water. Although this admixture was usually made just prior of taking it, there seems little doubt that the potency of the iodin-formic acid was interfered with to some extent.

In view of the fact that formic acid alone calls forth similar, though much less pronounced, improvement of chronic ulcerative phthisis, we have to consider it the more effective or at any rate the more important component of the preparation. Formic acid is pre-eminently an antiseptic; it belongs to a group of antiseptics which may be called "rational," because they are not foreign to the living organism. Formic acid, it is true, is an excretory substance in a certain sense, but it is also an integral part of the brain and the juice of muscle, and of all or almost all the glands with an internal secretion. Spleen, pancreas and thymus contain comparatively large amounts of it.[3]

Formic acid may be enumerated along with hydrogen sulphid, sulphuric acid, glycocol, urea, cystein, the cholic acids, glycuronic and acetic acids, as one of the chemical protectors of the organism. All these protective agents are products of normal metabolism. These chemical protectors render innocuous a great number of body-poisons; besides neutralizing a host of noxious substances that are known to us, they probably also avert the toxic action of other ectogenous or intrabiontic poisons which we have as yet not isolated.

Formic acid, outside the body, acts as a powerful reducing agent. It is, therefore, a logical supposition that formic acid exerts a similar function when occurring in the tissues and fluids of the body. In the organism it may hence convert a toxic substance into an innocuous compound by the removal of oxygen. Formic acid, on account of its reducing qualities, may be an essentiality in the cell-life of certain organs. The antiseptic and stimulating properties of the systemic formic acid appear to be due, in part at least, to the detoxicating results of its powers of reduction.

It is likely that the systemic formic acid performs its activity synchronously with some of the other chemical body protectors. Oxidation, reduction, hydration, dehydration and addition, the five protective reactions, may thus take place simultaneously in one group of cells. In other words, formic acid is only one of the chemical factors essential to the life and activity of certain cells. Its augmentation, as well as its deficiency in the organsm, which are dependent on anomalous catabolic processes, may disturb cell and organ function and may hence be productive of disease. Such disturbances may make themselves felt even in organs which ordinarily contain little or no formic acid, whose health, however, s in a measure due to the regular function of those organs in which the usual reduction processes ensue on account of their normal contents of formic acid.

Taking up again the subject of iodin-formic acid, we understand now that the formic acid component of the latter may supply a deficiency in the organism, and that its antiseptic and other qualities may be explained on chemical grounds. The iodin constituent was originally added empirically on the supposition that it is an antiseptic which, given up by the general circulation, is deposited on the bronchial mucous membrane from whence it exerted its salutary influence on the surrounding tissues and on the bronchial secretions, averting the latter's decomposition. Laboratory experiments, subsequently conducted by me, demonstrated that the percentage amount of iodin in the 1 per cent. solution exhibited little or even no bactericidal activity when in a watery solution.

Results similar to those which some clinicians wanted to attain by the injection of tr. iodin into pulmonary cavities could, therefore, not be hoped for by the iodin-formic acid administration. Neither could any influence of the iodin, as in the Shurley-Gibbs method for the treatment of tuberculosis, or in that of Durante, be anticipated. Nevertheless, the addition of the iodin to the formic acid enhanced the latter's beneficial influence perceptibly. The action of the formic acid became more enduring while the reaction ensuing from the injection of the formic acid *per se* became less conspicuous. Less frequent intramuscular administration of iodo-formic acid proved of more decided value than the very frequent injection of formic acid alone. The introduction into the organism of the iodo-formic acid is followed by a longer abatement of the fever; the night sweats are more readily controlled; the cough loses its paroxysmal character, is accompanied as a rule by less pain and is often entirely suppressed; the appetite increases steadily; fatty ingesta are relished and well-born; and taking it all in all, the administration of iodo-formic acid produces more lasting effects than that of formic acid alone, as regards increase in body weight, strength and the powers of resistance.

Inasmuch as it can not be that what we are wont to look on as the specific iodin action by which the iodin factor of the iodo-formic acid displays its well-pronounced influence, it must be in some other manner that it produces the remedial effects in chronic ulcerative phthisis. For a number of years I have maintained that the physiologic action of many inorganic and organic drugs calling forth specific reactions when taken in minute doses is solely dependent on their catalytic qualities. The iodin of the iodin-formic acid, so introduced into the organism that it may come in contact with the diseased lung tissue, acts in the latter as a catalyzer. I would classify the iodin of the 1 per cent. solution as an inorganic catalyzer with specific action.

The latter I would define as a catalytically acting body affecting only substances of specific structural and stereochemic arrangement. The action of such a catalyzer is in many respects analogous to that of a ferment. Ferments as well as catalyzers remain unaltered by the chemical process which they bring about. The iodin very likely tends to combine with a constituent of the normal or pathologic tissues or with one of the disintegration products due to its own catalytic activity. This (presumably hypothetical) compound is of a very unstable nature, undergoing dissolution the moment it is formed, setting free thereby the iodin which may continue to break up catalyzable structures and substances. In reality, however, the iodin no doubt loses a part of its catalytic energy when this has been actively engaged for some time. This opinion, though, I base on purely clinical grounds.

I would venture too far into the realm of speculation were I, on the strength of our meager knowledge concerning the specific catalyzers, to go into details of iodin-catalysis at the present time. I do not know whether iodin exhibits catalytic properties when administered in larger amounts, in other combinations or taken by the mouth; whether it is a catalyzer *per se*, or only when forming a salt or when in proteid combination; whether its catalyzing energy is preserved or evoked by the formic acid, or whether, on the contrary, iodin-catalyzation enhances the activity of the formic acid.

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[3] In leukemia formic acid occurs as a rule in greatly augmented quantities and may be found in the marrow, the blood, urine, saliva and sweat. Its augmentation may be due to the same actor which gives occasion to the absolute increase of uric acid in he blood of leukemics—deficient oxidation. Ordinarily, the surplus ormic acid in the tissues and body fluids is further oxidized to arbonic anhydrid and water.

THERAPEUTIC EFFECTS.

The primary therapeutic effect of the iodin-formic acid in chronic ulcerative phthisis appears to be a local one. I base this opinion on the following clinical facts, viz.: The pain in the chest, when present, is relieved after a few injections; the cough soon loses its paroxysmal character when the patient is under the influence of the drug; the expectoration, which may have been profuse, becomes scanty and attains a less purulent character, and the bacterial flora of the sputum (with exception of the bacillus tuberculosis) becomes perceptibly reduced after ten or fifteen injections. The elastic tissue fibers and the tubercle bacilli do not disappear so readily from the sputum, but in the majority of cases they are no longer found in it after from five to seven months' treatment with the iodin-formic acid.

The 1 per cent. solution participates in the removal of the decaying material from the lungs and tends to check ulceration and caseation. Its continued administration favors sclerotic metamorphosis of the margins of the ulcerating area and subsequent fibrosis and calcification of the entire diseased lung tissue. This I have not only demonstrated by an overabundance of clinical material—the transformation of instances of ulcerative phthisis into such of fibroid phthisis—but also by direct pathologic evidence on the autopsy table.

The mediate therapeutic effect of the drug is constitutional. It would be mere conjecture to explain the beneficial influence of the solution on the weakened organism beyond that which accrues from its local operation. Still, iodoformic acid seems to influence assimilation and anabolism in an independent and rather direct way, which is evidenced by the facts that the nourishment is better utilized and that the patient begins to gain in weight soon after the treatment is instituted and before any appreciable local changes have been brought about. Such local changes of improvement are, of course, preceded by the, usually early, relief of the symptoms mentioned heretofore.

THE ACCESSORY TREATMENT.

The cases of chronic ulcerative phthisis to which iodoformic acid is administered, apart from a few exceptions, demand but very simple supplementary treatment. Of course, special remedial measures should be prescribed when the various complications urge their employment. This may be necessary in the beginning of the treatment, before any influence of the iodo-formic acid has made itself noticeable. For the cough and pain codein alone or in combination with expectorants may be useful at the outset. During the first weeks of treatment, when the cough demands it, I usually order creosote in one or two drop doses, combined with tr. gentianæ or ess. pepsini, to be taken every second or third hour. After a month or so it will be found that no additional medication is called for as a rule.

The principal accessory treatment consists in the admission of sufficient and good air and in the plentiful ingestion of readily anabolizable material. It goes without saying that mountain air and that of pine forests are best suited for the phthisic. The great majority of instances of phthisis treated by me with the formic acid-iodin solution were clinic cases which could not afford to give up work and to sojourn away from their home for any length of time. They had to get along on city air and they did generally pretty well on it. The patients should be minutely instructed as to the art of breathing, and nasal obstructions interfering with respiration ought to be removed at the earliest opportunity. Lung gymnastics should be practiced a number of times during the day, especially in the morning and evening. These restorative gymnastics may be performed in the open air or in a room with the windows wide open. An air bath of from fifteen to thirty minutes' duration taken at bedtime may prove conducive to a restful sleep and tends to regulate the body heat and to stimulate the skin and the internal organs.

Concerning the nourishment of the consumptive, I can only reiterate what I have said on former occasions.[4] Overfeeding alone does not prevent further bodily decline; it may even give rise to an aggravation of the patient's condition by overburdening the digestive organs and by overproduction of alimentary poisons. It is futile to try to check bodily decline by forced feeding without taking into consideration the organs of digestion and the general assimilatory capacity.

> The treatment of the so-called wasting diseases resolves itself in the prevention of waste. The secret of success in the treatment of consumptive affections lies in the proper management of the organs of digestion and assimilation. The most potent factor in maintaining physiologic digestion and assimilation is an adequate food-supply, that is, a nourishment not only sufficient as regards the quantity, but one which the declining organism with its weakened or impaired organs is able to anabolize; one, in other words, which furnishes the needs of the specifically affected and altered organism. If the food is not adapted to the digestive and assimilative capacity of the patient, he will slowly starve, although his food-receiving organs may be filled with ingesta to the point of bursting. (Stern: The Yolk Cure, etc.)

The consumptive receives, as a rule, sufficient amounts of carbohydrates and proteids with his food. What he is in need of is fat, assimilable fat, fat which does not give rise to intestinal irritation, fat which is not objectionable to the taste, fat which may be ingested in large quantities and for a long period. The fat of the yolk of the hen's egg is the only one which fulfills all these desiderata. The details concerning the "yolk cure" will be found in aforementioned papers. On this occasion I only wish to state that yolks should occupy a prominent place in the dietary of the patient affected with chronic ulcerative phthisis. I have found that an ordinary mixed diet in which the fat substances were simply replaced by yolks sufficed in many instances to bring about augmentation of weight and strength. If a patient, who is not in the last stages of phthisis, fails to build up while under the "yolk cure" we may feel almost certain that the latter is not properly executed, that is, the food partaken of, together with the yolks, is either not the right kind or is ingested in amounts not suited to the alimentary condition. When a general improvement of the patient's condition has taken place, it is no longer essential that the yolks form the only fatty ingesta; other fats, in limited amounts, may be added to the diet. If the yolks are taken for a protracted period—which ought to be the rule in any consumptive disorder—the proportion of the various types of nutritives may and must be altered according to the prevailing alimentary circumstances.

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[4] Who Is Underfed? Med. Rec., May 21, 1904; and The Yolk-cure in the Treatment of the Underfed, Med. Rec., Dec. 31, 1904.

The whole egg may be well tolerated in certain cases; their amount during the day should, however, never exceed five or six on account of renal irritation and alimentary albuminuria which are apt to supervene when larger quantities of eggs are ingested. The frequent occurrence of alimentary albuminuria following the affluent eating of whole eggs (especially when they are in the raw or semi-raw state) ought in itself be sufficient to stop the promiscuous employ of this article of food in the treatment of phthisis. Again, the "idiosyncrasy" for eggs is solely caused by the white of the egg. The augmented evolvement of hydrogen sulphid and ammonia in the alimentary tract when half a dozen or more eggs are consumed during the day is due to the disintegration of the white of the egg and not to that of the yolk.

I have not met with an aversion for yolks in a single case of chronic ulcerative phthisis. From ten to forty yolks may be given during the twenty-four hours. The yolks should not be cooked but may be added raw to warm dishes and beverages. They may be incorporated with almost any foodstuffs, and with many liquids, as soup, milk, coffee, whisky, wines, etc. Variety of combination, incorporation and flavor facilitate the execution of the "yolk cure" and favor its continuation for almost any time.

The ingestion of large amounts of milk as advocated by many phthisiologists is not necessary when the "yolk cure" is being executed. Again, certain quantities of milk (skimmed milk when starting treatment) may be given together with the yolks, provided the patient's alimentary canal is in a proper condition to receive it.

CASE HISTORY.

History.—T. T., aged 18; native of United States, elevator ittendant, was referred to me by courtesy of Dr. E. Blasucci Jan. 2, 1907. He complained of weakness, loss of weight, oughing spells, pain in the chest, recurrent slight hemoptysis, ever and anorexia. He had been treated by a number of physicians for the greater part of last year for "chronic bronchiis," but gradually declined. The family history pertaining o phthisis, as far as the patient knew, was negative.

Examination.—The physical examination showed a height f 5 feet 9 inches, illy developed muscles and an emaciated ody weighing 117 pounds. The abdominal organs in a physcal sense appeared quite normal. The heart in the recumbent osition exhibited a very slight friction of the first mitral, and ome accentuation of the second tricuspid sound. Pulmonary nd aortic sounds seemed normal. The pressure of the right adial artery amounted to 130 mg. Hg, as ascertained by otain's instrument. The temperature (rectal) was 100.8 F. he chest appeared long and flattened, the ribs, and especially oth clavicles, prominent. There was insufficient expansion of nd increased tactile fremitus over both apices. Increase of actile fremitus was also observed at the base of the right lung. ercussion elicited comparative dulness in the clavicular reions and the supraspinous fossæ. Auscultation on deep inpiration revealed bronchial inspiratory murmurs and râles. xpiration was somewhat prolonged, and vocal resonance was ncreased. The sputum, which was quite scanty in amount, howed the presence of a goodly number of tubercle bacilli.

To allay the bronchial irritation, small doses of creosote (1 rop) in essence of pepsin were given during the first six weeks' reatment. The average number of yolks consumed per day as fifteen. The abbreviated table, in the opposite column, of he result of treatment is self-explanatory.

Subsequent History.—Examination of the chest March 4 howed improved expansion of its middle and lower portions. he tactile fremitus, distinctly more pronounced on the right than on the left side of the thorax, was a good deal less on both sides than on the first examination. The increase of tactile fremitus at the base of the right lung had continued at about the same degree. The dulness had remained unchanged in area and pitch. Expiration still appeared prolonged and vocal resonance increased. Light bronchial inspiratory murmurs and râles could be elicited.

April 19 the patient was presented before the Manhattan Clinical Society and examined by Drs. Morrissey and Reilly. They reported to the society that the apical expansion was diminished, that there existed a tympanitic-deadened sound over the apices, especially on the right side, and that there was on the same side diminished respiratory murmur and some harsh vesicular murmurs over the left lung. They expressed the opinion that the condition had become quiescent and that shrinking of the lung tissue and fibrous tissue formation in the walls of small cavities, situated in the apices, had taken place.

May 4 an examination by the Roentgen ray did not reveal any positive data, and auscultation, performed on the same day, demonstrated expiratory movements of normal duration and nothing abnormal besides some slight friction sounds over the right apex.

May 26 the auscultatory findings were about the same as on the previous examination.

June 24 abnormal sounds in the lungs could no longer be detected.

The patient returned to his work March 31 and continued to work without interruption. He now occupies a much more responsible position than formerly. He is in the open air whenever he has occasion to be. He performs his lung gymnastics several times during the day. He feels very well, is quite strong, continues to gain in weight and resistance and was not at all affected by the hot weather in June and July. The patient continues under treatment.

Table Showing Detailed Results of Treatment.

Date 1907.	No. drops sol. inject	Rectal temperature. F.	Sweating.	Pain.	Cough.	Expectoration.	Tubercle Bacilli.	Weight in pounds.	Remarks.
Jan. 2.		100.8	++	+	+++	+	++	117	18 hrs. in bed, 6 hrs. in open air daily.
Jan. 4.	20	100.8	++	+	+++	+			
Jan. 6.	20	99.8	++	+	+++	+			
Jan. 9.	20	99.6	+	+	+++	+		123¾	
Jan. 12.	20	99.6	+	—	+	+		127	In country, open air.
Jan. 17.	20	99.8	+	—	—	+	++	130¼	
Jan. 22.	30	99.6	+	—	—	+		130½	In bed 12 hours, in open air 10 hours.
Feb. 3.	30	99.0	+	—	—	—		132	Every week one or two days in country; always in open air from 9 a.m. to 5 p.m.
Mar. 21.	30	99.3	—	+	—	—		138	
Mar. 31.	20	99.6	—	—	—	—		139	Temporary permission to return to work.
May 1.	40	99.6	—	—	—	—		143	Working without interruption.
June 3.	30	99.0	—	—	—	—		146	
July 18.	40	99.4	—	—	—	—		148	
July 27.	40	99.4	—	—	—	—		142½	Worry over business troubles of father.
Aug. 5.	40	99.4	—	—	—	—		147½	Works in father's store.

Explanation of the symbols used in table: — absent; + present in a minor degree; ++ present to larger extent; +++ present in highest degree.

Specific Urethritis.—In *Central States Medical Monitor*, N. E. Aronstam states that gonococcic urethritis is no longer regarded as a mere local affection; it is beyond doubt a far-reaching constitutional disease, and the practitioner is committing a criminal offense against his patient as well as against the integrity of society at large, by intimating to the patient that this malady is not worse than a "cold." Such laxity betrays an unpardonable gross ignorance on the part of the physician.

Clinical Notes

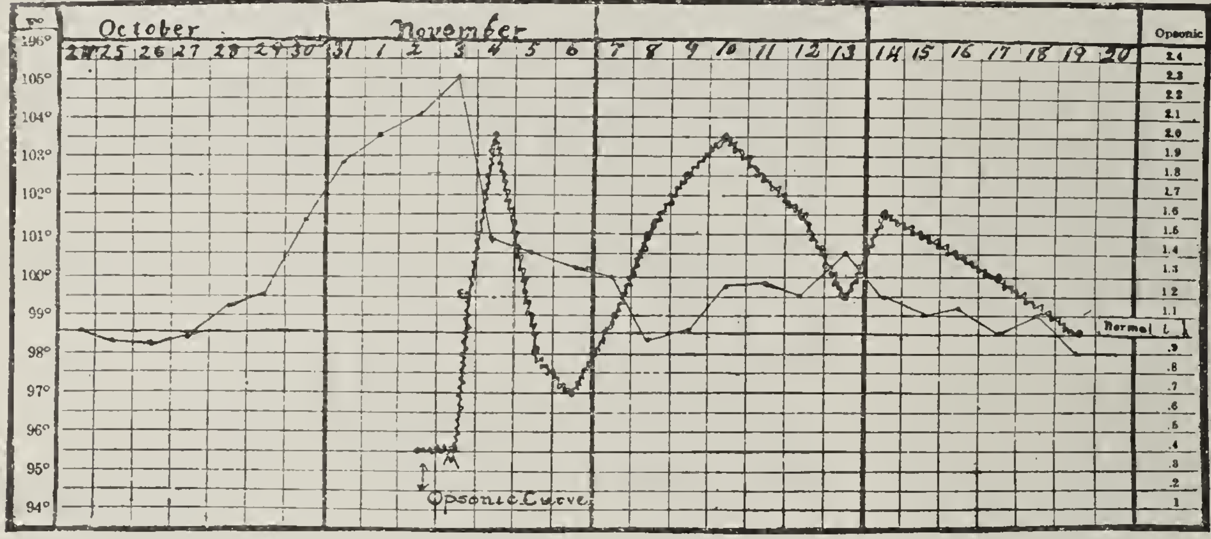
GENERAL SEPTICEMIA TREATED BY BACTERIOTHERAPY.

BY WRIGHT'S METHOD OF ESTIMATING THE OPSONIC INDEX AND INOCULATION BY A VACCINE PREPARED FROM ORGANISMS FOUND IN THE PATIENT'S BLOOD.

G. MARTYN, M.D.
LOS ANGELES, CAL.

The patient, a young married woman of 27 years, was seen by me in consultation with Dr. J. Park Dougall, on Nov. 1, 1907. Her previous history is as follows:

On December 7, 1906, she had a miscarriage at the seventh month of pregnancy, the fetus being dead. On October 21, 1907, Dr. Dougall was called to find another miscarriage threatening; fetal movement was apparent until the 26th. On the 27th, hemorrhage occurred, with loss of amniotic fluid, and labor pains coming on, she was delivered of a dead fetus extremely ecchymosed. The placenta and membrane came away naturally within an hour. The lochia were normal up to the 30th, with temperature 99. On that date the patient had a rigor, followed by a temperature of 102 and suppression of lochia. Curettement was done thoroughly at once, and the uterine cavity was swabbed out with carbol and iodin, frequent douches of 1 to 1,000 biniodid of mercury being given.



Combined temperature and opsonic chart in a case of general septicemia.

During the night the patient was very prostate, and the temperature rose to 103, with delirium and thready pulse. Strychnin was given hypodermically, on the morning of the 31st, the uterus was again curetted, and 10 c.c. of antistreptococcic serum injected, a general septicemia having developed. During that night, strychnin and brandy were given, but notwithstanding this the temperature on the morning of November 1 was 104, with great prostration.

Dr. Dougall then asked me to see her, with the hope that possibly the use of a homologous serum, used in conjunction with the opsonic index, might be beneficial. I found the patient difficult to rouse, with a rectal temperature of 104, and pulse correspondingly rapid. An examination of the chest and heart showed nothing abnormal and the urine contained no albumin. She was wandering mentally, and had well marked rigors. There seemed to be no pain on palpation of the abdomen, and the discharge per vagina was slight, but sour in odor. Three agar cultures were made, each one from scrapings of the uterine cavity; from blood withdrawn from the median basilic vein, and from blood drawn immediately after a rigor, under strictly antiseptic precautions. Frequent douches of 1 to 1000 biniodid of mercury were given, and the bowels kept open.

Realizing that this was probably a case of streptococcus infection, and the serum used the day before having no effect, 10 c.c. of polyvalent antistreptococcic serum were injected, but no appreciable effect, either on the temperature or comfort of the patient was noticeable.

On the morning of November 2 a troublesome cough with mucous secretion tinged with blood, was first noticed, and on examining the chest well marked scattered râles were found. There was a tricuspid murmur with pulsation of the veins in the neck; also marked enlargement and tenderness over the liver. The patient was steadily growing worse and 10 c.c. of polyvalent antistreptococcic serum were now injected, the temperature then being 104 and pulse 126. This also produced no beneficent effect. In the evening the patient's temperature was 104.6, pulse 134. Another 10 c.c. of serum were injected. The patient was very weak and rambling, nourishment being administered with extreme difficulty. Brandy, strychnin and strophanthus were given freely.

On this morning, Culture No. 1, from the uterus, showed a luxuriant growth which, on examination, proved to be a mixed growth of staphylococci and streptococci. Culture No. 2 showed a very slight growth of streptococci; Culture No. 3 showed a luxuriant growth of streptococci. The patient's opsonic index to this streptococcus was 0.4. No doubt was now entertained that the toxemia was due to this organism, and a vaccine was accordingly made from this growth following Wright's method.

November 3, at 9:30 a. m., I injected 10,000,000 dead and sterilized streptococci. At that time the pulse was very flickering, the extremities were cold, color dusky, with hectic patches on the cheeks. The injection was made in the abdominal wall, the opsonic index then being 0.4. Forty grains of citric acid were given every four hours; at noon the temperature was 103 F. and by the evening of that day it had fallen to 100.6. The opsonic index had risen to 1.2. The patient took nourishment well, and was conscious. At times the pulse became very flickering, but brandy and strychnin invariably carried her over. The next day the opsonic index had risen to 2.0, the flood tide of the positive phase, and her temperature had come down to 100.8. On the 5th, the index dropped 0.9. The patient's general condition was not favorable; she remained in a low asthenic condition, and therefore another injection of 10,000,000 dead and sterilized streptococci was given. At 9 o'clock the next day the temperature was 99.6 and opsonic index had dropped to 0.7. At 3 p. m. the temperature was 102.6. and the general condition was anything but satisfactory. An injection of 12,500,000 was given at once. The temperature by midnight was 99.8.

On the 7th, the opsonic index had risen to 1.1, and the average temperature of the day was 100. On the 8th, the opsonic index had risen to 1.5, and the temperature had fallen to 98.6. The cough and expectoration had gradually decreased; the tricuspid murmur also disappeared, and the liver, though slightly enlarged, was not tender to palpation. The mental condition, which had been of low typhoid type from the 2d to 5th, began to clear on the 6th, and by the 9th she was quite herself, taking nourishment well. The citric acid was stopped, and a more fluid diet given. From the 3d to the 9th the fluids had been restricted in accordance with Dr. Lawson's researches on the excretion of the opsonins. He has proved that both by sweat and urine the opsonins are freely excreted in an inverse ratio to the amount in the blood.

On the 10th the opsonic index reached the full tide, namely 2.0, the same as on the 4th, the temperature being 99.6. On the 12th the opsonic index was 1.6, a much more gradual fall being shown in this curve, as on the morning of the 13th, the index had fallen to 1.2. I gave an injection of 5,000,000. This had the desired effect, and on the 14th the index again registered 1.6. From this point on the patient steadily improved, the temperature coming down gradually, the opsonic curve also slowly pursuing its course to normal. Convalescence was uneventful; the dilated heart returned to its normal size and the murmur disappeared.

This case presents many points of interest. I believe it is the first case of general septic infection in California treated by Wright's method, closely using the opsonic index as a guide to the use of the vaccine.

The attitude of the medical profession to serum therapy and its special technic is, and rightly has been, one of cold scientific conservatism. Facts alone speak; all else must be rejected unhesitatingly. Those of us who have seen Wright's work in London can have no doubt as to the large field of usefulness it has opened up. Disappointments we shall have, but I am convinced it will be rather the pupil's error in technic than a failure in the master's theories and facts.

There are three points in this case to which I wish to draw special attention:

1. The cough, expectoration and endocarditis which appeared on the 2d are interesting as showing the attempt nature herself makes at repair; namely, the excretion of toxic material through the mucous and endothelial membranes, with their consequent irritation.

2. The almost complete failure to isolate an organism from blood culture No. 2, whereas No. 3, taken immediately after a rigor, gave a luxuriant growth. This teaches an important lesson in blood culture during septic cases and the mixed infection of pulmonary origin.

3. The absolute failure of the commercial polyvalent sera, three of them being tried on consecutive days, the temperature gradually rising and the general condition of the patient rapidly growing more serious. There are undoubtedly many families of streptococci and the success of the homologous, as ofttimes the failure of the commercial sera undoubtedly is due to the fact that in Wright's method the vaccine is made from the identical family causing the toxic symptoms; whereas with the commercial sera it is just a chance whether that particular family of germs is represented in the serum.

In the combined temperature and opsonic chart shown the daily temperature marked is the average of the day taken every two hours.

A CASE OF EPIDERMOID CARCINOMA OF THE INFERIOR MAXILLA.*

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According to Mikulicz and Kummel in their work entitled "Die Krankheiten des Mundes," there are two kinds of carcinoma which occur in connection with the maxillæ. 1. The flat, superficial epithelial carcinoma arising from the mucous membrane of the alveolar processes. 2. The carcinoma which makes its appearance first in the body of the maxillary bone. The above authors say:

> The few cases of carcinoma of the alveolar processes which we have had the opportunity to see, came under observation during an advanced stage, so that no definite statement could be made as to their beginnings. It appears that the lesions of the mucous membrane made by the extraction of carious teeth gave the first impetus to the development of carcinoma. We find in the later stages the alveolar processes (the teeth are usually absent in the affected area) covered by an irregularly circumscribed swelling, usually much notched and bleeding easily. The boundaries of this swelling are by the eye and finger differentiated from the surrounding parts as a firm rim. At first the form of the alveolar process is retained; later the bone is transformed more and more into the cancerous mass, and finally the loss of substance of the maxilla through the ulcerating tumor becomes evident.

It is the object of the present paper to give the clinical history of a case of epidermoid carcinoma arising from the mucous membrane covering the inferior maxilla and to be classed under the first kind mentioned by the authorities above quoted.

Patient.—A woman, aged about 65, whom I was called to see in order to relieve discomfort, which was supposed by the patient and her family to be caused by the teeth.

Examination.—On the outside of the face there was seen a swelling over the body of the left inferior maxilla half way between the angle and the symphysis. The swelling was as large as the half of an English walnut; it was not sore to touch, and the submaxillary glands were not enlarged. The patient stated that about three months previously she had noticed something unusual in her mouth. On examination of the oral cavity the lower jaw was found to be edentulous on both sides from the first bicuspids back to and including the third molars. The teeth had been absent in these areas for a number of years and the alveolar processes had become entirely absorbed. The teeth from the right inferior bicuspid to left inferior bicuspid were badly decayed and broken down. Of these such as had rough edges were extracted at the first visit. On the left lower side of the jaw, extending from the first bicuspid region to the third molar region, could be seen an oblong buttonhole-like opening, the long sides of which were separated about five-eighths of an inch. On retraction of the buccal wall and opening wide the lips of the buttonhole aperture, a pocket was disclosed the base of which extended along the median line of the inferior maxillary bone from the third molar region to first bicuspid region, and included the external side of inferior maxillary bone and was reflected upward along the buccal mucous membrane. There were distinct prolongations at the extreme posterior part of the floor of this pocket and at the extreme anterior portion. The floor of this pocket when first seen was covered with a grayish film which suggested necrosis. When, however, this film was removed the floor of the pocket was found covered with a soft, easily bleeding tissue, and necrosis was considered improbable. After an interval of three days the patient was seen again and the affected parts washed out with a weak cresol solution, and arrangements were made for the washing out of the pocket after each meal. At a third visit a careful examination eliminated necrosis and any disturbance from the roots of the teeth. Induration of the buccal floor of the pocket was found to be marked. There was also marked induration of the buccal lip of the external opening. The submaxillary glands were not enlarged. The patient complained of some pain at night. A diagnosis of probable epithelioma was made.

Microscopic Findings.—Two small pieces of tissue were removed from the growth where it seemed active, also a scraping taken from the floor of the pocket. These specimens were sent to a pathologist for examination. The following report was received: Microscopic examination shows beneath the surface epidermis masses of epithelium containing numerous epithelial pearls. Occasional mitotic figures found, indicating fairly rapid growth. Between the masses of epithelium is a small amount of stroma infiltrated with numerous cells of inflammatory origin.

Diagnosis.—Epidermoid carcinoma.

Operation.—When the case had been clearly diagnosed a general surgeon was called in. He advised and performed a radical operation for the removal of the carcinoma and surrounding tissues. The operation was performed by an external incision from corner of mouth to angle of jaw. The oral cavity was thus opened. The left half of the inferior maxilla was freed from its muscular attachments, the bone was sawed through at the symphysis, then everted and disarticulated. The submaxillary glands were then removed.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

The patient did well for twenty-four hours; then suddenly the heart failed and she died on the second day after the operation.

There are several points which are emphasized by a case of this kind.

1. The importance of a thorough oral examination by the dentist of every new case which comes into his hands. This examination should start with the pharynx, include the pillars of the fauces, the tonsils, the soft and hard palate, the tongue on all sides and the oral mucous membrane. Such an examination can easily and quickly be made by using a wooden mouth spatula.

By such examinations the dentist is in a better position than any one else to discover the beginnings of new formations in the oral cavity as well as other lesions. The general practitioner commonly examines the oral cavity only when the patient has found something so unusual as to cause alarm.

The dentist, by means of his frequent access to the oral cavity, can exercise supervision over its territory and give early notice of whatever is going wrong. Unfortunately, most dentists fail to make a complete examination of the oral cavity of each patient and are satisfied to view the very limited area on which they are operating. The welfare of our patients demands a more thorough and intelligent treatment at our hands, for when serious new growths occur in the mouth there is hope of a cure only when diagnosed in the very early stages, at a time when they may not be noticeable to the patients themselves.

2. The dental practitioner should have a sufficient knowledge of dental pathology to enable him to recognize lesions in the oral cavity when they are present. It is commonly said that for the dental practitioner manual skill in repairing the destructions of caries is the all-important thing. But it is evident in view of cases of the kind now under consideration that the intellectual, scientific side of the profession needs in a large degree to be developed if we are to make the most of the opportunities which a frequent inspection of the oral cavity brings us. Without such development of the scientific side of the profession the dentist will fail to be of service to his patient at a time when not the contour of his tooth is at stake but his very life.

DISCUSSION.

Dr. V. A. Latham, Chicago, thought that the caries of the teeth in Dr. Potter's case was due to narcotic poisons and toxins generated, perhaps, by the new growth. She emphasized the necessity of a very critical examination of anything that verges on hypertrophy of the tissue and on hyperplasia. In those cases where the third molar is irritated there is a prolongation of the epithelium on the point which rises up and becomes irritated, showing a growth in and out, and it is a very common seat of carcinoma, and dangerous on account of spreading by contiguity which has often been denied as a method of growth. Dr. Latham agreed with Dr. Potter that if the patient had been seen earlier in all probability he would have been alive to-day.

Dr. E. A. Bogue, New York City, congratulated Dr. Potter for calling attention to, not only the possibility, but also the urgent necessity, for the careful physical examination of the mouth—the entire oral cavity.

Dr. James E. Power, Providence, R. I., also emphasized the importance of a thorough examination and advocated the special skill of the pathologist in such cases, because it is impossible for any man to be sure of his diagnosis in every case of malignant disease. It is one of the duties physicians owe the patient, and justice demands that the patient be given the benefit of every method devised by science, either in the diagnosis or treatment of a case. Another question that suggested itself to Dr. Power concerning carcinoma is, where are such cases inoperable? He thought that in the case cited the disease had progressed so far that operation meant death in 24 hours. Three, four or five days in the length of a patient's life will sometimes mean a great deal from a legal standpoint. That is, a number of things could be transacted in that length of time by the individual that would simplify the future condition and future work of the relatives of that patient. In some cases an operation reduces the life of the patient, and in such cases nothing is gained, especially when the operator knows that the patient will die, whether he is operated on or not. Dr. Power has made it a rule to regard all growths in the mouth as malignant until it is proved that they are not. To be positive, even where it is malignant, he has the pathologist make the examination of the specimen, and in many instances, he does not decide the question of malignancy from one examination or from one report of the pathologist. If he is reasonably sure from the general appearance of this tumor that it is malignant, and if he gets a negative report from the pathologist, it is, he thought, reasonable to suppose that he may not have got the tissue which was involved. Another specimen, and still another specimen, is submitted, until the true condition of the growth is determined. Dr. Power emphasized the importance of the early recognition of this condition, when the aid of the pathologist should be solicited, and no man, he said, regardless of his experience, should decide positively whether or not a growth is malignant until the special skill and scientific knowledge of men who are engaged in this line of special work determines, or assists in determining, this most important question.

Dr. M. I. Schamberg, New York City, referred to a case in which he operated recently for a malignant growth involving the submaxillary region, which started from the mucous membrane of the mouth and passed down through and affected the root socket, causing a partial erosion. Very recently he saw three cases of epulis. One specimen was a growth as to which the pathologist gave a negative report, in the first place, concerning malignancy; but the second report, after submitting other sections cut from the same growth, proved the growth to be malignant. Two out of three of the epuli were malignant growths. Dr. Schamberg pointed out that early operation would effect a more thorough removal of the growth, otherwise the chance for an ultimate, absolute cure is a remote one. Dr. Schamberg sounds a note of warning against the view which many general surgeons take, that many lesions of the mouth are of major importance. Dentists know that these minor conditions, such as alveolar abscesses or a fungoid or hypertrophied membrane about the orifice of a fistula, may be amusing to them. He referred to a case which, had it fallen into the hands of a general surgeon would, he thought, have been practiced on for malignant tumor, whereas it was a case of an encysted tooth which was located by means of the radiograph. The symptoms in the case, the peculiar color of the patient, the involvement of the submaxillary lymph nodes, and everything in the case, pointed toward the presence of a malignant growth, whereas it was merely an encysted tooth. He also advised very careful examination of tissues removed from the mouth because granulation tissue may be mistaken for a sarcoma.

Dr. William H. Potter, Boston, Mass., stated that the dentist has an extraordinary opportunity to observe the pathology of the mouth and yet he does not, as a rule, utilize that opportunity. It is possible for him to work for hours over a portion of a tooth and yet know absolutely nothing of the general condition of the oral cavity. He urges the use of wooden mouth spatulæ in the examination of patients, because they open up the oral cavity for examination much better than mouth mirrors.

Disturbances in Vision in Connection with Constitutional Affections.—Zehden discussed in the *Therapeutische Monatshefte* for January, 1907, the visual disturbances that may accompany posthemorrhagic, simple or pernicious anemia, chlorosis, leukemia, diabetes and gout. He warns against specialists treating the visual disturbances without regard to the constitutional trouble.

POTASSIUM CYANID POISONING.

J. W. NOLAN, M.D.
CHITTABALBIE, KOREA.

Cyanid of potassium poisoning is not infrequent among workmen who "clean up" in the cyaniding process of gold reduction, but is rare in private practice.

After the auriferous ore has been crushed to a fine sand through which an 0.5 per cent. solution of cyanid of potassium is allowed to filter, the solution passes into boxes filled with zinc shavings on which gold is precipitated from the auro-potassic cyanid in the solution. It requires some little force to dislodge these gold particles, and consequently scrubbing the zinc shavings with the hands is the method usually employed. It is in this scrubbing process, while the hands and arms are necessarily bathed in the solution that poisoning occurs with greatest frequency. Different individuals exhibit different degrees of susceptibility, some being apparently immune. The temperature of the solution greatly modifies the ease with which the effect is produced, the greatest number of cases occurring during the cold season when the solution is, of course, very cold.

CASE 1.—A husky young man of 23 was having his first experience in scrubbing the zinc shavings. An itching sensation immediately followed the immersion of his hands n the solution. Scarlet specks soon appeared, irregularly disributed over the area with which the solution was in contact. These scarlet specks quickly enlarged until a well defined circumscribed area was produced, these finally coalescing and forming a large scarlet area, but the initial specks or papules maintained their identity, being slightly elevated and of a deeper color than the neighboring skin. The itching continued for about two hours and a burning, uneasy sensation developed which persisted until the redness began to disappear, twelve hours later. Slight giddiness and headache were the only constitutional symptoms.

A similar case occurred in a well-nourished metalurgist. I put the hands and arms of these patients nto a very dilute solution of hot sulphuric acid for several minutes every hour. The redness soon began to fade and had disappeared altogether in twelve hours. The following formula shows the chemical reaction:

$$H_2SO_4 + 2\,KCN = 2\,HCN + K_2SO_4$$

The prussic acid evaporates and is absorbed and elimnated rapidly and the heat facilitates the absorption and elimination of the sulphate of potassium.

A CONVENIENT WAY OF KEEPING TAB WHEN COUNTING IN OPSONIC WORK.

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One of the drawbacks to opsonic index work is the arge amount of very trying microscopic work required. Anything that would tend to reduce this time or the train on the eyes would seem of value. Simon has proposed a technic according to which the percentage of phagocyting leucocytes is ascertained, no account being taken of the number of bacteria per leucocyte.

The following suggestion will apply whether the original technic of Wright and Douglas is used or Simon's, with slight adjustment to the particular case. When counting in determining the Wright index, one observes the number of bacteria in each of several leucocytes, carrying the separate numbers "in his head" until he has as many as he can carry, say five to ten; then he jots them down, thus: 1, 2, 0, 5, 0, 0, 1, 0, 4, 2, etc., and after a sufficient number has been counted, the figures are added up and the calculations made. I take it that the most trying part on the eye is the frequent accommodation and reaccommodation of the eye to the microscopic field and tab figures, etc., as well as to the very different amounts and often qualities of light. I believe this is largely obviated by a method which has been used in my laboratory for several months.

A box containing 50 or 100 beans or beads (I use 50 beans) and a similar empty box (the boxes in which microscope slides come answer well) are placed on the table, at convenient places, on the right of the microscope. A handful of beans is taken up in the right hand, with which the mechanical stage is manipulated, and one bean is dropped into the empty box for each polymorphonuclear leucocyte observed, the left hand manipulating the fine adjustment, as usual. One counts the bacteria as observed; for example, with the above he would say: 1, 3, 8, 9, 13, 15, etc., until the box is empty. The number counted would be the number in 50 cells. There is no putting down and adding up of figures and the eye has not been removed from the field during the time. If more than 50 cells are to be counted, put down the number, or carry it on, as you preferred, exchange the position of the boxes and proceed as before.

When counting the phagocyting cells only for the Simon index, one may proceed as before, dropping a counter for each "poly" seen and counting as one goes, only those cells phagocyting, as 1, 2, 3, 4, 5, 6, etc. If 100 counters are used, the number counted phagocyting would be the percentage of phagocyting leucocytes.

If one does not use a mechanical stage he can modify the above to suit his convenience.

Crude as the method seems, only a trial is necessary to convince one of the advantages in time and eye saving.

A DISPLACED SIGMOID IN A CASE OF APPENDICITIS.

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FORT COLLINS, COLO.

The following case is an interesting one because of the position of the sigmoid and the failure of the usual rule for finding the appendix, that of following the longitudinal muscular band of the presenting large intestine to its pelvic end:

Patient.—J. A., aged 35, a lather by trade, was referred to me by a physician in a neighboring town with a diagnosis of appendicitis. The history was the usual one of an acute attack in mild form lasting four days with no improvement. Examination showed tenderness over McBurney's point with muscular rigidity; temperature was normal and pulse 85.

Operation.—In operating, the gridiron incision was used and the large intestine immediately presented itself in the wound. It was drawn out from the pelvic end, following the longitudinal band of muscular fibers, and search was made for the appendix. The lower end of the intestine seemed so deep in the pelvis that suspicions were aroused and the introduction of a rectal tube showed this portion of the intestine to be the sigmoid instead of the cecum. Tracing it upward, it was found that instead of going up to the liver region, as might be expected in a case of inverted viscera, the colon went across to the splenic region. The sigmoid was dropped and the opening enlarged so that the abdominal cavity could be inspected more freely, and the cecum with the inflamed appendix was seen lying up under the liver. The appendix was removed and the recovery was uneventful.

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[*For other information see second page following reading matter.*]

SATURDAY, FEBRUARY 1, 1908.

PHYSICIANS AND VIVISECTION LEGISLATION.

The endeavor now being made in the State of New York to secure the adhesion of the medical profession to a legislative bill providing for governmental regulation of experiments on animals, brings clearly before physicians the question of the attitude they should assume toward such legislation in general. No one competent to treat those suffering from disease can deny the overwhelming value to medical practice of the results of animal experimentation, for a physician seldom prescribes for a patient without making use of the knowledge thus gained. Nevertheless, the question is occasionally presented to members of our profession, and is listened to receptively, especially by those who are not familiar with antivivisection agitation: May it not be advisable to support moderate specific legislative control beyond that which is obtained through the customary laws relating to cruelty to animals in general?

In a democracy there are two criteria for restrictive legislation, namely, past abuse of liberty, and demand of public opinion, and it may be well to apply these tests here. The history of experimentation on animals in the United States affords overwhelming proof that the privileges of this method have not been abused.

Almost without exception those whose tastes lead them into the scientific work of laboratories are men of high ideals and broad sympathies: and those who investigate living organisms are no exception to this rule. The deliberate infliction of wanton cruelty on organisms is neither their desire nor their practice. What they have done in this country in the past does not give support to the view that their work in the future ought to be restricted by law. Nor does public opinion demand such legislation. The great body of the people, in so far as their views are expressed privately, are not in sympathy with it. They recognize the necessity of this method of research, and while abhorring cruelty in general they are willing to trust the men who direct and perform experiments, as they trust their own physicians. There never has been exhibited in this country any evidence of allegiance to the notion of restrictive legislation save in the case of a very few. Whenever there has been agitation it has been carried on by single individuals or small groups of individuals, who frequently have shown the characteristic symptoms of a mild psychoneurosis, and whose zeal has been disproportionate to the balanced judgment of the masses. Thus, where neither past experience nor the people demand legislation, such legislation should not be enacted. Thus far, the good sense of our legislators has prevented the enactment of specific antivivisection measures. The first attempt of the kind was made in the state of New York in 1867. Further attempts were made in that state up to 1883, after which the matter slumbered there for twenty-four years. Last year, in New York, a bill was introduced, and this year one has already appeared, while a sponsor for a second is being sought. Various bills have at times been brought before the legislatures of Massachusetts and Pennsylvania, and similar legislation has twice been attempted in Illinois. A notable attempt to restrict experimentation in the District of Columbia was made in the Senate of the United States in 1900. All of these attempts, without exception, have failed, and in no state is legitimate experimentation hampered. It is interesting to contrast with this record the example of England—the only country, so far as we know, in which such restrictive laws have been enacted—where, in 1876, a very obstructive bill was introduced into Parliament. A great deal of testimony was taken, there was general agitation of the subject, and, largely owing to the compromising spirit of scientific men and the medical profession, the bill was allowed to go through.

A few years ago Lord Lister said of this law: "Our law on this subject should never have been passed, and ought to be repealed. It serves no good purpose and interferes seriously with inquiries which are of paramount importance to mankind."

Sir Lauder Brunton says of it: "The passage of the antivivisection act in this country has interfered to an enormous extent with physiologic work, and in order to do some of my investigations, the object of which was simply to find out what the action of certain medicines was, that one might apply them to the relief of suffering mankind, I have been obliged to go to Paris to carry on my research in a foreign laboratory."

The distinguished physiologist, Sir Michael Foster, wrote in 1890 to a professor in an American university as follows, of the effect of the English law: "Men go out of England to do particular experiments, and undoubtedly the act prevents men staying in England, or coming to England to carry on research requiring vivisection. . . . I have always said, and always shall say, that the necessity of a restrictive law has never been shown. The English commission failed to demonstrate any abuse such as could justify the measures adopted, and from what I know of America and Americans, I am confident that no such laws are needed with you. Indeed, my objections to the act as a politician are quite as strong as my objections as a physiologist. The act is stamped with that mark of bad statesmanship, meddlesomeness. . . . If the time were to come over again I would fight tooth and nail against any act at all, on the ground that all such legislative restrictions are unnecessary; that instances of cruelty—that is, of heedless causing of pain on the part of physiologists—are to say the least, rare, and that public opinion, aided by the ordinary law, is quite sufficient to cope with such cases. . . . My advice to you is, accept no compromise whatever; refuse to admit for a moment the need of such a law, and fight against it everywhere." Undoubtedly the law in question has greatly hampered the advance of medical science and education in Great Britain.

In view of what is here said it ought to be clear that physicians should continue to present a united front in opposition to specific legislation providing for the regulation of experiments on animals. Foster's advice to "accept no compromise whatever" ought to be heeded. It would be a sorry day for American medicine and physiology if legislation of this nature were to be enacted.

CONGENITAL OR IDIOPATHIC MEGACOLON.

The term congenital or idiopathic megacolon carries with it a definite meaning that will have considerable significance to any medical man at first sight, and yet many medical writers persist in using the meaningless synonym "Hirschsprung's disease;" and this is especially true of our German colleagues, who delight in this method of nomenclature. Furthermore, about a round dozen of these cases had been described before Hirschsprung made the subject more familiar in 1886. At present the total number of cases recorded in the current literature is not far from 150, including several reported in America, and the entire literature has been worked over recently by C. Löwenstein.[1] It seems probable, however, that this remarkable condition is not so rare as the above figures indicate, for probably the diagnosis is often not made in spite of the extremely striking features that characterize the disease.

The essential anatomic condition is a most extreme dilatation of the colon, or of some segment of it, often associated with more or less hypertrophy of the walls, and when this enormous enlargement of the colon exists in an infant or young child, which is the typical occurrence, the anatomic and clinical pictures are both so remarkable as to attract immediate attention. The majority of these cases present the following features: The patient suffers from long periods of constipation or obstipation, accompanied by an extraordinary distension of the abdomen, with pain and distress not only in the abdomen but also in the thoracic organs which are compressed by the distended bowel. Often the violent peristalsis of the hypertrophied colon is a conspicuous phenomenon, and the superficial veins may become distended to relieve the compressed intra-abdominal veins. Emptying of the rectum by whatever means affords great but temporary relief, and the prognosis is serious, especially in the congenital cases. At autopsy the distended part of the bowel, which not infrequently is the entire colon, is found filled with great masses of feces and large volumes of foul gases, and the walls are usually more or less thickened, but on neither the outside nor the inside of the bowel can be found any obstruction that explains the development of the distension and obstipation.

Hirschsprung considers this condition to be a disease *sui generis*, which results from either a fetal disease or a developmental anomaly in the nature of a "partial giant growth." Later writers have suggested that the dilatation is the result of an obstruction caused by an abnormal length and looping of the sigmoid flexure, while others have thought that abnormal valvular folds in the rectum are responsible. Löwenstein believes that the cases of megacolon in the literature should be grouped in two classes: 1. True congenital or idiopathic megacolon, the typical "Hirschsprung's disease." This form probably results from a congenital ectasia and hypertrophy of the entire colon or of certain portions, which may include the rectum; it is extremely rare, usually begins to manifest itself immediately after birth, and the prognosis is unfavorable. 2. Pseudomegacolon, which results from abnormal loopings and abnormal length of the colon, especially of the sigmoid flexure. This form may begin either immediately after birth or in later years, and there exist all transitions between this condition and the simple chronic obstipation of infancy. The pseudomegacolon type has a much more favorable prognosis, being often relieved or even cured by physical and dietetic treatment. Not infrequently, however, it is necessary to utilize radical surgical procedure, such as inguinal colostomy, enteroanastomosis, or resection of the dilated part of the bowel when this is possible; in the congenital form relief is seldom to be procured except by surgical means.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

The Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service for 1907 has just been received. A comparison of these annual reports shows a steady and continuous broadening of the functions of this service, each year developing more work that relates directly to the public health of the nation, as compared with its original functions as the Marine-Hospital Service, those pertaining to the quarantine, and the care of the merchant marine. During the past year the work of the bureau has covered investigations into hook-worm disease, plague, tuberculosis, typhoid fever, milk supply, etc. Among its important functions, as it relates directly to medical practice, is supervision of the manufacture of vaccines, such as diphtheria antitoxin, antistreptococcus serum and antityphoid serum. In conducting this work, not only are the establishments putting out these products under more or less continuous supervision, but products bought in the open market in various parts of the country are continually being tested, thus guaranteeing pure and standard products.

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[1] Centrbl. f. allg. Pathol., 1907, xviii, 929.

The work of the Hygienic Laboratory is gradually being extended, although not so rapidly as is desirable or as is necessary in the interest of public health, for the reason that a sufficient appropriation is not made. As is the case with most of our state legislatures, Congress is not at all liberal in making appropriations to be used in the interest of public health, no matter how liberal it may be in using the public's money for other purposes.

The medical personnel of the service consists only of 118 commissioned medical officers, three special scientists in the Hygienic Laboratory and 255 acting assistant surgeons. This is entirely inadequate, as the report says, "considering the enlarged activities on which the service is rapidly entering in response to public demand and the public health necessities of a growing country." The following reference is made to the work of the Council on Pharmacy and Chemistry: "The chief of the division of pharmacology is a member of the Council on Pharmacy and Chemistry of the American Medical Association. The important work done by this council and the Association in correcting some of the evils of patent and proprietary medicines is generally recognized. Some flagrant frauds have been exposed, and the profession and the public have been informed that some of the medicines widely advertised as harmless contain dangerous substances, while others claiming powerful action consist of inert and harmless mixtures."

WHAT CONSTITUTES THE PRACTICE OF MEDICINE?

The entire difficulty that has sprung up about what would seem to be one of the simplest of questions arises, as almost all such difficulties do arise, from a lack of attention to the history of the thing, as exemplified in the etymology of the name by which it is known.

There is undoubtedly a widespread idea that the "practice of medicine" derives its name from the custom of administering so-called "medicines." On more than one occasion this idea has found direct expression, or has been sustained by implication, by persons intelligent and learned enough to occupy judicial positions. This view is well exemplified in a passage quoted by an exchange[1] from a New York daily paper. The latter, speaking of the remarkable feat of Edward Payson Weston, in walking, at the age of 69, from Portland, Me., to Chicago, in less than a month, says: "But the old man's fine example as an exponent of the life of simple diet and fresh air ought to make a peculiar and effective appeal to millions who now pin their faith *to drugs and to doctors*" (italics ours). On this the *New York State Journal of Medicine* aptly comments: "The remarkable feature of this editorial is in the implication that healthful, wholesome living is not related to the medical profession so much as drugs are."

Yet a moment's reflection will show that this view is merely putting the cart before the horse. The Latin word, *medeor*, signifies to relieve, amend, correct or restore, "to heal." (The term has its origin in the verbal root, *madh*, later *med*, common in both Latin and Greek, the radical significance of which is to take thought for, to exercise care concerning—*cf.* Greek *μέδομαι, μέδεων, μέδω* also *μήδομαι, μήδεα,* and Latin, *remedium*, *meditari*, etc.) From *medeor* is derived the adjective *medicus*, pertaining to healing, and, when used substantively (*homo* being understood), a healer, or, as we now say, a physician. From the adjective *medicus* are further derived the verbs *medico* and *medicor*, also the adjective *medicinus*, the feminine form of which, *medicina* (*ars*), gives us the art or practice of medicine, and, finally, *medicina* (*res*), a thing pertaining to the art of healing, a remedy. So that, instead of the practice of medicine being so called from its consisting in the administration or application of drugs called "medicines," it is from their being used as part, indeed formerly the chief part, of the practice of the healing art (*medicina*) that these drugs have acquired their name of "medicines." To argue, then, that the practice of medicine means the practice of administering "medicines" is about on a par with arguing that a notice, "Shooting is prohibited," does not prohibit the use of a rifle, a pistol, a bow and arrow, an air gun, or any other propulsive instrument used for killing, so long as "shot"—in the sense of the small round pellets generally understood by that term—are not used.

What, then, does constitute the practice of medicine? According to philology, logic, and common sense, it is simply the art of healing, either as a recognized occupation for pay, or even as a recurring event without pay, when, as it is commonly said, the offender "makes a practice of it." The means used have absolutely no relation whatever to the question. The object of the regulation of the practice of medicine being simply and solely the protection of the public against the serious dangers that may ensue from incompetence—not the protection of established practitioners of the healing art against competition—the well intentioned busybody who makes a practice of gratuitously offering his services without having proved himself possessed of the necessary preliminary knowledge to minimize the likelihood of harm ensuing, is included in the prohibition, equally with him who practices for gain. He who undertakes, on the other hand, even in a single instance, to give his services for reward, is logically to be regarded as practicing, because it is an admitted propensity of human nature to repeat as often as possible any act that results in personal profit. There need be no fear, under such a definition, of hampering real benevolent assistance in an emergency, because one actuated by such a motive will most assuredly be only too glad to be relieved of the responsibility on the advent of one publicly authorized to assume it. If this reasoning be correct, the practice of medicine may be defined as "the engaging of oneself on one's own responsibility in the work of attempting to restore the health of others, of repairing their bodily injuries, or of correcting their bodily deformities, congenital or acquired, by any means whatsoever, mental, moral or material." All these, then, should be prohibited to those who have not publicly approved themselves, according to the juridical requirements of their locality, sufficiently acquainted with the knowledge of the day as to the structure of the human body, its normal functioning, and the disturbing influences thereof, intrinsic and extrinsic, to warrant a reasonable prospect of attainable success and of immunity from avoidable failure or consequent harm.

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[1] New York State Journal of Medicine, January, 1908.

THE ARCHIVES OF INTERNAL MEDICINE.

The first issue of the *Archives of Internal Medicine* is before us. It opens with startling abruptness, for it not only has no title page (save in so far as the cover may be deemed such), but is without even the hitherto indispensable preface, foreword, introduction, appeal to the reader, or what not. The opening words of the first article, "The Harvey Society has been founded for the purpose of forming a connecting link between the scientific research work of the laboratories and medical practice," might be taken as rendering any such preface unnecessary. For Harvey Society read *Archives of Internal Medicine*, and we have the best exposition of the purpose of the *Archives* that could have been compassed. For the rest, the contents will best illustrate the scope of the work: "The Nervous Affections of the Heart," by Friedrich Müller, of Munich, Germany; "The Hemolytic Reactions of the Blood in Dogs Affected with Transplantable Lymphosarcoma," by Richard Weil, New York; "Trichomonas Hominis Intestinalis: A Study of its Biology and Pathogenicity," by Hugo A. Freund, Detroit; "An Experimental Study of the Action of Oil on Gastric Acidity and Motility," by David Murray Cowie, Ann Arbor, and James Frederick Munson, Seneca, N. Y.; "Experimental and Clinical Investigation of the Pulse and Blood Pressure Changes in Aortic Insufficiency," by Hugh A. Stewart, Baltimore.

THE LIABILITY OF WATER SUPPLY CORPORATIONS.

Two leading citizens of Franklin, Pa., are reported to have entered suit against the Venango Water Company on the ground that typhoid fever germs in its water mains were the cause of an outbreak of the disease in the families of the plaintiffs. It is said that if the damages asked for are obtained, including the expenses of the illness and due compensation for the physical and mental distress involved, some fifty or more similar suits will follow. If there has been gross neglect of possible precautions there should be no question as to a certain amount of liability; and the beneficial effects of a decision in the form of a fine are easily to be foreseen. The question of how far a water company is empowered to take the needed measures to protect the watershed from which it draws its supply may be raised and a legal decision on this point will be of value either as interpreting the existing statutes or pointing out the need of more adequate legislation. That the conditions that produce disease are sometimes preventable and remediable with ordinary precaution has been sufficiently shown by the Ithaca, Scranton, and other investigations, but so far the financial liability for their existence does not appear to have been settled.

"NON-MEDICAL HEALING!"

Probably no more forcible *reductio ad absurdum* of the current view, to which we have adverted elsewhere, as to what inherently constitutes the practice of medicine, could be conceived by the witlessness of man than House Bill No. 704, now before the General Assembly of the State of Ohio, entitled "A Bill to Regulate the Practice of Non-Medical Healing in the State of Ohio." Non-medical healing, forsooth! Why not a bill to authorize the non-juridical practice of law, or to establish non-sanitary boards of public health? Why not establish in the curricula of our state schools and universities courses for the teaching of non-theological divinity, of the non-biologic study of life, or the non-linguistic study of languages? We can hardly imagine that any legislature will so far stultify itself as not to resent the insult cast on its common intelligence by the very title of such a bill. If a bill of this nature must be presented, let it at least be correctly described as what it is—a bill to authorize the practice of healing without requiring proof of acquaintance with those basic truths and principles on which the safe application of any healing measure whatsoever must for all time inseparably depend.

NOSTRUM PRESCRIBING.

The influence which the habit of prescribing nostrums exerts on the mind of the practitioner is well set forth in a recent article by Dr. John H. Musser.[1] As he truly states, the retroactive effect on the prescriber is of the most serious consequence. That state of mind which allows it to be subordinated to the thoughts and conclusions of others leads "silently but surely to a lessening in vigor and virility." Any compromise with mystery, any lapse in the endeavor to comprehend the pathologic conditions, anatomic and physiologic, which confront us and the rational steps to be taken in assisting the damaged organism to regain its equilibrium, are departures from the scientific attitude which alone will lead to success. Such lapses, if allowed to creep in, tend to recur with ever growing frequency, and who of us has not seen the sad result? An almost unavoidable occurrence in the work of the busy practitioner leads, though to a less extent, in the same direction. A number of excellent formulas are found to give, as a rule, satisfactory results in certain general conditions, and as they are used over and again, they come to mean scarcely more than a long name, and are prescribed with but little thought of the exact indications. The formulary which is found in nearly every hospital is unfortunately an economical necessity, but to those who depend on it it must prove a treacherous support. To the interne particularly, who is just beginning to realize the importance of therapeutics, and who should be laying the foundation for scientific work, it offers what appears to be a royal road to learning. The old rule never to administer a drug without having a clear conception of the reason for giving it would seem to be the best safeguard against therapeutic haziness.

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[1] Amer. Jour. of Pharmacy, January, 1908.

THE BRITISH VIVISECTION BLUE-BOOK.

The situation in Great Britain as regards the cumbersome restrictions placed on animal experimentation is interesting and full of suggestion for us in this country. In another column this week we review the mass of evidence on the subject at the hearing of the Royal Commission in England. We have already commented on the attempt to make a law restricting animal experimentation in New York. It certainly behooves the profession to be informed on this subject if the beneficent results which have accrued to science and life-saving are to continue untrammeled.

Medical News

CALIFORNIA.

Smallpox.—At Red Bluff 4 cases of smallpox are reported.——At Finley Lake 3 cases are reported.——About a dozen cases are said to exist in the immediate vicinity of Fresno, 3 of which are in Firebaugh.

Diphtheria and Scarlet Fever.—The schools of Durham have been closed on account of the prevalence of scarlet fever.——Diphtheria is reported to be raging at Roseville, where 20 cases are reported, with 5 deaths.——On account of the presence of diphtheria at Vina the public school has been closed.——Diphtheria is reported to be epidemic in St. Helena and Yountville.

Personal.—Dr. Guy Cochran, Los Angeles, has been promoted to chief surgeon of the Salt Lake Road, vice Dr. John R. Colburn, retired.——Dr. J. De Sousa Bettencourt, acting consul-general for Portugal in San Francisco, has been appointed by the king of Portugal a commander in the Royal Military Order of Christ.——Dr. George F. Reinhardt, Berkeley, returned January 4 after nine months in Europe.——Dr. David Gochenauer, San Diego, has been selected as the manager of the Angelus Hospital, Los Angeles.——Dr. Daniel B. Northrup, San Diego, has been appointed physician of San Diego County.——Dr. George M. Terrill, San Francisco, has been appointed surgeon of the Japanese liner *Nippon Maru.*——Dr. Buchanan Caldwell, Biggs, has been appointed health officer of Butte County.——Dr. Fred K. Lord, Camptonville, while making a professional call, was thrown from his horse, fracturing his leg.——Dr. Lena Geraldson has resigned as assistant resident physician of Fabiola Hospital, Oakland, to accept a position on the staff of the Napa State Hospital.——Dr. Frank W. Edmonds, Berkeley, was rendered unconscious by an electric shock in his office recently.

COLORADO.

Enjoined from Practice.—Judge Bailey of Canon City is said to have granted an injunction in Trinidad against Dr. Alfred Freudenthal, prohibiting him from practicing his profession in Trinidad for five years, on account of breach of contract.

Personal.—Dr. John K. Miller, Greeley, is reported to be seriously ill.——Dr. Sidney Simon, a member of the staff of the Denver County Hospital, has gone abroad for six months.——Dr. Thomas L. A. Shaffer, Salida, is reported to be critically ill with septicemia.——Dr. Warren E. Hickman has been appointed local register of the state medical board and health officer of Montrose.

Denver Mortality.—The board of health of Denver, in its annual report, has issued an official statement of the deaths in the city and county of Denver for the three years just passed. In 1905 there were 2,824 deaths reported; in 1906, 3.068; in 1907, 3,515. Chief among the death causes for the years were the following, the figures in each case being for 1905, 1906 and 1907 respectively: Typhoid fever, 52, 98, 99; tuberculosis, 698, 704, 695; cancer, 119, 133, 115; meningitis, 54, 107, 123; cerebral hemorrhage, 78, 98, 106; heart diseases, 264, 274, 352; pneumonia, 305, 277, 419; infantile diarrhea and enteritis, 62, 75, 73; appendicitis, 40, 30, 33; nephritis, 194, 192, 229: suicide, 48, 37, 47; accidents, 90, 81, 101, and homicide 21, 29, 23.

CONNECTICUT.

Illegal Practice Not Proven.—In the case of Biago de Cesare, New Haven, charged with the illegal practice of medicine, the charge was not proven, and the defendant was discharged.

Personal.—Dr. Daniel J. McCarthy, house physician of St. Vincent's Hospital, Bridgeport, has resigned.——Dr. Robert E. Ensign has resigned as health officer of Berlin after serving 23 years.——Dr. William L. Platt, Torrington, has been adjudged insane and committed to the State Hospital for the Insane, Preston.

Infectious Diseases.—During December one case of smallpox was reported; 315 cases of measles was reported in 27 towns; 187 of scarlet fever from 40 counties; 3 of cerebrospinal meningitis from 3 towns; 226 of diphtheria in 43 towns; 34 or more cases of whooping cough from 9 towns; 80 of typhoid fever in 28 towns, and 41 of consumption from 19 towns.

December Deaths.—During December there were 1,442 deaths reported in the state, equivalent to an annual mortality of 16.9 per 1,000. Chief among the deaths were: Diseases of the nervous system, 204; pneumonia, 187; heart diseases, 155; consumption, 130; accidents and violence, 80; influenza, 71; bronchitis, 35; diphtheria, 34; typhoid fever, 10; scarlet fever, 7; erysipelas, 6; cerebrospinal fever, 5; malaria fever, 3, and whooping cough and measles, each 2.

DELAWARE.

Communicable Diseases.—For the first time in two years smallpox was discovered in Wilmington, January 15.——Wilmington is just now suffering from epidemics of influenza and typhoid fever. The board of trade is urging the immediate building of a filtration plant.

State Medical Board.—On January 10 the governor appointed the following members of the State Medical Board: Drs. Henry W. Briggs and Abram E. Frantz, Wilmington; Dr. Edwin S. Anderson, Dover, and Dr. Ezekiel W. Cooper, Camden.

War Against Tuberculosis.—The tuberculosis exhibit of the Pennsylvania Anti-Tuberculosis Society, made under the auspices of the Wilmington organization, was a great success, and the lectures were well attended. The Delaware Red Cross Society has disposed of 630,000 of the Christmas stamps, which were issued to raise money for the fight against tuberculosis in the state.

DISTRICT OF COLUMBIA.

Register Tuberculosis.—The Senate on January 16 passed without dissent the Gallinger bill requiring the registration of all cases of tuberculosis in the District of Columbia, and providing for free examination of sputum in suspected cases of the disease.

Contagious Diseases.—During the second week in January 36 deaths were reported in Washington from influenza.——A case of smallpox was discovered in one of the employés of the Public Library, January 14, and 4 cases of the disease were discovered on the same day in Southwest Washington.

Would License Chiropractics.—Representative Livingstone of Georgia has introduced a bill in the House of Representatives to license chiropractics in the District of Columbia. This bill is introduced, it is understood, for the benefit of a single individual, whose institution has been declared by the Washington health officials to be a menace to the health of the district.

Personal.—Dr. Alfred Glasscock of the medical staff of the Government Hospital for the Insane is taking a trip to the Pacific Coast.——Dr. Robert Reyburn, Washington, in appreciation of 50 years of active practice, was presented with a loving cup by the Medico-Chirurgical Society, December 19.

——Dr. Harry H. Donnally, assistant bacteriologist of the District health department, has resigned.——Dr. John L. Norris has been appointed medical inspector in the district contagious disease service, vice Dr. Wilbur H. R. Brandenburg, who has been appointed surgeon to the police and fire departments.

GEORGIA.

State Board Meeting.—At the annual meeting of the State Board of Health, held in Atlanta, January 7, the following officers were elected: President, Dr. Willis F. Westmoreland, Atlanta; vice-president, Dr. Charles Hicks, Dublin, and secretary, Dr. Henry F. Harris, Atlanta. One of the chief topics considered at the meeting was the establishment of a state institute from which free serum for hydrophobia, and also the Flexner serum for cerebrospinal meningitis will be distributed throughout the state.

Personal.—Dr. John C. Olmstead has been elected a trustee of the Grady Hospital, Atlanta, vice Dr. William S. Kendrick, resigned. The medical board of the hospital now consists of 13 physicians, 8 of whom are of the faculty of the Atlanta College of Physicians and Surgeons; 2 of the faculty of the Atlanta School of Medicine, and 3 unattached.——Drs. E. Bates Block, Atlanta, Thomas R. Wright, Augusta, Thomas M. Hall, Milledgeville, and J. Frank Harris, Pavo, have been appointed trustees of the State Sanitarium, Milledgeville.——Dr. Bernard Wolff has been appointed president, and Dr. Cyrus W. Strickler, vice-president, of the Atlanta board of health.——The medical board of Grady Hospital, Atlanta, at its annual meeting elected the folowing officers: President, Dr. James N. Ellis; vice-president, Dr. Rufus T. W. Dorsey, Jr., and secretary, Dr. W. L. Goldsmith.——At the meeting of the board of health of Spalding County Dr. Marcus F. Carson, Griffin, was elected chairman, and Dr. Thomas J. Collier, Griffin, secretary.

ILLINOIS.

Smallpox Bulletin.—The State Board of Health has issued a second edition of 20,000 copies of the circular on smallpox, which deals especially with the differential diagnosis between chickenpox and smallpox and gives statistics of vaccination and revaccination.

Bill Killed.—Senate Bill No. 581, to repeal the sections in 1903 law, providing for payment of reports of births and deaths, was defeated in the House of Representatives, January 21, only 23 votes in the affirmative being recorded. This also kills House Bill No. 914.

Tuberculosis Circular.—The Illinois State Board of Health has issued the sixth revised edition of the circular on the Cause and Prevention of Tuberculosis, copies of which may be obtained, without cost, on application to the secretary of the State Board of Health, Springfield, Ill.

Personal.—Dr. O. H. Crist, Danville, has been appointed a member of the staff of St. Elizabeth's Hospital, local surgeon for the Chicago Southern Railroad and assistant local surgeon for the Chicago and Eastern Illinois Railway.——Dr. William Richards, Colfax, who has been seriously ill with pneumonia, is reported to be improving.——Dr. Edward B. Hughes, Canton, is still seriously ill.

Unlicensed Physicians Arrested.—Five unlicensed practitioners of Madison County were arrested at Edwardsville, January 20, on the charge of practicing medicine without a license. Mary Wedig, Granite City, was found not guilty; Emma Howe secured a continuance in her case; John Loh and William Stelzer, Alhambra, gave bonds, but did not appear in court, and their bonds were forfeited, and Peter Hudson, a negro, of Venice, is said to have been fined $20.

Society Meeting.—At the annual election of Christian County Medical Society, held January 16 in Taylorville, the following officers were elected: President, Dr. James H. Dickerson; vice-president, Dr. Cephas L. Carroll; secretary-treasurer, Dr. Darwin D. Barr, and alternate delegate, Dr. Albert F. Turner, all of Taylorville; censors, Drs. John N. Nelms, Taylorville, William T. Bridges, Stonington, and Jesse B. Simpson, Palmer, and member of the committee on public health and legislation, Dr. Cephas L. Carroll, Taylorville.

Contagious Diseases.—Scarlet fever and smallpox are reported to be prevalent at Albany, where the schools and churches have been closed.——Two more cases of smallpox have been reported in Peoria, making 5 patients in all in the isolation hospital at present.——At Gibson 10 cases of smallpox of mild type are reported.——Mansfield reports 5 cases of smallpox.——At Kilbourne there have been 50 cases of smallpox, and there are still a large number of patients under surveillance.——Waukegan reports 13 cases of typhoid fever in McAlister Hospital.——Measles is so prevalent at Zion City that the schools have been ordered closed. On January 22, 60 cases were reported, and the city is under quarantine.

Tuberculosis Sanatorium.—Senate Bill No. 598, introduced by Mr. Glackin, which would give cities and villages, "the power to establish and maintain a public sanatorium for the use and benefit of the inhabitants of such city or village for the treatment and care of persons afflicted with tuberculosis and to levy a tax not to exceed 4 mills on the dollar annually on all taxable property of such city or village, such tax to be levied and collected in like manner with the general taxes of said city, and to be known as the Tuberculosis Sanatorium Fund," passed the Senate, January 21, and is now up for third reading in the House of Representatives. Strong efforts are being made to secure the passage of the bill before the final adjournment of the legislature.

Chicago.

Hospital Report.—The annual report of St. Anthony of Padua Hospital shows that 1,535 patients were cared for at that institution in 1907.——The projected new building will, it is expected, be completed this year and will more than double the capacity of the institution.

Election.—The Chicago Ophthalmological Society has elected the following officers for the ensuing year: President, Dr. Thomas A. Woodruff; vice-president, Dr. Charles P. Pinckard; secretary-treasurer, Dr. Mortimer Frank; councilor, Dr. Thomas Faith, and alternate, Dr. Willis O. Nance.

War on Nostrums.—At a joint meeting of the Chicago Medical Society and the Chicago Retail Druggists' Association, January 27, war on "patent medicines" and other proprietary remedies which induce harmful habits of self-medication was agreed on. The object was to ally the two associations in a cooperative fight against nostrums of all kinds and the responsibility for the popularity of such compounds was placed at the door of every one handling the drugs, from the manufacturer to the prescriber and the dispenser. Dr. Henry B. Favill, president of the Chicago Medical Society, was chairman.

Senn Memorial Service.—Services in honor of the late Nicholas Senn, M.D., Ph.D., LL.D., will be held in Music Hall, Fine Arts building, 203 Michigan Avenue, Sunday, February 2, at 2:45 p. m., under the auspices of Rush Medical College, Northwestern University Medical School, College of Physicians and Surgeons, Chicago Medical Society, Chicago Surgical Association and the Nicholas Senn Club. President Edmund Janes James of the University of Illinois will act as chairman. Dr. Frank Billings, dean of Rush Medical College, will speak on "Nicholas Senn as a Teacher;" Dr. Arthur R. Edwards, dean of Northwestern University Medical School, on "Nicholas Senn as a Scientist;" Dr. William E. Quine, dean of the College of Physicians and Surgeons, on "Nicholas Senn as a Man;" Dr. Henry B. Favill, president of the Chicago Medical Society, on "Nicholas Senn as a Physician;" Dr. Albert J. Ochsner, president of the Chicago Surgical Association, on "Nicholas Senn as a Surgeon," and Dr. Daniel R. Brower, president of the Nicholas Senn Club, on "Nicholas Senn as a Traveler."

INDIANA.

Communicable Diseases.—Two schools in Terre Haute have been closed on account of the prevalence of smallpox.——Smallpox, which has been prevalent in Harrison, Concord and Olive townships, Elkhart County, is reported to be well in hand.——Walcottsville reports an epidemic of mumps.

State Board Election.—The State Board of Medical Registration and Examination at its annual meting, January 14, elected the following officers: President, Dr. J. Edwin P. Holland, Bloomington; vice-president, Dr. William A. Spurgeon, Muncie; secretary, Dr. William T. Gott, Crawfordsville, and treasurer, Dr. Moses S. Canfield, Frankfort. The board decided not to recognize the Eclectic Medical College of Indiana as an approved institution.

Society Meetings.—At the annual meeting of the Jackson County Medical Society the following officers were elected: President, Dr. Charles E. Gillespie, Crothersville; vice-president, Dr. L. Butler Hill, Seymour, and secretary, Dr. George H. Kamman, Seymour.——The annual meeting of the Greene County Medical Society was held at Linton, January 16. The annual address was delivered by Dr. Theodore Potter, Indianapolis, on "The Early Recognition of Tuberculosis." Dr. August F. Knoefel was elected president, and Dr. Frank A. Van Sandt, Bloomfield, secretary-treasurer.

Personal.—Dr. William F. King has been appointed secretary of the Columbia City board of health, and Dr. David S. Linville, Columbia City, physician of Whitely County.——By the will of Mrs. Julia Hoefgen, Crawfordsville, her estate, valued at about $2,500, has been bequeathed to Dr. Jacob B. Etter, her family physician.——Dr. J. Aaron Meiner has been appointed health officer of Alexandria, vice Dr. Augustus R. Schaefer, resigned.——Dr. Leonard F. Schmauss and family, Alexandria, returned January 10 after five months in Europe. ——Dr. William S. Leiter, Claypool, was injured in a runaway accident, January 14.——Dr. Joseph Saunders, Anderson, is reported to be critically ill with cerebral hemorrhage.

December Diseases and Deaths.—The total number of deaths reported in December in the state was 2,768, equivalent to an annual death rate of 12.1 per 1,000. In the corresponding month of last year the total number of deaths was 2,956, equivalent to an annual death rate of 13.1 per 1,000. The deaths from tuberculosis were 315, as against 329 in the corresponding month of 1906. The following were the chief causes of death: Pneumonia, 334; violence, 184; cancer, 102; typhoid fever, 69; influenza, 43; diphtheria, 31; diarrheal diseases, 29; cerebrospinal meningitis, 16; measles and puerperal diseases, each 9, and scarlet fever, 8; whooping cough, 7. Bronchitis and tonsillitis were the most prevalent diseases during the month.——Smallpox was present in 18 counties, 207 cases in all being reported, with no deaths.

IOWA.

Communicable Diseases.—Smallpox is reported to be spreading over Grundy County; several cases are reported from Blackhawk Township; four houses are closed in Reinbeck, and 15 cases are said to be present in Gladbrook.——A severe case of cerebrospinal meningitis is reported from Pickering. ——An epidemic of cerebrospinal meningitis is reported from Wapello, where 7 cases have appeared, with 5 deaths.

Personal.—Dr. Henry A. Gray has been elected professor of anatomy and clinical surgery in the Keokuk Medical College, College of Physicians and Surgeons, to fill the vacancy caused by the death of Dr. George W. Jones.——Dr. Charles H. Churchill, Fort Dodge, who is about to move to Alliance, Neb., was the guest of honor at a banquet given by the Webster County Medical Society, of which he is an ex-president, January 3.——Dr. Hiram L. Getz, Marshalltown, is said to have been apprehended as an insane person at Omaha, January 17.

KANSAS.

Personal.—Dr. Charles J. Lidakay, Kansas City, has been appointed by the State Board of Control, medical examiner of applicants for admission to private insane asylums.——Dr. Charles H. Johnson, Atchison, has resigned as attending surgeon of the Soldiers' Orphans' Home.——Dr. Ernest J. Lutz, secretary of the board of health of Kansas City, will retire from that office at the completion of his term.——Dr. Charles M. Stemen has been elected president; Dr. Charles Ott, vice-president, and Dr. J. Albert Fulton, secretary of the board of health of Kansas City.——Dr. George A. Biddle has been elected president; Dr. Arthur F. Higgins, vice-president, and Dr. David L. Morgan, secretary, of the medical staff of St. Mary's Hospital, Emporia.

KENTUCKY.

Bequests to Charity.—Under the terms of the will of the late Mrs. Laura M. Bodine, Louisville, the Kentucky Antituberculosis Association is given $20,000 to be invested and the income used for white persons afflicted with tuberculosis; $1,000 is also left by the will to the Children's Hospital, and $1,000 to the Church Home and Infirmary.

Personal.—Dr. Benjamin F. Zimmerman, Louisville, was operated on January 18 for appendicitis at St. Joseph's Infirmary.——Dr. Louis G. Armendt has been elected a member of the Owensboro board of health.——Dr. Hardin K. Orsburn has been elected health officer of Owensboro, vice Dr. Cicero M. Heavrin.——Dr. Albert P. Dowden, Eminence, has succeeded Dr. Owen Carroll as coroner of Henry County.

Health Officers Organize.—The county health officers of the state met at Louisville January 16 and organized an association. Of the 119 counties in the state, 81 were represented at the conference. The following officers were elected: President, Dr. Thomas H. Baker, health officer of Louisville; vice-presidents, Drs. Nathan R. Simmons, health officer of Lexington, and Dr. John C. Boone, Wicliffe, health officer of Ballard County, and secretary-treasurer, Dr. Benjamin W. Smock, Louisville, health officer of Jefferson County. The next meeting will be held in Louisville in October, 1908.

LOUISIANA.

Unregistered Physicians.—The State Board of Health announces that there has been turned over to the secretary of the State Board of Medical Examiners the names of 172 physicians in the state, who, although not registered according to law, are practicing medicine. Active measures will be taken against these practitioners.

Communicable Diseases.—The inspectors of Mansfield board of health have finished their house-to-house inspection and have found five houses infected with smallpox, in which there were 12 patients.——The De Soto Parish board of health has found 36 houses infected and about 150 cases of smallpox.—— About 20 cases of smallpox of mild type are reported in Palmetto.——Lake Charles and other Calcasieu towns are suffering from an epidemic of measles.

Personal.—Dr. Henry L. Stokes, Mansfield, has been elected a member of the board of health of De Soto Parish.——Dr. Sidney L. Theard, New Orleans, secretary of the city board of health, is suffering from the attacks of a second cerebral hemorrhage.——Dr. Clarence Hutchinson has resigned from the staff of the Touro Infirmary, New Orleans, and will study abroad.——Dr. J. E. Mumford has been elected health officer, and Dr. Rezin L. Armstrong, Jr., a member of the board of health of Pleasant Hill.

New College Building.—The contract for the building of the new Richardson Memorial Building, Tulane University, has been let. The new building is to cost about $200,000 and will be three stories and a basement in height. The basement will contain workrooms for minor surgery, original research and toilet and storage rooms; the first floor will have a large lecture room and physiologic and pharmacologic laboratories, and also the administration offices; the second floor will contain pathologic, bacteriologic and histologic laboratories, private laboratories for the professors and research rooms; the third floor will contain the dissecting room, anatomical museum and laboratories for the curator of the museum and the professor of anatomy, research rooms and also a large lecture room. The building is expected to be ready in October next.

MARYLAND.

Medical Library Fund.—The total of the library building fund for the Medico-Chirurgical Faculty of Maryland now amounts to about 46,000.

Society Reorganized.—The George's Creek Medical Society, Frostburg, has been reorganized with Dr. Timothy Griffith, president, and Dr. Thomas F. De Naouley, secretary, both of Frostburg.

Pure Food.—Superintendent Ray of the House of Delegates has introduced a pure food bill, which proposes to leave the enforcement of the law in the hands of the state chemist of the Maryland Agricultural College.——Dr. Martin L. Jarrett, Parrettsville, proposes a similar law, but provides that the pure food commission attend to its execution.

Psychopathic Hospital.—Dr. J. Clement Clark, superintendent of the Springfield Hospital for the Insane, is in favor of the establishment by the state of an asylum where patients may be brought for early treatment without being legally adjudged insane, and held for diagnosis and treatment as in a general hospital. The clinical advantages of such an institution would be great and many cures would, in all probability, be effected.

Society Meeting.—At the annual meeting of the Anne Arundel County Medical Society, held January 14, the following officers were elected: President, Dr. Harry B. Gantt, Millersville; vice-president, Dr. W. Clement Claude, Annapolis; secretary, Dr. Louis B. Henkel, Annapolis; treasurer, Dr. Frank H. Thompson, Annapolis, and censors, Drs. James S. Billingslea, Armiger; Joseph M. Worthington, Annapolis; Thomas H. Brayshaw, Glen Burnie, and delegate to the state society, Dr. Walton H. Hopkins, Annapolis.

Baltimore.

Deaths of the Week.—During the week ended January 18 there were reported in Baltimore 28 deaths from influenza, 4 from bronchitis and 40 from pneumonia.——During the week ended January 25 there were reported 27 deaths from influenza, 5 from bronchitis and 52 from pneumonia.

Eudowood Hospital.—During the past year 138 patients were treated at the Eudowood Consumptive Hospital at an expense of $1.05 per day per patient. Of the patients 90 were discharged and 52 of these were apparently cured. The annual subscription to the fund for the support of this institution now amounts to $10,385.

Personal.—Dr. John C. Hemmeter and wife celebrated their crystal wedding anniversary January 18.——The case of Dr. John R. Abercrombie, charged by a woman with false arrest and sued for $5,000 damages, was decided by the jury in favor of Dr. Abercrombie.——Dr. B. Merrill Hopkinson was elected president of the Baltimore Athletic Club for the seventeenth term, January 20.

MASSACHUSETTS.

Fined for Not Reporting Diseases.—Dr. Benjamin G. Galbenowitz, Boston, is said to have been fined $50, January 16, for failing to notify the board of health of a case of scarlet fever.

Children Fail Under Eye and Ear Test.—The superintendent of schools of Springfield announces that the result of the recent eye and ear tests in eight of the grammar schools shows that 23 per cent. of the pupils are deficient in eyesight and hearing.

Pasteur Avenue.—Among the plans for improvement in the vicinity of the new Harvard Medical School, which have been accepted by the school and city street department, is the making of an avenue to be named in honor of Louis Pasteur, which will lead up to the middle of the medical school quadrangle.

Asks Authority to Grant Medical Degrees.—The Rev. Thomas I. Gasson, S. J., president of Boston College, has petitioned the legislature to afford the college permission to confer degrees in medicine. This is said to be the first step toward a great Catholic university in Boston, for which land has already been acquired in Newton.

Personal.—Brig.-Gen. William H. Devine, Boston, surgeon general M. V. M., has been retired with the rank of major general, to take effect April 1, and has been succeeded by Lieut.-Col. Charles C. Foster, Cambridge, medical director of the Second Brigade.——Dr. Asher N. Chase, Everett, has been appointed a member of the board of health.——Dr. Fritz W. Gay has been appointed a member of the surgical staff of Malden Hospital.

Hospital Notes.—Plans for the new hospitals at Fall River for contagious diseases, for tuberculosis and for smallpox have been approved, and the construction of the administration building is to be proceeded with immediately.——Determined opposition is being made to the establishment on the "Little farm," Georgetown, of one of the three tuberculosis hospitals of the state.——Bids have been presented for the construction of the new building for the Boston Consumptive Hospital, Mattapan, varying from $81,235 to $118,339.

MISSOURI.

Local Option Law Enforced.—Dr. Enoch M. Bryan, Calloway County, is said to have been found guilty January 4 of writing illegal prescriptions for whisky, and assessed a fine of $50 on each of 36 counts, or $1,800 in all. At a meeting of the State Board of Health January 8, the license of Dr. Bryan is said to have been revoked.

Fined for Spitting.—On December 18 four physicians of St. Louis and one contractor were arraigned for violating the city ordinance by expectorating in street cars; two of the physicians were assessed costs of $3; one was fined $1 and costs, and one $5 and costs.——The president of the police board announces that hereafter the anti-spitting laws will be strictly enforced.

NEW YORK.

Medical Union Election.—At the annual meeting of the Medical Union, Buffalo, Dr. Verner Kenerson was elected president; Dr. Edward J. Meyer, vice-president, and Dr. Frank B. Rasbach, secretary-treasurer.

Commissioner of Agriculture and Infected Milk.—Charles A. Wieting of the state department of agriculture in his annual report to the legislature recommends "that some authority and adequate means should be given to the end that milk shall not be sold on the markets of this state that comes from diseased herds, particularly from herds suffering from tuberculosis." He also recommends an "examination of each and every herd from which milk is drawn and sold for consumption and adequate subsequent action."

The State Meeting in Session.—The New York State Medical Society has been in session at Albany this week. Dr. E. L. Trudeau, Saranac Lake, was elected president; Drs. A. G. Root, Albany, J. T. Wheeler, Chatham, and M. C. Hawley, East Randolph, vice-presidents; Dr. Wisner R. Townsend, New York, secretary, and Dr. Alexander Lambert, treasurer. Strong resolutions were passed against the proposed antivivisection legislation in the state, to which The Journal referred editorially January 18 and 25 and February 1.

New York City.

Nassau Hospital May Close.—This hospital, located at Mineola, L. I., may close the first of February unless there is a response to the demand for $8,000 necessary to conduct the institution. The financial flurry is supposed to have seriously affected the work. The excess of expenses above receipts is about $2,000 a month.

Druggist Wrote Prescriptions.—Edward Simon, a Brooklyn druggist, is said to have been convicted of practicing medicine without being regularly graduated and licensed, and to have been sentenced to 90 days' imprisonment in default of $500 fine. The defendant has furnished customers with medicine put up on his own prescriptions.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended January 18, 803 cases of measles, with 25 deaths; 585 cases of scarlet fever, with 37 deaths; 406 cases of diphtheria, with 43 deaths; 402 cases of tuberculosis, with 181 deaths; 169 cases of varicella, with one death; 36 cases of typhoid fever, with 2 deaths; 14 cases of whooping cough, with one death; 13 cases of cerebrospinal meningitis, with 11 deaths; a total of 2,428 cases and 301 deaths.

New York Academy of Medicine.—The report of the sections for the year 1907 shows that the section on medicine has 340 fellows affiliated and an average attendance of 32; the section on surgery, 280 fellows, with an average attendance of 50; the section on obstetrics and gynecology, 191, and an average attendance of 41; the section on orthopedic surgery, 60, with an average attendance of 26; the section on pediatrics, 127, with an average attendance of 61; the section on genitourinary diseases, 132, with an average attendance of 20, and the section on public health, 153, with an average attendance of 81. The report also gives the number of papers read in each section, and the patients and specimens presented.

NORTH CAROLINA.

Hospital Chartered.—The secretary of state has issued a charter to the Grace Hospital, Morganton, for the conduct of a small public general hospital.——The Greenville Infirmary and Training School for Nurses has been incorporated.

Society Meeting.—At the annual meeting of the Cumberland County Medical Society, held in Fayetteville, January 16, Dr. James V. McGougan was elected president; Dr. Thomas C. Bullock, vice-president, and Dr. William S. Jordan, secretary-treasurer, all of Fayetteville.

Insane in Transit.—Governor Glenn solved a question in the case of a Hebrew, who became violently insane while traveling southward across the state, was taken from the train at Raleigh, and confined in the county jail. Under the state laws, an insane patient, in order to be confined in the State Insane Hospital, must be a resident of the state. As soon as the case was brought to his attention, however, the governor ordered the commitment of the patient to the State Insane Hospital.

OHIO.

New Hospitals.—The plans for the new State Hospital for the Criminal Insane, to be erected at Lima, are completed, and will be submitted to the General Assembly at the coming term. The new hospital is to be constructed on the cottage plan and will accommodate about 1,200 patients.——The Lake Shore Railroad has planned to build an emergency hospital at Collinwood. It will be under the charge of Dr. William H. Williams, division chief surgeon.

Cincinnati Delegates to State Republican Convention.—The published list of delegates from Cincinnati to the Republican state convention that will settle the contest for the presidency between Secretary Taft and Senator Foraker, so far as the support of Ohio in the national convention is concerned, contains the names of the following members of the medical profession: Charles A. L. Reed, F. W. Langdon, Brooks F. Beebe, A. B. Isham, O. W. Stark, S. A. S. Kantz, J. C. Krieger, Louis Feid, J. S. Hagen, J. F. Heady. The published lists of delegates from other counties of the state contain almost uniformly the names of one or more physicians, averaging in excess of 10 per cent. of the whole as far as published.

Change in the Columbus Medical Journal.—With the December issue of the *Columbus Medical Journal*, Dr. J. U. Barnhill retired from the editorship, which he has held for eight years and a half, subsequent to a previous connection with that journal for five years and a half in the post of associate editor. The *Columbus Medical Journal* has filled a definite and valuable position for the local profession. Although unable to control the admission of advertisements to his journal, since the advertising was in the hands of the laymen who published the paper, Dr. Barnhill has kept the reading pages free from commercial misuse, and has shown his sympathy with the movement for reform in proprietary medicines. It is announced that the new editor is Dr. C. S. Carr, formerly editor of

Medical Talk, a paper that was said to be published by the Peruna Manufacturing Company.

PENNSYLVANIA.

Bequests.—By the will of the late Samuel Boileau, Easton, the Easton Hospital will receive $1,000, and the Easton Home for Friendless Children $500.

Sentenced for Criminal Operation.—Dr. George S. Wyckoff, Pittsburg, charged with having performed a criminal operation on Stella M. Ritter in December, 1905, which caused her death, is said to have been sentenced to imprisonment for five years in the Western Penitentiary and to pay a fine of $100 and costs.

Failed to Report Births.—Dr. Austin Best, Harrisburg, the Swatara Township physician charged with more than a score of violations of the state law by failing to make returns of births, will be tried on one charge only, the register having allowed him to plead guilty to the other charges and pay his fines.

Hospital Opened.—The Hanover General Hospital was opened with appropriate ceremony January 14. The hospital staff will be composed of the local practitioners and a consulting staff has been appointed, consisting of the following: Drs. Arthur G. Barrett, Leonard K. Hirshberg, and Harvey K. Fleckenstein, Baltimore, and Drs. Joseph I. Smith, Pascal B. Bland and H. A. Solis, Philadelphia.

Births in Pennsylvania for 1907.—During 1907, 167,265 children were born in the state. The birth rate was 24.1 per 1,000 of population, the rate being 45.3 for foreigners and 20 for native born. There were 87,251 males and 80,014 females born. Twin births occurred 1,832 times and triplets 15 times. Of the twin births 1,259 occurred among the native and 569 among the foreign population. Of the triplets 11 cases were among natives and 4 among foreigners. The greatest number of births occurred in August, with 15,038, and the least number during April, with 12,999. The births for the year by months are as follows: January, 13,572; February, 13,411; March, 14,422; April, 12,999; May, 13,905; June, 13,690; July, 14,308; August, 15,038; September, 14,286; October, 14,168; November, 13,436, and December, 14,030.

Epidemic Diseases.—Diphtheria is reported to be epidemic at Jefferson, where the schools have been closed and church services suspended.——The village of Hartstown has been quarantined on account of an outbreak of diphtheria.——Johnstown reports 1,000 cases of influenza, and the disease is reported to be epidemic in Dallastown.——Six cases of scarlet fever are reported in one family at Perkasie.——An outbreak of scarlet fever is reported from Bryn Mawr, where the schools were closed from January 17 to January 27.——More than 40 cases of typhoid fever are reported at Sharon.——On account of the prevalence of measles in Pittsburg the state bureau of health ordered, January 14, that all persons in the city suffering from measles should be quarantined under the same restrictions that cover scarlet fever and similar contagious diseases. This is the first attempt of the board to isolate measles patients. This action was prompted by the alarming prevalence of the epidemic. Since January 1, 1,477 cases have been reported to the department, including 89 reported January 13, 42 reported January 14, and 108 reported January 20.

State Exhibition at Tuberculosis Congress.—At the meeting of the state committee of the International Congress on Tuberculosis, held in Philadelphia, January 12, it was decided to recommend a list of exhibits of this state at the coming International Congress to be held in Washington, to illustrate in a general way the campaign against tuberculosis as conducted in this state. Among the exhibits that the committee suggests are the following:

Models, pictures, diagrams, etc., explaining work done in private institutions in the state.

Pictures, statements, diagrams, etc., showing work of allied organizations, such as charity societies, Consumers' League, child labor committees, housing associations, etc.

Carefully selected pathological section, to be sent and labeled from different institutions.

Set of models, pictures and statements, showing, in logical order, the anti-tuberculosis work of the State Health Department.

Pictures and statements showing typical home and factory conditions.

Model of State dispensary, with pictures, statements, etc., summarizing the work of these dispensaries throughout Pennsylvania.

Models and panorama showing Mount Alto State Sanatorium and proposed additional sanatorium.

Pictures and statements showing after-care work made possible in State Forestry Reservation.

Plans whereby state cooperates in organizing anti-tuberculosis committees and tuberculosis classes in connection with the state dispensaries.

Plans whereby state and other institutions cooperate in educating all communities on this subject.

Personal.—Dr. Jonathan C. Biddle has resigned as chief surgeon of the Miners' Hospital, Ashland, and will spend several months abroad.——Dr. C. H. Barlow, Dorranceton, has left for Huchow, China, to take charge of the Baptist hospital in that place.——Dr. Edwin H. Kistler, Lansford, relief physician for the L. C. & N. Co.'s beneficial fund since its organization, has resigned.——Dr. Alfred C. Sherwood, Union City, who has been surgeon of the Pennsylvania System at that place for more than 30 years, has resigned and has been succeeded by his son, Dr. Andrew J. Sherwood.——Dr. Emlyn Jones, Johnstown, narrowly escaped death by gas asphyxiation in his office January 1.——Dr. Hugh Hamilton, Harrisburg, who has been seriously ill with pneumonia, is improving.——Dr. Conrad S. Reber has been appointed president of the board of health of West Reading.——Dr. John K. Hammaker, Mechanicsburg, is ill at the Harrisburg Hospital with septicemia, and it is believed that the middle finger of his right hand will have to be amputated.——Dr. David C. Mock, Medix Run, is reported to be seriously ill with scarlet fever.——Dr. Daniel Dechert, Schuylkill Haven, has lost his right arm as the result of septicemia, due to an operation wound.——Dr. Isadore J. Weida has been elected president of the Emaus board of health.——Dr. Albert J. Winebrake, Scranton, has gone to Europe for four months.——Dr. John Todd has been reelected president of the Pottstown board of health.——Dr. Hiram E. Zimmerman, Mount Jackson, is reported to be seriously ill in New Castle.

Philadelphia.

Hospital Obtains More Space.—The American Hospital for Diseases of the Stomach has secured a lot 40x180 adjoining its present site at an assessed valuation of $20,000.

Personal.—Dr. Robert G. Le Conte has been appointed chief marshal for the annual University of Pennsylvania celebration on Washington's Birthday.——Dr. Thomas H. Fenton has been elected curator of the Academy of Natural Sciences.——Drs. Joseph W. Hearn and E. Tillson Ward have been elected members of the board of managers of the Southern Dispensary.

Hospital Report.—The ninetieth annual report of the Southern Dispensary shows that 9,012 new cases were treated in the clinics last year; that 18,519 persons visited the dispensary, and that 14,347 prescriptions were compounded. Of the cases treated 2,068 were medical, 1,439 surgical, and 3,655 were children. In the eye department 585 were treated; in the ear, nose and throat department, 589, and in the dermatologic department, 618.

The City's Milk Supply.—The report of the chief of the milk inspection division of the board of health for 1907 states that there was very little adulterated milk sold during that period. The inspectors made 88,667 inspections of milk, involving 1,904,000 quarts, of which quantity there were 7,506 quarts not up to the standard, and these were adulterated with water. During the year tests were made of 853,541 quarts of milk, which showed that no preservative of any kind had been used. During the same period nearly 2,000 inspections were made of dairies within the city limits, and only one of these establishments was condemned.

Health Report.—The total number of deaths reported for the week ended January 25 was 573, a decrease of 84 from the number reported in the previous week, and an increase of 16 over those reported in the corresponding week of 1907. The principal causes of death were: Typhoid fever, 21; diphtheria, 6; cerebrospinal meningitis, 5; consumption, 62; cancer, 25; diabetes, 4; apoplexy, 29; paralysis, 5; heart disease, 66; acute respiratory diseases, 111; enteritis, 18; cirrhosis of the liver, 6; Bright's disease, 33; premature birth, 14; congenital debility, 5; old age, 10; suicide, 5; accidents, 10, and marasmus, 8. There were 202 cases of contagious diseases reported, with 32 deaths, as compared with 266 cases and 32 deaths reported in the preceding week.

Officers Elected.—At the annual meeting of the Philadelphia County Medical Society, January 15, the following officers were elected: President, Dr. Albert M. Eaton; vice-presidents, Drs. Henry W. Cattell, Frank C. Hammond, William Evans, Robert L. Pitfield, Henry G. Godfrey and John B. Turner; secretary, Dr. William S. Wray; assistant secretary, Dr. Alexander R. Craig; treasurer, Dr. Collier L. Bower; censor, Dr. William M. Welch, and district censor, Dr. Milton B. Hartzell.——At the election for officers of the South Branch of the Philadelphia County Medical Society, Dr. Charles J. Hoban was chosen chairman, and Dr. James H. Baldwin, clerk.——At the annual meeting of the Medical Club of Philadelphia, January 18, the following officers were elected: President, Dr. George McClellan; vice-presidents, Drs. Wharton Sinkler and James B. Walker; secretary, Dr. J. Gurney Taylor; treasurer, Dr. Lewis

H. Adler, Jr., and directors, Drs. Milton B. Hartzell, Walter Page, H. H. Whitcomb, Albert M. Eaton and Wilmer R. Krusen.

Health Department Work.—The total number of inspections in November made by the medical inspectors, excluding schools, aggregated 3,670. They ordered 632 fumigations and examined 56 cases for special diagnosis. The inspectors made 4,312 visits to schools and excluded 482 from attendance. They collected 432 cultures, made 167 injections of antitoxin, and performed 342 vaccinations.——The report of the department of vital statistics for November shows that 2,546 deaths and 1,757 births were recorded.——The report of the division of milk inspection shows that 7,678 sanitary inspections were made and 170,862 quarts of milk inspected. Of this number 339 quarts were condemned; 7 of the examinations were chemical, and 924 bacteriologic.——The report of the bacteriologic laboratory shows that 1,994 diphtheria cultures and 268 specimens of suspected typhoid blood were examined. The laboratory examined 924 specimens of milk, 145 specimens of sputum, and made 6 disinfection tests. The department also distributed 4,738,600 units of antitoxin.

TENNESSEE.

Personal.—Dr. J. Jefferson Gee has been appointed assistant city physician at Chattanooga, vice Dr. John B. Steele, retired.——Dr. James L. Andrews, secretary of the Memphis board of health, has taken charge of the City Free Dispensary.——Dr. Blackburn G. Tucker, Nashville, has been elected health officer, vice Dr. Shirley E. Cox.——Dr. William M. Wright has been elected president of the Huntington Commercial Club.——Dr. John T. Altman has succeeded Dr. William G. Ewing as a member of the Nashville board of health.

Elections.—At the last meeting of the Chattanooga and Hamilton County Medical Society the following officers were elected: President, Dr. Thomas E. Abernathy; vice-president, Dr. Samuel I. Yarnell; secretary, Dr. German P. Haymore, and treasurer, Dr. Noyes, all of Chattanooga.——At the annual meeting of the Dickson County Medical Association, held in Dickson, the following officers were elected: President, Dr. Alfred H. Abernathy; vice-president, Dr. W. W. Walker; secretary, Dr. Joseph C. Flower, and delegate to the state association, Dr. William S. Scott, all of Dickson.

TEXAS.

Medical Library for Dallas.—The Dallas County Medical Association has secured the class room in the Dallas Public Library and proposes to install therein a medical library.

District Society Meetings.—The semiannual meeting of the Fifth District Medical Association was held in San Antonio and the following officers were elected: President, Dr. Alonzo Garwood, New Braunfels; secretary, Dr. Evarts V. Depew, San Antonio, and treasurer, Dr. Jefferson Woolsey, Nixon.——At the annual meeting of the South Texas Medical Association, held in Houston, Galveston was selected as the next place of meeting. The following officers were elected: Dr. Jacob H. Sampson, Houston, president; Dr. J. Mark O'Farrell, Richmond, vice-president, and Dr. Edward F. Cooke, Houston, secretary-treasurer.——At a meeting of the North Texas Medical Association, held in Fort Worth, December 11, Mineral Wells was decided on as the place for the July meeting. Dr. James M. Inge, Denton, was elected president; Dr. James W. Carey, Whitesboro, vice-president; Dr. Hugh L. Moore, Van Alstyne, secretary, and Dr. Alva W. Carnes, Hutchins, treasurer.——At the annual meeting of the Seventh District Medical Association, held in Austin, the following officers were elected: President, Dr. Homer B. Hill, Austin; secretary-treasurer, Dr. Washington A. Harper, Austin, and censors, Drs. James C. Anderson, Granger; Edward M. Thomas, Georgetown, and Howard B. Granberry, Benjamin M. Worsham and S. E. Hudson, Austin.

VERMONT.

License Revoked.—At the annual meeting of the Vermont State Board of Medical Registration, held at Montpelier, January 14, the certificate of Miles A. Morehouse, Wevertown, N. Y., granted by reciprocity with Wisconsin April 13, 1907, was revoked, having been obtained by fraudulent representation.

Society Meeting.—At the annual meeting of the Bennington County Medical Society, held in Bennington, January 9, the following officers were elected: President, Dr. Linwood M. Kelley, Manchester Center; vice-president, Dr. Frank T. Hurley; secretary, Dr. Lucretius H. Ross; treasurer, Dr. Frank W. Goodall, all of Bennington; and delegates to the state society, Drs. Frank W. Goodall and Lewis H. Heminway, Manchester.

State Sanatorium Opened.—The State Hospital for the Treatment of Tuberculosis at Pittsford, erected at a cost of $100,000 and with accommodation for 35 patients, the whole being the gift of Senator Redfield Proctor, was formally opened Dec. 10, 1907.

GENERAL.

Railway Surgeons Meet.—The annual meeting of the Association of the Chicago, Milwaukee & St. Paul Railway Surgeons was held in Chicago recently. Dr. William Van Werden, Des Moines, was elected president, and Dr. Albert I. Bouffleur, Chicago, secretary (re-elected).

Pediatric Society Organized.—The New England Pediatric Society was organized in Boston, January 4, with Dr. Thomas Morgan Rotch, president; Dr. Arthur H. Wentworth, secretary-treasurer, both of Boston. Any physician in good standing, who is a resident of New England, is eligible for membership. Application for membership should be sent to the secretary. The annual dues are $2. The next meeting of the society will be held at the Boston Medical Library, February 15, at 8:15 p. m.

Seaboard Medical Association.—At the twelfth annual meeting of this association, held in Norfolk, Dec. 18 and 19, 1907, the following officers were elected: President, Dr. Armistead K. Tayloe, Washington, D. C.; vice-presidents, Drs. Edward C. S. Taliaferro, Norfolk, Va.; Benjamin F. Halsey, Roper, N. C.; John F. Woodward, Norfolk, Va., and John R. Parker, Tyner, N. C.; secretary, Dr. John R. Bagby, Newport News, Va. (re-elected); treasurer, Dr. Israel Brown, Norfolk, Va. (re-elected), and orator, Dr. James R. Speight, Norfolk, Va. Washington, D. C., was selected as the next place of meeting.

Gymnasium Directors Meet.—The Society of College Gymnasium Directors held its annual meeting at Columbia University, New York, December 27-28. This organization is largely made up of men who are either physicians or who have had medical training. They hold in their hands great possibilities for benefit to the youth of the land. The program indicates the important position that college gymnasium directors occupy in their oversight of prophylactic medicine by means of physical education. Among the subjects discussed were: "Faulty Carriage;" "Responsibility of the University Toward Defective Students;" "The Sphere of the Physical Director," etc. Dr. R. Tait McKenzie declared it to be a duty of the university to examine its students, so as to be able to warn those who are hampered by defects of special senses, development, posture, etc., which interfere with efficient work. The officers elected for 1908 are: President, Dr. Thomas A. Storey, College of the City of New York; vice-president, Dr. James A. Babbitt, Harverford College, Haverford, Pa.; secretary, Dr. Paul C. Phillips, Amherst College, Amherst, Mass.; council: president, vice-president and secretary, with Dr. R. Tait McKenzie and Dr. George L. Meylan, Columbia University, New York.

FOREIGN.

Spanish Surgical Association.—The *Siglo Medico* announces the organization at Madrid of a national association of surgeons, to hold biennial meetings. The first will convene at Madrid in May. Cortejarena is president and A. M. Cospedal is secretary of the new organization.

Hirschberg Presents an Endowed Library on Ophthalmology to the Berlin Library.—Professor Hirschberg has informed the authorities that his will presents his valuable collection of ophthalmologic works to the Berlin Royal Library with an endowment of about $4,000, the income of which is to be applied for subscriptions to the current periodicals on ophthalmology and optics.

The Official Organ of the German Antiquackery Society.—The Guide to Health—*Gesundheitslehrer*—is to be henceforth the official organ of the German Antiquackery Society, in place of the *Hygienische Blätter*, which will no longer be published. The *Gesundheitslehrer* was founded by Dr. H. Kantor of Warndorf, Bohemia, and is written in popular style. Our exchanges say that no physician's waiting room should be without it, as it presents interesting articles on health, etc., besides waging ceaseless war on quacks.

Antimalaria Legislation in the Argentine Republic.—The *Semana Méd.*, Dec. 5, 1907, gives the full text of the law recently enacted to control the spread of malaria. It has nineteen paragraphs and appropriates $15,000 as an annual provision for the defense against malaria. The country is to be divided into zones where malaria is endemic, periodical or accidental, and efforts are to be made to prevent its importation into the present free zones. The application of the measures which "the new prophylaxis" recognizes as effectual is to be enforced, and quinin is to be supplied to all the sanitary authorities and heads of industrial establishments, etc., for free distribution to the poor and at cost to others, similar to the Italian system. Declaration of every case of malaria is obligatory, especially for the directors of schools, asylums, plantations, railroads, etc., under penalties of from $10 to $50. The railroads and other public works in the malarial zones are instructed to fill up excavations and drain pools and swamps resulting from their work within three miles of inhabited houses. Failure to comply with these regulations entails a fine of $1,000, with $200 additional for each month of delay, after the term set by the authorities, and for each pool or swamp. The railroads crossing one or more malarial regions and the proprietors of stores, factories or works established in these regions, employing more than fifty individuals, must install a permanent medical service for their employés. Failure to comply with this regulation entails a fine of $200, and the authorities will install the medical service at the proprietor's expense. Quinin is freed from customs duties.

LONDON LETTER.

(*From Our Regular Correspondent.*)

London, Jan. 11, 1908.

The Health of London.

The annual report of the health officer of the London County Council for 1906 has just been issued. When taken in conjunction with the more recent statistics of the registrar general for 1907, a great improvement in the health of London and an extraordinary and progressive decline in its death rate is shown. The latter reached the unprecedentedly low figure of 15.1 per 1,000 in 1906 and of 14.7 in the year just ended. Since the passing of the public health act in 1891 the death rate of London has declined 30 per cent. The death rate, which in the ten years 1861-70 was 24.4, has successively declined in the three following decades to 22.5, 20.5 and 19.6. The rate of infant mortality, which was 160 per 1,000 births in the decennium 1891 to 1900, has not exceeded 135 in the seven years 1901-7, and was unprecedentedly low in 1907—116. The death rate from the principal epidemic or infectious diseases in 1906 also fell to 1.4 in 1907, principally owing to the unprecedentedly low mortality from infantile diarrhea. The fatal cases of diarrhea were 4,507 in 1906 and 1,523 in 1907—a decrease only partly explained by meteorologic conditions in the past summer. No death from smallpox was registered in 1907, but the fatal cases of measles, scarlet fever and whooping cough were somewhat more numerous than in 1906. On the other hand, the deaths attributed to "fever" (principally typhoid) did not exceed 200, showing a decline of 75 from the number in 1906—being the least number recorded in any year of which records exist. Sir Shirely Murphy makes a curious comparison between the condition of the children of very poor people and those of the better class artisan. "Dirt inflammations in children of debilitated condition are the chief disease conditions of the slum schools, and in many cases for remedy require removal to a different environment, as in a residential country school. In the schools attended by children of the well-to-do artisan, the clerk and small shopkeeper, the children are often overclothed, coddled and pampered, and lymphatic conditions from want of exercise, enlarged tonsils, adenoids and anemia are the prevalent troubles.

Work of the Salvation Army Antisuicide Bureau.

General Booth presents a remarkable report of the work of this bureau, which was established about a year ago for the purpose of advising and encouraging individuals intending to commit suicide. During the year, 1,125 men applied to the London bureau alone, and an equal number sought help and consolation at the various branches. They belonged chiefly to the middle classes and had followed various occupations. Among them were clergymen, military officers, physicians, lawyers, constables, old sea captains, journalists, actors, teachers and mechanics. A notable fact, according to the report, is the fact that the "submerged" have not sought the aid of the bureau to any great extent, probably, as General Booth shrewdly remarks, because "either their bloodless condition deprives them of the courage necessary for self-destruction or that they have been so long near neighbors of misery that they are willing to continue the acquaintance to the end; or what is more feasible, the social agencies provided specially for these classes meet the requirements of the despairing among them." It is singular, too, that only 90 women appealed to the bureau for aid in London. It may be that women "are better able to bear up under their sorrows and trials than men," or that "the natural timidity of the sex prevented them from applying for relief." Most of those who applied had a superior education which rather unfitted them for the work within reach. As a rule, no financial relief was given, though in some cases this rule was broken. Sympathy, prayer and encouragement were always found useful.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

Vienna, Jan. 8, 1908.

An Outbreak of Typhoid Due to Milk.

The medical and sanitary authorities of Vienna have been somewhat alarmed by an outbreak of typhoid which, within a week, comprised thirty-five cases. As Vienna is the only large city in Europe which has been able to boast of being comparatively free from this disease, the common source of these cases was eagerly sought for. Since the completion, in 1879, of the aqueduct which supplies Vienna with water from the mountain range 6,000 feet high, about 50 miles from Vienna, no epidemic of this disease has been observed, and sporadic cases, it has been proved, have been imported by strangers or visitors. The recent outbreak was traced to certain milk stores. It appeared that the milk was collected from the suburbs and the neighboring villages, and that in some of them the milk was adulterated by admixture of water. During the process of pasteurization, by some mistake the required temperature of 70 C. was not reached, only 40 C. being attained. The milk was thus not free from spores, and when used unboiled infection was possible. The appearance of typhoid in some of the surrounding villages gave the clue as to where the actual pollution of the milk took place. So far, two cases have terminated fatally.

A Migratory Needle.

The question as to whether or not a foreign substance can migrate in the human body was raised recently at an autopsy conducted by Professor Sternberg on the body of a man aged 45 who had died suddenly. At the postmortem four fragments of a needle, each about one inch long, were found in the subcutaneous fat of the abdominal wall. The pericardial sac was filled with liquid blood and its anterior and posterior walls each showed a fine slit-like opening; two similar slits were found on the pulmonary artery, above the valves, and penetrating the lumen of the vessel. No other injury was visible. The slits were undoubtedly due to the piercing action of the needle fragment, which might have been carried away by the blood stream or have been one of the fragments found in the abdominal wall. We have no positive knowledge of the rate of movement of foreign bodies in the human organism. The findings in the pericardial sac permit the supposition that the needle penetrated the anterior aspect of the sac, pierced the artery, and left the sac on its posterior aspect a short time before death, as there were no signs of any respiratory changes in the lungs.

Suggestions for Suppression of Venereal Disease.

The recommendations of the committee for studying the suppression of venereal diseases appointed by the Vienna *Gesellschaft der Aerzte*, has recently been published, and contain some valuable ideas. The main suggestion, which is not original, however, consists in recommending the lawful detention of an individual when he becomes dangerous to the public, just as dangerous insane and criminals are kept away from society. Compulsory notification of these diseases is not considered necessary by the committee except in cases in which contact infection, or infection of children is imminent. Then the sanitary authorities should be communicated with and they should have the power to enforce isolation of the patient. In such cases, breach of professional secrecy should be lawful, but all persons engaged in notification or watching such patients should be bound not to disclose anything about them except officially to the authorities, who, again, should be bound by the same rule. Prostitution, the committee reports, should not be deemed unlawful, so long as it is controlled by the state, because these women are less infectious than those who practice secret prostitution. Diseased prostitutes should be detained for the whole period of infectivity. Examination of these women should not be done in their dwellings. Physicians doing this work should be paid by the state. The number of beds in wards for venereal diseases should be increased and treatment should be free. Infected persons who continue sexual intercourse should be punished by law, even if no infection results. Such punishments should be kept secret, however. The report emphasizes the importance of education of the public and practitioners regarding the period of infectivity, and also advocates instruction of men before marriage.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Chronic Bronchitis.

A simple prolonged acute bronchitis or an acute bronchitis becoming subacute bronchitis is not chronic bronchitis. Chronic bronchitis is not a very frequent disease, and an out-of-door life in dry regions, if possible, is almost an absolute necessity for cure. Medical treatment will aid, but will rarely cure the condition. Any improvement in the general health of the individual will also better the bronchitis. Some patients are comparatively free from their chronic cough and expectoration in the warmer seasons of the year, to have it annually return during the cold and damp seasons.

Terpin hydrate will diminish the secretion of mucus and often improve the condition while it is being taken. It should not be combined with a narcotic, as in any chronic condition opium or any of its alkaloids should not be given. Also the cough of chronic bronchitis is generally painless and productive of expectoration, hence it should not be stopped.

℞. gm.
Terpini hydrati .... 5| or gr. lxxv
Fac capsulas 20.
Sig.: A capsule, with water, every four hours.

Or:

℞. Tabletas terpini hydrati, āā, gr. v, No. 20.
Sig.: A tablet every four hours.

An iodid is often of marked benefit, at first increasing the expectoration and tending to diminish the purulent secretion and render the mucous secretion more liquid, and seems, often, to make the mucous membrane healthier. Its greatest advantage is in chronic bronchitis combined with asthma. Iodids should not be given when tuberculosis is present or a suspicion that there is a tuberculous focus, as it tends to cause the tuberculous region to break down. It may be given either as the sodium or potassium iodid, as:

℞. gm. or c.c.
Potassii iodidi .... 5| or ʒiss
Aquæ ....100| fl℥iv
M. et Sig.: A teaspoonful, in water, three times a day, after meals.

It is often best to double the above dose, and if there is asthma the iodid can be given in gradually increasing doses until very large doses are administered. If the patient's cough and expectoration become less and he adds weight, if he is thin, or reduces weight, if he is too fat, the drug is doing good. If the obverse of these conditions takes place, the drug is doing harm and should be stopped.

If the symptoms of iodism occur, the drug should generally be stopped for a time, and smaller doses given. These symptoms are frontal headache, coryza, a metallic taste in the mouth, and, often, a coated tongue. The headache is due to the congestion of the mucous membrane in the frontal sinuses. These symptoms will generally rapidly disappear after stopping the drug. One or two doses of atropin will hasten the relief of these symptoms. After the first symptoms of iodism patients often acquire a tolerance and can take large doses without discomfort. Often, sooner or later, an acne eruption may appear from the iodid. Some patients can not take a small dose of iodid without the disagreeable coryza, but can take large doses without these symptoms. Such an action is difficult to explain unless it is because the large doses promote more rapid elimination.

Cod-liver oil is many times valuable in chronic bronchitis. So are also olive oil, fat emulsions, plenty of butter, or any other aid to nutrition, provided the patient is not over-weight. If the patient is stout, the opposite is the better treatment, viz., something that would reduce weight, as the iodids, small doses of thyroid, saline laxatives, and a reduction of sugar and carbohydrate food. If cod-liver oil is given, it is better given straight and not in an emulsion.

℞. c.c.
Olei morrhuæ ....100| or fl℥iv
Sig.: A teaspoonful, three times a day, after meals.

[This oil may be administered on black coffee, or a little salt may be placed in the bottom of a wineglass with an ounce of water and the oil floated on top of this. The whole swallowed quickly leaves nothing but a salt taste in the mouth.]

Anything that improves the patient's condition renders the bronchitis less, and medicinal treatments frequently of value are the hypophosphites or glycerophosphates, as:

℞. c.c.
Syrupi hypophosphitum ....200| or fl℥vi
Sig.: Two teaspoonfuls, in water, three times a day, after meals.

Or:

℞. c.c.
Syrupi hypophosphitum compositi.......200| or fl℥vi
Sig.: Two teaspoonfuls, in water, three times a day, after meals.

Or:

℞. c.c.
Elixiris glycerophosphatum (N. F.).....100| or fl℥iv
Sig.: A teaspoonful, in water, three times a day, after meals.

[This elixir contains in each teaspoonful 0.06 grams (1 grain) of glycerophosphate of sodium and 0.03 grams (½ grain) of glycerophosphate of calcium.]

Arsenic in small doses, long continued, has often seemed of value in this disease. It may be given alone or combined with iron, as:

℞. c.c.
Liquoris potassii arsenitis.............. 20| or fl℥ss
Sig.: Three drops, in water, three times a day, after meals.

Or:

℞. gm.
Arseni trioxidi .... |04 or gr. ⅔
Ferri reducti .... 2| gr. xxx
M. et fac capsulas 20.
Sig.: A capsule three times a day after meals.

[The above capsules should be made up dry, not into a pill mass.]

If the circulation is weak and the arteries are in good condition, digitalis in not too large doses, as from 10 to 15 drops of the tincture three times a day, is often needed. If the patient is older and there is arteriosclerosis, strychnin is useful, in doses of 0.002 gram (1/30 grain), three times a day, after meals. The strychnin may be combined with the above capsule if desired. Strychnin seems of special value in patients who have emphysema with the bronchitis.

Of all treatments, however, the most valuable is hygienic, i. e., the abandonment of any occupation that causes a large amount of dust to be inhaled, removal from cities into the country, where there is less dust and cleaner air, and removal to a dry climate.

Pernicious Vomiting of Pregnancy.

Norris (*American Journal of Obstetrics*, April, 1907), thinks that in some neurotic patients rest and treatment by suggestion is of value.

Daily washing out of the stomach has been beneficial, and if there is hyperacidity he uses weak solutions of bicarbonate of soda (0.4 gm. of 1 per cent., or 2 grains to the fluid ounce). If there is a catarrhal condition of the stomach, he has found silver nitrate useful, and gives it as follows:

℞.	gm. or c.c.		
Argenti nitratis	20	or	gr. iv
Aquæ	100		fl℥iv

M. et Sig.: A teaspoonful, in a glass of water, every six hours.

When the vomiting becomes less he then gives a capsule of the following:

℞.	gm. or c.c.		
Cocainæ hydrochloridi	15		gr. iiss
Cerii oxalatis	4	or	ʒi
Bismuthi subnitratis	6		ʒiss

M. et fac capsulas 20.

Sig.: A capsule every four hours.

He sometimes uses counter-irritation over the stomach with mustard applications, and gives rectal injections, every six hours, of:

℞.	gm.		
Potassii bromidi	10		ʒiiss
Chlorali hydrati	5	or	ʒi
Aquæ	100		fl℥iii

M. et Sig.: Inject four teaspoonfuls in warm water into the rectum every six hours.

He also gives a hypodermic of morphin at night to secure sleep.

He believes that the most valuable single means of treatment is the frequent lavage of the colon with warm physiologic saline solution, leaving a portion of the fluid in the bowel, which will allay the thirst and aid in the secretion of the kidneys during this period in which the stomach does not retain sufficient liquid for the normal amount of water absorption.

Norris believes that it is useless to give food by the stomach when it increases the nausea or causes vomiting, although from time to time he would try one of the predigested nutriments. In a bad case the patient should be given absolute rest in bed, the stomach washed out every morning, and, perhaps, after the stomach washing a little predigested milk or egg water may be left in the stomach, which may remain with the influence of the morphin sedative that was administered during the night. He does not believe in relying on rectal feeding, as a patient can become very weak and practically starve on such attempted nutrition.

He also believes that the suggestive treatment in neurotic cases is paramount, and thinks that some local treatment of the pelvic organs *per vaginam* sometimes creates an impression in neurotic cases so that the vomiting may cease.

DISCUSSION OF THIS TREATMENT.

If examination, in a case of pernicious vomiting in pregnancy, shows no apparent kidney defect or abnormal uterine condition, the feeding of thyroid in small daily doses, as from three to five grains a day of the dried extract, will sometimes be of value. If the condition, on the other hand, is due to the patient's being neurotic, if rest, suggestion and simple stomach treatments, and possibly the occasional washing out of the stomach are of no avail, it would seem more justifiable to produce abortion than to give such strong treatment as above recommended. In other words, if a patient must go to bed, have daily stomach washing, almost stoppage of all nutrition, chloral and bromid *per rectum*, and morphin hypodermatically, we are justified in doing the thing that, even if the patient's life is not in absolute danger, will save a prolonged invalidism.

It is not sufficient to note whether or not there are albumin and casts in the urine. The twenty-four hours' urine should be repeatedly and carefully examined for the excretion of nitrogenous elements and salts, and if marked defect is found, careful consultation should decide whether or not the uterus should not be emptied in this persistent vomiting.

The washing out of the lower bowel is certainly good treatment, as many times absorption of the decomposition products from the colon is the cause of a toxemia, and the cause being removed, the patient will improve.

If rest in bed to await a change of pressure from the enlarging uterus on the nerves (and the various organs of the body seem healthy) stops the nausea, such bed treatment is justifiable. If nutrition is failing, the patient becoming weaker and weaker, we are not justified in waiting before operating, nor are we justified in giving a lot of narcotic medication.

Psoriasis.

℞.	gm. or c.c.		
Talci purifacti	10		ʒiiss
Zinci oxidi	50	or	℥ii
Olei cadini	40		fl℥iss

M. et Sig.: Apply to the affected skin every second day.

(Danlos: *Journal de Méd. de Paris*, Oct. 16, 1907.)

To Abort a Boil.

℞.	gm.		
Acidi salicyli			
Emplastri saponis āā	5	or	ʒi
Emplastri plumbi	10		ʒii

M. et Sig.: Spread on a piece of linen, cut to the proper size, and apply to the boil.

(*Journal de Méd. de Paris*, Oct. 16, 1907.)

A simpler method is to apply collodion when the first symptoms appear.

Burns.

While the general treatment of burns was discussed in The Journal, Sept. 7 and 14, 1907, the following suggestions for the immediate treatment and for the equipment of emergency kits may be of value.

It is not a good plan to put dry powders or thick ointment dressings on burns, at least during the first twenty-four hours.

As a temporary immediate dressing perhaps nothing is better than a mixture of powdered zinc with castor oil, in the proportion of one pound of the zinc oxid to one pint of castor oil. These preparations may be carried in the emergency bag and mixed together in any receptacle at hand. The burn thoroughly covered with this mixture and then a mass of gauze saturated with the mixture, placed over the burn, and bound lightly with gauze roller bandages soothes the pain, keeps out the air and does not injure the tissue.

The following preparations are also useful:

℞.	gm. or c.c.		
Aluminis	1		gr. xv
Plumbi acetatis	5	or	ʒi
Aquæ	100		fl℥iii

M. et Sig.: Add a teaspoonful to a pint of warm water, and apply as a wet dressing to the burned areas.

Or:

℞.	gm. or c.c.		
Acidi picrici	5	or	ʒi
Aquæ	100		fl℥iii

M. et Sig.: Add a teaspoonful to a pint of warm water, and apply as a wet dressing to the burned areas.

Septal Deviations.—H. P. Mosher, in the *Laryngoscope*, states that there are two great causes of deviations of the septum: trauma and asymmetry of growth. Of late, he declares, trauma has been held to play only a minor part; the tendency has been to consider unequal development of the two halves of the head the chief cause. This is true in some cases, but more often the inequality of growth is confined to the bones forming the hard palate, namely, the superior maxillæ, the palate bones and the premaxillæ. Mosher declares that the irregular and delayed irruption of teeth, especially the incisors, is responsible for this asymmetry in a large number of cases.

Pharmacology

ALLEOTONE.

A Sample of the Pseudo-Science and Deficient Information Offered Physicians.

We have received from readers in various parts of the country circulars and other "literature" advertising a preparation called "Alleotone." The following are samples of the claims made by its promoters for this preparation:

> "Alleotone . . . is one of the finest therapeutic agents known to the medical profession."
>
> "In Philadelphia, some of the leading physicians have stated: 'Alleotone is almost a sure cure for infective diseases.' Many hospitals are now using nothing but Alleotone on infective diseases and two have instructed their nurses to give it at the first appearance of fever."
>
> "A medicine that the physician can lay his hands on with the assurance that it will work alike in every case and WILL CURE DISEASE. It will cure 90 per cent. of the cases now being lost by all other treatments."

Before trying, even "on the dog," any new remedy that makes such startling claims, it is well, as a preliminary, to investigate what *prima facie* evidence may be forthcoming with reference to what can with certainty be ascertained about it, as well as the trustworthiness of those making these startling claims, so far as their accuracy can be checked in matters of demonstrable fact. The following is what purports to be the formula of the preparation, as given on the first page of an advertising pamphlet:

Alcoholici (Monatomic)	gr. 1/1000
Quininæ Sulphatis	gr. 1/384
Ac. Sulph. Dil. (10 per cent.)	gtt. 2½
Ac. Nitrici Dil. (10 per cent.)	gtt. 1/77
Ac. Butanol-Dioic.	gr. 1/3
Tr. Ferri Chloridi	gtt. 1/26
Aqua	gtt. xx

This formula is followed by several paragraphs of unique, if hardly accurate, descriptive matter setting forth the therapeutic values of the several ingredients, together with some rather original observations in chemistry.

As an aid to the profession in comprehending the value and the uses of this remarkable preparation, the formula above given is worthless. It can only mislead and mystify. Here and there, it is true, flashes of truth appear, but the greater part of the literature is a mere jumble of inaccurate and mystifying statements.

For instance, we are told:

> "Monatomic Alcohol is one of the constituents of all nerve tissue: 'It is a product of the replacement of one atom of hydrogen of the hydrocarbons by their hydroxyl group H.O.' "

This is indeed a piece of information that does not inform; since there is a vast number of monatomic alcohols and of every description. The assertion that the preparation "contains a salt" would be perfectly analogous and just as enlightening.

But not content with evading the promise implied in the publication of a formula, by thus giving information of no value whatsoever, the exploiters mislead by the further statement that monatomic alcohol is "one of the constituents of all nerve tissue." As the only monatomic alcohol commonly stated to be found in nerve tissue is cholesterin, one would naturally infer from the above statement that this substance is a constituent of the preparation; but all chemical tests have failed to reveal its presence. Even were it present in the formula, however, we are at a loss to see what therapeutic action it could possibly have.

In explaining the action of "Ferri Chlo" the following extremely interesting statement is made:

> "Ferri Chlo is found with all proteids and nucleins and herein acts as magnetic iron, aiding the play of the electrical travel."

The first assertion is untrue, for iron does not exist as chlorid in the cells of the body, but as some organic iron compound; neither is it found with all proteids, but principally in nucleoalbumins; and all proteids do not contain nucleoalbumins. The assertion that the iron chlorid "acts as magnetic iron aiding the play of the electric travel" is nonsensical and on a par with the electric belt method of exploitation, and suggests forcibly the class to which Alleotone belongs.

We are further told:

> "Sulphuric and nitric acids act in removing hydrogen atoms and substitute atoms of the radical NO_2: that is, as hydrogen tranquilizes the speed of burning or oxidation, its action is substituted by the atom nitrogen which is energy itself, nitrogen being the base of all explosives."

Certainly sulphuric acid is an oxidizing agent and in virtue thereof removes hydrogen; but not in a solution whose concentration with respect to sulphuric acid is approximately only 0.82 per cent.

Nitric acid, likewise, when in a concentrated form, somewhat readily gives up its nitro-groups, but in a solution containing 0.12 per cent. of nitric acid there would be practically no tendency to this evolution of its nitro-groups.

The statement that nitrogen is the "base of all explosives" is another example of the methods of the promoters. A statement incorrect, yet cleverly vague, is made evidently with the intention of impressing the reader with the erroneous idea that it is to the nitrogen atom that is due the tremendous power of nitro-explosives, whence by analogy the wondrous potency of Alleotone is artfully suggested. As it is a well-known fact, however, that nitrogen itself is one of the least reactive of gaseous elements, little confidence can be placed in such remarks as "Nitrogen which is energy itself."

Another mystifying term is "Ac. Butanol-dioic." This is a true chemical name, certainly, but it is one that is so little used that it will be recognized only by one who has closely followed chemical nomenclature through its various changes, and is acquainted with the rulings of the "Geneva conference:" in other words, few physicians will recognize in it simple malic acid, an ordinary vegetable acid widely distributed in ripe fruits, such as apples and pears, and possessing the properties simply of a relatively weak organic acid. To describe it as exercising any potent influence "in the oxidation of the phosphorus as lecithin in the cell"—especially in the extremely low concentration in which it is stated to exist in Alleotone—is simply an absurd juggling with words.

On the showing of its promoters, its literature, and its method of exploitation, the preparation should take its place at once as one of a certain class of "ethical proprietaries" that has its counterpart in "patent medicines" and "patent medicine" methods. The public, too, is informed (?) concerning the therapeutic value of the various ingredients contained in many of the "patent medicines" which it is urged to buy. It is not much to be wondered at that the public should be taken in by such pseudoscientific "literature;" but it is not only strange, it is discreditable to our profession, that among its members should be found any to accept such rubbish as the above quoted "literature" as information worth acting on—yet such there are, judging from the testimonials.

Wintersmith Tonic Wine.

Nepomuceno Alta, Cuba, Jan. 6, 1908.

To the Editor:—I enclose a circular on Wintersmith Tonic Wine, a proprietary article made by Arthur Peter & Co., Louisville, Ky. The circular is in Spanish, which I have translated as follows:

> We once more take the liberty of calling your attention to the remarkable curative properties of the "Wintersmith Tonic Wine," the "celebrated Anti-anemic and Antimalarial" (medicine). Although the matter accompanying this (letter) has no scientific character, still, we hope that it may in some manner interest you. If you count yourself among the great number of physicians who have the fortune to prescribe or take "the Life-saving Wine" we would highly appreciate the honor of knowing your opinion concerning the qualities of our preparation.

I never prescribe any "patent medicine," but as several physicians here are using this preparation, and some of my patients have suggested its use, I should like to know its composition in order that I may be the better able to combat its pretensions. I understand that it contains quinin, yet the makers claim the contrary. J. M. Espin, M.D.

Comment.—"Wintersmith Tonic Wine" is the name under which Arthur Peter & Co., Louisville, Ky., export the preparation advertised and sold to physicians in the United States as "Febri-Tone." According to the advertising literature, the active ingredient in this preparation is quinidin sulphate, an obsolete cinchona alkaloid. Each fluid ounce of the remedy is said to contain six grains of the salt. The action of quinidin is essentially that of quinin, with which it is isomeric; quinidin sulphate was official in the Pharmacopeia of 1890, but was dropped from that of 1900, presumably because it had been proved of less value than other alkaloids of cinchona. It certainly has no advantages over quinin, and the dose is about one-half larger; therefore, if the statement in the literature is correct, each ounce of the liquid contains the equivalent of only about three grains of quinin.

As usual in exploiting proprietaries, the manufacturer claims that his preparation has wonderful curative properties not possessed by other remedies containing the same drug or active principle. For example, the following quotation appears in the literature circulated among physicians:

"Febri-Tone is unexcelled in all periodic disorders and neuralgias of malarial origin and in convalescence. Where quinin or its salts has proved unavailing; in obstinate and chronic cases; in the malaria of infants and children, its efficacy is remarkably gratifying and it produces none of the noxious symptoms that so often accompany the administration of quinin." Again: "In short, Febri-Tone fully and pleasantly replaces and is specifically more effective than quinin or any of its salts."

And this in spite of the facts that quinidin and its salts are acknowledged to be less effective than quinin and must be given in larger doses.

Such claims, if they referred to a "patent medicine" pure and simple, would be ridiculed by every physician in the country; but relating as they do to an "ethical proprietary" they are accepted by some physicians at least as authoritative statements to be relied on.

Correspondence

The Inventor of the Guillotine.

Philadelphia, Jan. 19, 1908.

To the Editor:—In The Journal, Jan. 11, 1908, page 137, Dr. James Moores Ball corrects a statement attributed to me, in regard to Dr. Guillotin's death. It would have been more courteous for him to have waited until my paper was published in full, as it is not customary to review or to comment on such accounts of society meetings, often written by non-medical reporters. I endeavored to make my paper somewhat humorous, intending to restrict myself, should I publish it, to the truth. Your correspondent must know, as he seems to have looked up the subject, that there has been endless discussion about Dr. Guillotin and the guillotine, so much so in fact that I believe that the statement that the value of my paper was "much lessened" by my saying that "Dr. Guillotin, inventor of the guillotine, had his own head chopped off" is exaggerated. There is a similar good old anecdote going back to the days before Dr. Guillotin died and even before he was born. Dr. Ball mentions in his letter the "maiden" of Scotland, but he did not tell us that it is believed that the regent, James, earl of Morton, introduced it into that country. Sir Walter Scott says, speaking of him: "He met his death with the same determined courage that he had often displayed in battle; and it was remarked with interest by the common people, that he suffered decapitation by a rude guillotine of the period which he himself, during his administration, had introduced into Scotland from Halifax; it was called the 'maiden.'" —(History of Scotland, vol. 11, p. 168.)

From this popular tradition has come the saying: "He that invented the maiden first hanselled it."

Perhaps your correspondent does not believe this story either; I prefer to believe in it.

True it is that Dr. Guillotin did not have his head cut off, but it is a very popular error; even Thackeray in his "Adventures of Philip," Biog. Ed., p. 277, says: "Was not good Dr. Guillotin executed by his own neat invention?" A question, but only admitting of but one answer.

Dr. Guillotin at any rate came very near suffering from his own "neat invention," as it is stated that his protests against the excesses of the terror led to his imprisonment, which would in all probability have terminated in his decapitation but for the counter revolution of July, 1794.

The question as to whether Dr. Guillotin did invent the guillotine is a debatable one, the weight of evidence favoring Dr. Ball's contention; but I think the following from *Galignani's Messenger*, under date of Feb. 4, 1857, worth quoting:

"A dealer in old iron and cast-away articles, residing at Lyons, found two days ago among a lot of miscellaneous matter sold to him, a small copper case containing two autograph letters from Dr. Guillotin to Robespierre, dated at Lyons, Jan. 7, 1792, detailing the advantages, promptitude and absence of pain in the punishment of death effected by the guillotine, which he had just invented. In one of these letters he requested him to ask Danton to send in a favorable report to the legislative assembly, and to speak himself in favor of the invention. The second letter is one of thanks to Robespierre, for having supported his application to the assembly. It bears the date of March 27, 1792, exactly one week having elapsed since the guillotine had been adopted as an instrument of death, and thanks voted to the inventor."

And again in "*Abrégé Historique de la Révolution Francais*," published in 1802 or 1803, we find: "The gallows was replaced on May 31, 1791, by a new machine called the guillotine, after Dr. Guillotin, who invented it, carrying off the prize from Mirabeau, but for which it would have been called *Mirabelle*." This being a pun on the word *Mirabelle*, which was also the name of a plum.

Dr. Guillotin's celebrated remark may also aptly be mentioned, "*Moi, avec ma machine, je vous fais sauter la tête d'un clin d'oeil, et vous ne souffrez pas.*"

These few abstracts from the literature on this subject will, I think, prove that I should not be so severely criticised for saying what I did. I prefaced my paper read before the Philadelphia County Medical Society with these words, "I care not to seem morose nor to add to the seriousness of our rather gloomy topic of discussion, so if I interlard my obituary notices with a few anecdotes it is but to lighten the dark and musty pages of medical history and to make my remarks a little less tiresome."

Some there are doubtless who would say, as well take the hatchet from George Washington, as the guillotine from Joseph Ignatius Guillotin; perhaps if truth were known you would find among them William Pepper, M.D.

The Prescribing of Proprietaries.

Evanston, Ill., Jan. 24, 1908.

To the Editor:—In a recent editorial you seemed to imply that Mr. Bok had given a somewhat unfair impression of the present condition of medical practice in this country as regards the proprietary medicines. As endorsing his position, permit me to relate an experience.

At a recent meeting of a surgical society, one of the papers was on a troublesome variety of injury. The essayist is a professor of surgery in a recognized medical school. His position entitled us to expect a valuable and instructive article. Unfortunately, the entire paper was taken up with generalities and lamentations. Conditions were not clearly stated, and relationship of complications to the injury was not discussed. Indications for guidance in treatment were not enumerated.

In the one illustrative case mentioned this professor admitted that he often changed his treatment daily, though he gave no reason, and at least two out of three of the medicinal articles mentioned were secret proprietary goods. He was clearly trying to sail his ship without a chart, veering with every shift of the wind.

In the discussion, one speaker mentioned the fact that physicians had long enough been used by manufacturers as advertising agents without pay, and the more doctors use secret mixtures the less exact they become. He was immediately followed by a member who said in substance: "The true physician, when he looks on the sufferings of a helpless child, rises above the narrow limitations of ethical laws and takes aid wherever he can find it." He added that the "patent medicine" mentioned gave relief in such cases, but even he did not claim that this "patent medicine" was the only thing that might help. One after another of those present spoke in favor of that particular secret mixture. Some used it because it was "put up in convenient shape." Not one could tell of what it was composed, nor give any reason for its superiority.

I was surprised that the remarks on "ethics" called forth applause. Rules of ethics are not arbitrary laws, but deductions of those who have studied the subject. Webster calls ethics: "The science of human duty," and that is as good a definition as we need. Clearly the rules of ethics, whether written or not, demand of the physician or surgeon the most speedy relief possible. They demand that he shall use his best skill. He has no right to use something simply because it is "handy" and saves thinking. He must know.

But think of the effect on the spectators when the learned doctor without a struggle uses a secret mixture, the qualities of which each of them know as well as he—from the advertisements!

The remark about a "suffering child" is good oratory, but it was made in a surgical discussion. Suppose the child had been gored by a bull. Would the doctor sanction the relief of suffering by the replacement of the intestines by the dirty hands of a stable boy? Certainly not, for fear of adding an unknown infection or poison.

In the use of the secret mixture is he sure that he is not adding an unsuspected poison? Is he not blindly following empirical charlatanry?

The professor closed the discussion somewhat as follows: "I used the secret mixture mentioned because the professor of internal medicine in one of our leading colleges, suggested it. If I did wrong, he did wrong. He got me to use it." Such childish evasion of responsibility by a college professor is a disgrace. The really alarming feature is not that a secret drug was used, but that men who should be leaders do not recognize that such an act is a public confession of their absolute incompetence, and to that degree it stamps them with the mark of quackery.

HENRY B. HEMENWAY.

Vocal Fremitus in Pleural Effusions.

PHILADELPHIA, Jan. 25, 1908.

To the Editor:—In THE JOURNAL, Dec. 7, 1907, appears an interesting and valuable note by Dr. W. J. Calvert on "Increased Vocal Fremitus in Pleural Effusions. The increase or persistence of the voice vibrations is, as Dr. Calvert states, most unusual in the effusions of adults; but it does not seem to be generally appreciated that in infants and young children this phenomenon occurs with comparative frequency. I have repeatedly satisfied myself of this and have demonstrated it to, and have had my observation confirmed by internes at the Children's Hospital, Philadelphia.

The character of the fremitus, while it constitutes one of the most valuable means of diagnosis of pleural effusions, I have come to regard as unreliable in young children, because I have found it so variable: unchanged, retained or even increased. This fact, together with the frequency of bronchial breathing and voice over the fluid, has led to many mistakes in diagnosis.

In making these remarks, I am not alluding to the increased fremitus present in all large effusions beneath the clavicle and in the inner scapular region, and due to the compressed lung; but to a fremitus observed lower down over the effused fluid itself.

I know of no American pediatric writer who mentions the phenomenon now under discussion; but it has frequently been commented on by English authors (Eustace Smith among others). The explanation given by Dr. Calvert that increased fremitus in pleural effusions is due, in most instances, to intrathoracic tension is probably correct; but it will not account for its comparative frequency in infancy and childhood.

D. J. MILTON MILLER.

Carbon Dioxid Not Cause of Death Following Use of Antitoxin.

BEDFORD, IND., Jan. 21, 1908.

To the Editor:—In THE JOURNAL, January 18, Dr. Lewis M. Gainer of Wake Forest, N. C., commenting on a death from diphtheria antitoxin, suggests that the excess of carbon dioxid in the blood may have produced an irritability of the respiratory centers and that the antitoxin may have added to that irritability and produced death. In laryngeal diphtheria a marked cyanosis is often seen, due to lack of oxygen and excess of carbon dioxid; in these cases it is my rule to give from 5,000 to 8,000 units of antitoxin for an initial dose in any child from 3 to 8 years old. I have never seen any untoward results even when the dyspnea and cyanosis were extremely marked. The thought came to me that there must have been some other cause for death in this case. Physicians should never hesitate to give large doses of antitoxin in laryngeal diphtheria; the greater the cyanosis the larger the dosage.

C. H. EMERY, M.D.

Book Notices

ROYAL COMMISSION ON VIVISECTION. Appendix to the Third Report of the Commissioners. Minutes of Evidence, April to July, 1907. Pp. vi-266. Price, 2s. 2d. London: Wyman & Sons, Limited, 109 Fetter Lane, E. C., 1907.

This volume contains the testimony of a number of prominent physiologists and others on both sides of the question. Besides the representatives of the antivivsection societies at whose instance the commission took up the subject, we have here the utterances on the subject of such authorities as Sir T. Lauder Brunton, Mr. Henry Morris, F.R.C.S., Major Rogers of the Medical College of Calcutta, Sir H. R. Swanzy, Prof. E. A. Schäfer, Dr. C. J. Martin and Dr. D. W. Buxton, lecturer on anesthetics in the University College Hospital of London. Drs. Brunton, Morris, Rogers, Swanzy and Schäfer review the history of physiologic progress, showing how much of it is due to animal experimentation and how the older investigators in this line, like Hales, Bell, and later Claude Bernard and others, laid down the foundations by experiments on animals on which our modern knowledge of physiology is based. Mr. Henry Morris gives a diagram, showing how Lister's early work on inflammation, etc., and that of Pasteur led up to Lister's work on the treatment of wounds, from which has branched off the science of bacteriology on the one hand, with all its medical bearings and the possibilities of modern operative surgery on the other, neither of which would have been possible without the knowledge obtained by animal experimentation. Thus the causes of the various infectious diseases could never have been discovered in any other way, and the facts we possess in regard to immunity and serum therapy could only have been obtained in this way, to say nothing of the advances in diagnosis, knowledge of the life history of pathogenic germs, which is absolutely necessary to our ability to resist them, and all the hygienic and surgical improvements which have made commonplaces in our day of life-saving and pain-saving operations never before thought of. Morris gives a partial list of diseases (including diphtheria, tetanus, hydrophobia, anthrax, glanders and exophthalmic goiter) our power to cure, prevent or relieve which is directly dependent on animal experimentation, and he quotes also the researches now being made on cancer as giving a hope for still further progress in this direction. Major Rogers of the Indian Medical Service gives an account of the work already done in regard to the cure of snake bites and the control of rinderpest in

India. Dr. Swanzy demonstrates how experiments on animals have advanced the treatment of eye diseases, and Professor Schäfer demonstrated their advantages in physiologic investigation and instruction. Dr. Martin explains what has been done in serum therapy and its indebtedness to vivisection, and his testimony is a very complete summary of the subject, notwithstanding the fact that he was examined largely by one of the commission who seems to have posted himself in the statistics, such as they are, that have been published, apparently throwing discredit on the method.

The blue book concludes with an admirable presentation of the ethical side of the subject by the Right Hon. Sir J. Fletcher Moulton, Lord Justice of Appeal, to which reference is made below.

The whole mass of testimony before the commission in this report ought to give the British legislators the information that will bring about a reform in the legal regulations that now cripple investigation in Great Britain

The inquiry divides itself naturally into three parts:

> 1. Is the existing (British) law against unnecessary cruelty in experiments on animals adequately enforced?
>
> 2. Are experiments on animals of real scientific value and use, and if so, to what extent?
>
> 3. Are such experiments justifiable at all on ethical grounds?

With No. 1, as being purely local in its scope, we are not concerned.

We may dismiss No. 2 with the remark that by far the larger number of antivivisectionists are not by training competent to form a sound opinion thereon. This was specifically admitted by one of the witnesses on the ethical side of the question. The Rev. Mr. Lewis said: "If I wanted a guide in morality I should go to these (sundry eminent theologians and philosophers). If I wanted a guide for utility I should go to the doctor." On the other hand, those who by training are presumably competent to express an opinion worthy of consideration on the utility, and whose opinion is adverse, are small in number, and, with the exception of a few names that may be counted on the fingers, no greater in weight. The ordinary rules of evidence and criticism, then, can not be disregarded in this inquiry, and the enormous mass of evidence in support of the incalculable value (according to an overwhelming majority of the competent experts), of animal experimentation to physiology, one of the foundation stones of scientific medicine, to the science and art of both medicine and surgery, and, in a lesser degree, to the adequate training of the physicians and surgeons of the future, can not be set aside in favor of the contrary opinion expressed by an almost insignificant minority, both in number and weight.

There remains for consideration the ethical problem, and this problem must be squarely faced. With a view to that end, we will endeavor to reproduce it as it was set forth in their evidence by those witnesses who gave evidence against vivisection from the moral standpoint as they viewed it. Their propositions may fairly be syllogistically stated as follows:

> 1. In deciding on the lawfulness of anything, moral considerations are superior to, and must precede, utilitarian ones.
>
> 2. Morality says that the infliction of pain is unjustifiable unless it has in view, in part at least, the benefit of the particular individual on whom it is inflicted.
>
> 3. Therefore, however useful to humanity at large the infliction of pain in experiments on animals may be (if conceded), it is still immoral because in no case is it practiced with the benefit of the particular animal experimented on in view.

The major premise is conceded. The minor premise is denied and proof called for. That is offered as follows:

> 1. It is unlawful to pervert anything from the use that God (or Nature) has intended it for.
>
> 2. Pain was intended to preserve the life and promote the future happiness of the individual on whom it is permitted to fall.
>
> 3. Therefore, to inflict pain for any object that has not in view, in part at least, the preservation of the life or the promotion of the future happiness of the individual is a perversion of the intention of pain, and consequently, unlawful.

Now, while the minor premise in this case can not perhaps be flatly denied, it is certainly not proved, and we have a right to challenge its supporters for proof. If there is one subject in moral philosophy that, more than any other, has occasioned much disputation, challenged the serious attention of moralists, and resulted in manifold theories in explanation without approaching a definite settlement, it is the purpose of pain in the scheme of the universe. We can only charitably assume that those gentlemen and ladies who so glibly dispose offhand of so complex a problem have scarcely qualified themselves by such a study of their subject as is usually expected from experts of any kind. The Rev. Mr. Page Hopps, after expressing his "doubts" as to the utility of such experiments and also giving utterance to the argument against infliction of pain except for the individual sufferer's benefit, asked, "What law of God or Nature justifies this treatment of our poor relations?" Mr. Hopps admits that he is in a position of doubt as to the (moral) lawfulness of killing animals for food, but another witness, the Rev. Mr. Lewis, has no scruples on that score. Both may be referred to Genesis 1:26: "And God said, Let us make man in our image after our likeness, and let him have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth;" also to a parallel passage in Psalm 8:6, 7 and 8. Now, the right of dominion necessarily implies the right to constrain the freedom and to use, by the subversion of the ordinarily admitted rights of the individual, subject only to the necessities of the case conditioned by a due proportion of respective rights and interests involved; and this involves the right of life and death, provided the necessities be urgent enough. On this supposition only can it be held justifiable to take life, even in self-defense. How much more, then, is this the case in regard to the killing of animals for food! For though it is true, as the Rev. Mr. Lewis says, that animal teeth were given us to eat meat with, the most ardent advocate of a mixed diet for the human race could not argue, in the face of the millions of non-meat-eaters in the world, that the use of animal food is absolutely essential to the preservation of life, or even of a fair state of health.

But there is still a stronger problem for the meat-eating antivivisectionist to encounter. It was pointed out by the commission that the painful operation of castration was practiced yearly on millions of animals to make their meat more palatable and perhaps more nutritious (to say nothing of the castration of animals to make them more tractable as beasts of burden). Every person who eats meat is sharing for his esthetic gratification in the result of a painful operation on animals in which the benefit of the victim does not enter into consideration. To be sure, Mr. Lewis expressed his opinion that, so far as he knew, many animals "led a much happier life because that operation had been performed than they would have done otherwise," though he discreetly forebore to state on what grounds he based that opinion. Mr. Lewis made the suggestion, it is true, that the animals ought to be anesthetized before castration; and, to the objection that there would not be anesthetics enough in the world, he replied that a realization of the necessity would soon make the supply equal to the demand. But even that proviso would not be applicable in another instance that was adduced, in reference to the 21,000 deaths that occur annually in India from snake bites. When asked whether a fatality of such magnitude would not ethically justify inoculation experiments on animals to test the value of a proposed remedy, Mr. Hopps replied that he would rather "go for the snakes." Considering the nature of the snake, the methods necessary to "go for it" can not conceivably be divorced from the necessity for inflicting pain, and assuming that the reverend gentleman would have the snakes all anesthetized before being killed, and that the supply of anesthetics was sufficient to meet all demands, who is going to do the anesthetizing? Would the reverend gentleman volunteer at a good salary? It would be worth it to the community.

We must, then, deduce that since man has the right to kill for his benefit without regard to the benefit of the individual victim in some instances, and since it is impossible that in all instances in which he has the right to kill he can avoid inflicting pain, it follows of necessity, since the greater includes the less, that the axiom so dogmatically stated, that man has no right to inflict pain unless the benefit of the victim is in part at least an object, falls to the ground, and the question is one merely of degree, that is to say, one of the relative proportion between the pain inflicted and the benefits looked for; thus the direct antithesis between morality and utility ceases to exist as an absolute relation. We consequently find ourselves back again at the point that the justification for the infliction of pain depends on the relation between the suffering inflicted on the individual subject and the probable benefit to the dominating community, which is a question of fact on which, according to the testimony of the Rev. Mr. Lewis, it is the part of wisdom to go to the doctors as a guide.

Sir John Fletcher Moulton, one of the justices of appeal, in a masterly exposition of the ethical and utilitarian propriety of animal experimentation, made the point that there were two kinds of pain, pain inflicted and pain prevented, and indicated that the well-meaning sentimentalists who opposed all vivisection were so entirely lost in the consideration of the pain inflicted that they overlooked the far larger proportion of pain, preventable and prevented, through experiments on animals. If we have succeeded in showing that both results need not necessarily occur in the same individual, his reasoning must be regarded as absolutely irrefutable.

Finally, to those who have followed the antivivisection crusade these many years past, the name of the Hon. Stephen Coleridge will need no introduction. The best commentary on his ethical pleadings (which open with a parody in ten counts, each commencing with the phrase, "I am here to charge the home office officials," in obvious but feeble imitation of Zola's famous *"j'accuse"* in the Dreyfus case) is the reproduction of his reply when asked why he would not put credence in the assertions of any vivisectionist: "They would deny a breach of the act, just as I should deny a breach of the motor-car act. I drive a motor car, and when I go beyond the speed limit, and a policeman asks me, I say, 'No, I am not going beyond the speed limit.'"

This answer will perhaps help us to understand how it came about that so experienced a witness, and a lawyer besides, had no less than seven times to retract or modify his statements when challenged.

Verily, those "specialists in morality," the Rev. Mr. Hopps and the Rev. Mr. Lewis, as they view their associates in the defense of morality, may well exclaim with the poet:

> "Misery acquaints a man with strange bedfellows."

GYNECOLOGY AND ABDOMINAL SURGERY. Edited by Howard A. Kelly, M.D., F.R.C.S. (Hon. Edin.), Professor of Gynecologic Surgery at the Johns Hopkins University, and Charles P. Noble, M.D., Clinical Professor of Gynecology at the Woman's Medical College, Philadelphia. Illustrated by Hermann Becker, Max Brödel and Others. Volume I. Cloth. Pp. 851. Price, $8.00 net. Philadelphia: W. B. Saunders Co., 1907.

The first volume of this work contains twenty-five chapters written by sixteen authors. All of the writers are well known and many of them have international reputations. Excellent discrimination has been shown in the assignment of the subjects, and where differences of opinion still exist, as to the method of choice in a given condition, each side has its own advocate to present its claims. In this manner both sides of the subject are thoroughly covered and one is thus better able to judge as to the method of election in a particular case. The subject of pathology is all considered in one chapter, which not only permits condensation, but also prevents unnecessary repetition. The chapter on medical gynecology is a commendable one. The writer points out very clearly that every woman who appears with a complaint is not necessarily a subject for some operation on her reproductive organs, that many of them not only need no operation, but are actually made worse by one. The illustrations, which are numerous, are nearly all original and up to the standard of the well-known artists. From the character of the first volume a very flattering reception at the hands of the profession can be predicted for the work.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

TREATMENT OF BOTULINUS POISONING.

LOS ANGELES, CAL., Jan. 4, 1908.

To the Editor:—Is there any successful method of treating botulinus poisoning? In the only three cases of which I know, due to eating canned pork and beans, although treated by good physicians, the patients all died.
IRWIN N. FRASSE, M.D.

ANSWER.—Poisoning by meat includes several different processes and the success of treatment will naturally vary with the particular form involved. The most acute form is a ptomain poisoning due to a poison already formed in the meat or other nitrogenous matter, such as beans, probably most commonly by the agency of the *Bacillus botulinus,* which has been identified in a number of epidemics of sausage poisoning. One of the most interesting epidemics of this sort was due, not to sausage, but to preserved beans. The *Bacillus botulinus* was identified in the beans. The cases occurred at Darmstadt in January, 1904. Twenty-four persons ate of the beans, of whom 21 were taken sick and 11 died, a mortality of 52 per cent. (Fischer, *Zeitschrift f. klin. Med.*, lix, p. 58). In this epidemic Collatz treated four persons (*Berlin. klin. Wochschr.*, Oct. 30, 1905). One died, a second recovered, and Collatz treated the remaining two with the serum of the second patient taken during convalescence. Improvement set in after the serum treatment was begun and progressed to final recovery. The experiments of Kempner have shown that goats can be protected by an antitoxic serum, but it is of no avail unless used within twenty-four hours after the beginning of the poisoning. A. Tchitchkine (*Ann. d. l'Institut Pasteur,* 1905, xix, p. 335) found that animals may acquire immunity, but it is very weak and requires a long course of treatment. G. Morelli says that the following symptomatic treatment is useful: Washing the stomach, high enemata for the constipation and pilocarpin for dryness of the skin and mucous membranes. In the second class, cases of meat poisoning are caused by a rapid infection with the paratyphoid bacillus of the type B, which causes an acute gastroenteritis accompanied by fever and general constitutional symptoms. V. Krehl and A. Kahn report (*Wien. med Wochschr.,* liv, p. 2163), 8 cases caused by the paratyphus bacillus. Trautmann also favors the view that meat poisoning is due to an acute infection with paratyphoid bacilli (*Berlin. klin. Wochschr.,* xliii, 1102). A. Stoll reports 7 cases of fish poisoning due to the *Bacillus paratyphosus,* type B (*Correspondenzblatt f. Schweizer Aerzte,* xxxv, p. 137). For these acute affections with the paratyphoid bacillus nothing but symptomatic treatment seems to be available. It is always good practice to wash out the stomach and give colonic flushings to cleanse the lower intestinal canal. Bismuth for the vomiting or diarrhea is appropriate. The strength should be sustained by appropriate tonics, and the action of the skin and kidneys maintained. Hypodermic injection of normal salt solution may be used to stimulate the kidney. Meat poisonings of the third class are more chronic infections with bacilli usually of the paratyphoid group, pursuing a course more or less analogous to typhoid fever and requiring very similar treatment.

DOES BLAUD'S MASS DETERIORATE WITH AGE?

CLEVELAND, OHIO, Jan. 13, 1908.

To the Editor:—Do compressed tablets containing Blaud's mass, strychnin and arsenic deteriorate with age, or are they efficient, say, for two years? If not, why?
F. W. L.

ANSWER.—The tendency of ferrous carbonate—Blaud's mass—to take up oxygen and to evolve carbon dioxid, thus forming ferric oxid, is so great that various expedients have been tried to preserve ferrous carbonate in the ferrous condition for medicinal use. This has been accomplished in the pilula ferri carbonatis by mixing the ingredients with very small quantities of water and by the addition of sugar, etc., to prevent oxidation. These precautions prevent immediate oxidation, but they can not prevent the eventual change into ferric oxid. The pharmacologic authorities, including the U. S. Pharmacopeia, advise that these pills be freshly prepared. We find no data from which it can be stated how long the pills will keep or what their degree of efficiency would be at the end of a given time. It is probable from a theoretic standpoint, however, that at the end of two years the ferrous carbonate would have been completely converted into the ferric oxid. Ferric oxid, after thorough drying, is likely to become practically insoluble in dilute acids, and it is insoluble in alkalies, so that it would be deprived of all therapeutic efficiency. The compressed tablet is not a desirable form in which to administer such a combination of medicines as that above referred to. It would be preferable for you to combine such quantities of strychnin and arsenic as you find necessary with the official pill mass and have made the requisite number of pills or capsules. You may use instead of the pil. berri carbonatis the massa ferri carbonatis or Vallet's mass. In case the pilula ferri carbonatis is prescribed the prescription should take the following form:

R.	Strychninæ sulphatis	gr. 1/100	|00065
	Arseni trioxidi	gr. 1/100	|00065
	Pil. ferri carbonatis, No. i		

Misce ft. pil vel capsula No. i: fac pilulas centum similes.

A prescription like the above not only has the advantage of securing the efficiency of the ferrous carbonate, but also enables the physician to vary the proportions of the ingredients at will.

TREATMENT AFTER IMMEDIATE REPAIR OF PERINEUM.

———, Wash., Dec. 17, 1907.

To the Editor:—What is the best after-treatment of immediate repair of the perineum? L. B

Answer.—In cases of repair of incomplete laceration of the perineum, the management of the puerperium does not differ materially from that of the puerperium when no laceration exists. With normal lochia no vaginal douches should be given. If the discharge becomes offensive, showing contamination, vaginal douches of sterile water, normal salt solution or boric acid should be given two or three times a day. The external vulvar region should be washed with an antiseptic solution when the pad is changed, and especially after urination or defecation. The pad should be large enough to form an occlusion dressing, and should be changed frequently so that it is never saturated. The patient need not be catheterized if she can urinate spontaneously. The bowels should be moved with a mild laxative, such as senna or cascara. The external stitches if of silkworm gut are generally removed on the tenth day unless they become infected, when they should be removed at once. It is not necessary to bind the legs together and the patient may move around in bed. If the laceration is complete more care must be given to the emptying of the bowels; otherwise the management is the same as in repairs of lacerations of the first and second degrees. On the third day repeated small doses of senna and cascara should be given to render the feces soft, then three ounces of olive oil should be injected into the rectum with a soft rubber syringe (a three-ounce ear syringe), and a soap solution enema administered to secure the evacuation. The physician himself should attend to this first bowel movement unless the patient is in the care of a well-trained nurse. The perineal region is well irrigated during and after the bowel movement. Subsequent daily movements are secured and managed in the same way.

THERAPEUTIC VALUE OF NUCLEIN.

St. Paul, Minn., Jan. 11, 1908.

To the Editor:—What is the present status of opinion regarding the therapeutic value of nuclein, given by mouth and hypodermically? Edwin Olander.

Answer.—The following quotations fairly represent the views held by the profession:

Sollmann (Text-Book of Pharmacology, 2d edition, 1906, p. 301) says: "These nucleins have of recent years been extensively tried for various obscure affections, and so far it is impossible to say anything definite about them."

Hare (Therapeutics, 12th edition, 1907, p. 360) says: "Nuclein has been used with asserted success in the treatment of the ordinary forms of pulmonary tuberculosis and for septicemia. Theoretically, it should prove useful in combating any infectious process, but practically nuclein has proved of little value and is not generally employed."

H. C. Wood (Therapeutics, 12th edition, p. 530) says: "An organic remedy whose value is very problematical is the so-called nuclein."

BOUGARD'S PASTE.

Wellsboro, Pa., Jan. 13, 1908.

To the Editor:—For skin cancers I have used for some time the following preparation, known as Bougard's paste, and have obtained good results. The formula was taken from the *Medical News* about ten years ago.

Wheat flour,			
Starch, āā	15		℥ss
Arsenous acid		32	gr. v
Red sulphid of mercury,			
Hydrochlorate of ammonia, āā	1	16	gr. xviii
Bichlorid of mercury		13	gr. ii

Mix in mortar and add five ounces of hot water, half an ounce of chlorid of zinc and five grains of hydrochlorate of cocain. Spread on a cloth or adhesive plaster about ⅛ inch thick. Apply it to the part affected and leave it in place for about twenty-four hours. Considerable pain and swelling ensue and a slough comes away in about four days. Sometimes a second application is necessary. After the slough separates, any mild dressing will do. I generally use boric-acid ointment. The chlorid of zinc is probably the ingredient which does the good. I do not believe that the cocain is of any value. If the parts are dry, they should be abraded before applying the paste. C. W. Webb, M..D

CUBAN ITCH AND SMALLPOX IMMUNITY.

Corona, S. D., Jan. 16, 1908.

To the Editor:—1. What is meant by Cuban itch? Is it distinctive, and has it any relation to smallpox or chickenpox? 2. Is it the opinion of medical authorities that a natural immunity exists in children whose parents and grandparents have been repeatedly vaccinated? Is it relied on to any extent. L. B. Prouty.

Answer.—1. A similar query was answered in The Journal, April 13, 1907, p. 1283. After the Spanish-American war in 1898, an epidemic of smallpox of a very mild character prevailed extensively throughout the northern United States. By many, this epidemic was attributed, probably correctly, to the introduction of the disease by returned soldiers from Cuba and the Philippines. In many localities, in consequence of the mildness of the disease, its true character was not recognized, and it was variously styled "Cuban itch," "Philippine measles," etc. While these cases were genuine smallpox it is probable that the same term has been applied to other exanthemata and to other forms of skin disease.

2. No. Immunity is not inherited but must be acquired by the individual.

COMPARISON OF OLIVE OIL AND LINSEED OIL.

Red Wing, Minn., Jan. 17, 1908.

To the Editor:—Can you tell me the difference between the action of olive and linseed oil? If linseed oil were purified, would it not answer the purposes that olive oil does? M. H. Cremer.

Answer.—No particular difference can be made between the physiologic action of linseed oil and olive oil. Both act as fats available for nutrition, but, on account of its disagreeable smell and taste, linseed oil is little used. It is regarded as a laxative, and is said to be especially serviceable for this purpose in hemorrhoids. Linseed oil contains a compound of glycerin with a certain fatty acid, which is more readily oxidized than oleic acid, and it may be that this difference in the acid radicals would cause a corresponding difference in the therapeutic properties. Nothing appears to be known, however, to justify attributing to it any special therapeutic value other than its laxative action already noticed. The dose is from one to two ounces. It is sometimes added to laxative enemata, and may be substituted for olive oil on account of cheapness in cases in which regular injections of oil are given for spastic constipation. If linseed oil is used at all in medicine, it should be borne in mind that the raw linseed oil is the only form suitable for internal use, even though lead is no longer used in preparing the boiled oil as was formerly the custom.

OXYGEN INHALATIONS.

Clinton, Miss., Jan. 13, 1908.

To the Editor:—Please give me some information on the technic, quantity, etc., in the administration of oxygen in cyanosis of pneumonia. I find this recommended by many authors, and would like to know the best means of administration. R. W. Hall, M.D.

Answer.—The technic of oxygen inhalations is simple. The gas is inhaled in an unmixed state from the tank in which it has been compressed. These tanks are provided with a wash bottle, through which the gas bubbles, and a mouth-piece by which outside air is mostly excluded. The rate of escape of the gas can be regulated by turning a stopcock attached to the tank.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 25, 1908:

Ebert, R. G., surgeon, relieved from duty in the Philippines Division, and will proceed on the transport to sail from Manila about March 15, 1908, to San Francisco, and on arrival report by telegraph to the Adjutant General of the Army for further orders.

Harris, J. R., asst.-surgeon, ordered to proceed to the Army General Hospital, Presidio of San Francisco, for observation and treatment.

Jones, H. W., asst.-surgeon, relieved from duty in the Philippines Division, and assigned to duty in the Army Transport Service.

Palmer, F. W., asst.-surgeon, granted 10 days' leave of absence.

Richards, R. L., asst.-surgeon, advanced to the rank of captain.

Holmes, T. G., contract surgeon, granted leave of absence for one month.

Kierulff, H. F., contract surgeon, ordered to duty at Fort Apache, Ariz., at expiration of present leave of absence.

Wall, F. M., contract surgeon, ordered from Fort Oglethorpe, Ga., to Fort Monroe, Va., for temporary duty.

Yemans, H. W., contract surgeon, relieved from duty in the Philippines Division, and ordered to the United States for assignment to station.

Whinnery, J. C., dental surgeon, ordered from Vancouver Barracks, Washington, to Fort Liscum, Alaska, for temporary duty, and thence to Fort Lawton, Washington for temporary duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 25, 1908.

Strine, H. F., P. A. surgeon, detached from the Naval Hospital, Annapolis, M.D., and ordered to Washington, D. C., January 20, for special temporary duty, and thence to the *Relief*.

Fitts, H. B., surgeon, ordered to the Naval Recruiting Station, Indianapolis.

Riggs, R. E., P. A. surgeon, detached from the Naval Academy and ordered to the Naval Station, Charleston, S. C., for temporary duty, and thence to Camp Columbia, Havana, Cuba.

Iden, J. H., P. A. surgeon, detached from duty in connection with the Cape Cruz-Casilda survey expedition, with headquarters at Manzanillo, Cuba, and ordered to continue other duties.

Wheeler, L. H., asst.-surgeon, detached from the Naval Recruiting Station, Indianapolis, and ordered to Washington, D. C., January 27, for examination for promotion, and then to wait orders.

Allen, A. H., asst.-surgeon, detached from duty with the Marine detachment at Lajas, Cuba, and ordered to duty with the Cape Cruz-Casilda survey expedition, with headquarters at Manzanillo, Cuba.

Schmidt, L. M., Mackenzie, E. G., asst.-surgeons, appointed asst.-surgeons from Dec. 28, 1907.

Wells, H., medical director, ordered to duty at the Naval Recruiting Station, New York.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Jan. 24, 1908:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Jan. 4-11, 2 cases, 1-14, 10 cases; Mobile County, 9 cases.

California: Oakland, Dec. 1-31, 24 cases; Los Angeles, Dec. 28-Jan. 4, 11 cases.

Connecticut: New Britain, Dec. 1-30, 1 case.

District of Columbia: Washington, Jan. 4-11, 2 cases.

Illinois: Jacksonville, Jan. 4-11, 3 cases.

Indiana: Elkhart, Jan. 4-11, 2 cases; Indianapolis, Jan. 5-12, 2 cases; La Fayette, Jan. 6-13, 1 case.

Kansas: Wichita, Jan. 4-11, 12 cases.

Louisiana: New Orleans, Jan. 4-11, 6 cases.

Michigan: Grand Rapids, Jan. 4-11, 1 case; Saginaw, Dec. 29-Jan. 11, 23 cases.

Missouri: St. Louis, Jan. 4-11, 3 cases.

New York: Niagara Falls, Jan. 4-11, 1 case; New York, 2 cases.

North Carolina: Greensboro, Jan. 4-11, 9 cases.

Ohio: Cincinnati, Dec. 27-Jan. 10, 7 cases; Dayton, Jan. 4-11, 3 cases.

South Dakota: Sioux Falls, Jan. 3-10, 9 cases.

Tennessee: Knoxville, Dec. 28-Jan. 11, 7 cases; Nashville, Jan. 4-11, 14 cases.

Texas: Houston, Jan. 1-11, 3 cases; San Antonio, Jan. 4-11, 2 cases.

Utah: Twenty-seven counties, Dec. 1-30, 48 cases, 1 death.

Washington: Spokane, Dec. 28-Jan. 4, 1 case.

Wisconsin: La Crosse, Jan. 4-11, 2 cases; Milwaukee, Dec. 21-Jan. 11, 4 cases.

SMALLPOX—FOREIGN.

Brazil: Para, Dec. 21-28, 10 cases, 4 deaths; Rio de Janeiro, Dec. 8-15, 33 cases, 9 deaths.

China: Hongkong, Nov. 16-23, 1 case, 1 death; Shanghai, Dec. 1-15, 5 cases among Europeans and 17 deaths among natives.

Ecuador: Guayaquil, Dec. 15-21, 2 deaths.

France: Marseilles, Dec. 1-31, 9 deaths.

Great Britain: Leith, Dec. 22-28, 1 case.

India: Bombay, Dec. 10-17, 5 deaths; Calcutta, Nov. 30-17, 3 deaths.

Italy: General, Dec. 19-26, 52 cases.

Java: Batavia, Nov. 30-Dec. 7, 3 cases, 1 death.

Russia: Moscow, Dec. 14-21, 7 cases, 3 deaths; Odessa, 2 cases.

Spain: Denia, Dec. 21-28, 4 cases; Vigo, 2 deaths.

Venezuela: Caracas, to Jan. 3, 3,000 cases, estimated (275 cases and 5 deaths reported Dec. 13 as yellow fever should have been included under smallpox); La Guaira, to Jan. 3, 25, estimated.

YELLOW FEVER.

Brazil: Para, Dec. 21-28, 16 cases, 8 deaths.

Cuba: Habana Province: Guanamon, Jan. 16-19, 2 cases, 1 death; Santa Clara Province, Cienfuegos, Jan. 17-20, 3 cases, 2 deaths; Palmira, Dec. 31-Jan. 19, 3 cases, 1 death.

Ecuador: Guayaquil, Dec. 14-21, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Nov. 21-28, 8 cases, 8 deaths; Nov. 28-Dec. 7, 3 cases, 2 deaths.

CHOLERA—FOREIGN.

India: Bombay, Dec. 10-17, 2 deaths; Calcutta, Nov. 28-Dec. 7, 262 deaths; Madras, Dec. 7-13, 4 deaths; Rangoon, Nov. 28-Dec. 7, 15 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Dec. 8-15, 6 cases, 1 death.

Egypt: Alexandria, Dec. 13-25, 4 cases, 3 deaths; Diametta, Dec. 22-28, 1 case; Provinces: Assiout, Dec. 19-30, 21 cases, 15 deaths; Minieh, Dec. 17-30, 1 case.

India: Bombay, Dec. 10-17, 11 deaths; Calcutta, Nov. 23-Dec. 7, 39 deaths; Rangoon, Nov. 28-Dec. 7, 5 deaths.

Kavak: Plague erroneously reported, January 17.

Medical Economics

An Organization Problem.

In the January issue of the *Southern California Practitioner* appears the address of the retiring president of the Los Angeles County Medical Society, reviewing the work of the society for the past year. Many of the recommendations made by the retiring president are worthy of notice, but one is especially timely. This is to establish branches of the county society in different towns remote from the regular society meeting place.

In the eastern states, which are densely settled and well provided with transportation facilities, and which have, in the main, comparatively small counties, it is not often difficult for all the physicians of a county to meet at a centrally located place. But in many of our central and western states, where counties are large and transportation poor, it is often hard to find any one place which is accessible to all the members.

To meet this difficulty various plans have been proposed. One is to hold the meetings at different places in different months; this is only partially satisfactory, as it means that members of the profession living in a certain town have an opportunity to attend a medical society meeting only occasionally. The organization of independent societies in different parts of the county should be discouraged, since this is a reversion to the old condition of disconnected and unrelated organizations which the present system of reorganization, with the county society as the unit, was intended to remedy.

The most successful solution of this difficulty is that which has been adopted in Chicago, Philadelphia and some of the larger and more populous counties, viz., that of dividing the county into definite districts and organizing in them branch societies subordinate to and forming a part of the main county society. In this way, unity of organization and uniformity of machinery is maintained and, at the same time, medical society meetings are placed within the reach of all.

County Societies Endorse Movement Against Fraudulent Proprietaries.

The medical societies of the following counties recently adopted resolutions regarding nostrums promulgated by the Kentucky State Medical Association:

Union County, Miss.
Montgomery County, Pa.
Black Hills District, S. D.
Clearfield County, Pa.
Defiance County, Ohio.
Robertson County, Texas.
Somerset County, N. J.
Hill County, Texas.
Elk County, Pa.
Whatcom County, Wash.
Lorain County, Ohio.
Huron County, Mich.

These resolutions were also adopted by the following:

Dallam, Hartley and Sherman County (Texas) Medical Society.
Panhandle Medical Association (N. M.).

In addition to adopting these resolutions, the following expressions of sentiment were adopted:

The Huron County (Mich.) Medical Society expressed its "disapproval of the publication of so-called medical journals in the interest of manufacturers of nostrums."

The Whatcom County (Wash.) Medical Society condemned the practice of receiving samples purporting to be beneficial or curative in many cases, declaring that "the practice of receiving and dispensing many of these samples with unmeaning names and uncertain formula is a curse to the profession and a positive injury to the public. It is the obvious intention of manufacturers that many of these samples shall fall into the hands of the laity and thereby be a means of building up direct trade with the public through the drug stores. The routine practice of prescribing nostrums is a positive detriment to any physician, is unscientific, and should be condemned. We do not approve of druggists carrying advertisements in the daily papers calling the attention of the public to consumption cures, cancer cures, asthma cures, epilepsy cures, venereal cures and female regulators. . . . We denounce in unmeasured terms the practice of physicians giving testimonials. Furthermore, this society does not approve of medical journals carrying nostrum advertisements."

The Lorain County (Ohio) Medical Society declared it to be unethical for any member to lend his name as an endorsement to any proprietary preparation. A motion was carried that members of the society, as well as members of all the other societies of the state, be urged to refuse to support medical journals advertising unethical preparations, and also to return sample copies of such journals with a statement of the reason for their refusal. A motion was also adopted that it be considered unethical for any member of the society to contribute articles to any journal recommending or advertising products not approved by the Council on Pharmacy and Chemistry.

The St. Louis Medical Library.

The weekly bulletin of the St. Louis Medical Society, January 23, contains the following item regarding the St. Louis Medical Library Association:

A VALUABLE ASSET.

A very important asset to the medical profession of this city is the Medical Library Association. Jan. 11, 1899, Drs. S. Pollock, A. Ravold, A. Alt, F. J. Lutz, W. B. Outten, J. M. Ball and J. H. Duncan met in the parlors of the West End Hotel for the purpose of devising measures and means for securing a much-needed first-class medical library for the physicians of St. Louis. June 9, 1899, the association rented a small room in the Y. M. C. A. Building, and began business with a few volumes on the shelves and fourteen contributed medical journals. Dr. S. Pollock gave about 800 volumes to the association, and this contribution was in fact the nucleus for the development of the present 11,000 volume library. During the organization period of the association, Dr. S. Pollock was chairman, and Dr. F. L. Henderson was secretary. Dr. N. B. Carson has been president of the association ever since its organization, and has done much to make the project such a pronounced success. Dr. F. J. Lutz, the librarian, and the other charter members, deserve great credit for their untiring efforts and financial assistance.

It is indeed to be regretted that a larger number of the medical men of St. Louis have failed to avail themselves of the advantages of the St. Louis Medical Library Association. At our very threshold we have one of the most complete libraries in the middle west. We urge every member of the St. Louis medical profession to come forward and join the association and embrace the valuable opportunity offered thereby.

All who are familiar with this Medical Library Association and its excellent work will agree that nothing has been accomplished in St. Louis which could not be done in any other large city if there were only a few aggressive, far-sighted physicians to take the lead. The rapidity with which a library grows, both in size and value, is little short of marvelous. The important thing is to begin such a movement and to acquire a room and a small collection of books as a nucleus. Growth thereafter will depend on the energy and devotion of those in charge. A study of the history and development of the St. Louis Medical Library Association is commended to the members of the profession in all of our larger cities which are not already provided with suitable libraries.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month.

Second Weekly Meeting.

Osteomyelitis.

Acute Suppurative.

Etiology: Age. Preceding diseases. Organisms usually found. Local conditions. Pathologic anatomy. Portion of bone primarily involved. Changes in bone. Symptoms. Modes of onset. Course of disease. Physical signs. Differential diagnosis. Treatment. (a) Acute osteomyelitis, (b) acute epiphysitis, (c) osteomyelitis with suppurative synovitis, (d) osteomyelitis after open wound; treatment of each.

Necrosis of Bone.

Etiology. Preceding diseases of bone. Pathologic changes leading to formation of sequestrum. Symptoms. Diagnosis. Treatment. In primary stage. After separation.

Caries of Bone.

Etiology: Principal causes. Pathologic anatomy. Differentiate between caries and necrosis. Symptoms. Differentiate symptoms and diagnostic signs. Treatment. In detail.

Tumors of Bone.

Demonstrate microscopic sections. In what ways may tumors occur? Primary. Secondary. Exostoses. Forms. Symptoms and treatment of each. Chondroma. Occurrence. Diagnosis and treatment. Sarcoma of bone. (a) Spindle-celled, (b) round-celled, (c) myeloid; location, pathology and symptoms. Metastatic malignant bone tumors. Sarcoma, carcinoma, hypernephroma.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Nevada State Board of Medical Examiners, Carson City, February 3. Secretary, Dr. S. L. Lee, Carson City.

New York State Board of Medical Examiners, Albany, February 4-7. Chief of Examinations Division, Charles F. Wheelock, Albany.

Nebraska State Board of Health, State Capitol Building, Lincoln, February 5-6. Secretary, Dr. E. J. C. Sward, Oakland.

Kansas State Board of Medical Registration and Examination, February 11. Secretary, Dr. D. P. Cook, Clay Center.

Wyoming State Board of Medical Examiners, Laramie, February 12-14. Secretary, Dr. S. B. Miller, Laramie.

Missouri November Report.—Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examination held at St. Louis, Nov. 19-21, 1907. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 34, of whom 18 passed and 16 failed. The following colleges were represented:

PASSED.

College.	Year Grad.
Howard University, Washington	(1907)
Northwestern Univ. Med. School	(1901) (1906)
Kentucky School of Med	(1907)
Harvard Med. School	(1903)
Tufts Coll. Med. School	(1906)
Washington University, St. Louis	(1904) (1907)
University Med. Coll., Kansas City	(1907)
St. Louis Coll. of P. and S.	(1906) (2, 1907)
American Med. Coll., St. Louis	(1905) (1907)
Barnes Med. Coll.	(1905) (1907)
Jefferson Med. Coll	(1883)
University of Virginia	(1907)

FAILED.

College.	Year Grad.
College of P. and S., Chicago	(1902)
Bennett Coll. of Ecl. Med. and Surg.	(1895)
Kentucky School of Med.	(1907)
Washington University, St. Louis	(2, 1907)
Barnes Med. Coll.	(1904) (1906) (3, 1907)
St. Louis Coll. of P. and S	(1906)
St. Louis University	(2, 1906) (1907)
American Med. Coll.	(1907)
Lincoln Med. Coll.	(1907)

Maryland Homeopathic December Report.—Dr. Joseph S. Garrison, secretary of the Board of Medical Examiners representing the Maryland State Homeopathic Medical Society, reports the written examination held at Baltimore, Dec. 3, 1907. The number of subjects examined in was 9; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 3, of whom one passed and 2 failed. One reciprocal license has been issued since the examination held in June. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Southern Homeopathic Med. Coll., Baltimore	(1907)	80.2

FAILED.

College.	Year. Grad.	Per Cent.
Southwestern Homeo. Med. Coll., Louisville	(1906)	59.5*
Maryland Med. Coll.	(1907)	58.5

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
New York Homeo. Med. Coll, and Hospital	(1904)	Dist. Colum.

* Second examination.

Arizona January Report.—Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, Jan. 6-7, 1908. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and one failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Southern California	(1906)	79.9
Marion-Sims College of Medicine	(1896)	83.3
Barnes Med. Coll.	(1906)	75.5
St. Louis College of P. and S.	(1893)	77.8
University of Pennsylvania	(1892)	75
Jefferson Med. Coll.	(1900)	84.3

FAILED.

College.	Year. Grad.	Per Cent.
Ft. Worth University	(1900)	65.4

North Dakota January Report.—Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Jan. 7-9, 1908. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 10, of whom 7 passed and 3 failed. Four reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Rush Med. Coll.	(1897)	75
Hamline University	(1907)	78, 82
University of Nebraska	(1907)	82
Medical Coll. of Ohio	(1906)	81
University of Toronto, Ontario	(1907)	86
McGill University, Quebec	(1907)	88

FAILED.

College.	Year. Grad.	Per Cent.
Dearborn Med. Coll.	(1906)*	
Bennett Coll. of Ecl. Med. and Surg.	(1907)*	
University Med. Coll., Kansas City	(1901)	73

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
College of P. and S., Chicago	(1906)	Iowa
University of Minnesota	(1905) (1906)	Minnesota
University of Michigan	(1893)	Michigan

* Percentage not given.

Rhode Island January Report.—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Jan. 2-3, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 9, of whom 3 passed (including 2 non-graduates), and 6 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Tufts Coll. Med. School	(1907)	80.0

FAILED.

College.	Year. Grad.	Per Cent.
Baltimore Med. Coll.	(1907)	67.5
Maryland Med. Coll.	(1907)	68.6
Baltimore University	(1904) 65.7; (1907)	66.3
Tufts Coll. Med. School.	(1906)	74.5
Leonard Med. School	(1906)	71.2

Marriages

Harvey H. Olds, M.D., to Miss Jennie Linch, both of Corry, Pa., January 15.

Fred M. Richmond, M.D., to Miss M. Marion Rice, both of Everett, Mass., January 9.

George Thadeus Brown, M.D., to Mrs. Avis Boyce, both of Atlanta, Ga., January 28.

Arthur Rowley Reynolds, M.D., to Mrs. Mary Bond Cone, both of Chicago, January 21.

Lay Gordon Burroughs, M.D., to Miss Essie Raymond, both of Collinsville, Ill., January 15.

Walter Van S. Levy, M.D., Baltimore, to Miss Evelyn Jane Bull, in Washington, January 16.

Henry Kuehne, M.D., Dallas, Texas, to Miss Pansy Alexander of Austin, Texas, Dec. 31, 1907.

George S. Huntington, M.D., to Mrs. Alice Kidd Carmalt, both of New York City, January 16.

Linsly Rudd Williams, M.D., to Mrs. Paul Leicester Ford, both of New York City, January 18.

Marion O. Biggs, M.D., Bowling Green, Mo., to Miss Belle Buckner of Mexico, Mo., January 15.

Richard C. Shepherd, M.D., Scranton, Pa., to Miss Lulu Tupper of Plymouth, Wis., January 2.

George Douglas White, M.D., to Miss Agnes H. Metze, both of Jersey City, N. J., January 15.

Francis E. Harrington, M.D., to Miss Maye Llewellyn Eliot, both of Washington, D. C., January 9.

Nathaniel Bowditch Potter, M.D., New York City, to Miss Mary Sargent of "Holm Lea," Brookline, Mass., January 25.

Deaths

Augustus Van Cleef, M.D. Berkshire Medical College, Pittsfield, Mass., 1861; of Scranton, Pa.; acting assistant surgeon, U. S. Army, 1862 to 1863; assistant surgeon, First New York Volunteer Cavalry, 1864 to 1865; later on duty with the First U. S. Cavalry under General Sheridan, and brigade surgeon during the Civil War; a member of the Military Order of the Loyal Legion of the United States; physician to the Lackawanna County jail, 1886 to 1890, and again in 1895; United States pension examining surgeon from 1886 to 1889, and from 1890 to 1893; died in the State Hospital, Scranton, January 11, after a long illness, aged 74.

Jared Y. Dale, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1863; a member of the American Medical Association; secretary of the Center County (Pa.) Medical Society; formerly professor of anatomy and physiology at the Pennsylvania State College, and consultant to the Phillipsburg and Bellefonte hospitals; was stricken with paralysis while making a professional call at State College, and died a few hours later at his home in Lemont, January 14, aged 67.

Eugene Zeile, M.D. University of Würzburg, Germany, 1897; of San Francisco; a member of the Medical Society of the State of California and San Francisco County Medical Society and the German Surgical Society; lecturer and demonstrator of operations in Cooper Medical College, San Francisco; committed suicide at the Alameda Sanitarium, Nov. 21, 1907, by shooting himself while despondent on account of paraplegia, from which he had suffered for three years, aged 38.

Samuel Alexander Baxter, M.D. Cincinnati College of Medicine and Surgery, 1863; assistant surgeon of the Eighteenth Ohio Volunteer Infantry, then acting medical director of the Department of Georgia during the Civil War; and later health officer, mayor and banker of Lima, Ohio; died at Christ's Hospital, Cincinnati, January 5, from cerebral hemorrhage, which occurred while he was about to be operated on for cancer, after an illness of twenty-four hours, aged 68.

Charles Edward Lippitt, M.D. National Medical College, Washington, D. C., 1856; who assisted in the capture of John Brown, and served throughout the Civil War as assistant surgeon of the Fifty-seventh Virginia Infantry, C. S. A., and later as senior surgeon of Armistead's Brigade; died at his home in "Elmington," near Ferryville, Va., Dec. 20, 1907, from cerebral hemorrhage, after an illness of twelve days, aged 79.

W. Joaquin Morrill, M.D. University of Havana, Cuba, 1861; surgeon of the One Hundred and Thirty-seventh New York Volunteer Infantry during the Civil War; surgeon in the Spanish army in the Cuban rebellion, from 1866 to 1870; and surgeon during the yellow fever epidemic at Vera Cruz; died at his home in Poughkeepsie, N. Y., January 14, aged 66.

Stephen Franklin Pomeroy, M.D. Yale Medical School, New Haven, 1855; a member of the Massachusetts and Hampden District medical societies; for 25 years a member of the staff of the Springfield Hospital, and one of the oldest practitioners of Springfield; died at his home in that city, January 11, from nephritis, after an illness of three weeks, aged 80.

Phillip M. Catchings, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1870; a member of the Mississippi State Medical Association and Copiah County Medical Society, and one of the best known practitioners of southern Mississippi; died at his home in Georgetown, January 12, from pneumonia, aged 59.

Alfred Hedges Scofield, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1891; of Windber, Pa.; attending physician and assistant surgeon to the Windber General Hospital; died at Glenmary Sanitarium, near Owego, N. Y., January 10, from nervous prostration, after an illness of three weeks, aged 42.

Frank R. Brunner, M.D. Jefferson Medical College, Philadelphia, 1861; for several terms a member of the legislature from Berks County, Pa.; state senator in 1885, and a member of the school board of Eshbach; was burned to death in a fire which destroyed the Boyertown Opera House, January 13, aged 72.

James B. Hayes, M.D. American Medical College (Eclectic), St. Louis, 1878; a veteran of the Civil War; was stricken with heart disease January 15, while delivering his address as commander and toastmaster at a banquet of his G. A. R. Post at Carrollton, Ill., and died at his home a day later, aged 63.

Paul Oscar Esbjorn, M.D. University of Iowa, College of Medicine, Iowa City, 1897; of Stanton, Iowa; a member of the

Iowa State and Montgomery County medical societies; died at the Augustana Hospital, Chicago, January 18, a week after an operation on the stomach, aged 37.

T. L. Andrews, M.D. Castleton (Vt.) Medical College, 1845; editor of the *Marietta* (Ohio) *Intelligencer*, and of the *Journal of Commerce*, St. Joseph, Mo.; a practitioner of Creston, Iowa; died at his home in that place, from senile debility, after an illness of several months, aged 88.

Louis Griffith Sparrow, M.D. University of Maryland, School of Medicine, Baltimore, 1853; once a member of the legislature, and coroner of Baltimore County; died at his home in Baltimore, January 14, from senile debility following fracture of the hip, two years ago, aged 79.

Alfred B. Matthews, M.D. University of Georgia, Medical Department, Augusta, 1900; a member of the American Medical Association; a prominent young practitioner of Elberton, Ga.; died at his home in that place from pneumonia, January 13, after an illness of six days.

William S. Findlay, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1854; assistant surgeon of the Forty-third Tennessee Infantry, C. S. A., during the Civil War; died at his home in Sparta, Tenn., January 16, after a protracted illness, aged 80.

Joseph Coffey, M.D., L.R.C.S. Ireland, 1883; formerly a surgeon in the British Army; a member of the New York board of health, and at one time physician to the Tombs; died suddenly in a café in New York City, January 17, from cerebral hemorrhage, aged 48.

Charles Morris Klock, M.D. New York University Medical College, New York City, 1876; a member of the medical societies of the State of New York and County of Montgomery; died at his home in St. Johnsville, January 17, after a long illness, aged 50.

John D. Henning, M.D. Jefferson Medical College, Philadelphia, 1878; a member of the North Dakota Medical Association and Cass County Medical Society; died at his home in Fargo, January 20, from cardiac dropsy, after a prolonged illness, aged 58.

Moses C. Duncan, M.D. Atlanta (Ga.) Medical College, 1873; a member of the Tennessee Medical Association and Monroe County Medical Society; died at his home in Madisonville, January 18, from heart disease, after an illness of three weeks, aged 51.

Calvin H. Wetmore, M.D. Berkshire Medical College, Pittsfield, Mass., 1864; for twenty-six years a practitioner of Emporia, Kan.; died at his home in Catskill, N. Y., January 12, from cerebral hemorrhage, after a short illness, aged 79.

Robert Edward Lee Barnum, M.D. Atlanta (Ga.) Medical College, 1884; a member of the American Medical Association; died at his home in Richland, Ga., January 3, from cerebrospinal meningitis, after an illness of four weeks, aged 44.

José Lopez de Victoria, M.D. College of Physicians and Surgeons in the City of New York, 1886; a native of Porto Rico; died at his home in New York City, January 12, from heart disease, after an illness of several months, aged 42.

Robert David Spalding, M.D. University of Louisville (Ky.) Medical Department, 1856; of Atlanta, Ga.; a surgeon in the Confederate service during the Civil War; died suddenly at the home of his cousin in Atlanta, Nov. 29, 1907, aged 74.

Albert S. Warner, M.D. College of Physicians and Surgeons of St. Joseph, Mo., 1881; Sioux City (Iowa) College of Medicine, 1893; died suddenly from heart disease, in his drug store in Butte, Neb., January 9, aged 48.

Howell T. Eskew, M.D. Medical College of Indiana, Indianapolis, 1882; a veteran of the Civil War, and health officer of Lapel, Ind.; died at his home in that place, January 15, after a prolonged illness, aged 65.

August Rooch, M.D. Washington University, Medical Department, St. Louis, 1855; of North St. Louis; died suddenly while making a professional call, January 13, from cerebral hemorrhage, aged 80.

James L. Dunn, M.D. Western Reserve University Medical College, Cleveland, 1860; surgeon during the Civil War, and local pension examiner; died at his home in Titusville, Pa., January 14, aged 85.

William Harmong Lamar, M.D. Southern Botanico-Medical College, Macon, Ga.; died at his home in Jasper, Ala., Nov. 16, 1907, from senile debility, after an illness of two weeks, aged 80.

William R. Winters, M.D. New York University Medical College, New York City, 1879; died at his home in Silverton, Colo., January 7, after an illness of several years, aged 55.

Emil Maurer, M.D. Medico-Chirurgical College, Philadelphia, 1890; died at his home in Philadelphia from pneumonia, January 17, after an illness of several days, aged 42.

John Alexander Knight, M.D. Trinity Medical College, Toronto, Ont., 1899; of Newberry, Mich.; died at the home of his father in Toronto Junction, Ont., January 13.

Charles W. Russell, M.D. Rush Medical College, Chicago, 1870; township trustee; died at his home in Riley, Ind., January 16, after an illness of eight months, aged 63.

James A. Griffin, M.D. University of Nashville (Tenn.) Medical Department, 1857; died at his home near Friendship, Tenn., January 11, from pneumonia.

Franklin F. Ferry, M.D. Jefferson Medical College, Philadelphia, 1887; of New Paris, Pa.; died in Silver City, N. M., from tuberculosis, January 16, aged 48.

Miscellany

The Earliest Modern Law for the Regulation of the Practice of Medicine.

In an editorial The Journal called attention to the first law for the regulation of the practice of medicine of which we have any definite record in modern history. It contains so many clauses that were meant to correct abuses, with which the medical profession is concerned at the present moment, so many definite directions as to the relations of physicians to the community, to the authorities and to druggists, which we are prone to think that the medical profession and our legislators have only come properly to consider in recent years, that it has seemed worth while to present it in its entirety. It is to be found in "Studies in the History of Anatomy in the Middle Ages," by Robert Ritter von Toeply,[1] which is one of the important contributions in the history of medicine made in recent years. The book is comparatively little known in America and that makes it all the more advisable to present the actual words of the law, for it is represented only in abstracts in the histories of medicine written by Haeser and Puschmann.

According to Haeser, the law was published in 1241, or according to Winkelmann, in 1240. (Von Toeply quotes it from Huillard-Breholles' Diplomatic History of Frederick II, with Documents, which consists of twelve quarto volumes, Paris, 1851-1861.) This is one of the wonderful sets of documents that came from Frederick II, surnamed the Hohenstaufen, the German emperor of the time, whom most historians are agreed in proclaiming the most remarkable historical figure of the Middle Ages. He was the grandson of Frederick II, was elected king of the Romans in 1196, and his father dying the next year, he was crowned king of Sicily. At this time the kingdom of Sicily included not only what we now call the island of Sicily, but also the lower part of Italy, which was then called Greater Sicily or the kingdom of Naples. This was all that Frederick inherited, but by his own efforts he succeeded in making himself the emperor of Germany, or as the office was then called, because the incumbent was at least supposed to be a successor to the power of the Roman emperors, the Holy Roman Emperor. His genius for government will probably be best revealed to physicians at least by this wonderful piece of medical jurisprudence which we quote:

LAW OF FREDERICK II, REGULATING MEDICAL PRACTICE.

"While we are bent on making regulations for the common weal of our loyal subjects we keep ever under our observation the health of the individual. In consideration of the serious damage and the irreparable suffering which may occur as a consequence of the inexperience of physicians, we decree that in future no one who claims the title of physician, shall exercise the art of healing or dare to treat the ailing, except such as have before-hand in our University of Salerno passed a public examination under a regular teacher of medicine and been given a certificate, not only by the professor of medicine but also by one of our civil officials, which declares his trustworthiness of character and sufficiency of knowledge. This document must be presented to us, or in our absence from the kingdom, to the person who remains behind in our stead in the kingdom, and must be followed by the obtaining of a license to practice medicine either from us or from our representative aforesaid. Violation of this law is to be punished by confiscation of goods and a year in prison for all those who in future dare to practice medicine without such permission from our authority.

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[1] Studien Zur Getschichte der Anatomie im Mittelalter, Robert Ritter von Toeply, Leipzig und Wien, Franz Deuticke, 1898.

"Since the students can not be expected to learn medical science unless they have previously been grounded in logic, we further decree that no one be permitted to take up the study of medical science without beforehand having devoted at least three full years to the study of logic.[2] After three years devoted to these studies he (the student) may, if he will, proceed to the study of medicine, provided always that during the prescribed time he devotes himself also to surgery, which is a part of medicine. After this, and not before, will he be given the license to practice, provided he has passed an examination, in legal form, as well as obtained a certificate from his teacher as to his studies in the preceding time. After having spent five years in study he shall not practice medicine until he has during a full year devoted himself to medical practice with advice and under the direction of an experienced physician. In the medical schools the professors shall during these five years devote themselves to the recognized books, both those of Hippocrates as well as those of Galen, and shall teach not only theoretic but also practical medicine.

"We also decree as a measure intended for the furtherance of public health that no surgeon shall be allowed to practice, unless he has a written certificate, which he must present to the professor in the medical faculty, stating that he has spent at least a year at that part of medicine which is necessary as a guide to the practice of surgery, and that, above all, he has learned the anatomy of the human body at the medical school, and is fully equipped in this department of medicine, without which neither operations of any kind can be undertaken with success nor fractures be properly treated.

"In every province of our kingdom which is under our legal authority, we decree that two prudent and trustworthy men whose names must be sent to our court, shall be appointed and bound by formal oath, under whose inspection electuaries and syrups and other medicines be prepared according to law and only be sold after such inspection. In Salerno in particular we decree that this inspectorship shall be limited to those who have taken their degree as masters in physic.

"We also decree by the present law that no one in the kingdom except in Salerno or in Naples [in which were the two universities of the kingdom.—ED.] shall undertake to give lectures on medicine or surgery, or presume to assume the name of teacher, unless he shall have been very thoroughly examined in the presence of a government official and of a professor in the art of medicine. [No fake medical schools. —ED.]

"Every physician given a license to practice must take an oath that he shall faithfully fulfill all the requirements of the law, and in addition that whenever it comes to his knowledge that any apothecary has for sale drugs that are of less than normal strength, that he shall report him to the court, and besides that he shall give his advice to the poor without asking for any compensation. A physician shall visit his patient at least twice a day and at the wish of his patient once also at night, and shall charge him, in case the visit does not require him to go out of the village or beyond the walls of the city, not more than one-half tarrene in gold for each day's service.[3] From a patient whom he visits outside of the village or the wall of the town, he has a right to demand for a day's service not more than three tarrenes, to which may be added, however, his expenses, provided that he does not demand more than four tarrenes altogether.

"He (the regularly licensed physician) must not enter into any business relations with the apothecary nor must he take any of them under his protection nor incur any money obligations in their regard.[4] Nor must any licensed physician keep an apothecary's shop himself. Apothecaries must conduct their business with a certificate from a physician according to the regulations and on their own credit and responsibility, and they shall not be permitted to sell their products without having taken an oath that all their drugs have been prepared in the prescribed form, without any fraud. The apothecary may derive the following profits from his sales: Such extracts and simples as he need not keep in stock for more than a year, before they may be employed, may be charged for at the rate of three tarrenes an ounce. [Ninety cents an ounce seems very dear, but this is the maximum.] Other medicines, however, which in consequence of the special conditions required for their preparation or for any other reason, the apothecary has to have in stock for more than a year, he may charge for the rate of six tarrenes an ounce. Stations for the preparation of medicines may not be located anywhere but only in certain communities in the kingdom as we prescribe below.

"We decree also that the growers of plants meant for medical purpose shall be bound by a solemn oath that they shall prepare their medicines conscientiously according to the rules of their art, and so far as it is humanly possible that they shall prepare them in the presence of the inspectors. Violations of this law shall be punished by the confiscation of their movable goods. If the inspectors, however, to whose fidelity to duty the keeping of the regulations is committed, should allow any fraud in the matters that are entrusted to them, they shall be condemned to punishment by death." [The first pure drug law.—ED.]

DIPLOMA.

The diploma which went with the law and which we would call a license, is very interesting as an anticipation of many modern ideas. It runs as follows:

"We hereby make it known to all our loyal citizens that our loyal citizen, N. M., having presented himself at our court and been properly examined, has been recognized by the court as a loyal citizen and one descended from a worthy race and as properly fitted for the practice of the medical art. Therefore, we, convinced of his knowledge and his readiness to obey the laws, after receiving his oath of fidelity to us and his oath to exercise his profession in a true manner according to the customs of physicians, granted him the license to practice the medical art in every part of our kingdom, on condition that he exercise his art faithfully as becomes our dignity and our fidelity to our subjects, as well as for the good health of those who need his services. Therefore, we bring this matter to the knowledge of our faithful subjects so that no one may disturb this our loyal subject, N. M. aforesaid, in the practice of his art nor in any way hinder him in any part of our domains."

This is so different from what is usually thought to have been the condition of medical practice and so striking an anticipation of everything that is most modern in the regulation of medicine that one almost hesitates to accept it as authentic. A word as to its authoritativeness and as to the channel through which it comes may not be out of place. There is no doubt that it is an original document of the time of Frederick II. It occurs in connection with other documents of undoubted origin and date. As already stated, the present version comes to us through the German of Robert Ritter von Toeply, who is considered probably the best living authority in Germany on the history of medicine, and especially anatomy in the Middle Ages. He was selected by the editors of Puschmann's "Handbook of the History of Medicine," the most recent authoritative work on the subject, to write the chapters on the history of anatomy in the Middle Ages.

Plague Investigations in India.

From the reports of the advisory committee appointed by the Secretary of State for India, the Royal Society and the Lister Institute, the following interesting facts and conclusions may be drawn (U. S. P. H. and M.-H. S. *Public Health Reports, Journal of Hygiene*, September 1906, and July 1907):

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[2] Under logic at this time was included the study of practically all the subjects that are now taken up in the arts department of our universities. Huxley, in his address before the University of Aberdeen, on the occasion of his inauguration as rector of that university said: "The scholars (of the early days of the universities, first half of the thirteenth century) studied grammar, rhetoric, arithmetic and geometry, astronomy, theology and music." He added: "Thus their work, however imperfect and faulty judged by modern lights, it may have been, brought them face to face with all the leading aspects of the many-sided mind of man. For these studies did really contain, at any rate in embryo—sometimes, it may be, in caricature—what we now call philosophy, mathematical and physical science, and art. And I doubt if the curriculum of any modern university shows so clear and generous a comprehension of what is meant by culture as the old trivium and quadrivium does." Science and Education Essays, page 197; New York, D. Appleton & Co. 1896.

[3] A tarrenus or tarrene in gold was equal to about thirty cents of our money. Money at that time had from ten to fifteen times the purchasing power that it has at the present time. An ordinary workman at this time in England received about two pence a day and an ox could be bought for less than two shillings.

[4] Apparently many different ways of getting round this regulation had already been invented and the idea of these expressions seems to be to make it very clear in the law that any such business relationship no matter what the excuse or the method of it, is forbidden.—ED.

When rats are confined so that there can be no means of communication except by fleas passing from an infected rat to a healthy one, contact with excreta being excluded, infection by plague may arise in the rat previously healthy. That this is not due to aerial infection is shown by the fact that when fleas from an infected animal were transferred to the cage of a healthy rat the plague was communicated. Experiments were also conducted on guinea-pigs and monkeys confined in go-downs or warehouses carefully constructed to exclude the access of rats. Using these go-downs, experiments were conducted in which epidemic plague did not occur when healthy guinea-pigs lived in close contact with plague-infected guinea-pigs under conditions where access of fleas was prevented, but in which, under otherwise similar conditions, plague spread among the healthy animals in places where fleas were abundantly present. Close contact of plague-infected animals with healthy animals, if fleas are excluded, does not give rise to an epizootic of plague among the latter. Close contact of young, even when suckled by plague-infected mothers, does not give the disease to the former. An epizootic of plague may start without direct contact of healthy animals and infected animals. It having been shown by direct experiment that the rat flea can convey plague from rat to rat, experiments of a similar nature with the fleas removed from the infected go-downs were recorded. Infection can take place without any contact with contaminated soil. Animals exposed to aerial infection, but protected against the access of fleas by the use of "tanglefoot," escaped.

Guinea-pigs allowed to run free in plague-infected houses attracted a considerable number of rat fleas and a certain proportion of them caught the plague. Even after the ordinary disinfection of such houses rat fleas could be caught in them and were found capable of conveying the plague. The number of rat fleas found in plague-infected houses was twelve times as great as that found in control houses. In the stomachs of such fleas bacilli microscopically indistinguishable from the plague bacillus were frequently found. It has been proved experimentally that the rat flea will bite man, even in the presence of its natural host, if the fleas are present in large numbers.

While the blood of the rat may contain as many as 100,000 plague bacilli per cubic centimeter, the urine and feces contain comparatively few and do not seem to be important sources of infection. The number of bacilli in the blood of men suffering from the plague is variable and the microscopic examination of the blood can not be regarded as a trustworthy criterion of the degree of septicemia.

In the diagnosis of the plague in rats the presence of a typical bubo is the most important sign. The next important sign is the condition described as granular liver. This condition in the experience of the committee, has not been met with in rats other than those that are plague infected. The spleen is pronounced to be a much less important organ for diagnostic purposes than the liver; in this respect, it is said, the latter takes the place of the spleen in guinea-pigs.

Hemorrhages, both subcutaneous and in the organs, are very suggestive features. They occurred somewhere in no less than 54 per cent. of the rats in the first series. It is noted that the subcutaneous hemorrhages constitute a most important sign of plague in rats. Again an abundant clear pleural effusion goes a long way of itself toward establishing a diagnosis of the disease. In putrid rats at least three of these signs may persist and when recognized are of the greatest assistance, viz., a bubo, granular liver and pleural effusion.

Microscopic examination is directed toward the discovery of the plague bacillus and the tissues usually examined are the bubo, the spleen and the heart's blood, with the greater probability of finding the organisms in the organs in the order named. In the bubo the bacilli are apt to exhibit involution forms.

It is stated that there is no room for doubt that for purposes of diagnosis, naked-eye examination by a competent observer is more satisfactory than microscopic examination alone. Diagnosis by the cutaneous reaction produced by shaving the abdomen of a guinea-pig so that bleeding points are visible, and rubbing it with infected material, especially the contents of a bubo, is very satisfactory. The reaction usually occurs about twelve hours after inoculation. The method is especially valuable in the case of putrid rats. It apparently fails in 10 per cent. of suspected putrid rats. Of course, some of these may not have been infectious.

Rats may become infected by being fed the bodies of their own species dead of the plague, but in this case the bubo is mesenteric, and as the primary bubo is rarely or ever intestinal in natural infection, it is concluded that rats do not become infected by eating the carcasses of their comrades. The fact that the primary bubo indicates the seat of inoculation has been experimentally shown and from this fact, coupled with the fact that in 5,000 examinations of naturally infected rats no mesenteric buboes were found, it is concluded that the natural infection does not occur by the food, but by the agency of the flea. Most of the buboes produced by natural infection are cervical.

Plague bacilli may be found in the stomachs of rat fleas for twelve days after ingestion and are believed to be capable of multiplying there. They are most abundant during the epidemic season. The bacilli may be found in the feces of the flea which may transmit the disease. The flea may remain infective in the epidemic season as much as fifteen days. A single flea, either male or female, may transmit the disease. Experiments with cat fleas were unsuccessful, and those with human fleas only partially so.

Observation shows that rats may be affected with a chronic form of plague which consists in an abscess which affects the general health of the animal to a very slight extent.

On What Conditions Can the Physician Authorize the Marriage of Syphilitics?—The *Ann. de Derm.*, December, 1907, contains an article by A. Civatte embodying the opinions of fifty-three leading clinicians of Europe and America on this question as to when to allow syphilitics to marry. With the exception of Mibelli of Parma, all the authorities consulted allow marriage after thorough treatment of the syphilis and after a certain interval ranging from two to ten years. Mibelli alone affirms that it is impossible for the physician to authorize the marriage of a syphilitic as facts are on record showing transmission of the disease after ten and twenty years, and it is impossible to determine whether the patient is entirely cured or not. He thinks that the syphilitic should be duly informed of the risks and responsibilities which he incurs and the means by which he can attenuate them, without ever succeeding in suppressing them completely. The question of marriage is then left for the patient to decide on his own responsibility. Pospelow interdicts marriage to syphilitics who have had gummata, for after this, he says, one can never be sure as to the cure, even under energetic treatment. In the case of a woman, if she has aborted or been delivered of children with the taint of inherited syphilis, he imposes mercurial and iodid treatment during seven or eight years and does not permit marriage unless then the serum diagnosis is negative. The consensus of opinion, however, seems to be that nothing in this world is perfect, and that we must put up with compromises. The authorities do not wish to take away all hope from the syphilitic, and consequently hold up before him a speedy issue out of his troubles. The shortest interval is given by the American and English authors—two years between the initial accident and marriage. Fournier requires four years of intermittent courses, with two years free from offensive recurrence of the syphilis. Herxheimer requires the longest interval—ten years. Great stress is laid by the German authorities consulted on the disappearance of glandular lesions as proof of the efficacy of the mercurial treatment, with local treatment of glandular lesions. Whether greater severity is required in case of a female syphilitic is a question suggested by this compilation which requires further study. Watraszewski warns against a special final course of treatment just before marriage, as he has witnessed the flaring up of apparently extinct syphilis under the influence of such. Unna states that he has never known of an instance of conjugal or inherited syphilis in the family of any of his syphilitic patients who have had thorough treatment. He gives a supplementary course six weeks before marriage, applying a mercurial plaster to the scrotum, adding that he has no evidence in regard to the usefulness or necessity for this final local treatment, but that he can guarantee its absolute harmlessness. The Americans whose views are given in turn with the rest are Biddle, Corlett, Dyer, Engman, Fordyce, Hyde, Ravogli, White and Zeisler. Mendes da Costa of Amsterdam says that on account of the lack of a practical means of knowing whether the syphilis is actually cured, the physician can never unreservedly authorize the marriage of a syphilitic.

An International Esperanto League for Physicians.—We have received through Dr. H. W. Yemans, U. S. Army, an appeal (signed by Dr. Bronislaw Skalkowski, vice-director of the Polyclinic in Lwow, Austrio-Galicia; Dr. Szczepan Mikolajski, editor of the *Glos Lekarzy*, and Dr. I. Fels), in which attention is called to the value of Esperanto as a means of international communication between physicians, and the importance of making an effort to have Esperanto recognized as an official language at future medical congresses. To attain this end, it is urged that an international universal association of Esperanto physicians is advisable, which shall proceed to the committees of international congresses of physicians with the request that Esperanto be accorded equal rights with other official languages, and that this request be supported by the signatures of as many physicians as possible. Such an association, when formed, would send delegates to medical congresses, organize such congresses, and issue an organ for the exchange of ideas by physicians throughout the entire world. The constitution and rules could be settled at the next Esperanto congress; but meanwhile it is recommended that, as a preliminary, all physicians interested in the subject should register themselves, so that an estimate may be formed of their numbers. With a view to the accomplishment of this end, the above named, if a sufficient support is forthcoming, will issue a periodical in Esperanto to be known as the *International Correspondence of Physicians.* It is proposed to publish it as frequently as material shall permit, at the cost of 25 cents a number. Each number is to be primarily dedicated to a consideration of some definite problem or subject, such, for instance, as the laws of various countries relating to professional secrecy; which, in fact, has been chosen for the first topic. The essential points of the international inquiry on this subject, which we regret that space precludes our producing in its entirety, are:

1. What is the viewpoint of the law in your country in regard to the medical secret?
2. What is the viewpoint of medical ethics in your country relative to this matter?
3. What is your personal opinion relative to the duty of a physician in the possession of a medical secret? Limits and conditions of it? Cite contingently your already published dissertations relative to this question.
4. What is the voice of public opinion in your country relative to professional secrecy?
5. Other remarks and information concerning the professional secret in your country.

Should an insufficient number of phyicians respond to justify the publication of the *Correspondence*, a summary of such articles as may be received will be published in Polish in the *Glos Lekarzy*, an organ of professional, ethical and socio-medical affairs, published semi-monthly in Lwow. The latest time for receiving answers to the inquiry, articles, and also advance orders for the *International Correspondence of Physicians*, will be March 1, 1908. Communications should be addressed to Dr. Stephan Mikolajski, Sniadeckich 6, Lwow, Austrio-Galicia.

Treatment of Insanity.—A valuable contribution to the practical management of the insane is contained in the October *Bulletin of the Ontario Hospitals for the Insane*[1] which is devoted to the methods recommended and in vogue at the Rockwood Hospital, Kingston. The prevention of insanity receives due consideration and an appeal is made to the general practitioner to interest himself in this phase of the subject as by his intimate relations to his patients he enjoys special opportunities for noting the threatened danger and for advising the public and the individual to take precautionary measures before it is too late. The new history form to be filled out by the physician, before the admission of the patient, is designed to facilitate the collection of data with reference to the previous physiologic history of the patient and his relatives to help solve some of the problems relating to heredity and the various influences in the life of the individual which may be effective in precipitating mental disease. Hints as to home treatment are given, which may be summed up as follows: Patients should be cared for by a competent nurse who is not a relative and if possible forcible restraint should be avoided. Patients showing marked depression should be suspected of a suicidal tendency and everything suggesting the possibility of such an act should be removed if possible. The essential elements of treatment are: 1. Rest in bed. Attend to the elimination of waste products. Keep up the nutrition by forced feeding if necessary. 2. Try to induce sleep and calm the patient by the use of hot wet packs, and only resort to sedatives and hypnotics as a last resort. One of the prominent measures of treatment at the hospital is the continuous bath. A special bath tub is provided with wide flange so that patients can not easily grasp the side in attempts to get out. Ample provision for the overflow and escape of water and excreta is made. The patient rests on a canvas cradle and the tubs are supplied with water from a mixer, by which any desired temperature can be secured and maintained. The baths are in pairs under the care of a single nurse. The patients are kept in the bath for about eight hours daily, although in other hospitals they have been kept in them for from four to twenty days. These baths have been found of great service to a large number of patients, especially to those with affections of toxic origin. They regulate the vasomotors, expand the cutaneous vessels, secure elimination, and are sedative and hypnotic, largely replacing drugs for this purpose. A number of illustrative cases are reported. Reports of the autopsies made are given and the results of a special investigation into the frequency and etiologic importance of diphtheroid bacilli. The conclusion is that these bacilli are frequent in the nasal cavities as pure saprophytes. The association of diphtheroid bacilli in the causation of general paralysis is difficult to accept without further proof.

Therapeutics Judged by Figures.—Interesting facts revealing some of the tendencies of therapeutics are brought out by a study of the amounts of different remedies dispensed by the Central Pharmacy of Paris, which supplies all the hospitals, dispensaries and public charities of that city. The figures have been collated by M. L. Grimbert, who presented them to the Paris Academy of Medicine, Oct. 1, 1907 (*Journal de Pharmacie et de Chimie*, Oct. 18, 1907). He entitles the lecture "Therapeutics Judged by the Figures" to correspond with the title of a similar article formerly presented by Beurmann. The figures employed by Grimbert cover the last ten years. The amounts dispensed of the various articles are taken to indicate the popularity and probable value of the remedies. One of the most remarkable facts revealed by this examination is the steadiness with which the old remedies have held their place in spite of the large number of new remedies put on the market. The use of opium has not decreased notwithstanding the introduction of new analgesics which have gained a large vogue. There is, however, a tendency to the disuse of the remedies belonging to the antiphlogistic régime. Antimony tends to disappear, cantharides is used to a less extent than formerly, but it may astonish some to learn that the Paris hospitals still use from 10,000 to 12,000 leeches a year. The use of potassium and sodium iodid is also decreasing. The same is true of alcoholic drinks as remedies.

In conclusion the author says that the movement of medicines in the last ten years may be summed up as follows:

The old classical remedies, galenical as well as chemical, have remained stationary and that in spite of the introduction of the new synthetic products into therapeutics. The use of iodids, the salts of quinin, antipyrin, the glycerophosphate of calcium, and the cacodylate of sodium has noticeably declined.

The toxic antiseptics have fallen rapidly in favor, having been more and more replaced by agents less dangerous to handle, such as hydrogen dioxid and solution of formaldehyd. The same is true of intestinal antiseptics, cantharides, caffein and alcoholic liquors (rum in all its forms).

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[1] Published by Warwick Bros. & Rutter, Ltd., Toronto, Ont.

The following have risen in popularity: Among the antiseptics, hydrogen dioxid, formaldehyd and the cyanid of mercury; among remedies in use at the beginning of the decade, theobromin and methyl salicylate; among the new remedies, pyramidon, aspirin, urotropin, protargol, salophen and veronal.

Detection of Gas-Producing Organisms in Milk.—The following test, known as the "Wisconsin curd test," is given in the *American Journal of Public Health*, November: 1. Sterilize the milk containers so as to destroy all bacteria in the vessels. This is important and can be done by heating the cans in boiling water or steam for not less than one-half hour. 2. Place about one pint of milk in a covered jar and heat to about 98 F. 3. Add ten drops of commercial rennet extract and mix thoroughly with the milk so as to coagulate it. 4. After coagulation cut curd fine to facilitate separation of whey; leave the curd in the whey for half an hour, then drain off whey at frequent intervals until the curd is well matted. 5. Incubate the curd from 98 to 102 F. by immersing the jar in warm water. Keep jars covered to retain odors. 6. After from six to nine hours' incubation open the jars and observe the odor; examine the curds by cutting them with a sharp knife and observe texture as to presence of pin holes or gas holes. Observe odor. 7. Very bad milks will betray the presence of gas-producing bacteria by the spongy texture of the curd and will have an off flavor. 8. If more than one sample is tested at the same time, dip the knife and thermometer in hot water before using. Milks showing the presence of gas or bad odors in any considerable degree are milks that have been more or less polluted with extraneous organisms or carelessly handled, and as a consequence such milks show a curd filled with small pin holes due to gas. It is not intended that this test should be used for absolute indication of the presence of gas-producing organisms, but rather it has been of service in the detection of the condition of market milk. Gas-producing organisms in milk may also be tested for, as in water, with glucose or lactose broth in fermentation tubes. Tests similar to presumptive tests for *B. coli* in water analysis may be made by inoculating into these broth fermentation tubes a c.c. each of the 1 to 100, 1 to 1,000 and 1 to 10,000 dilutions, or if *B. coli* organisms are to be numerically determined the milk may be plated in lactose litmus agar, red colonies counted and species tests worked out. Lactose-bile medium has also been used for the determination of *B. coli* in milk. The presence of these gas-producing organisms in abundance usually indicates dirty condition of stables, cows or vessels. In small quantities they may be found in most milks.

Society Proceedings

AMERICAN ACADEMY OF MEDICINE.

Special Meeting, held in Pittsburg, Jan. 2-3, 1908.

The President, DR. T. D. DAVIS, Pittsburg, in the Chair.

The object of this meeting was to confer with representatives of literary and medical colleges and others interested on some of the problems of medical education.

DR. CHARLES MCINTIRE, secretary of the academy, said that the academy was not on a quest for a course of minimum requirements, nor for a concession course to reduce eight years to seven, but that the wish was to determine the educational process most likely to produce at once an educated man and a student prepared to become a skilled physician, and to adjust the baccalaureate course and that leading to the doctorate, so that everything will tell and no time be lost.

Criticisms on the Present Medical Curriculum.

DR. HENRY BEATES, JR., said that the present medical curriculum is a complex made up of courses of study for the medical degree, no two of which are alike, either in value or merit. He believes that the present medical curriculum should not permit of divided examinations, whereby, at the end of two years, the fundamentals may be eliminated. He urgently insists that the fundamentals should be perpetuated throughout the full four years, not in the manner of the first two years, but as applied fundamental principles. An additional criticism is the disregard of the necessity for co-ordination in the teaching of the respective sciences.

Essentials of a Medical Education.

DR. MURRAY GALT MOTTER, secretary of the National Confederation of State Medical Examining and Licensing Boards, outlined the essentials of a medical education as: 1. An adequate preliminary training. 2. A medical curriculum based on sound pedagogic principles, well balanced and closely correlated throughout; a simplified course in which quality of work should have more weight than mere quantity. 3. The more careful selection and training of medical teachers and a greater degree of cooperation between them. 4. The subordination of the specialties to the major branches with which they are logically connected, the refinements of special practice being relegated to the postgraduate course. 5. The substitution, in so far as possible, of practical for oral and written examinations, with the preparation and defense of a thesis as a requirement for graduation. 6. Quoting from the chairman of the judicial council to the Association of American Medical Colleges, "Make your examinations at the end of the second year honestly, and require those men who can not pass their examinations to go back or get out."

The American Medical School and Its Entrance Requirements.

DR. DAVID STARR JORDAN, president of Leland Stanford, Jr., University, said that of the medical colleges of America only those can live which become integral parts of universities. This applied as well to those which without real university standards maintain a nominal connection, for purposes of advertising, with some university or college. The essentials of medical instruction were outlined as well equipped laboratories and hospitals, competent teachers, a standard of admittance which shall exclude the ignorant and those incapable of scientific conceptions, and a high standard of graduation which shall exclude unworthy men from the professional degree. The four years of a college course, spent primarily on physiology, biology and chemistry, and secondarily on languages, literature and history, give a training to which the university can set its seal of approval. The university should not be satisfied with less than seven years from the high school to the university degree of M.D. Dr. Jordan believes that the universities of America should begin with the junior year, leaving the freshman and sophomore years to the colleges and the larger high schools and preparatory schools. By this arrangement all work of the university should be regarded as professional, confined to such subjects as are needed for professional training, and the profession of teaching among the rest, with such other subjects as may give breadth of vision or personal satisfaction, but not counting as constituents of a degree. In this case the course of medicine should be lengthened to five years by the inclusion of courses in science. The plan which seems to Dr. Jordan most nearly in the line of the development of the American university system is to begin all professional work with the third or junior year of the present American college. In this case the medical course may be strengthened with another year of further scientific requirements and further clinical experience at the end.

The Danger of Attempting Too Much.

DR. FREDERICK H. GERRISH, Portland, Maine, said that medical schools are designed primarily to make general practitioners, and yet there is a marked tendency in the schools to give much valuable time to topics about which the practitioner has little occasion to know, and to ignore or slight other things which he constantly or often needs. The curriculum of the medical school should be arranged with particular reference to the needs of the general practitioner. There should be excluded all branches which are designed for mental discipline and those which do not have direct bearing on the practice of medicine.

DISCUSSION.

Dr. William L. Estes spoke of the great deficiency in a knowledge of anatomy exhibited by the students of all colleges of eastern Pennsylvania. He believes that this fundamental branch should be continued in a practical way through the whole curriculum. The innovation in this country of a non-medical training in physics, anatomy, chemistry and biology, he thinks may be detrimental to the general all-round medical trend which the student's education should assume.

Dr. J. W. Holland, Philadelphia, said that while training in universities at home and abroad makes a very fine type of medical man, it does not always make the best doctor. For biologic reasons, a man ought to be engaged at the business of life before he is 25 years of age.

Dr. J. G. Schurman, of Cornell University, said thac Cornell, beginning with the year 1908, would admit to its medical college only college graduates or persons of equivalent training. The question of such action, however, was not one to be settled by universal rule, but was dependent on circumstances. He believes that while the elective principle in colleges is inevitable, it has been carried too far. In the years following the first two of the college course the student should study mainly the sciences before entering on the medical curriculum. Admitting that medical subjects and the pure sciences, like physiology and anatomy, should be taught by medical men, he believes that the sciences like chemistry, physics and biology, which are not so closely intertwined with the medical sciences, can be taught by faculties other than medical. He would, therefore, eliminate chemistry, physics and biology from the medical course, and the specialties he would put into the postgraduate course. There would be room between the two extremes for a good medical course.

What Are the Principles Underlying, and What Provisions Should be Included in a Medical Practice Act?

Dr. Alexander R. Craig, Philadelphia, thought that as a matter of protection to the public the law should determine the very lowest qualification that a man may have and still be a safe practitioner of medicine. The matter of reciprocity, he thought, should be one for each state to determine. In the event of a physician desiring to practice in another state, some value should attach to resolutions passed by the man's own confrères as to his fitness to practice medicine.

Dr. Charles McIntire said that the provisions of a medical practice act should give no preponderance of power to the "dominant school." Other important points mentioned by him were the necessity of a definition of what the practice of medicine really is, and that on the medical examining board should be laid the responsibility of bringing to justice illegal practitioners of medicine.

Prof. John Raymond, Brooklyn, favors the divided examinations, whereby at the end of the second year the student may undergo examinations in the so-called elementary or fundamental branches.

Dr. Lee Smith, New York, said that the New York medical practice act, while having made a compromise in the elimination of the practice of medicine, materia medica and therapeutics, is working well. The examination of students in anatomy, physiology and chemistry at the close of the second year is of great advantage.

Dr. Murray Galt Motter, Washington, D. C., believes that a medical law should eliminate politics from the board of medical examiners, and should provide that such examiners should have special qualifications for their duties. The ideal condition would be that the law should require the state board to satisfy itself that the candidate is a safe man to practice medicine, and leave out all consideration of what subjects he shall be examined in, and of the length of time devoted to his preparation. If he is prepared, he is prepared. If a law were framed on that basis there would be no difficulty about licensing a man who had qualified by his practice in another state.

What Can the College and Fitting School Do to Aid in the Study of Medicine?

Prof. W. F. Mercer, Ohio University, believes that the place to save time is in the high school; also that there is an advantage in taking some scientific work along with the other work of the college course. He thinks that the medical man is making a mistake in considering that the graduate of literary colleges to-day is the same product as the graduate of twenty-five or fifty years ago. It is not generally realized that literary colleges to-day are doing better and more work in literary science than the average medical college possibly can do. It seems to him unfair that credit should not be given in the medical school for work done in the college.

What Are the Essential Subjects of General Information to be Possessed by the Physician?

Dr. James D. Moffatt, president of Washington and Jefferson College, concludes that, as far as possible, the traditional college course of study should be pursued before entering on a medical education. He is not prepared to advise that all medical colleges follow at once the example of Johns Hopkins and Harvard regarding admission requirement. It is his belief that the college graduate who has made use of his opportunities will find himself better equipped to get the most out of his medical school opportunities than by saving those four years of time for his practice.

Rev. A. B. Church, president of Beloit College, believes that four years of college work is of avail if it does nothing more than change the ideals of young people. He does not favor the "short cuts," and feels that the time of development can not be ignored. He claims that the best educated man, not the best instructed man, is he who has the greatest number of points of contact with the world of force.

Professor Blake, of Lehigh University, would like to see put in operation an arrangement by which the medical colleges would certify to the character of the work done in literary colleges, and thereby make it possible for a man to get a medical degree in three years.

Dr. Robert S. Breed, of Allegheny College, said that the ideal preliminary training for medical students should include at least four-year courses in biology. This should be followed by courses in the comparative anatomy, histology and embryology of vertebrates, with frequent references to the invertebrates. Additional training in botany, especially in general bacteriology, is highly desirable, together with training in laboratory technic. He said that it is possible to give this preliminary training in the ordinary college, and that it is an advantage that they be taught there rather than in the medical school, because they are there taught from the standpoint of their general cultural value rather than from the standpoint of their practical application, and so the student gets the broader viewpoint. The medical school should give the student the special applications of these subjects to man. He suggested that if more medical schools would adopt the plan of entrance requirements as Western Reserve and Cornell have done, and that others are thinking of doing, and would then insist that the college men have completed certain courses, it would tend to bring about a system which would put medical education on a much more satisfactory basis than it is at present.

CHICAGO MEDICAL AND CHICAGO SURGICAL SOCIETIES.

Joint Meeting, held Jan. 8, 1908.

The President of the Chicago Surgical Society, Dr. A. J. Ochsner, in the Chair.

Tuberculosis of the Tongue.

Dr. William M. Harsha showed a case of tuberculosis of the tongue in a man, 40 years of age. He thought, at first, the case was one of epithelioma of the tongue, but before operating a microscopic examination was made, which disclosed tuberculosis. Since the removal of the involved portions of the tongue, the patient has gotten along very well.

DISCUSSION.

Dr. Arthur D. Bevan saw a case in 1893 similar to the one reported, although at the time he thought it was one of epithelioma. The diagnosis was made by staining scrapings from the lesion of the tongue for tubercle bacilli. The man had an advanced tuberculosis of the lungs.

Dr. John B. Murphy said that there is no disease of the tongue that is so hard to differentiate as tuberculosis. The so-called scrapings from the tongue are often scrapings from the lungs, in that they come up and are deposited on the tongue. The unsatisfactory part is that we do not find the typical or classical picture microscopically. There is absence of the giant cells. The epithelial cells are mixed so that they do not present the typical form under the microscope. The diagnosis, from a macroscopic standpoint, is made by the secondary enlargement of the glands, its resemblance to epithelioma, and in a number of these cases the glands, when examined secondarily, do not show typical tuberculosis, but a mixed infection. The prognosis is unfavorable even after the radical removal of as large a portion as one would ordinarly remove in a case of epithelioma of the tongue. It requires the excision of a larger portion than in a case of carcinoma to feel that the patient is free from secondary return *in loco*.

Dr. William Allen Pusey has had a case of tuberculosis of the mouth and tongue. In his case the lesions corresponded to the superficial tuberculous ulcers which sometimes occur in tuberculosis of mucous membranes. A lesion on the tip of the tongue looked like a mucous patch. There were a large number of lesions on the buccal mucous membrane, and there were some lesions on the mucous membrane of the gum. There were no enlarged glands, and there were no deep ulcerative lesions. There were no tuberculous gummata. Pusey thinks that in all these cases a macroscopic diagnosis is impossible, while the microscopic diagnosis is not difficult, because, unlike other superficial lesions, the tubercle bacilli are abundant in the tissues and are easily found. This was true in his case. The man has systemic tuberculosis in the late stage. The course of the case was rapidly downward. The patient was very cachectic. He suffered such excruciating pain that eating was impossible without spraying with cocain, and within two months after the development of the disease he died. The histologic diagnosis was active miliary tuberculosis.

Dr. L. L. McArthur had a patient in whose case the diagnosis was made by means of the microscope. He thinks radical removal offers greater hope of recovery than in cases of carcinoma.

Prophylactic Use of the Filigree in Infected Wounds of the Abdominal Wall.

Dr. Willard Bartlett, St. Louis, reported 32 cases in which he had used filigree, and described the technic of its use. His experience with 36 cases seems to him to prove that it will heal in a pus wound, and he has shown it to be true in five instances, as well as in an equal number where a clean wound became infected after the implantation of such a contrivance.

DISCUSSION.

Dr. D. A. K. Steele thinks it is possible to implant a filigree in an infected wound of the abdominal wall and have its silver strands become a part of the scar tissue, prevent hernia, and cause no local irritation, even though in the lapse of time the original network may become broken or separated into fragments. He has always regarded the permanent introduction of non-absorbable material, such as silver wire, iron wire, silk or silkworm gut, into the living tissues as objectionable on account of the frequent necessity for its removal later on by reason of irritation, infection or discomfort to the patient. Many times he has been called on to remove buried loops of wire or silk that have produced distressing symptoms. He prefers autoplastic methods, and his belief is that in cases like those described by Dr. Bartlett it would be perfectly feasible to bring the muscular or aponeurotic structures in close apposition by the use of he herring-bone suture of chromicized catgut or kangaroo tendon, which will give equally as good permanent results.

Dr. Alexander Hugh Ferguson has met with no case which he has not been able to handle by plastic procedures. There have been some cases in which he has refused to operate which might be suitable for the filigree. He thinks the author makes a bold statement when he advises the filigree as a prophylactic in suppurating wounds of the abdominal wall. In large gaping wounds it is much easier to insert the filigree than to effect approximation by well-known surgical methods. Its ease of application will induce many men to try it who would not undertake a plastic operation. The author's statistics are in favor of it, although he thinks sufficient time has not elapsed to prove this. The first disadvantage of the filigree is that it is a foreign body; second, its instability in the tissues; third, it is doubtful whether it is a prophylactic in such cases against hernia.

Dr. M. L. Harris has had no experience in implanting silver wire filigrees, but he has had some experience in taking them out. His first case was a patient operated on several times, primarily for appendicitis, and then operation was undertaken subsequently to close a ventral hernia, and finally a wire mattress or filigree was implanted in the abdominal wall. It healed in nicely, but after a time it gave the patient so much trouble and so much pain that he insisted on its removal. The wire had broken into small pieces, each one of which furnished one or two ends which were sticking in the tissues.

Dr. E. Wyllys Andrews said that if he has a clear picture of Dr. Bartlett's paper, it is simply this: That over a row of pegs he constructs a filigree by first darning artificially, and then a natural kind of network is constructed which is able to stand alone and hold in shape. Here we have a principle analogous to that of heteroplasty, as seen in the Moorhof bone plug. With the wire network granulation tissue and connective tissue fill out the space or cavity, and he thinks there can hardly be any question as to the practicability of this framework.

Human Glanders.

Drs. A. D. Bevan and Walter Hamburger reported three cases of glanders occurring in the human subject.

DISCUSSION.

Dr. Maximilian Herzog mentioned two cases which he saw in Manila that were diagnosticated as smallpox. Commonly, the disease in the human being simulates either smallpox, pyemia, erysipelas or syphilis. The agglutination test is not reliable. The biologic test is reliable and simple, and can be made in a few days.

Dr. F. Robert Zeit reported two more cases of glanders occurring in Chicago, one of which he saw himself, and the other having occurred in the practice of Dr. Bayard Holmes.

Dr. Adolph Gehrmann mentioned a still earlier case of glanders in the human subject than the one related by Dr. Zeit. This was demonstrated before the society some fifteen years ago. This case also occurred in the practice of Dr. Holmes. He mentioned an interesting report from the Royal Victoria Hospital in Montreal of a case of glanders in a man who lived for about seven years, having exacerbations now and then, but who finally died of a generalized infection.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, held at St. Louis, Dec. 30-31, 1907.

(Concluded from page 309.)

Harrington's Solution in Suppurative Inflammations of the Knee Joint.

Dr. J. E. Summers, Omaha, reported an interesting case in which this solution was used, and said that while his experience with Harrington's solution is not great, it can be used very advantageously in infective wounds where it is applicable. After thorough surgical cleansing of a wound or abscess cavity, the solution is allowed to remain in contact with all its surfaces for from three to five minutes; it is then irrigated or sponged away, and the particular wound dressed as required. Harrington's solution has, besides its established antiseptic property, the power, when applied to a raw surface, to produce a copious discharge of serum, thus aiding the washing away of noxious elements from the wound.

Dr. Charles H. Mayo emphasized the value of Harrington's solution as antiseptic, and said that it is one of the best and least destructive we have in use for suppurating wounds.

Early Restoration of Function After Excision of Elbow in Tuberculous Cases.

Dr. G. G. Cottam, Rock Rapids, Iowa, related the history of a young farmer who suffered from tuberculosis of the capitulum humeri, with ankylosis of the elbow, in which it was very desirable to secure early use of the arm. Excision by Kocher's incision was done, and through this means and by radical modification of the after-treatment from that usually employed, together with the fact that the operation was done before the soft parts were extensively involved, brought about the desired result, the patient being able to do heavy work after the eighth week.

Anesthesia Fatalities in Iowa.

Dr. L. W. Littig, Iowa City, Iowa, sent a circular letter to 3,500 physicians practicing in Iowa. Eight hundred replies were received, many of them containing information which led to reports of fatalities by men who did not reply to his first letter. He rejected reported chloroform fatalities occurring from two to four days after anesthesia, because he does not think it is possible to secure anything like reliable data in this class of cases; rejected ether fatalities occurring at the close of long and difficult operations and excluded cases in which he thinks that the operation itself is of sufficient magnitude to cause death on the operating table or soon thereafter; obstetric fatalities in which placenta prævia or severe hemorrhage complicates delivery; excluded cases in which pneumonia or other lung complications follow gall bladder or other abdominal work.

The report contains 63 chloroform fatalities. Of these 63 fatalities, 10 occurred in dental practice. One fatality was due to choking during anesthesia. There were 5 fatalities in confinement in which chloroform was used, and in which the reporters blamed the chloroform. There was one confinement fatality in which ether was used, and in which the reporter blamed the ether. There was one late chloroform fatality, with jaundice.

The author concludes that: 1. Chloroform is vastly more dangerous than ether, especially in minor work, and at the beginning of administration. The chloroform-ether sequence is especially bad. 2. In the class of work mentioned, chloroform is so much more dangerous than ether that its use should be most emphatically condemned, and (quoting H. C. Wood, writing sixteen years ago or earlier) "the surgeon is not justified in using chloroform, except under certain circumstances and for very definite reasons." 3. Chloroform is especially dangerous in dental work and should not be used. 4. Chloroform is not free from danger in obstetric practice.

DISCUSSION.

Dr. D. C. Brockman, Ottumwa, Iowa, said the paper showed clearly that chloroform is a much more dangerous anesthetic than ether, and that there is very little advantage in using it, except in special cases. There are circumstances when chloroform should be used. Chloroform is particularly dangerous to give to hard drinkers, who are recovering from a debauch. Another anesthetic that is dangerous is the combination of morphin-hyoscin-cactin. Dr. Brockman said that many country doctors are carrying tablets of hyoscin-morphin-cactin for use when patients need morphin. Instead of using morphin and atropin, they use this compound, which is dangerous, and which should be used with the utmost care.

Dr. Henry T. Byford, Chicago, said that those who have seen fatalities from anesthetics will agree that the difference between ether and chloroform is that one kills quickly and the other does not. Ether is more liable to produce nausea during anesthesia and to cause aspiration pneumonia and bronchorrhea than chloroform.

Dr. Charles S. James, Centerville, Iowa, said there is an important factor in connection with anesthesia other than the variation between the results of ether and chloroform anesthesia, namely, the personal factor of the administrator. The difference in safety between chloroform anesthesia and ether anesthesia lies in the wider range of safety between the anesthetic dose and the lethal dose. In a considerable percentage of the deaths that occur from anesthetics, it will be found that the anesthetics have been given by inexperienced anesthetists. The personal equation in the administration of anesthetics should be considered.

Dr. B. B. Davis, Omaha, said there is one element in connection with deaths from chloroform that has appealed to him, and that is that an anesthetic is administered to many patients for some trivial condition. A very large proportion of them have indulged in rather active exercise just before taking the anesthetic, and he is under the impression that many deaths can be avoided by letting patients rest a few minutes before the anesthetic is given. This is certainly one element of risk in administering chloroform, and usually chloroform is given in this particular class of cases rather than ether. A great many surgeons give chloroform to a patient for a short operation. Personally, he has used ether almost exclusively for years.

Dr. Charles H. Mayo, Rochester, Minn., thinks that chloroform produces less sickness after its administration than ether, but he believes that a case of chloroform sickness, is equally as bad as ten ether cases. It lasts about three days, and it is almost impossible to stop it. Ether sickness can usually be stopped by washing out the stomach. He is convinced that too little attention is given to the education of medical students in regard to the use of anesthetics. Wherever possible, anesthetics should be given by skilled and experienced anesthetizers.

Dr. W. W. Grant, Denver, emphasized and endorsed the remarks of Dr. Mayo as to no teaching on the part of medical colleges with reference to anesthetics. No matter how long students have been in college, when they leave they are absolutely ignorant as to the method of giving anesthetics. Patients who have diseases of the bronchial tubes or air passages are not good subjects for ether. Arteriosclerotics and old alcoholics are not good patients to take ether, yet they are especially good subjects for chloroform. If he can select a skilled anesthetizer, he does not fear the administration of chloroform at an operation. He has always felt that there is more in the man who is giving the anesthetic than surgeons are prone to consider. If the anesthetizer knows how to give the anesthetic properly, then he knows how to discriminate and to give ether or chloroform, as the case demands.

Dr. J. R. Minahan, Green Bay, Wis., believes that almost any patient can be killed with two drams of an anesthetic like chloroform or with an equally large amount of ether, and the person who gives the anesthetic should remember that it is not the quantity of the anesthetic that is fatal, but it is the rapidity with which the patient takes it that causes a fatal termination.

Dr. James E. Moore, Minneapolis, said that 95 per cent. of his surgical patients during the past twenty years have had chloroform as the anesthetic, and not one has died from it. It must be remembered, however, he said, that the anesthetic was given by an expert anesthetist. If inexpert people give anesthetics, then ether is the safer, because it takes more of it, and it takes a longer time to kill a patient, but it will do it just the same. In England one rarely sees a patient take ether. The same may be said of Germany, simply because in those two countries they know how to give chloroform. In this country, where so much surgery is being done, we should insist on having skilled anesthetists.

Dr. Jabez N. Jackson, Kansas City, Mo., said that up to four years ago he favored the administration of chloroform as an anesthetic, and used it almost exclusively, from the fact that up to that time he had never seen ether administered properly, in a way that would command his confidence. Since he saw ether administered in Deaver's clinic with the Esmarch inhaler by the open drop method, he has used ether practically exclusively, and he thinks that this anesthetic is used almost entirely by all the surgeons in Kansas City. Since using ether he has not seen a death from the anesthetic in three years, nor the slightest indication of trouble, either in his experience or in that of others.

Dr. F. A. Dunsmoor, Minneapolis, has a strong leaning toward chloroform, for the reason that it is more pleasant, quicker in action, produces less vomiting, and can be carried easily. People are prone to be careful about it. He also confessed that he has taken chlorform himself, but said no colleague can give him chloroform again, no matter who he is. The majority of patients who are killed by chlorform are killed by small amounts, and usually they are patients who come for small operations, such as the removal of tonsils. The idiosyncrasies of patients should be considered in giving anesthetics. He would discourage the use of chloroform. If a patient undergoes a prolonged operation, ether should be given; if used in the smallest amounts, it is a safe anesthetic.

Dr. M. L. Harris, Chicago, concurred in the conclusions reached by the essayist, but, he said, one can not take a patient to a hospital and always secure an expert anesthetist. The great preponderance of deaths is from chloroform, even in hospitals where professional anesthetists give the anesthetic. He has had three deaths from chloroform, and these deaths occurred before the patients were touched in a surgical way. The anesthetic was administered with the Esmarch apparatus. In two cases, it was the intention, as soon as the patient was asleep with chloroform, to change to ether. All three of the deaths occurred suddenly, long before he began to touch the patient, and in the hands of an expert anesthetizer. As to the Germans using chloroform and not having deaths from it, the collected investigations of the German Surgical Society undertaken a few years go, and continued, year after year, unmistakably show the great preponderance of deaths from the use of chloroform over ether. It was supposed, at one time, that ether irritated the kidneys and was dangerous in kidney complications, while chloroform was not. The fact is that where the urine has been examined after chloroform anesthesia, a larger percentage of the cases show albuminuria after its administration than after the administration of ether.

The Abdominal Incision.

Dr. Clifford U. Collins, Peoria, Ill., drew the following conclusions: 1. Abdominal incisions should be placed so that they will pass through both aponeurosis and muscle. 2. The incision in the aponeurosis and in the split in the muscle should run in different directions. This can be done in a large majority of abdominal operations. 3. A longitudinal incision should not be made through the linea alba or the sheaths of the rectus at a right angle to the combined pull of the three side muscles when it is possible to avoid it. 4. For very large tumors, in cases where the character and location of the pathology is in doubt, the longitudinal incision is probably necessary. 5. If the longitudinal incision is necessary, the split in the rectus should not be continuous with the aponeurotic incision, but should be placed to one side, and preferably through its inner half to avoid the intercostal nerves which enter the outer half. 6. It will take longer time and more experience to demonstrate the correctness of these conclusions.

Arthrodesis and Tendon Transference in Paralytic Club-Feet.

Dr. John Prentiss Lord, Omaha, Neb., advised arthrodesis and tendon transference in cases of paralytic club-feet for the following reasons: 1. To prevent the return of the deformity, which so often occurs where braces alone are used. 2. To avoid loss of time during which the child becomes confirmed in the habit of deformity. 3. Because younger children learn to walk anew much easier than do those of more advanced years. 4. Where the patient is financially unable to meet the expense of prolonged treatment with braces. 5. By preventing return of deformity the parents do not fall into the habit of thinking nothing can be done. 6. It utilizes to best advantage the remaining muscular power, and gives the best possible results to be obtained in these cases.

The degree of work done depends on the amount of deformity. Ordinarily, removal of the articular surfaces from the tibio-astragaloid, astragalo-scaphoid and calcaneo-cuboid is done to effect arthrodesis. In addition, transference of the tibialis anticus to the common extensor for toe-drop is done, while in extreme equino-varus, astragalectomy, with removal of the joint surfaces from the calcaneo-cuboid articulation, and even suturing the tibialis anticus to the periosteum on the outer side of the cuboid, may be demanded. In some cases even the flexor longus hallucis is brought through the interosseous membrane and sutured to the common extensors. In the rare cases requiring muscle-splitting, he said one should avoid severing the transverse nerve fibers in the body of the muscle. Dr. Lord has used catgut sutures, except where the tension is heavy, when he uses fine silk, boiled in bichlorid, dried and reboiled in paraffin, before operation. In more than 40 consecutive cases the results have been very satisfactory. In joint cases, cigarette drainage was used to take away oozing. This was gradually removed, no suppuration taking place. Heavy casts were applied as long as six months, the use of the foot being gradually increased, after three or four months. The results have been very gratifying, the majority of patients having been able to discard braces or crutches within a reasonable time.

Practice of Surgery.

Dr. Charles H. Oviatt, in his address, presented a few thoughts bearing on the practice of surgery that naturally come to one who has spent the most active years of his life in the work. No attempt was made to take up the history further than to show that previous to the year 1800 but few discoveries were made that marked any distinct advance. The evolution of surgery in the past century has kept pace with the development of science along other lines, wonderful as this has been. With the perfected technic of antisepsis and asepsis, it seems that the acme of surgical science has been reached; but in the light of discoveries it would be rash to attempt to place a limit to the future of surgery.

The ambitious medical student does not usually get far into his college work before he decides to become a surgeon. This decision is brought about largely through what he sees in surgical clinics and from his observation of the position held by the surgical leaders of the profession. Young men who elect to become surgeons should make sure that they possess the special aptitude, and then be willing to devote a long period to preparation for the work. Attention was called to the fact that there is much that passes under the name of surgery being done by incompetent and ill-trained men. Some of it is honest and well intended, but much is for purely commercial ends. A spirit of graft has pervaded the profession that is undermining morals and ethics. A partial explanation for the existence of this condition is found in the fact that this is an age of commercialism. We are known to the world as a nation of dollar-chasers. This, and the overcrowding of the profession with men from inferior schools, is, in large part, responsible for fee-splitting and the commission evil. The existence of this class of medical colleges is less excusable when it is considered that the better schools rank with the best in the world, and that they are ample to afford instruction for all who should enter the profession. Enough well-prepared men of character are entering the field to insure the upholding of the lofty ideals that have characterized the profession in the past. We may, therefore, take a hopeful view of the future. Another aid in the elimination of the graft evil is coming from the people themselves. The public mind is especially active at this time in combating graft in all forms.

The moral standards set for professional men and men in public life are going to be higher in the future, and with the lime light of public opinion turned on the medical and surgical grafter the evil will cease to exist. Hand in hand with this reform it is hoped that a standard of qualification will be established for those who assume to do surgery.

Significance of Abdominal Tenderness in Locating Lesions of Viscera.

Dr. T. C. Witherspoon, Butte, Mont., referred to the physiology of the sensory nerves of the abdominal viscera, and discussed the effect of lesions of the viscera in the production of pain. The somatic areas of pain referred from the viscera and their significance in diagnosis were pointed out; likewise the character of visceral pain. He spoke of disturbance of the sensory function of the somatic nerves, with coincident disturbance of visceral function. Lastly, he called attention to those pains of central origin which are referred to the abdomen. Pott's disease, tabes and tumors in the spinal canal illustrate this class. Usually the subjective pain is not accompanied by tenderness, at least not of any acuteness.

Etiology of Epithelioma.

Dr. Arthur E. Hertzler, Kansas City, Mo., began with the hypothesis that the limitation of epithelial cell development is set by the chemical difference in the basement membrane and epithelial cells. Experiments prove that those chemicals which unite with (stain) connective tissue *in vivo* cause an atypical epithelial cell proliferation resembling closely a beginning epithelioma. The development of atypical cells is limited because the action of the chemical on the connective tissue is limited. This results in constancy for stains having these characteristics. It is negative for connective tissue stains which do not stain *in vivo*, or for nuclear stains. In areas in which atypical cell proliferation has been brought about by such means, the fibers, after fixation, do not stain with the ordinary fibrous tissue stains, while the fibrous tissue in regions not so treated stains in the characteristic manner. Applying facts so deduced clinically, the general statement is ventured that epitheliomas occur in those regions where alkaline secretions are permitted to come in contact with the fibrous tissue by irritation, thus producing the resistance of the connective tissue to the invasion of epithelial cells or to some change primarily in the connective tissue, e. g., prolonged exposure to leucocytes, as in chronic inflammation, or to some overstimulation of the epithelial cells. Either of these conditions will lead to a disturbance of chemical balance and permit the invasion of the epithelium.

Preparatory and Postoperative Treatment.

Dr. James E. Moore, Minneapolis, said that, as a rule, preparatory and postoperative treatment, aside from the sterilization of the operative field and the dressing of the wound, has more to do with the comfort of the patient than with his recovery, for emergency cases very commonly do well, and surgeons frequently perform successful operations away from home, and leave the after-treatment to a physician little skilled in the care of surgical cases. In all but exceptional cases, where some organ, the bladder, for example, has to be prepared for operative procedures, prolonged preparatory treatment is unnecessary and inadvisable. It is sufficient to have the average patient enter the hospital on the day preceding the operation. In weak patients, and where a very severe operation is to be performed, 1/30 grain of strychnia given just before operation is helpful. The operative field should be shaved, thoroughly disinfected, and a sterile dressing applied the evening before the operation. Every operating room should have an experienced anesthetist, because it adds to the patient's comfort and safety, and allows the surgeon to give his undivided attention to the operation. Most stitch abscesses are caused by tight sutures, and tight bandages are the cause of untold suffering. Thirst is the greatest source of suffering after operation, and in the management of this symptom many mistakes are made. His patients all get water after operation, and they convalesce much more comfortably than those who are deprived of it. All surgeons agree that the patient is better without food for a time after operation. To force feeding will surely disturb his stomach. Aside from opiates and mild cathartics, medicine has very little place in postoperative treatment, only to meet definite indications.

In every case the question naturally arises, When shall the patient get out of bed? All agree that old people should get up at the very earliest period possible, for reasons well understood, but there is still a great diversity of opinion as to when a younger patient should get up. Every abdominal operation is of sufficient importance to justify a patient remaining in bed for from one to three weeks.

Appendix in Sac of Femoral Hernia.

Dr. Charles S. James, Centerville, Iowa, reported the case of a female, aged 77 years, who for four days had noticed a painful lump in the right groin. She was in usual health previously, but had observed a small lump at this point for several years. Symptoms were negative, except that the pulse was 96, and temperature 102. There was a prominent brawny swelling, 3½ to 4 inches in diameter, indurated and semi-fluctuant, presenting the characteristic appearance of a suppurative gland over Poupart's ligament. There was no impulse. A diagnosis was made of a local suppurative process, with probable femoral hernia. Operation under spinal anesthesia. The abscess cavity was dissected up with difficulty and found to be the appendix. A separate abdominal incision disclosed an incarcerated loop of ileum, gangrenous, and two perforations. He resected five inches of the intestine, and resorted to end-to-end anastomosis with suture. The appendix was removed in the usual manner. The patient made an excellent recovery.

Diagnosis of Appendicitis with Pelvic Disease.

Dr. A. E. Benjamin, Minneapolis, said that any inflammatory disease within the abdomen primarily involving one organ may from continuity or contiguity result in other tissues or organs being involved. The character of the disease, the variety of each form of disease, the number of organs involved, the associated displacement of organs, the temperament, environment, and avocation of the individual sufferer, are all factors to be considered in summing up the case. A careful personal history, a thorough physical examination of the individual, with the aid of chemical and bacteriologic investigation, and a searching examination with all the apparatus at command, i. e., cystoscope, proctoscope, microscope, and *x*-ray, will clear up the majority of cases. In certain cases, if no positive diagnosis can be made, there may be clear indications for operative interference to cure the disease. In complicated cases a thorough search through a proper sized opening should be made to terminate the symptoms complained of, and a record of all findings for future reference.

Torsion of Omentum.

Dr. W. W. Grant, Denver, reported an interesting case. He is positive, from the nature and character of the adhesion, the condition of the intestine and absence of any indication of disease, past or present, of every other organ or part, that it is of long standing. It seems possible, he said, that it can have dated from the existence of hernia in childhood without causing intestinal obstruction or torsion at an earlier date. The vomiting may have been due to a momentary obstruction from volvulus due to the adhesion and intestinal peristalsis.

In reviewing the literature Dr. Grant found 61 cases reported. He agreed with Richardson, of Los Angeles, that strangulation of the omentum from pressure or adhesions does not constitute torsion and should not be classed as such. Only 7 cases are entirely intra-abdominal. His own makes 8. The torsion may be single or double, but usually the former. In the intra-abdominal cases the symptoms closely resemble those of acute appendicitis, and up to the present time with a probable diagnosis of the latter. Even in hernia, the abdominal symptoms are pronounced in most cases. The tenderness and dulness at an early period cover a wider area than in appendicitis; yet, if on the right side, both subjective and objective symptoms simulate those of acute appendicitis. If hernia exists, one should especially be on guard as to the differential diagnosis. The history of torsion of the greater omentum justifies this precautionary statement, and he hopes that these suggestions may be accepted as timely. He believes this case is unique and exceptional in being completely amputated by torsion from the body of the omentum and in being fixed by adhesion to one point of intestine and to nothing else.

Lymphatic and Portal Infections Following Appendicitis.

Dr. Roland Hill, St. Louis, reported a case illustrating these infections, and said that in the present stage of surgical knowledge we are almost absolutely helpless in the presence of some of the severe forms of infection when the infecting organism has once passed into the general circulation.

Etxrauterine and Intrauterine Pregnancy.

Dr. D. C. Brockman, Ottumwa, Iowa, reported the case of a woman five months pregnant, with extrauterine and intrauterine pregnancy. An attempt was made to remove the ectopic sac by abdominal section, but the parts were so vascular that he was obliged to desist. Furthermore, the patient was so debilitated from vomiting that he did nothing further. But in ten days he opened the sac from below, removed the fetus, and packed the cavity with gauze, intending to remove the placenta later. Uterine hemorrhage and pains occurred on the third day, and the woman died two days later from hemorrhage.

Sexual Perversion Accompanying Prostatic Hypertrophy.

DR. J. F. PERCY, Galesburg, Ill., believes that the old prostatic, who shows aberrant sexual activity, is in a large proportion of cases suffering from a psychosis rather than senile dementia, to which the symptoms are usually attributed. Under the influence of the irritation from his enlarged prostate, he may commit all forms of sexual crime, and after removal of his prostate his functional sexual aberration disappears and he remains cured. This phase of the diseased prostate opens up the possibility of a more rational study of the pelvic environment of the prostate gland in the sexual perverts among men, old and young. Many old prostatics are in insane asylums, many of them are in the government and state soldiers' homes, as well as in the various county almshouses. The strain of sexual excesses from early life until old age, the intimate connection maintained between the prostate gland and the sympathetic and the cerebrospinal nerves, the unknown secretory functions of the prostate gland along physiologic lines, these all make prominent the fact that with the hypertrophied prostate can be had a class of symptoms referable to the sexual system, where the mental life of the sufferer carries him close to the border where insanity has its dominion, and which can be corrected by the aid of surgery.

Other Papers Read.

The following papers were also read: "Hydrocephalus, Its Surgical Management," by Dr. William Jepson of Sioux City, Iowa; "Sarcoma of the Liver," by Dr. Van Buren Knott of Sioux City, Iowa; "The Diagnosis and Treatment of Extra-uterine Pregnancy, with Report of a Case," by Dr. George C. Barton of Minneapolis; "Intestinal Obstruction," by Dr. B. M. Ricketts, Cincinnati.

Medicolegal

Physician Can Not be Examined by Referee as to Result of Examination.

The Supreme Court of New York, Special Term, New York County, says that an order made in the case of Wood vs. Hoffman for the examination of the plaintiff as an averse party under sections 870, 872 and 873 of the New York Code of Civil Procedure directed the plaintiff to appear for examination before a referee, directed a physical examination by a physician, and further directed the examination of the physician before the referee as to the result of his examination. In so far as the order directed or permitted the examination of the physician, it was clearly unwarranted. The court can find no provision of law which permitted it. The section of the Code of Civil Procedure (873) contemplates a physical examination of the party by the physician which includes such oral examination as the physician thinks proper, and of the questions and answers the referee can make a record; but the physician can not be examined himself as to the result until the trial.

Damages Recoverable for Injuries—"Physician" Defined.

The Supreme Court of Minnesota says that in the personal injury case of Goss vs. Goss and others the trial court instructed the jury to the effect that the plaintiff, if he had established his cause of action, was entitled to recover all the damages he had sustained which naturally and proximately resulted from his injury, but that he was not entitled to recover for any aggravation of his injuries caused by his neglect; that he was not entitled to recover for anything resulting from his own negligence which may have increased the effect of his injury; and, further, if he was guilty of negligence in the changing of physicians, or in changing his location from Cass Lake to Anoka, he could not recover anything for the increased suffering or damage or injury due to such negligence.

The defendants urged that this was error, because the instruction should have been limited to the employment of a surgeon, and not a physician; that the plaintiff was in the care of a competent surgeon, and voluntarily left him, and his condition at the time of the trial was due to his carelessness in leaving the surgeon and taking up an unskilled man; and, further, that the burden was on the plaintiff to show how much he contributed to his injuries by such carelessness. But the general rule given by the trial court was correct; for, where one person is injured by the wrong or negligence of another, and he himself is not negligent in the selection of a medical attendant, the wrongdoer is liable for all the proximate results of his own act, although the consequences of the injury would have been less serious than they proved to be if the attendant had exercised proper professional skill and care.

The trial judge correctly used the word "physician," instead of "surgeon." A physician is one who is versed in medical science, a branch of which is surgery; and a surgeon is a physician who treats bodily injuries and ills by manual operations and the use of surgical instruments and appliances. A physician, as defined by the Minnesota statute and in common parlance, is a person skilled in both medicine and surgery. Rev. Laws 1905, sections 2295-2300; 6 Words and Phrases, pp. 5374-5376.

Care Required of Persons with Defective Eyesight, Etc.

The Supreme Judicial Court of Massachusetts says, in the case of Keith vs. Worcester & Blackstone Valley Street Railway Company, that the standard of care established by the law is what the ordinarily prudent and cautious person in the full possession and exercise of his faculties would do to protect himself under given conditions. There is no higher or different standard for one who is aged, feeble, blind, halt, deaf or otherwise impaired in capacity, than for one young and in perfect mental and physicial condition. The standard is the same for all.

It has frequently, in recent as well as earlier cases, been said, in referring to one under some impediment, that greater caution or increased circumspection may be required in view of these adverse conditions. These expressions mean nothing more than that a person so afflicted must put forth a greater degree of effort than one not acting under any disabilities in order to attain that standard of care, which the law has established for everybody.

When looked at from one standpoint, it is incorrect to say that a blind person must exercise a higher degree of care than one whose sight is perfect, but in another aspect, a blind person may be obliged to take precautions, practice vigilance and sharpen other senses, unnecessary for one of clear vision, in order to attain that degree of care which the law requires. It may depend in some slight degree how the description of duty begins, where the emphasis may fall at a given moment, but when the whole proposition is stated, the rights of the parties are as fully protected in the one way as in the other. It is perhaps more logical to say that the plaintiff is bound to use ordinary care, and that in passing on what ordinary care demands, due consideration should be given in blindness or other infirmities.

But it is also correct to say that in the exercise of common prudence one of defective eyesight must usually as a matter of general knowledge take more care and employ keener watchfulness in walking on the streets and avoiding obstructions than the same person with good eyesight, in order to reach the standard of excellence established by the law for all persons alike, whether they be weak or strong, sound or deficient.

State Board May be Compelled After Deciding Against It to Issue License to Practice.

The Supreme Court of Missouri says that the only disputed question in the mandamus case of State, on the relation of McCleary vs. Adcock and others, constituting the State Board of Health of Missouri, to compel the issuance to the relator of a license to practice medicine, was as to whether the relator was a matriculant in the school claimed prior to March 12, 1901. If he was, he was entitled to his license. The act of 1903 stated that it should not apply to any student who had matriculated in a medical college on or prior to March 12, 1901, and that it should be the duty of the said board of health on receiving a fee of $15 from said student to issue to him a license to practice medicine when said student presented a diploma from any medical college of the state. Under the facts of this case, and under this law, the only thing for the board to do was to rightfully determine the question as to whether or not the relator was a matriculant in this school prior to March 12, 1901.

If the board can not act judicially, as held in the Goodier Case, this case resolved itself into the plain proposition—did or did not the conditions exist? If so, the license must go. The great weight of the evidence showed that the relator had matriculated prior to March 12, 1901, and, such being the case, the peremptory writ of mandamus must go.

The court concludes by saying that boards of this character, having merely administrative and ministerial duties to perform, can not act arbitrarily, nor against the great weight of the positive testimony on a given question, and, if they do so act, there is redress for the party aggrieved by an action of this kind.

Description of Injuries not Waiver of Privilege.

The Supreme Court of Washington says that at the trial of the personal injury case of Noelle vs. Hoquiam Lumber & Shingle Company the plaintiff testified as to the character of the injuries he received, but did not testify in regard to what the physician who cared for his wounds told him, or as to what the physician did for him. The physician who attended him from the outset, and who dressed the wounds at the hospital the first time, died shortly before the trial. Two other physicians, who were connected with the hospital, who were associated with that one, and who helped to dress the wounds, were present at the trial. They were called as witnesses by the defendant to testify to the extent of the plaintiff's injury, but on the plaintiff's objection their evidence was excluded under the statute relating to privileged communications. It was argued by the defendant that this ruling was error, for the reason that, the plaintiff himself having testified as to the character and extent of the injury, he thereby waived his privilege in regard thereto. But the court holds that there was no error in excluding the evidence of the attending physicians.

The Washington statute, the court says, provides: "The following persons shall not be examined as witnesses: 4. A regular physician or surgeon shall not, without the consent of his patient, be examined in a civil action as to any information acquired in attending such patient, which was necessary to enable him to prescribe or act for the patient. . . . " It is clear that, with the consent of the patient, his physician may be called and divulge all the information he has learned in his professional capacity; otherwise, not.

Many authorities were cited by the defendant to the effect that, where the patient himself calls the physician as a witness and permits him to testify concerning the ailment, treatment and the advice given, this constitutes a waiver of the privilege; and also, where the patient testifies to what happened in the presence of the physician, or the advice and treatment given, or statements made by the physician, the privilege is also waived. The cases so holding are based on the reason that the patient himself, by testifying in regard to facts which he might have kept secret, thereby breaks the seal of privilege and waives the right to object, because the statute does not intend that such privilege shall be used both as a sword of offense and at the same time as a shield of defense. But no case was called to the court's attention which holds that a person may not describe his injuries as he sees and feels them, without reference to what his attending physician or surgeon may have told him, and that an adverse party may then call a physician and prove by him that the patient is mistaken or has testified untruthfully.

It is perhaps true, as argued by the defendant, that the injured party and the attending physician may be the only persons who have knowledge of the extent of an injury, and that, if the physician may not testify thereto, great injustice may be done. This, of course, argues against the policy of the statute, which rests with the legislature, and not with the courts, and would annul the provisions of the statute entirely. The legislature made no exceptions to the rule of secrecy where it was necessary to contradict falsehood, but provided for an exception only in case of consent of the patient. No doubt sufficient reason appeared why this should be the only exception.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

January 16.

1 Vasomotor Relations. W. T. Porter, Boston.
2 *Clinical Importance of Uneven Distribution of Hydrochloric Acid in Gastric Contents. A. E. Taussig and W. H. Rush, St. Louis.
3 The Problem of Expert Testimony. F. W. Anthony, Haverhill, Mass.
4 Practical Applications of Opsonic Therapy (Concluded). T. C. Beebe, Jr., and L. S. Medalia, Boston.
5 The "Optometrist." Does He Preach and Practice Medicine? J. C. Bossidy, Boston.

2. **Hydrochloric Acid in the Gastric Contents.**—Taussig and Rush, as the result of their experiments, believe that in practice trustworthy results in examination of the gastric contents can be obtained only if the following precautions are observed: The stomach contents must be obtained separately in the erect and in the prone posture; the acidity of each portion must be determined, and diagnostic conclusions based on the degree of acidity can be drawn only if the two acidities correspond fairly well, or if the total quantity of gastric contents obtained is so great that the unknown acidity of the obtainable residue may be neglected.

Medical Record, New York.

January 18.

6 *Anorectal Fistula. C. B. Kelsey, New York.
7 *Schlösser's Alcohol Injections for Facial Neuralgia. Sixteen Months' Experience with Fifty-five Cases; Three Failures. O. Kiliani, New York.
8 *Instruction in Hydrotherapy. S. Baruch, New York.
9 *Treatment of Chorea Minor, with Special Reference to the Dangers of the Arsenic Therapy. H. Koplik, New York.
10 Medical and Scientific Work in New York State Charitable Institutions. A. MacFarlane, Albany, N. Y.
11 Prevention of Death During Anesthesia by Chloroform and Ether. R. Reyburn, Washington, D. C.
12 *Writers' Cramp; What It Is and How It Can Be Treated by the Family Physician. S. H. Monell, New York.

6. **Anorectal Fistula.**—Kelsey considers the old division of fistulas into complete, blind external and blind internal,—both practical and useful, and deals with the treatment of superficial fistula, tuberculous fistula, incontinence, pelvic fistula and deep pelvic fistula. When a deep pelvic fistula five or six inches long has formed, with external and internal openings, and when to hope for cure would require the cutting of much tissue, with incontinence as an almost certain result, it is often better to abstain from operation lest matters be made worse instead of better. In case of operation provision should be made for severe hemorrhage. The elastic ligature is particularly fitted for this class of cases. As a rule, it is best thoroughly to open the cutaneous orifice so that free access to the whole tract can be secured. The sharp curette should be used thoroughly and followed by free application of saturated solution of silver nitrate to every part, the external opening being kept free for subsequent drainage.

7. **Facial Neuralgia.**—Kiliani analyzes his results in fifty-five cases of facial neuralgia treated by Schlösser's alcohol injection method. The only surgical accident was a typical paresis of the oculomotor nerve, which lasted about four weeks. Out of the fifty-five cases he had three failures and one patient has had a recurrence. The remainder are, so far as he knows, free from pain, and of this fact he is positively sure in the case of forty-seven.

8. **Hydrotherapy.**—Baruch urges greater attention on the part of the profession to the study of hydrotherapy, and congratulates Columbia University on having taken the initiative in regard to its teaching.

9. **Arsenic in Chorea Minor.**—Koplik points out that the indiscriminate prescribing of arsenic is even more harmful than the prescribing of quinin in every febrile case. The toxic effects of arsenic on the kidneys have escaped adequate notice. Arsenical neuritis, too, has to be considered. Koplik watches carefully the action of the kidneys, more especially in all cases in which arsenic is being used. It was noted that in cases treated with one drop daily of Fowler's solution and the dose increased one drop a day (not three times daily) until a point had been reached which was called tolerance (viz.,

until there was slight puffiness of the eyelids), a study of the urine revealed the appearance of albumin before this stage was reached. If the administration was continued, casts and in some cases blood cells would appear. At first, though this seemed exceptional, it was subsequently shown to be the rule. Another point established where these results followed on what appeared to be a very moderate administration of arsenic, was the fact that Fowler's solution tends to gather strength; consequently, in the administration of arsenic the study of the urine is the most delicate measure of warning, the appearance of a trace of albumin indicating the stoppage of the drug, no matter how small the dose or how excellent the general condition of the patient. Chorea minor, he asserts, must be recognized as a self-limited disease and everything avoided that can tend to exacerbate symptoms. Modified rest cure is advisable in the mildest cases, and it is unwise to give increasing doses of Fowler's solution. A sedative is more to the purpose, sulphomethylmethane (trional), five grains three times daily, being recommended. For moderately severe cases rest in bed without complete isolation is important, and no arsenic should be given if there is cardiac involvement. Sodium salicylate may be useful, but if badly borne no drug beyond a sedative should be given and no digitalis. Strychnin as a bitter tonic has proved useful. Hydrotherapy is of service. In the severest forms in which speech is lost, the use of arsenic is fraught with danger; the sides of the bed should be padded. In short, Koplik considers the use of arsenic in this disease futile and surrounded with danger. Isolation and darkened rooms Koplik disapproves of, as children do better for the agreeable quiet companionship of others. They need sunlight and air besides.

12. **Writer's Cramp.**—When a healthy person tires his arm by usual work for a brief time the muscles have the power to recover from the lameness and exhaustion by natural rest, especially with the aid of a little stimulus to the circulation. This must not be abused, however, or Nature will cease to eliminate the toxins of combustion resulting from work, so that a localized disease will result. The main indications are the elimination of these toxic products and the improvement of nutrition of the affected tissues. The first of these indications is admirably met by the modern electric light radiant heat cabinet bath or in its absence a course of Turkish baths may be substituted.

New York Medical Journal.

January 18.

13 *Modern Methods in Surgical Treatment of Gastric Diseases. F. Torek, New York.
14 *Varicose Veins; Their Treatment by Multiple Short Incisions. C. F. Kivlin, Troy, N. Y.
15 *Case of Sarcoma of the Kidney. L. F. La Pierre, Norwich, Conn.
16 *Clinical Significance of McBurney's Point. A. Sturmdorf, New York.
17 Prevention of Nervous and Mental Disorders Incident to School Life. J. H. Pleasants, Baltimore.
18 *Psychic Treatment of Nervous Diseases from a Practical Standpoint. C. A. Penrose, Baltimore.
19 Chorioepithelioma Malignum. A. M. Crispin, New York.
20 Rhythmical Alterations in the Width of the Palpebral Fissure of Both Eyes Probably Produced by Spasm of the Levator Palpebræ Muscles. C. A. Veasey, Philadelphia.

13. **Gastric Surgery.**—Torek's article is a detailed description. accompanied with illustrations, of the method of performing gastroenterostomy, anterior and posterior, gastroduodenostomy, pyloroplasty, etc.

14. **Varicose Veins.**—Kivlin makes several short incisions, starting about two and a half inches below the knee joint at a point directly over the internal saphenous vein, where two large laterals are usually to be found. The laterals are tied and liberated. This process is repeated at other points down the limb. The vein is tied proximally and distally at the uppermost incision and divided. It is then drawn down through opening after opening, tied and removed. Any large laterals can be dealt with in similar manner. It is claimed that the operation is quicker, less liable to infection, has practically no loss of blood, convalescence is short, and there is no scar tissue left at the knee.

15. **Sarcoma of Kidney.**—La Pierre reports a case of sarcoma of the kidney discovered at autopsy in a female child 14 months old, which, together with a review of the subject generally, leads him to conclude that sarcoma of the kidney may exist without symptoms, and that generalization may occur early, before the kidney is greatly enlarged. In La Pierre's case, appearance of the anemia and rapid loss of flesh was coincident with generalization of the growth, but a correct diagnosis could not have been made but for the autopsy.

16. **McBurney's Point.**—Sturmdorf challenges the correctness of the claim that the establishment of the maximum pain at McBurney's point is pathognomonic of appendicitis, and asserts that it is equally true that appendicitis may exist in its absence and that a typical McBurney point may be present when the appendix is not involved. In the light of MacKenzie and Head's amplification of Ross's researches, a McBurney point, in common with every other localized pain area, may represent either the direct pain focus of a disturbance within its own area, or the reflected pain focus of a distant lesion. The differentiation is to be made by first examining the skin area superficially by Head's method, and then following with McBurney's, for by using McBurney's method alone a locally intense pain will be found, whether the pain be of local origin or reflected. Sturmdorf further repeats McWilliams' assertion that there may be primary typhlitis independent of appendicitis, dysentery, actinomycosis, or cancer, and that it may be due to coprostasis or may be idiopathic. He bases his remarks on 208 cases observed in public and private practice during a period of three years.

18. **Psychic Treatment of Nervous Disorders.**—Penrose takes exception to the current idea that the mass of people who have become interested in psychotherapy have really been driven into it by the neglect of the profession at large. He considers that it is rather due to a certain degenerate type of mind fast spreading over the land. This consists in a certain mind weariness, a reaction against the strain and turmoil, the ambition and excessive restlessness of the present day. The Christian Science Church typifies a disinclination to think, so that some simple theory is evolved which shall explain everything to the invidual's satisfaction, letting him out of most of the worries of life, and it may thus help posterity, by the induction of a resting or spore stage for the race. He urges caution in turning a mind from the ideas which often it has evolved from its own outwornness, and which in the presence of a poor state of bodily nutrition may be its haven of rest. The body should be built up and the psychic change made later. Has any one, he asks, ever seen a perfectly organically healthy man or woman who could long remain unhappy? When a man is in the "pink of condition" he is also happy for the most part. Penrose regards it as very dangerous that even the purely functional neuroses should be turned over to untrained physicians for treatment, owing to the frequent impossibility of determining what is organic and what is functional, or how dependent the mental state is on an ill-nourished body.

Journal of Experimental Medicine, Lancaster, Pa.

January.

21 *Induced Susceptibility of the Guinea-pig to the Toxic Action of the Blood Serum of the Horse. P. A. Lewis, Boston.
22 *Inhibitory influence of Eosin on Sporulation. H. Noguchi, New York.
23 *Transplantation of Human Carcinomatous Material into Lower Animals. G. McConnell, St. Louis.
24 *Rigor Mortis and the Influence of Calcium and Magnesium Salts on Its Development. S. J. Meltzer and J. Auer, New York.
25 *Fatal Anemia with Enormous Numbers of Circulating Phagocytes. M. W. Rowley, Boston.
26 *Transplantation in Mass of the Kidneys. A. Carrel, New York.
27 *Serum Treatment of Epidemic Cerebrospinal Meningitis. S. Flexner and J. W. Jobling, New York.
28 Stomach Feeding in Mice. L. H. Marks, Frankfort-on-Main.

21. **Guinea-Pigs and Horse Serum.**—Lewis concludes that the particular method of sensitization and the place where the test injection is made have an important bearing on the results obtained by various workers. Comparing the results obtained, he finds that the incubation period of the hypersensitive reaction is not sharply limited, but that there is a progressive increase in sensitiveness from the sixth day, and presumably before that, extending over a period of several

weeks. It seems probable that the degree of hypersensitiveness attained when the sensitizing dose consists of a mixture of diphtheria toxin and serum is greater than when a single dose of the same small quantity of serum is given alone. The hypersensitive reaction is transmissible from mother to offspring. The transmission is probably not equally effective in all cases, and individual young guinea-pigs probably vary greatly in the rate with which they lose their ability to react. As a result, not all of the young of a hypersensitive mother react to a subcutaneous dose of 5 c.c. of serum given when they are four or five weeks old. The reaction in the young animals differs markedly from that in those actively sensitized. These differences are such as to indicate that in the mother there is a considerable localization of the reaction in tissues and organs whose destruction does not cause sudden death. The local reaction is a protective factor and is not transmitted to the same degree as the factors involved in the fatal reaction. The hypersensitive reaction to horse serum depends on the development of a special antibody during the incubation period, which antibody may be passively transferred to a fresh animal. If the dose of hypersensitive serum be sufficient, and the intoxicating injection be given directly into the circulation, this passive hypersensitiveness may be enough so that the animal will die when tested. The antibody on which the hypersensitive reaction depends may be entirely neutralized by horse serum without causing symptoms. The gradual introduction of increasing doses over a total period of twenty-four hours suffices for this. The animal is then, properly speaking, neither immune nor refractory, but is essentially in the condition of a normal animal which has recently had a large dose of horse serum.

22. **Eosin and Sporulation.**—Noguchi finds that eosin ("gelb") in concentration of less than 1 per cent. hinders many spore-forming bacteria from producing spores, the inhibitory action being more pronounced on the anaërobic than on the aërobic forms.

23. **Transplantation of Carcinoma.**—McConnell transplanted pieces of scirrhous carcinoma of the breast into the abdominal wall of an adult and of a young white rat. In the case of the young rat, there was a complete absorption of the implanted tissue within ten days. In the older rat the implanted nodule was not absorbed for five months, neither was there any increase in its size, and it was walled off and underwent degeneration. McConnell believes that this course of events indicates the probability that a lesser degree of resistance of the rat or a higher degree of the virulence of the tumor might have resulted in growth in the rat of the implanted bit of human carcinoma.

24. **Rigor Mortis.**—Calcium salts hasten and magnesium salts retard the development of rigor mortis when these salts are administered subcutaneously or intravenously. When injected intra-arterially, concentrated solutions of both kinds of salts cause nearly an immediate onset of a strong stiffness of the muscles which is apparently a contraction brought on by a stimulation by these salts and due to osmosis. If M/8 solutions—nearly equimolecular to "physiologic" solutions of sodium chlorid—are used, even when injected intra-arterially, calcium salts hasten and magnesium salts retard the onset of rigor. The hastening and retardation in this case as well as in the case of subcutaneous and intravenous injections, are ion effects, and essentially due to the cations, calcium and magnesium. There seems to be no difference in the degree of stiffness in the final rigor, only the onset and development of the rigor are hastened in the case of the one salt and retarded in the other.

25. **Fatal Anemia.**—Rowley discusses with great detail the occurrence of extensive phagocytosis of red blood corpuscles and leucocytes by leucocytes in the peripheral blood in a case of anemia in a young man 27 years old who had aortic and mitral disease. Every type of leucocyte was engaged in phagocytosis of fellow cells. On the warm stage the phagocytes were readily seen to send out processes that would reach around the corpuscles which evidently were incorporated into the body of the phagocyte. There was also as stated phagocytosis of leucocytes. The destruction of the cells taken up could be followed and seemed to result on the one hand from processes of solution, due probably to some enzyme, and on the other hand to be due to a large extent to mechanical breaking up of the captured cells. The phagocytosis observed in this case is attributed to the presence in the blood of autohemopsonins.

26. **Transplantation of Kidneys.**—Carrel asserts that his experiments demonstrate that an animal—dog—which has undergone a double nephrectomy and the grafting of both kidneys from another animal can secrete almost normal urine with his new organs and live in good health at least for a few weeks.

27. **Epidemic Cerebrospinal Meningitis.**—This subject was discussed editorially in THE JOURNAL, Jan. 18, 1908, page 207.

Medical Fortnightly, St. Louis.

January 10.

29 Touring the Deccan. R. G. Eccles, Brooklyn, N. Y.
30 The Distal Mesenteric Artery. (To be continued.) B. Robinson, Chicago.
31 Cotarnin Phthalate as a Uterine Hemostatic. O. Hessel, New York.
32 Acute Pancreatitis. W. H. Cook, St. Louis.
33 Case of Pregnancy Complicated by Pyonephritis Due to Pressure in Ureter. F. F. Esselbruegge, St. Louis.

Surgery, Gynecology and Obstetrics, Chicago.

December.

34 Medieval Military Surgery. N. Senn, Chicago.
35 *Surgical Treatment of Exophthalmic Goiter. A. P. Heineck, Chicago.
36 *Hyperemia in Treatment of Tuberculosis of the Peritoneum. A. E. Hertzler, Kansas City, Mo.
37 Stovain Spinal Anesthesia, with Over, 5,500 Cases from the Literature. G. Torrance, Birmingham, Ala.
38 Chelioplasty for Ectropion of Lower Lid. T. F. Riggs, Baltimore.
39 Bone Regeneration and Certain Features of Osteomyelitis. A. R. Colvin, St. Paul.
40 *Hour of Birth. A Discussion as to the Hour at Which Birth Most Often Occurs. F. W. Lynch, Chicago.
41 Roentgen Method in Surgery of the Chest. C. Beck, New York.
42 Case of Ovarian Cyst with Twisted Pedicle Complicating Pregnancy and Labor. E. P. Davis, Philadelphia.
43 Excision of Rectum for Cicatricial Stricture by the Combined Method with Preservation of Sphincter. J. J. Buchanan, Pittsburg, Pa.

35. **Exophthalmic Goiter.**—Heineck describes a primary form of exophthalmic goiter in which there is a concurrent development of the goiter and of some of the other symptoms characteristic of this affection, and a secondary form in which the symptom-complex is grafted on a pre-existing enlargement of the thyroid.

36. **Tuberculous Peritonitis.**—Hertzler concludes that the result of opening the abdomen is a hyperemia of the peritoneum and subperitoneal tissues, due to the lessening of pressure from without; and since hyperemia has been found of use in tuberculosis elsewhere we may by analogy, he states, assume this as the active factor in the treatment of tuberculous peritonitis by laparotomy. If this theory is correct, then a repetition of the treatment should be beneficial. This can be effected by leaving a silver tube with a flange within the abdominal cavity, so that air may be admitted into it with an attending hyperemia at intervals—just as in animal experimentations. Repeated engorgements can thus be obtained as in the case of joints. He expresses a principle rather than lays down a method of treatment.

40. **The Hour of Birth.**—Lynch analyzes the hour of birth in 1,508 full-term spontaneous labors at Johns Hopkins, and concludes that the theory that most births occur during the night is erroneous, and that births are distributed fairly evenly throughout the twenty-four hours, though the variations between 7 p. m. and 7 a. m. showed 4 per cent. more births than in the other twelve hours, in which the variation was less than 0.5 per cent.

Cleveland Medical Journal.

December.

44 *Review of 100 Cases of Rachitis. J. J. Thomas and A. F. Furrer, Cleveland.
45 Unusually Large Dermoid Cyst of Ovary. W. H. Humiston, Cleveland.
46 Our Relations to the Insane. H. H. Drysdale, Cleveland.
47 Pathologic Findings in a Case of Pemphigus Foliaceus. O. T. Schultz, Cleveland.
48 Nasal and Pharyngeal Obstructions in Infants and Children. M. Metzenbaum, Cleveland.

January.

49 The Campaign for Medical Legislation; Its Probabilities for Success. R. B. Newcomb, Cleveland.
50 Cleveland's Present Ambulance Service. M. Metzenbaum, Cleveland.
51 *Achondroplasia. S. L. Bernstein, Cleveland.
52 *Case of Veronal Dermatitis. H. B. Ormsby, Cleveland.
53 Case of Paralysis of the Accommodation. C. C. Stuart, Cleveland.

44. **Rachitis.**—Thomas and Furrer summarize their article as follows: Forty per cent. of the infants and children of the hospital class between the ages of 6 months and 2 years are rachitic. The rosary, enlarged epiphyses of the wrists, prominent parietal and frontal eminences and delayed dentition are the four most constant symptoms. About 80 per cent. of the cases may be termed slight or moderately advanced, and are therefore more likely to be overlooked. Rachitis, uncomplicated, is a self-limited disease tending toward gradual recovery; untreated, however, serious deformities of the bones may occur, the most commonly affected being the sternum, ribs, spine, long bones of the extremities and pelvis. Bronchitis, bronchopneumonia, pertussis and gastrointestinal disturbances, which are so common during the first two years and are not ordinarily considered serious in the normally developed healthy child, when engrafted on a constitution already weakened by the malnutrition of rachitis, become important factors in the causation of the high mortality in infants and young children. The diagnosis of rachitis may be made by inspection and palpation. The treatment is practically wholly along dietetic and hygienic lines. It means simply (a) the withdrawal of proprietary and other irrational foods and the substituting of a clean milk, properly modified and divided into doses suitable to the age and weight of the child; (b) plenty of fresh air and sunshine, with bodily cleanliness; (c) the administration of cod-liver oil or other fats, and phosphorus.

51. **Achondroplasia.**—Bernstein reports a case of achondroplasia, studies the literature of the subject and concludes that achondroplasia is a distinct disease, differing from rachitis, having characteristics of its own and for which neither medical nor physical treatment is of avail.

52. **Veronal Dermatitis.**—Ormsby refers to the various drugs apt to cause eruptions, and mentions the characters and therapeutics of veronal. After summarizing the literature of veronal poisoning, he reports a case of a woman with varicosis and general neurasthenia in which, in addition to the ordinary local measures, he prescribed 5-grain doses of veronal to be taken at 4 and 8 p. m. About the fifth day after beginning the drug, there appeared high fever, coated tongue, headache, and general malaise, with itching, especially between the fingers and toes and on the dorsum of the hands and feet. Symptomatic treatment was adopted and the veronal discontinued. For three days more the symptoms grew worse, delirium and general restlessness setting in, the hands, forearms, legs and face becoming red and swollen. In spite of lead lotion and internally of alkalies with an opiate for relief, the dermatitis extended, involving the entire body. The face swelled enormously, the eyes closed, the extremities became edematous, stiff and painful, resembling generalized erysipelas. The fever, which had ranged from 104 to 106 F., then fell, and the symptoms subsided, disappearing with desquamation about six days later. Later the nails became black and brittle, but were subsequently replaced. Ormsby attributes this case to idiosyncrasy.

Kentucky Medical Journal, Bowling Green.

December.

54 *What the American Medical Association Stands For. G. H. Simmons, Chicago.
55 *Surgery of Gallstone Disease. W. A. Quinn, Henderson.
56 *Pure Food and Drug Legislation; How We Do It in Tennessee. A. B. Cooke, Nashville.
57 *Plans and Possibilities of the Course of Postgraduate Study of the American Medical Association. J. H. Blackburn, Bowling Green.
58 *Relations that Should Exist Between Pharmacists and Physicians. P. C. Sutphin, Canmer.
59 *Glaucoma. W. N. Offutt, Lexington.
60 Treatment of Pneumonia. W. H. Ketchum, Hopkinsville.
61 Local Anesthetics and Analgesics in Throat, Nose and Ear. S. G. Dabney, Louisville.

54.—This article was published in The Journal, Nov. 23, 1907, page 1733.

55.—Abstracted in The Journal, Nov. 2, 1907, page 1549.

56 and 57.—Abstracted in The Journal, Nov. 9, 1907, page 1625.

58. **Relations That Should Exist Between Pharmacists and Physicians.**—Sutphin discusses proprietary remedies and pharmaceutical preparations generally, and urges that physicians and pharmacists should strive to stand in closer relation to each other.

59. **Glaucoma.**—Offutt discusses briefly and clearly the symptomatology and differential diagnosis of glaucoma, for it is only by early diagnosis by the general practitioner that a good result can be attained. He considers also the pathology, and with respect to treatment states that the best results of iridectomy are obtained in the acute and subacute cases; that after iridectomy the pain and other symptoms are speedily relieved; that iridectomy is contraindicated in hemorrhage-glaucoma; that sclerotomy has proved less successful than iridectomy; and that paracentesis of the vitreous in chronic and secondary forms has often given good results.

American Journal of Surgery, New York.

December.

62 Some Cases of Acute and Chronic Infection Treated by Wright's Vaccine Method. J. C. Ohlmacher, Independence, Iowa.
63 *Benign Tumors of the Breast. R. Hill, St. Louis, Mo.
64 Blood Examination in Surgical Diagnosis. A Practical Study of Its Scope and Technic. (To be continued.) I. S. Wile, New York.
65 Value of Leucocyte Count in Diagnosis of Acute Inflammatory Disease. F. E. Sondern, New York.
66 New Management of Apparently Uncontrollable Hemorrhage from Kidney During Nephrotomy. G. I. Miller, Brooklyn, N. Y.
67 Spina Bifida. G. B. Morey, Manchester, N. H.
68 Surgery of the Nasopharyngeal Structures. M. Iverson, Stoughton, Wis.

63. **Benign Breast Tumors.**—Hill urges the removal of every adventitious growth in the mammary gland, with very few exceptions, and protests against the plan of watching a breast tumor to see how it develops. If operation is done at once the tumor can be removed with absolute safety, whereas by the time the "watching" process has accomplished its purpose the mischief is likely to be well on the road to the point where it is past repair.

St. Louis Medical Review.

December.

69 *Failure of Law and Lawyers to Cope with Modern Medicolegal Exigencies and Its Remedy. J. Punton, Kansas City.
70 Phototherapy, Electric Light and Color Effects. J. Wainwright, New York.
71 Leprosy in Mexico. G. W. Ruddell, St. Louis.
72 Surgery of the Ureter. B. M. Ricketts, Cincinnati.

69. **Medicolegal Exigencies.**—Punton discusses the legal aspect of medical expert evidence, the medical aspect of expert testimony, the trial of insane criminals, the evils of technicalities, and turns the tables on the lawyer who takes delight in twitting the doctor on the ancientness of the science of medicine and its lack of scientific exactness, etc., by citing the opinion of an eminent legal authority for the statement that there has been no progress made in law for over 5,000 years. He suggests the necessity of a legal and medical conference between the members of the American Bar Association and the American Medical Association as the remedy for present medicolegal failures.

Journal of Medical Society of New Jersey, Orange.

December.

73 Toxins and Antitoxins. B. A. Waddington, Salem.
74 *How Far May the General Practitioner Employ and Benefit from Laboratory Methods of Diagnosis? R. N. Willson, Philadelphia.
75 *Pneumonia; Its Etiology, Pathology, Symptoms and Treatment. E. W. Sprague, Newark.
76 Hyoscin-Morphin-Cactin Anesthesia. W. J. Chandler, South Orange.
77 Evolutions of Associations, with Especial Reference to the State Sanitary Association. G. K. Dickinson, Jersey City.

74. Abstracted in The Journal, July 20, 1907, page 269.

75. **Pneumonia.**—Sprague says that while specific treatment is the ideal, we are not yet able to abort or to cure true pneumococcic infection manifested in its pulmonary form. The bulk of treatment to-day remains symptomatic. In fever, he advises light covering, milk, hydrotherapeutic measures, rest in bed and cool air; in dyspnea, cool fresh air, oxygen; improve-

ment of the underlying heart conditions; for cough, heroin or creosote derivatives; for pain local counter irritations, application of heat or cold, occasionally morphin, are recommended. In disturbed circulation, he recommends digitalis given with caution in weak systole, dilatation and low tension of the pulse. He considers that its value has been long underestimated. Strychnin is to be deprecated in routine use, as acting in the same direction on the nervous system as the pneumococcic toxin. Alcohol should be given to habitual drinkers, but avoided as a routine measure. Caffein is useful in circulatory depression. Nitroglycerin and vasodilators should be restricted to cases of right heart embarrassment when the vasomotor tension is good. The effect of adrenalin is fleeting. Venesection is indicated only in cardiac failure with venous stasis.

Chicago Medical Recorder.

December.

78 Physiologic Methods in Diagnosis of Gastric Diseases. F. B. Turck, Chicago.
79 Diagnosis of Gonorrhea Affecting the Female Generative Tract. C. Culbertson, Chicago.
80 Diagnosis of Some Obscure Kidney Lesions. L. W. Bremerman, Chicago.

Long Island Medical Journal, Brooklyn, N. Y.

November.

81 Infantile Scorbutus. J. L. Morse, Boston.
82 Pathology, Etiology and Management of Obstructive Hypertrophy and Atrophy of the Prostate. P. M. Pilcher, Brooklyn, N. Y.
83 Why Is a Particular Child Right-handed or Left-handed? G. M. Gould, Philadelphia.
84 Case of Choked Disc Probably Due to Brain Tumor. J. B. Thomas, Brooklyn, N. Y.
85 Direct Transfusion of Blood by Crile Method. R. W. Westbrook, Brooklyn, N. Y.
86 Health of Public School Children. L. H. Gulick, New York.
87 Case of Cesarean Section. C. Jewett, Brooklyn, N. Y.

December.

88 *Etiology of Acute Anterior Poliomyelitis. B. Fedde, Brooklyn, N. Y.
89 *Clinical Study of the Etiology of Acute Anterior Poliomyelitis. H. Climenko, New York.
90 Previous History and Environment in Anterior Poliomyelitis. J. R. Terriberry, New York.
91 *Symptoms in the Acute Stage of Anterior Poliomyelitis. L. C. Ager, Brooklyn, N. Y.
92 *Sensory Elements in Anterior Poliomyelitis. W. Browning, Brooklyn, N. Y.
93 Chronic Stage of Anterior Poliomyelitis. A. C. Brush, Brooklyn, N. Y.
94 *Treatment of Acute Stage of Anterior Poliomyelitis. L. P. Clark, New York.
95 Orthopedic After-Treatment of Anterior Poliomyelitis. J. M. Clayland, Brooklyn, N. Y.
96 Neurologic After-Treatment of Anterior Poliomyelitis. F. Tilney, Brooklyn, N. Y.

88. **Anterior Poliomyelitis.**—Fedde considers it probable that acute anterior poliomyelitis is a general infection, a bacteriemia with infective embolism or thrombosis causing inflammation of the arteries and surrounding tissues in the cord.

89. **Id.**—Climenko reviews the history of recorded epidemics and, from an analysis of 187 cases under his own observation, concludes that the condition is due to a toxemia, and that since 43 per cent. of the cases showed gastrointestinal disturbances, as well as on general principles, the gastrointestinal canal is the probable port of entry.

91. **Id.**—Ager says that there is every reason to believe that the earliest manifestation of infection in acute anterior poliomyelitis is always to be found in the gastroenteric tract, with an accompaniment of fever. The statement, so common in the text-books, that pain is absent, is incorrect, for in this epidemic pain and tenderness were prominent symptoms in all cases. Besides the ordinary mild type, he mentions two other types: One mild, in which the paralysis is found only in some unusual muscle group, e. g., the deep muscles of the back; and another severe, in which the infection is so high in the cord that the case resembles acute meningitis with opisthotonos, convulsions, irregular and sluggish pupils, severe headache, head rolling, sharp cry and periods of coma.

92. **Id.**—Browning discusses the sensory symptoms under three heads: Gross sensory disturbances, paresthesias and pain. The early pain is a hyperalgesia of peripheral distribution, sensitive soles, etc. There is also a purely spinal pain, seemingly dependent on the extent to which the spinal meninges are implicated, which is greatly increased by movements of the spinal column. Another form is a distinct tenderness all along the spinal column, favorably influenced by local counter-irritation. Then there is the soreness and tenderness that comes on after the acute stage has passed, and is wholly peripheral in site, having its seat principally in the affected muscles. This is of service prognostically as indicating the extent of muscular involvement.

94. **Id.**—Clark discusses the treatment. At the outset, he advises free purgation with calomel or castor oil, complete rest on the side with a plank back rest or in the prone position. Poultices or fomentations and cupping wet or dry or leeches, are theoretically justified. Toxin elimination should be hastened by hot baths and packs, enteroclysis, and ingestion of large quantities of hot water. The effect of drugs is doubtful, but belladonna and ergot may be given in full doses with a view to limiting the palsy at least without actual harm. All precautions should be continued for some days beyond the acute febrile stage. No electrical tests should be made until all nerve tenderness has disappeared.

Military Surgeon, Carlisle, Pa.

December.

97 Sanitation of the Modern Camp; Principles and Practices. C. E. Woodruff, U. S. Army.
98 The Hospital Ship—The Only Adequate Solution of Properly Caring for the Sick and Wounded in a Fleet. J. C. Wise, U. S. Navy.
99 *Amebic Dysentery—Chronic—a Surgical Disease. J. M. Holt, U. S. P. H. & Marine-Hospital Service.
100 Tropical Diseases as They Exist in the Philippines. P. M. Ashburton and C. F. Craig, U. S. Army.
101 Organization and Instruction of the Medical Department of the State Forces. C. T. Dulin, Utah National Guard.
102 Work of the Medical Corps in the Care of the Wounded at Gettysburg. E. L. Bebee, National Guard of New York.

99. **Chronic Amebic Dysentery.**—Holt advocates surgical treatment for all cases of amebic dysentery in which amebas persist in the stools after one year's patient trial of irrigation through the rectum, and when the amebic ulceration is higher up the intestine than the sigmoid flexure.

Yale Medical Journal, New Haven.

December.

103 *Points of Contact Between Otology and General Medicine, with Illustrative Cases. F. B. Sprague, Providence, R. I.
104 Cross Eyes in Children. E. M. McCabe, New Haven.
105 Fractures at the Wrist. E. H. Arnold, New Haven.

103. **Otology in General Medicine.**—Sprague discusses the various conditions that may be associated with diseases of the middle ear, and reports cases illustrating the insidious progress of the necrotic process in the mastoid in very young infants. The cases illustrate: An obscure feverish illness ultimately traced to acute adenoiditis; the confusion between otitis and meningitis, and otitis, malaria and typhoid; ear trouble mistaken for bronchitis, pneumonia, typhoid and malaria; the existence of a necrotic process in the mastoid and brain tissue without alarming symptoms; double earache due to brain tumor; the confusion of uremia with otitis; and ear symptoms resulting from an excessive use of stimulants.

Ophthalmic Record, Chicago.

December.

106 A Further Study of the So-called Horopter, Making Ocular Rotation Easy of Understanding. G. C. Savage, Nashville, Tenn.
107 *Some Experiences with Simple Glaucoma and Conclusions Therefrom on the Relative Value of Operative and Non-operative Treatment. H. P. Young, Burlington, Iowa.
108 Blindness Following Injection of Protargol in Lachrymal Sac. F. P. Lewis, Buffalo, N. Y.

107. **Glaucoma.**—Young asks: How shall we distinguish inflammatory from non-inflammatory glaucoma? And: What is the measure of relief obtainable in this disease by either mode of treatment? He considers that Schweigger's distinction is logical in every way, namely, that a dilated sluggish pupil and shallow anterior chamber precludes the diagnosis of simple glaucoma and means inflammatory glaucoma, even though dormant. With regard to treatment of non-inflammatory glaucoma, it would seem that with either operative or non-operative measures the prospects are more for palliation than for cure either way. It becomes a question as between the risks of sudden total loss, postoperative cataract or "dazzlings," and chances remote for permanent relief and, average,

for a longer lease of vision. The balance may be in favor of the operative method, but is not great enough to warrant criticism of the use of the other method. It is overwhelmingly in favor of the operative method in cases showing either dilated sluggish pupils with shallow anterior chamber, steamy cornea, pain or rapid loss of vision, no matter how free from inflammation, but under Schweigger's standard such cases could not be mistaken for non-inflammatory or simple glaucoma.

Therapeutic Gazette, Detroit.

December.

109 *Medical Treatment of Diseases of the Gall Bladder. J. H. Musser, Philadelphia.
110 Practical Points in Diagnosis and Treatment of Diseases of the Skin. L. D. Bulkley, New York.
111 Therapeutics of Mineral Waters of French Lick Type in Gastrointestinal Diseases. G. D. Kahlo, Indianapolis.
112 Administration of Ether. H. S. Wieder, Philadelphia.
113 *Thyroid Extract in Migraine and Epilepsy Apropos of Ten Cases. A. Gordon, Philadelphia.
114 Ocular Reaction of Tuberculosis. W. H. Hutchings, Detroit.

109.—Abstracted in The Journal, July 29, 1907, page 269.

113. **Migraine and Epilepsy.**—Gordon reports ten cases to illustrate the principle that migraine due to morbid metabolism has an undoubted relationship to a faulty thyroid function. Migrainic patients with migraine are usually free from the affliction during pregnancy, during which period there is functional hyperactivity of the thyroid. Of course, not all cases are directly ascribable to this source, but the therapeutic test by thyroid feeding is at the same time diagnostic as regards pathogenesis. That there is a relation of the seizures of essential epilepsy to a faulty chemistry of the organism is now generally admitted. The six patients who were studied with special care for a long time all showed signs of hypothyroidization. When the thyroid treatment was instituted a remarkable change took place, first, in the general condition, then the epileptic seizures became rare. There is a certain class of epileptics whose seizures are in direct relationship with a disturbed function of the ductless glands, particularly the thyroids. In such cases the failure of the usual treatment lies in the want of thyroid feeding.

Journal of Inebriety, Boston.

December.

115 Inebriety; Its Causation and Control. R. W. Brantwaite.
116 Use of Opium in Preference to Its Derivatives. W. C. Abbott, Chicago.
117 Delirium Tremens. A. L. Benedict, Buffalo, N. Y.
118 Malt Liquors in Inflammatory Diseases of the Skin. C. A. Kinch, New York.
119 Nutritive Value of Alcohol. M. Kassawitz.
120 Neuritis and Its Treatment by Electricity. F. D. Granger, Boston.
121 Alcohol and Children. W. L. Stowell, New York City.
122 *Alcohol as a Therapeutic Agent in Diseases of the Stomach. J. H. Salisbury, Chicago.
123 Inebriety as a Physical Disease. H. W. Mann, Larkfield, Nairn, N. B.
124 Psychic Effects of Inebriety. J. M. Taylor, Philadelphia.

122. **Alcohol in Stomach Diseases.**—Salisbury concludes that no harm can come from the exclusion of alcohol from the diet of normal people or those with disease of the stomach. The probable innocuous amount does not exceed 15 grams a day, say 5 oz., of 10 per cent. wine or a pint of 3 per cent. beer. This probably has no special injurious action on the stomach, though injurious effects may possibly follow continuous use. Alcohol increases acidity but not pepsin of gastric juice, and favors gastric motility and absorption of food. In moderate quantities it does not retard digestion. It injures the stomach in large quantities. Constituents other than ethyl alcohol, e. g., fusel oil, tannin, gas and yeast, may render alcoholic drinks objectionable in stomach disease. Alcohol is contraindicated in gastric ulcer, hyperacidity and catarrh. In neurotics it is apt to induce habit. Under due restrictions alcoholic beverages may be used to stimulate appetite, a quality dependent largely on accessory flavoring materials. The use of alcohol to relieve gastric distress is rational and effective, but it should be employed as a temporary resource only. The alcoholic content of proprietary remedies for dyspepsia is very objectionable. The use of alcohol to counteract irregular blood distribution in vasomotor disturbances is rational, but requires further investigation.

New York State Journal of Medicine, New York.

December.

125 Edema and Ascites as Symptoms of Myxedema. C. Stover, Amsterdam, N. Y.
126 Treatment of Ventral Hernia. T. B. Spence, Brooklyn, N. Y.
127 Should the General Practitioner Study Refraction? G. M. Gould, Philadelphia.
128 Ametropia; Its Immediate and Remote Consequences. H. E. Smith, Norwich, N. Y.
129 Commitment of the Insane, Past and Present, in the State of New York. I. G. Harris, Poughkeepsie, N. Y.
130 Race Suicide. C. E. Low, Pulaski, N. Y.
131 Present Status of the Roentgen Rays. A. Holding, Albany.
132 Novocain in Local Anesthesia. W. S. Schley, New York.
133 Whooping Cough. R. J. Smith, Schenectady, N. Y.
134 Diet in Typhoid. H. Greeley, Brooklyn, N. Y.

University of Pennsylvania Medical Bulletin, Philadelphia.

December.

135 Address at Opening of the Medical Department of the University of Pennsylvania. A. J. Smith, Philadelphia.
136 Injury to the Conus Terminalis (Cauda Equina). M. H. Fussell, Philadelphia.
137 Tendon Transplantation. J. H. Jopson, Philadelphia.
138 Arteriosclerosis of Central Nervous System, with Report of Three Cases. H. S. Hutchinson, Philadelphia.
139 Experimental Inoculations of Monkeys with Glands from Cases of Hodgkin's Disease. W. T. Longcope, Philadelphia.
140 Deformities and Injuries to the Face and Jaws of the Fetus in Utero or Incident to Labor. R. H. Ivy, Philadelphia.

Bulletin of the Johns Hopkins Hospital, Baltimore.

December.

141 Comparative Surgery. J. T. Geraghty, J. W. Churchman, S. J. Crowe, F. F. Gundrum, C. W. Mills, R. D. McClure, H. F. Derge, C. H. Bryant, H. M. Evans and A. G. Brenizer, Baltimore.
142 The Physician in the Paintings of Jan Steen. J. W. Churchman, Baltimore.
143 Camp Life; Its Sphere of Usefulness and Its Beneficial Effects on Growing Boys. E. C. Hill.

New Orleans Medical and Surgical Journal.

December.

144 Minor Studies in Psychology, with Special Reference to Masturbation. A. J. Himel, Napoleonville, La.
145 Case of Foreign Body Imbedded in Retina. O. Dowling, Shreveport, La.
146 A New Method of Enucleation of Eyeball Under Local Anesthesia. E. A. Robin, New Orleans.
147 Preliminary Report on the Pathologic Relation Between the Frontal Sinus and Affections of the Eye. H. Dupuy, New Orleans.
148 Anatomic Observations and Anomalies. H. Bayon, New Orleans.
149 Health Conditions at La Ceiba, Honduras. C. M. Brady, New Orleans.
150 Psychic Treatment in Certain Nervous Disorders. E. M. Hummel, Jackson, La.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

January 4.

1 *Human Anatomy in England During the Nineteenth Century. A. Keith.
2 Study of Embryology. P. Thompson.
3 Modern Treatment of Cleft Palate. W. A. Lane.
4 Preliminary Note on the Kinematograph in Medicine. H. C. Thomson.
5 Diabetes Mellitus in Two Brothers, with Necropsies. W. C. Bosanquet.
6 *Diphtheria of the Skin of Three Years' Duration, Treated by Antitoxin. A. B. Slater.
7 An Unusual Pathologic Condition of Meckel's Diverticulum. C. H. Turner.
8 Delirium Tremens: Statistical Study of 156 Cases. L. N. Boston.

1. **Teaching of Anatomy.**—Keith reviews the history of anatomy in England, points out that the teaching of it has followed the French school in confining itself almost entirely to descriptive anatomy, and states that the purely descriptive method has obscured its real object, viz., a comprehension of not the dead, but the living human body. The study of function should go hand in hand with that of structure, of which it is the complement. A reconsideration of the present scope of anatomy is urgent. The growth of physiology, the need of more time for the study of the practical essentials of the art of medicine, the newer subjects, necessitate the unloading of something from the curriculum, and Keith would unload much of the minuteness of descriptive detail, substituting something of the practical spirit of the eighteenth century anatomists,

studying the human body like Harvey, Hunter, Monro and the two Bells, to understand the significance, not merely the form of the various parts.

6. **Diphtheria of the Skin.**—Slater reports a case of a girl, 13 years of age, who three years ago was treated for inflammation of the eyes at an eye hospital. A week or two later two white patches were found, one on the inside of each labium, and also a thin discharge. Blisters began to develop around the vulva and spread on to the abdomen, becoming general. The child was taken to a general hospital and remained there five months, making little progress, except that the vesicles became confined to the parts around the vulva, the chest, the neck and the head, including all the face. Since then she has been treated with mercury and iodids for two years, on the assumption that the disease was syphilitic. On June 20, 1907, the child was first seen by Slater, who describes the extent of the vesicles and states that all the areas were discharging freely, a thin clear fluid dripping from the chin at the rate of a drop a minute. The general condition of the child was good, she felt quite well in herself, was well nourished and ate well. There was no sign of any constitutional disturbance, the spleen was not enlarged, the heart was normal, and the urine free from albumin. A bacteriologic examination of the serous fluid from the vesicles was made, the smears being stained with methylene blue and Gram. Organisms resembling the diphtheria bacillus were found. Agar and blood serum tubes were inoculated, a growth appearing 18 hours later. On plating, *Staphylococcus aureus* and *Staphylococcus albus* were isolated, together with a bacillus forming small cream colonies on agar. Smears from these colonies gave in pure culture a bacillus closely resembling the bacillus of diphtheria. The organism was obtained in pure culture on blood serum. Experiments on guinea-pigs were made, one pig receiving 2 c.c. of the suspension, the other the same amount plus 1.5 c.c. of diphtheria antitoxin. The latter pig developed no symptoms. The first died in ten days, and cultivations from the heart and peritoneal fluid showed the Klebs-Loeffler bacillus in pure culture. On July 2 treatment with diphtheria antitoxin was commenced, some constitutional disturbance being produced, which rapidly subsided, and on July 4 the injection was repeated. Injections were made at intervals up to July 19. Remarkable improvement ensued and inoculations from the discharge ceased to produce any growth. The author considers the important factor in this case to be the Klebs-Loeffler bacillus. The disease apparently commenced with an acute attack of diphtheria, the primary seat of infection being the eyes. From this focus the vulva became infected, and then the bacteria in some way found their way into the superficial lymphatic circulation, producing a condition resembling herpes, probably as the result of peripheral neuritis set up by the bacilli themselves. The absence of any scarring proves the lesion to have been confined to the superficial layer of the skin. The various lotions, even mercury perchlorid, 1 to 1,500, had no effect on the lesion, whereas the effect of the antitoxin was remarkable.

British Medical Journal, London.

January 4.

9 Modifications in the Movements of the Knee Joint Directly Consequent on Injury. W. Bennett.
10 Operative Demonstration of the Occasional Diagnostic Accuracy of Roentgen Ray in Urinary Stone. E. H. Fenwick.
11 *Cancer of the Ovary. J. Bland-Sutton.
12 Recent Experiences in Surgery of the Liver and Gall Bladder. J. L. Thomas.
13 Recent Developments in Knowledge of Syphilis in Relation to Diseases of the Nervous System. F. W. Mott.
14 Excessive Patellar Reflex of Functional Nervous Origin and Especially the "Trepidation" or Spinal Epilepsy Form. F. P. Weber.
15 *Typhoid Carriers. A. Ledingham and J. C. G. Ledingham.
16 Contents of Irreducible Inguinal Hernia in Female Subjects and True Hermaphroditism. E. M. Corner.
17 Nephropexy. F. Eve.

11. **Cancer of Ovary.**—Bland-Sutton refers to some cases published by him in the *British Medical Journal*, May 26, 1906, thought to be primary carcinoma of the ovary, but in which subsequent examination proved the existence of a primary focus in the colon or the breast. He maintains the view that primary cancer of the ovary is a rare condition and one concerning which very little is known. Histologic laboratory reports will not enlighten us on this point. It is necessary to combine such reports with clinical observations and with a statement from the surgeon that in the course of the operation he made a careful examination of the gastrointestinal tract and gall bladder for a primary carcinoma. The remarkable feature of these secondary masses in the ovaries is the enormous dimensions to which they may attain. It is easy to overlook a small primary cancer in the colon when masked by a large solid ovarian tumor. He reports in detail a case illustrating this point. We are apt to forget that the lethal effects of a carcinoma are due not so much to the primary tumor as to the accidents arising from it. Cancer will attack an organ and cause no symptoms until it interferes with the function. There must be something favorable in the ovary to the engrafting of cancer cells to enable them to form such large tumors. The slow and insidious manner in which carcinoma grows in the colon and gall bladder tends to make diagnosis difficult and uncertain. Physicians must begin anew their studies of ovarian carcinoma.

15. **Typhoid Carriers.**—A. and J. C. G. Ledingham have made an investigation into the subject of typhoid carriers, arising out of a succession of small outbreaks of typhoid in a Scottish lunatic asylum. Certain features suggested that the source of these outbreaks was to be found among the patients themselves, and as a result of a series of bacteriologic investigations three typhoid carriers out of a total of 90 females examined have been found and isolated under supervision with proper disinfection of excreta and other prophylactic measures. The authors consider it probable that in these cases the bacilli vegetate in the gall bladder from which they are intermittently ejected into the intestine. They further suggest that, in addition to the isolation and supervision of all proved typhoid carriers the excreta of recovered typhoid patients should be examined at brief intervals for a period of at least six months.

Practitioner, London.

December.

18 Appendix Abscess. W. H. Battle.
19 Movable Kidney. (Concluded.) C. M. H. Howell and H. W. Wilson.
20 The Formation of a "Fundal" or Suspensory Ligament After Hysteropexy and Its Dangers. F. E. Taylor.
21 Malignant Disease of the Testicle. R. Howard.
22 *Suppuration in the Region of the Pharynx. D. C. L. Fitzwilliams.
23 Ascites Associated with Hepatic Cirrhosis; Report of a Case Successfully Treated by Omentopexy. A. D. Ketchen and A. E. Thomson.
24 *Analysis of 832 Cases of Scarlet Fever, with Observations on Diagnosis and Treatment of the Disease. W. N. Barlow.
25 The Necessity of Caution in Diagnosing Hysteria. B. Myers.

22. **Suppuration Near the Pharynx.**—Fitzwilliams groups suppuration about the pharynx as follows: (1) Quinsy or suppuration in and around the tonsil; (2) retropharyngeal abscess starting in the retropharyngeal space; (3) postadenoid suppuration; (4) suppuration or caseation in the deep cervical glands in relation to the carotid sheath; (5) cold abscess due to spinal caries. After suppuration about the tonsils, retropharyngeal abscess and suppuration of the cervical glands are the most frequent. He discusses the symptomatology and diagnosis of the clinical groups, making the following recommendations regarding their treatment: Quinsy—To open abscess through the mouth the child should be laid on the back, with the head dependent over the end of the table, the shoulders elevated on a sand bag and the head well extended so that the pus may run toward the nasopharynx rather than toward the glottis. A peritonsillar abscess should be opened with the sinus forceps from a quarter to a third of an inch outside the anterior pillar of the fauces and on a level with the upper border of the tonsil. Retropharyngeal and postadenoid abscesses are also best opened by pushing the point of the sinus forceps into the abscess, opening the blades and withdrawing them. Tapping with a trocar and cannula or aspirating and enlarging the opening in a downward direction may be done. It is better to open through the mouth than by external incision, for the risk of infection by the mouth may be disregarded in practice and there are many objections to the external incision. Glandular abscesses should always be incised from the outside. Hilton's method should be employed. If a sharp spoon is used the proximity of the pharynx

must be remembered. In spinal caries also it is essential that a tuberculous abscess should be opened from the outside and under the strictest aseptic precautions. It should be treated on the same lines as a psoas abscess. A small transverse skin incision is made at the posterior border of the sternomastoid muscle, the fascia is divided vertically and a pair of sinus forceps is then pushed inward, just in front of the transverse processes of the vertebræ, till the abscess cavity is reached. A sharp spoon or flushing gouge is inserted and the tuberculous lining is gently removed. An area of bare bone can usually be found, and if this is felt to be carious it should be scraped (removing loose sequestra) with the finger in the pharnyx to avoid injury. If a flushing gouge has not been used, a saline flush should be given and the cavity wiped dry. In closing the cavity the divided deep fascia is united with catgut sutures, over which the skin is stitched with silkworm gut. The wound is then sealed with collodion and dressed. The general treatment of spinal caries consists in rest to the spine, extension and counter extension in bed, later some supporting apparatus. A careful watch should be maintained for reaccumulation of fluid.

24. **Scarlet Fever.**—Barlow, from an analysis of 832 cases, concludes that the presence or absence of complications does not depend entirely on the severity of the scarlet fever attack, but depends in an equal degree on the patient's condition when attacked and in a less degree on the age, complications being more likely the younger the child. A fever hospital is not the place for very mild cases if there is the slightest chance for isolating the patients at home for a few days. In his opinion, the very mild cases are infectious only for a few days. The diagnosis of scarlet fever is by no means always simple. Too much attention is often fixed on the rash, which may last only a few hours and may mislead by its atypical characters. Mild cases require no treatment beyond abundance of fresh air and a mild disinfecting throat spray. For otorrhea he recommends irrigation with boric acid solution and filling the ear with the acid. When the flow of urine is well established he prescribes iron. The duration of the infective period varies from a few days to some months. The nose and the nasopharynx he considers the sites where the infection lingers. Children with adenoids and large tonsils are apt to remain infectious for some time.

British Journal of Children's Diseases, London.

December.

26 *Report of an Epidemic of Glandular Fever. J. R. Clemens.
27 *Right-angled Contraction of the Tendon Achillis as a Cause of Halting and Stumbling in Children. A. H. Tubby.
28 Case of Congenital Dilatation of the Colon. H. Skelding.
29 Case of Rheumatic Hyperpyrexia in Child of Six. G. H. Lock.

26. **Glandular Fever.**—Clemens makes a report on sixteen cases of glandular fever occurring in a male orphan asylum where all the subjects were continually under observation, attention being specially directed to blood studies (opsonic index, blood charts and blood cultures), the incubation period and the eye-ground findings. The boys infected all slept in the same dormitory, the other boys escaping. A definite period of incubation of from 7 to 10 days was observed. The series of cases ended abruptly on fumigation by the city authorities. Mumps, influenza, scarlet fever and local foci of symptomatic adenitis were carefully excluded. The opsonic index for *Staphylococcus albus* was always positive and high. Blood counts showed slight leucocytosis; blood cultures were negative. The pus in one case with suppurating gland was purely streptococcal, but non-pathogenic to the rabbit. Hyperemia of discs was observed in seven cases and optic neuritis in three cases; the veins were usually engorged. Glands not affected in any case were suboccipital, mastoid, parotid, inguinal. Glands affected were axillary, mediastinal, submaxillary, superficial and deep cervical. There was no enlargement of liver or spleen. Onset: In the majority of cases the boys woke in the morning with stiff neck, general myalgia and pain on deglutition. The nasopharynx was the most probable atrium of infection, as shown by the cervical glands being the first affected. In sporadic cases diagnosis would depend on sudden appearance of an acute cervical adenitis, the peculiar contour of the neck and the exclusion of other sources of gland involvement. The eye-ground findings would make the diagnosis certain, also the association of acute enlargement of the cervical glands with acute nephritis. The outlook for recovery is good. The mediastinal glands seem to be affected only in severe cases.

27. **Contraction of Tendo Achillis.**—Tubby enumerates five conditions of gait in children, due, he says, to varying degrees of loss of the angle of dorsiflexion, due to some degree of contraction of the calf muscles and the tendo Achillis. The usual condition found is that with the knee fully extended the foot can not be dorsiflexed beyond a right angle. Sometimes the condition is not so marked as this, there being 5 or even 10 degrees of dorsiflexion, but the fact remains that free movement at the ankle in the direction of flexion is limited and invariably produces unpleasant results. The conditions are as follows: 1. The child is soon tired in walking, has pains in his calves and knees. He can not run well or swiftly and soon stumbles. 2. There is shambling gait, the child walking with short steps and knees bent. 3. There is frequent occurrence of sprained ankle. 4. There is so-called flatfoot; the feet are held everted, yet the arches have not fallen, or may even be exaggerated. 5. The child walks with the toes turned in and on the outer side of the foot. Tubby describes the mechanism of these defects and their dependence on the lack of dorsiflexion. The method of examination is as follows: With the child seated and the knee fully extended, the foot is brought into a straight line with the leg. The foot is then slowly dorsiflexed, and the moment resistance is encountered or pain elicited passive movement should be stopped and the angle taken by the goniometer. The cause of this right-angled contraction of the tendo Achillis is in most cases infantile paralysis, affecting mainly the anterior muscles of the leg, though by the ordinary tests they may appear to have practically recovered. The symptoms often begin after an exanthem and neuritis of the external popliteal nerve is more often associated with the symptoms than is suspected. They are also associated with throat lesions—doubtful tonsillitis and diphtheria. If the fully extended limb is incapable of dorsiflexion, the remedy is lengthening of the tendo Achillis. Tubby practices an open operation by the Z method. The ordinary dorsiflexion of hill climbers is 10 or 15 degrees greater than that of town dwellers.

Journal of Laryngology, Rhinology and Otology, London.

December.

30 *Tracheobronchoscopy. C. Jackson.
31 Thirty-six Successive Cases of Optic Neuritis. Nasal Accessory Sinus Disease Present Twenty-six Times. H. M. Fish.
32 Treatment of Foreign Bodies in the Respiratory Tract and Esophagus. G. Killian.

30. A similar article on this subject appeared in the *Laryngoscope*, St. Louis, October, 1907.

Bristol Medico-Chirurgical Journal.

December.

33 Syphilis. H. Waldo.
34 Spinal Anesthesia. E. W. H. Groves.
35 *Value of Compression of Aorta in Treatment of Postpartum Hemorhage. F. P. Elliott.
36 Case of Generalized Sarcoma with Blood Changes. F. G. Bushnell.
37 Proportional Representation and the Comparison of Radiographs. W. Cottou.
38 Public Health in Bristol, 1906-1907. D. S. Davies.

35. **Postpartum Hemorrhage.**—Elliott, as the result of further experience since the publication of his original paper in the same journal, June, 1907, is convinced that manual compression of the aorta is a measure of primary importance in the treatment of postpartum hemorrhage, both that between the second and third stages of labor and the secondary form.

Journal of Tropical Medicine and Hygiene, London.

December 2.

39 Treatment of Epidemic Cholera in Eastern Bengal and Assam. J. Robertson.
40 *Case of Blackwater Fever Treated by Saline Enemata. T. F. G. Mayer.

40. **Normal Saline Enemata in Blackwater Fever.**—Mayer reports a case of blackwater fever treated with enemata of normal saline solution, one pint every four hours by day. One dram of a watery solution of quinin (quinin, gr. x, to water,

ʒi) was added to the enema at night to combat a constant rise of evening temperature. There was remarkably little distress throughout the treatment, the quantity of urine passed rose, the temperature fell. In ten days the patient was sent home convalescent. There was no vomiting during the attack.

Medical Press and Circular, London

January 1.

41 Diet of the Aged. H. Campbell.
42 Inherited Syphilis. R. C. Lucas.
43 Eyestrain. T. P. C. Kirkpatrick.

Clinical Journal, London.

December 25.

44 Clinical Evidence Requisite Before and After Performance of Surgical Operations. C. B. Lockwood.
45 Dysentery. F. M. Sandwith.
46 Clinical Afternoon at Poplar Hospital for Accidents. Openshaw, Poland, Rigby and T. Thompson.

Bulletin de l'Académie de Médecine, Paris.

December 24, LXXI, No. 44, pp. 571-601.

47 *Mortality from Syphilis. C. Fernet.
48 *Treatment of Tuberculosis of the Hip Joint in Its Incipiency. (Coxotuberculose dans la phase de début.) Lannelongue.

47. **Mortality from Syphilis.**—Fernet states that in the general hospital where his data were collected 2.25 per cent. of the deaths were due to syphilis; in the insane asylums Joffroy reports 40 per cent. in 63 deaths, and Séglas, 46.61 per cent. of 182 deaths for which syphilis was alone responsible. Inherited syphilis was responsible for about one-twentieth of the total number of abortions known, for about one-fifth of the deaths among infants less than two weeks old, and for considerably more than a tenth of the deaths among children under 2 years old. This makes for Paris alone a mortality of about 4,000 deaths annually from inherited syphilis, or from 75 to 80 deaths a week.

48. **Treatment of Incipient Tuberculous Hip Joint Disease.**—Lannelongue urges early recognition and treatment before the development of an abscess with its irremediable consequences. The most instructive characteristic of the early stage is the intermittency of the phenomena, especially of the contracture and limping. Fully 80 or 90 per cent. of the patients can be cured, he asserts, under persevering treatment, for which he recommends "intra-extra-articular successive injections" of a mixture of 90 parts olive oil, 40 parts ether, 10 parts iodoform and 2 parts creosote. The hip joint is held in forced flexion and adduction, and the needle is introduced from above downward on the head of the femur, and from the rear forward. The injections must be supplemented by horizontal repose with continuous extension for the limb. Immobilizing casts are superfluous, he says, and do harm. The ether spreads the drugs over the entire inner surface of the joint, etc., and extension, by separating the parts of the joint, favors their healing. The iodoform attenuates the virulence of the bacilli and the effects of their products, while the creosote adds its sclerosing action.

Presse Médicale, Paris.

December 28, XV, No. 105, pp. 845-852.

49 Technic of the Kraske Operation for Cancers of the Rectum. R. Proust.
50 Spontaneous Rupture of the Aorta. M. Letulle.
51 Technic and Value of Microbiologic Examination in Syphilis. A. Sézary.
52 Technic for Estimating Amount of Shortening of the Hip. (Mensuration du raccourcissement de la cuisse.) H. Forestier.

Archiv für Gynäkologie, Berlin.

LXXXIV, No. 1, pp. 1-288. Last indexed, January 25, p. 320.

53 *Operative Extraction of Living Children in Advanced Extra-uterine Pregnancy During the Last Twenty Years. (Durch Koeliotomie bei lebendem Kinde operirten Fälle von vorgeschrittener Extrauterinschwangerschaft.) A. Sittner.
54 *Remote Results of 54 Symphysiotomies. (Nachuntersuchungen der and der Leipziger Universitäts-Frauenklinik ausgeführten Symphysiotomien.) J. Thies.
55 Slanting Pelvis After Amputation of Thigh. (Entstehung des schiefen Beckens nach Oberschenkelamputation.) H. Füth.
56 Connective Tissue Fibers in the Fallopian Tubes. (Bindegewebe der weiblichen Geschlechtsorgane.) K. Hörmann.
57 Evidence of Existence of Somatic Periods in the Female Organism and Their Dependence on Cosmic Periods. (Vorhandensein somatischer Perioden im weiblichen Organismus.) Riebold.
58 Tearing of the Umbilical Cord During Delivery. (Zerreissung der Nabelschnur intra partum.) O. H. Forssell.
59 Hematoma of the Ovary. E. H. Wolf.
60 Wedge-shaped Resection of the Body of the Uterus in Chronic Metritis, Especially with Operations for Prolapse. (Keilresection des Corpus uteri.) F. Cohn.
61 Puerperal Dissecting Metritis. (Gangraena uteri puerperalis.) E. Gräfenberg.

53. **Living Children in Advanced Extrauterine Pregnancy.**—Sittner's article is a continuation of his previous compilations of the cases in the literature of living children delivered by abdominal section in ectopic pregnancy. Only five operators have had occasion to deliver as many as three of these "ectopers," and only one, Olshausen, was able to deliver thus three at full term. In his previous compilations, including the years 1813 to 1902, Sittner found records of 136 cases and is now able to bring the list up to date with 179. He gives the details of the last series of 43 cases, classifying them and emphasizing the various points useful for differentiation and for management of such cases. He adds an alphabetical list of the operators in the 147 cases between 1887 and 1907. Three Americans are mentioned in his latest series of 43 cases. Ten of the infants in this series died within the first month; the fate of 4 is unknown; 3 lived to be nearly 2 years old, and 12 are still living, one 7 years old at present. More than half of all the infants survived the first month, and many are known to have grown up. He argues that the mother does not seem to suffer from postponement of the operation for relief of ectopic pregnancy until the child is viable, that is, the conditions at the operation are not worse at term than in an early stage of the pregnancy, and the waiting does not offer frequent and sudden dangers. The fetus was imperfectly developed in about half the cases, but had developed sufficiently to be viable. The fetus was deformed in 17 of 122 cases, and in 5 of these the deformity was evidently responsible for the infant's death. In the 7 cases of deformity in the latest series of 43 cases with 29 viable children, 3 left the hospital alive. The deformities were impression of the skull, facial paralysis, contracture in the elbow, luxation of the hip joint, or torticollis. Study of this material and of hundreds of other cases in which the ectopic fetus died before operation, shows that the sac ruptured in 7.4 per cent. The rupture of the sac and separation of the placenta occurred during the later months of the pregnancy in some cases, but neither so frequently nor with such serious consequences—at least when the patient was under clinical supervision—as to justify disregard of the life of the fetus from fear of these complications. General or local disturbances of a milder nature are extremely frequent with ectopic pregnancy, recurring hemorrhage, pains from dragging of adhesions, displacement of the viscera and peritoneal inflammation. In case they exhaust the woman, the fetus should be disregarded. In 6 cases the ectopic pregnancy progressed without any disturbances, and in the majority the disturbances were so mild or bearable that the operation could be postponed out of regard for the child. In 28 out of the last series of 43 cases the women came to the operating table in a satisfactory condition. Some of the women refused to believe that their pregnancy was ectopic. The general conclusions of the article are in favor of trying to save two lives instead of one, especially as the sudden catastrophes become comparatively rare after the fifth month and as any aggravation of the condition can be promptly remedied by immediate intervention if the woman is kept under observation. In a case in Sittner's experience the empty uterus was crowded down into the pouch of Douglas. The patient was a woman of 34, pregnant for the second time after fourteen years. Abdominal section at the fortieth week delivered a healthy child weighing 3,250 gm., 46 cm. tall, now nearly 3 years old and thriving.

54. **Symphysiotomies at Zweifel's Clinic at Leipsic.**—Thies reports 54 cases in which symphysiotomy was done and relates the results of recent re-examination of the patients. Before the symphysiotomy only 13 per cent. of the children had been spontaneously delivered, while after the operation 63 per cent. were born spontaneously, even when the following children were larger than the first. He cites this as an important argument in favor of symphysiotomy against pubiotomy, as the latter generally requires a repetition at succeeding births. Roentgen examination shows that no injury has been done to the symphysis, but that it has been enlarged even in cases in which the wound healed by primary intention.

Archiv für Kinderheilkunde, Stuttgart.

XLVII, Nos. 1-3, pp. 1-240. Last indexed, September 28, p. 1151.

62 *Infant Mortality, "Infant Consultations" and Milk Stations. (Kindersterblichkeit und Milchküche.) E. Deutsch.
63 Experimental Study of Pathogenesis of Salivation in Digestive Affections. (Salivation bei Verdauungskrankheiten.) H. Roeder.
64 Breast Feeding. (Zur Frage der natürlichen Ernährung.) R. Biermer.
65 An Endemic of Malaria in Northwestern Germany Principally Confined to Children. G. Freudenthal.
66 Primary Diphtheria of the Nose, with Membrane Formation, in Infant Under a Month Old. (Rhinitis fibrinosa sive pseudomembranacea diphtherica.) P. Kuhn.
67 *Care of Infants in Public Institutions. (Versorgung der Säuglinge in öffentlicher Fürsorge.) A. Szana.
68 Acute Hemorrhagic Nephritis After Epidemic Parotitis in a Seven Months' Infant. Jelski.
69 *Vaccination and Vaccinal Allergy. C. von Pirquet's Allergy Test and Cutaneous Reaction. P. Kuhn.

62. **Infantile Mortality, "Infant Consultations" and Milk Stations.**—This article by Deutsch is a review of infant mortality in the various countries of the world tabulated under different headings. Among the facts apparently brought out by these tables is the greater mortality of male children and of children in large families, especially those born at short intervals. He also reviews what has been done in various countries in the way of giving advice and care to mothers of young infants and keeping an oversight of each infant's health, and gives numerous illustrations of the French "infant consultations," the "drop of milk," the milk stations for infants, and similar institutions in England, America and all the European countries, Algiers and Madagascar. Special buildings have been erected in a number of places, each bearing a large inscription that they are for the protection of infants.

67. **Care of Infants in Public Institutions.**—Szana describes the conditions at Temesvar, Hungary, where he has charge of the Children's Asylum and Children's Polyclinic. Nearly 81 per cent. of these children are illegitimate. Experience has shown that the mortality is much less when the infants can be nursed or brought up by their own mothers. It is the practice to give the infants out to nurse, and the stay in the public institution is made as short as possible. The physicians who attend these infant wards of the state are entitled to higher pay than for older children, as constant supervision is required.

69. **The Allergie Test.**—This article presents von Pirquet's views and experiences in detail as published in his book.

Archiv für klinische Chirurgie, Berlin.

LXXXIV, No. 4, pp. 917-1141. Last indexed, January 4, p. 79.

70 Report on Healed Firearm Wounds Among the Russian Troops in Manchuria. (Wirkung der japanischen Kriegswaffen im mandschurischen Feldzuge.) F. Schaefer, E. Sveuson and E. von der Osteu-Sacken.
71 Topography of the Growth of Tubercle Bacteria in the Kidney in Tuberculous Nephritis. G. Ekehoru.
72 *Experimental Study of Pathology and Surgery of Heart. (Pathologie und Chirurgie des Herzens.) R. Haecker.
73 Etiology of Madelung's Deformity of the Hand. P. Ewald.
74 *Ruptures of the Pancreas. H. Heineke.
75 Suprahyoid Pharyngotomy for Access to Tumors of Base of Tongue. (Geschwülste der Zungenbasis.) S. P. Fedoroff.

72. **Pathology and Surgery of the Heart.**—Haecker's experiments on dogs showed that it is possible to operate on the almost empty heart by compressing the afferent vessels, and that extensive incisions could be made in the different cavities of the heart without permanent injury to the organ. This fact, he thinks, opens fine prospects for surgical intervention on the heart, especially for foreign bodies. His work was done mostly in the Sauerbruch air cabinet, which allowed the chest to be opened up without fear of pneumothorax, the lung continuing its functions undisturbed, while reducing the tendency to hemorrhage when the incision was made and the danger of infection of the pleural cavity. In suturing the organ it should be held in such a way in the hand that the fingers can compress the afferent veins. By displacing the heart forward the vessels are kinked and this arrests the blood supply. He recommends a button suture with medium-sized catgut or silk, taking in only the myocardium and epicardium. The ends of the thread in the first suture are left long and help to hold the organ. The superior and inferior venæ cavæ could be clamped for ten minutes, in the experiments on dogs, without serious results for the animal. By clamping these veins and the left coronary vein, brief operations could be done with the heart empty without serious consequences. This allows the different cavities of the heart to be opened up and thoroughly searched for a foreign body, and even large parts resected. No air embolism was noted, probably from the underpressure prevailing in the cabinet. Small foreign bodies were constantly swept along with the blood current, but needles lodged in the cavities of the heart. His experience seems to indicate that there is a certain point in the walls of the heart near the mitral orifice, injury of which is followed by immediate arrest of the heart action.

74. **Ruptures of the Pancreas.**—Heineke reports four cases and summarizes fifteen others from the literature, discussing the technic of operative intervention and the after-treatment.

Berliner klinische Wochenschrift.

December 23, XLIV, No. 51, pp. 1631-1662.

76 Foreign Body Two Years in Left Bronchus. Extraction by Direct Route. Recovery. (Fremdkörper im linken Bronchus.) H. von Schrötter.
77 Serum Diagnosis of Syphilis. A. Wassermann. Id. G. Meyer.
78 The Quartz Lamp in Treatment of Cutaneous Affections. (Quarzlampe.) R. Ledermann.
79 *Neuralgia of the Rectum. (Mastdarmneuralgie.) A. Albu.
80 Exophthalmic Goiter and Sexual Life of the Female. (Die Basedowsche Krankheit und das Geschlechtsleben des Weibes.) N. Kron. Commenced in No. 50.
81 *Cure of Nervous Eructation. (Fall von nervösem Aufstossen.) S. Saito.

December 30, No. 52, pp. 1663-1686.

82 Oxidation of Sugar. (Oxydationswege des Zuckers.) G Rosenfeld.
83 Micrococcus Influenza, with Infectious Allorhythmia of the Heart and Reduced Urination During the Day. (Infektiöse Allorhythmie des Herzens und Nykturie.) Biedert.
84 Dubious Benefit from Serum Treatment of Epidemic Cerebrospinal Meningitis. (Meningokokkenheilserum bei Genickstarrekranken.) W. Schultz.
85 Symptomatology of Brain Tumors. (Hirntumoren.) H. Hirschfeld.
86 *Fetid Otitis of the Outer Ear in Telephone Operator. Hamm.
87 *Suboccipital Inflammations. (Suboccipitale Entzündungen.) L. Grünwald. Commenced in No. 51.

79. **Neuralgia of the Rectum.**—Albu emphasizes the importance of excluding all other causes for the pain in the rectum before attributing it to neuralgia. In one of his cases the pains in the rectal region and perineum radiated to the back, right hip and thigh, and occurred intermittently, gradually growing more severe. The internal organs were intact, but the prostate could be felt a little harder than usual through the rectum, and it gradually enlarged in size as the pains increased, thus differentiating cancer of the prostate. Coccygodynia occurs in women, manifesting itself in pain in the region of the coccyx, increased by walking, micturition and defecation. Another affection which may simulate rectal neuralgia is the anal crisis of tabetics. He describes a typical case in a man of 58, in whom the pains in the anus radiated to the rectum, peritoneum and buttocks, accompanying other symptoms of tabes. Examination of the intestine was impossible except under morphin, as at the slightest touch the anus contracted. This spasm of the sphincter may also be observed on a purely nervous or hysteric basis, as one manifestation of a general spastic obstipation. Only when all the above and reflex neuroses are excluded should the pain in the rectum be classified as neuralgia. In the five cases in his experience all the patients recovered under treatment, as also after a recurrence in one of the cases. He always avoids morphin and opium on principle in these cases, and gives belladonna in large doses, supplemented by hot sitz baths, hot water and steam douches, hot compresses, mud baths or similar measures to relieve the pain. The most durable benefit was obtained by introduction of a thick bougie into the rectum. The beneficial action of the bougie is undoubtedly due to the stretching of the nerves, as in the treatment of neuralgia elsewhere.

81. **Cure of Nervous Eructations.**—Saito's patient for thirty-six years had been accustomed to have an hour or so of loud and annoying eructations every evening. If she did not thus get rid of the "gas" in her stomach she was unable to sleep. He convinced her that the trouble was due to her habit of swallowing air, and cured her by having her wear a gag to keep her mouth open, with a vessel to catch the saliva, during the hours when she previously had had the attacks.

86. **Inflammatory Processes of the Outer Ear in Telephone Operators.**—Hamm's patient was a postmaster who had to

use the telephone almost constantly, and had received several sharp shocks during thunder storms. He is a robust, otherwise healthy man, whose ears were sound when he assumed these duties; but developed a diffuse external otitis with involvement of the tympanic membrane of the left ear. Mild local measures and avoidance of the telephone soon cured the condition, but a recurrence was observed as soon as the patient resumed the use of the telephone. Hamm has been consulting with a telephone engineer and learns that electric currents certainly pass into the human organism in telephoning, unless special protection is provided against them.

87. **Suboccipital Inflammations.**—Grünwald gives the particulars of five cases which teach that suboccipital inflammation may be due to tuberculosis of the basal and vertebral bones or to other specific or purely inflammatory processes, resulting from some ear trouble, from trauma of the base of the skull, from inflammation of the nasal accessory cavities, or from teeth or may be traceable to syphilis. The suppuration induces a typical syndrome according to the path which it takes and the organs it affects. The most striking symptom is the inability to move the head and the localization of the pain in the trigeminal or occipital domain. In the late stages the infiltration in the back of the neck points to the seat of the inflammation or it may break through into the nasopharynx. The original focus can sometimes be recognized by the sequence of the symptoms, although the primary focus may and usually does long remain latent. The greatest attention should be paid to the signs of perforation, such as sudden subsidence of the pains, of the fever and of the interference with movements, as this spreading of the hitherto circumscribed process to a larger area sometimes differentiates the affection and indicates at the same time the last moment in which immediate intervention may ward off irremediable and possibly fatal consequences. Careful study of the temperature is especially important as a means of keeping oversight over the inflammation and for recognizing the critical moment when the previously circumscribed process begins to spread. Before the development of pronounced suppuration it may be wise to strive to induce the retrogression of the affection by keeping the head absolutely still, possibly also with relief of pressure by traction.

Centralblatt für Chirurgie, Leipsic.

December 28, XXXIV, No. 52, pp. 1505-1536.

88 Mechanism of Retrograde Incarceration of the Intestine. G. Sultan.

Centralblatt für Gynäkologie, Leipsic.

December 28, XXXI, No. 52, pp. 1609-1640.

89 *Leaving Bed Early After Laparotomies. (Zum frühen Aufstehen Köliotomierter.) C. Hartog.
90 *Adrenalin and Osteomalacia. J. C. Reinhardt.
91 Diagnosis of Shoulder Presentation. (Schulterlagen.) J. Kocks.
92 Unusual Case of Criminal Abortion. E. M. Simons.
93 Meteorism After Delivery. (Meteorismus nach Geburten.) Häberlein.
94 Vaginal Cesarean Section in a Tuberculous Woman with Cicatricial Constriction of the Larynx. No Anesthesia. (Vaginaler Kaiserschnitt—Dührssen.) E. Zarate.
95 Incarceration of a Laminaria Tent in the Uterus. (Einklemmung eines Laminariastiftes im Uterus.) O. Grossmann.
96 Combined Sterilizing Table for Instruments and Instrument Holders. (Kombinierter Instrumentier- und Instrumentensterilisiertisch.) Grube, Hamburg.
97 Needle for Pubiotomy. (Hebosteotomienadel.) W. Nacke.
98 Fanöe's Depressor for the Vagina. N. P. Ernst.

89. **Leaving the Bed Early After Laparotomies.**—Hartog states that at Landau's clinic at Berlin the patients whose wounds are healing by primary intention, with temperature and pulse and passage of flatus indicating that all is progressing well, are asked the second day if they would like to get up. If they reply in the affirmative they are allowed to leave the bed. This early getting up is especially important for diabetics and for patients with myoma. The only exceptions are plastic operations and herniotomies. In the last year about 150 patients have thus been allowed to get up on the second or third day, even after the most serious major operations. Thrombosis was observed only in one instance and it rapidly healed, that is, .75 per cent. The appetite and vital processes in general are much improved by leaving the bed thus early, and the danger of pneumonia is reduced.

90. **Suprarenal Treatment of Osteomalacia.**—Reinhardt reports successful suprarenal treatment in a case of chronic osteomalacia in a vii-para aged 37. The first symptoms were observed two years after her last pregnancy, and had continued a progressive course for four years. During the last year she was bedridden, with the typical bone changes of osteomalacia. Suprarenal treatment according to Bossi's technic was then commenced and continued for two months, with notable and increasing improvement. The patient then left the hospital free from pains and her general health so much improved that she is now able to walk. No by-effects from the injections were observed.

Deutsche medizinische Wochenschrift, Berlin.

December 26, XXXIII, No. 52, pp. 2169-2200.

99 *Serum Diagnosis of Syphilis. W. Fischer and G. Meier.
100 *Goldscheider's Threshold Percussion. (Orthoperkussion.) H. Curschmann.
101 *Diagnosis of Diaphragmatic Pleurisy. Sehrwald.
102 Case of Polycythemia with Urobilin-Jaundice and Enlargement of Spleen. M. Mosse.
103 *Esophagoscopy for Cancer of Esophagus and Cardia. H. Elsner.
104 *Postoperative Tardy Ileus. (Postoperativer Spätileus.) Voigt.
105 *Klapp's Creeping Method of Treating Scoliosis and Its Application by the General Practitioner. (Die Klappsche Skoliosebehandlung—Kriechmethode.) F. Bittner.
106 Adenoid Vegetations and Deafness in School Children. H. Laser.
107 *Rarity of Progressive Paralysis and Tabes Dorsalis Among Uncivilized Colored Races. H. Ziemann.
108 Dressing or Waist to Support the Breast in Mammary Affections. (Verbandtuch bei Erkrankungen der Brustdrüse.) M. Samuel (Posen).
109 *Statistics in Regard to Physicians in Germany in 1907. (Aerzte Deutschlands im Jahre 1907.) F. Prinzing.
110 *Horse or Auto? (Pferd oder Auto?) F. v. Bönninghausen.

99. **Serum Diagnosis of Syphilis.**—Fischer and Meier state that in 114 cases in which the serum diagnosis of syphilis was made in their service the results were invariably negative in the patients known to be free from syphilis while they were positive in 84 per cent. of the cases in which there were evidences of syphilis. They conclude from their experience that the reaction is constitutional; it does not give information as to whether a given affection of an organ is syphilitic or not, but merely shows that the individual is constitutionally affected with syphilis. They regard negative findings as not conclusive, and they were unable to detect any influence on the reaction from specific treatment of the syphilis.

100. **Goldscheider's Threshold Percussion.**—Curschmann reiterates his former endorsement of the Goldscheider technic as instructive and reliable for determining the orthographic outlines of the heart and large vessels. It is not so reliable for percussion of the lungs and abdominal organs as for the heart, except for determination of a pneumothorax. The stroke is the lightest that can be heard, with the least action of the plessimeter. The various criticisms of the method are discussed and its specific importance for examination of the heart is extolled.

101. **Diaphragmatic Pleurisy.**—Sehrwald enumerates the signs of pleurisy involving the pleural covering of the diaphragm. The diaphragm is more or less fixed and the patient breathes by the upper thorax, with rapid, abrupt respiration and tendency to dyspnea, the diaphragm standing higher on the affected side; occasionally there is obstipation and icterus. There is also liable to be severe pain at the insertion of the diaphragm, increased by breathing, coughing, hiccough, etc., with considerable tenderness in the epigastrium and along the twelfth rib, sometimes also between the lower points of insertion of the sternocleido muscle. There may be also a stabbing pain or severe coughing as a mouthful of food passes through the diaphragm on its way down the esophagus. The stomach may also sympathize, and pain, hiccough and vomiting may be observed, as also the respiratory abdominal wall reflex. Friction sounds may be evident over the diaphragm, and the inflammation may spread through the openings in the diaphragm and involve the peritoneum. He reports the details of an instructive case in which the signs of diaphragmatic pleurisy were superposed on those of croupous pneumonia, with involvement later of the peritoneum. The pains in deglutition were so severe that the patient had to be fed by the rectum, until comparatively normal conditions promptly followed defervescence on the eleventh day.

103. **Esophagoscopy for Cancer.**—Elsner's experience indicates that cancer of the esophagus can usually be readily diagnosed by the history and by sounding, but that it is much more difficult to diagnose cancer of the cardia in an early stage. Esophagoscopy is, therefore, scarcely ever required for cancer of the esophagus, but it is extremely valuable in cancer of the cardia.

104. **Tardy Postoperative Ileus.**—Nearly two years had elapsed after the operation in the case described before the symptoms of ileus developed. The symptoms were comparatively mild, and the peritonitis seemed to be restricted to a small patch, but operation revealed that the obstruction was due to postoperative adhesions and that a long strip of intestine was gangrenous.

105. **Klapp's Creeping Treatment for Scoliosis.**—Bittner reports highly satisfactory results from Klapp's method of having the patients creep about on the floor, with exaggerated movements of the spine. He says that all that is necessary is a large, smooth floor. His office floor is covered with linoleum, and the floor is mopped, the windows opened and no one allowed to enter with shoes before the exercises. The children wear only knee pants and shoes, and thus have the benefits of an air and light bath as well as the exercises. The principles of this method of treating scoliosis were summarized in The Journal, Feb. 24, 1906, page 625.

107. **Rarity of Progressive Paralysis and Tabes in the Tropics.**—Ziemann resides in western Africa, and he has studied conditions in the West Indies and in Venezuela, where the physicians tell him that fully 50 per cent. of the population are syphilitic. In this experience he has been impressed with the entire absence or rarity of progressive paralysis and tabes among the inhabitants of these regions, negroes, Europeans and Indians. He has also noticed that insanity among the native Africans is almost invariably simple dementia præcox. Arteriosclerosis seems also to be rarer among the uncivilized—he has encountered only two instances of typical coronary sclerosis in negroes. He is inclined to attribute the rarity of progressive paralysis and of tabes to the less strenuous life in the tropics—the less intense struggle for existence.

109. **Physicians in Germany.**—Prinzing gives the number of physicians in Germany for 1907 at 31,416. This is an increase of 276 over the preceding year. There has been a steady increase from 30,071 in 1904 to the present figure. In the cities there are about 10 physicians to each thousand inhabitants; in the towns of from 50,000 to 100,000 there are about 9.1 per thousand, and 7 per thousand in towns of from 10,000 to 50,000, with 2.9 per cent. in the still smaller towns.

110. **Horse or Auto?**—The writer of this article pleads for the horse as the only reliable means of conveyance for all weathers and roads. In most cases, he says, it is not so much a question as to how quickly the doctor can get to the patient but that he gets there sometime, and the horse can be depended on to get him there sooner or later. Comparison of expenses shows that the horse is cheaper in the end than the auto, but the principal advantage of the horse is that it does not breed neurasthenia like the auto, with its nerve-racking noise and jar, and its incessant mental strain.

Deutsche Zeitschrift für Chirurgie, Leipsic.

XCI, Nos 1-2, pp. 1-196. Last indexed, January 11, p. 161.

111 *Drainage and Abdominal Section. K. G. Lennander.
112 Carcinoma and Polarization. P. Ziegler.
113 Diagnosis of Position of Appendix in Acute Attack of Appendicitis and Its Importance for the Location of the Incision. (Lage des Wurmfortsatzes.) Krüger.
114 Case of Rupture of Intestine, while Lifting a Weight, in Patient with Bilateral Inguinal Hernia. (Berstungsruptur des Darmes.) M. Grasmann.
115 Typical Luxation Fracture of Intercarpal Joint. V. Schoch.
116 *Healing of Fractures, with Special Regard to the Importance of Effusion of Blood for Formation of Callus. (Fracturheilung.) K. Vogel.

111. **Draining and Abdominal Section.**—Lennander describes his technic of draining with coarse cotton wicking and old rubber gloves or dentists' rubber dam. He has found that smooth rubber tissue causes the production of a fibrinous peritonitis when introduced into the abdomen. The adjacent serosa becomes coated with a thick layer of fibrin, and under this layer the epithelium heals and formation of adhesions is prevented. He sutures a patch of rubber dam over an injured part of intestine or abdominal wall when a plastic operation with omentum is not practicable, fitting the rubber dam carefully in its place and fastening it with fine catgut stitches. It is left undisturbed for about a week. Vigorous peristalsis must be maintained while it is in place, preferably by subcutaneous injection of 0.001 physostigmin, this dose being repeated once or twice a day, thirty minutes before rinsing out the intestines. The rubber dam tissue is also the best substance, he says, with which to protect the intestines during the operation; he uses pieces a yard square. He discusses further the best method of incision and the position of the patient after the operation. If the patient is awake he has him sit erect, well supported with cushions and back rest, with the foot of the bed raised for about a foot; a cushion is placed under the thighs to keep the patient from slipping forward. The cushion may be placed under the mattress. This rotates the pelvis forward and upward, relaxes the abdominal musculature, while the lungs and heart can work more freely than in any other position after a laparotomy. In order to prevent numbness in the legs and venous thrombosis, the cushion supporting the pelvis should be taken away five or six times a day and the patient's legs exercised actively and passively, and massaged. It is important that the patient should breathe deep frequently. He should be trained to do this before the operation. The position of the patient should be altered frequently, a little more toward the back or to the side, especially when the intestines are flushed. Almost all patients do well in the sitting posture, but very weak patients may feel dizzy, in which case they should be allowed to recline more.

116. **Healing of Fractures.**—Vogel gives the reasons for his assertion that in treatment of a fracture the aim should be to reduce the formation of callus to the minimum required for healing, and to remove all strain from the reparatory elements. He thinks that extension is the best means of realizing these aims. Nearly the same result is attained by Bier's method of injection of blood at the point of the fracture. It induces aseptic inflammation, lifts up the periosteum and removes strain from the reparatory elements, but it can not be controlled as well as extension to keep the callus formation down to the minimum required. In case extension fails, Bier's technic of injection of blood can be tried, taking care to deposit the blood between the periosteum and the bone, to form a continuous bridge between the stumps. The adjacent tissue is capable of aiding in the formation of callus, so strain must be removed from this also. He describes the particulars of a number of cases to illustrate various points brought out in his article, besides those here mentioned.

Jahrbuch für Kinderheilkunde, Berlin.

December, LXVI, No. 6, pp. 633-764.

117 *Behavior of the Kidneys in Alimentary Intoxication. (Verhalten der Nieren bei der alimentären Intoxikation.) G. Neumann.
118 Defective Development of Cartilage and Thyroid Gland in the Fetus. (Fötale Chondrodystrophie und Thyreodysplasie.) E. Moro.
119 *Pathogenesis of Tetany in Children. F. Pineles.
120 Banti's Disease in Children. L. Finkelstein.

117. **The Kidneys in Alimentary Intoxication.**—Neumann analyzes a number of cases, stating that albumin and tube casts in the urine were found constantly in his cases, but that they testified merely to irritation of the kidneys. No pathologic anatomic changes in the organs could be detected. The signs of transient irritation paralleled the general symptoms of the alimentary intoxication and yielded with them to dietetic measures. Both the kidney irritation and the other symptoms were evidently the work of the alimentary toxins. Uremic symptoms are never modified by a change of diet.

119. **Tetany in Children.**—Pineles affirms that evidence is constantly accumulating to sustain the assumption that tetany in children is due to insufficiency of the parathyroids.

Monatsschrift f. Geb. und Gynäkologie, Berlin.

December, XXVI, No. 6, pp. 779-892.

121 *Experimental Research on Constriction Hyperemia Applied to Infected Pubiotomy Wounds. (Staubehandlung der Pubotomiewunden.) Offergeld.

122 Glycosuria as a Consequence of Abdominal Tumors. W. Evelt.
123 *Primary and Secondary Dysmenorrhea. M. Többler.
124 *Painful Spasmodic Contraction of the Pelvic Organs. (Krampfzustand der Beckenorgane.) A. Mueller.
125 Vaginal Operation for Diseased Adnexa. A. Hengge.

121. **Constriction Hyperemia Applied to Infected Pubiotomy Wounds.**—Offergeld has already reported the details of his experimental research on pubiotomy. He here relates the further history of the animals; in many of them the wound became infected. His experience shows that injury of the vagina during the operation is the most menacing of all complications that can occur, as then the germs from the vagina infect the wound at once and sepsis follows. Serum treatment did not give encouraging results, but prompt application of the Bier constriction technic aborted the infection, localized the morbid process and allowed it to heal even when symptoms of septic osteomyelitis had developed. After pyemia has appeared the constriction offers little prospects of success. He applied the constricting band to compress the inferior vena cava where it lies close to the spine, just below the umbilicus. Constriction at this point induces passive hyperemia in the hind legs and pelvis. The constriction was applied for about twenty-two hours a day, and kept up until temperature and pulse were normal and the animals were lively and ready to eat. The malodorous discharge and local tenderness in the pubis had subsided before the constriction was suspended. When the aim was to enlarge the pelvis, by promoting deposits of lime salts, then the constricting band was applied only for about seven hours a day, and this procedure was kept up for a week or so.

123. **Primary and Secondary Dysmenorrhea.**—Töbler has encountered 234 cases of primary and 466 of secondary dysmenorrhea, and thinks it is important to differentiate these forms. In most cases of dysmenorrhea in girls the pain is the result of circulatory disturbances in the pelvis, a passive hyperemia resulting from an unhygienic manner of living and dressing, with active hyperemia at the time of the menses, especially when combined with defective development of the elastic elements of the uterus, causing stretching and compression of the nerves, with pain as the result. As a large proportion of the vessels and nerves involved are in the subperitoneal connective tissue, this is probably the seat of the pains. This assumption is confirmed by study of the pains and by the results of therapeutic measures. In dysmenorrhea secondary to marriage and childbirth, the trouble is generally traceable to some pathologic process, but even in these cases circulatory disturbances are a contributing factor. Measures to influence the general circulation and the circulation in the small pelvis are liable to improve and even cure in many cases which have failed to respond to nerve tonics. During the attack the application of small, hot, wet compresses or hot-water bottles to the lower abdomen often relieve, and the effect is better the earlier the heat is applied. Part of the blood with which the internal organs are gorged is thus drawn to the periphery, and the pelvic organs are relieved. Sometimes merely a change of style of corsets, or treatment of constipation will cure the trouble. Other patients may require repose and others do better under exercise to stimulate the circulation through the parts. General treatment of chlorosis is also useful in some cases.

124. **Cramp-Like Contraction of the Pelvic Organs.**—Mueller reports three cases recently observed in which there seemed to be a spasmodic, painful contraction of the intestine, urethra and vagina or of the whole of the pelvic musculature, lasting for several days. The symptoms indicated that the uterus participated in the syndrome. In each case there was a history of some inflammatory process in the rectum or genitals or intestine requiring surgical treatment, and the spasmodic painful contraction of the pelvic organs followed almost at once. Morphin is unable to control the pain, and neither flatus nor urine passes for several days, the contraction of the urethra rendering catheterization difficult. The general condition was surprisingly good in comparison with the severity of the symptoms. The attack comes on suddenly with its fullest intensity, suggesting perforation, but the low pulse and temperature exclude peritonitis. In the first case an exploratory laparotomy failed to reveal any cause for the spasm, and in the other cases Mueller sought merely to tranquilize the patient, refraining from active measures as much as possible, and the spasm then spontaneously subsided. The trouble is undoubtedly a reflex cramp. Many cases of atony of the intestine and lack of spontaneous urination after childbirths and operations evidently belong in this category.

Münchener medizinische Wochenschrift.

December 24, LIV, No. 52, pp. 2581-2636.

126 *Gastric Digestion. (Magenverdauung.) O. Cohnheim.
127 *Cutaneous and Ocular Reaction to Tuberculin. (Haut- und Ophthalmoreaktion auf Tuberkulin.) C. Malnini. Id. Wiens and Günther. Id. C. Klieneberger.
128 Antitoxic Function and Albumin. H. Much.
129 Toxins in the Blood of Diphtheria Patients. (Nachweis des Toxins im Blute des Diphtheriekranken.) A. Uffenheimer.
130 *Albuminuria and Elimination of Salicylic Acid. (Albuminurie und Ausscheidungsverhältnisse der Salizylsäure.) R. Ehrmann.
131 Sahli's Desmoid Reaction. Schmidt's Test Diet and Siphonage. Tottmann.
132 Diagnosis of Epidural Hematomas. E. Lindner.
133 *Hemorrhage from Vaginal Varices During Pregnancy. (Scheidenvarixblutung.) Grünebaum.
134 *The Sanitary Service in the Construction of a Railroad in German East Africa. (Gesundheitsdienst beim Bahnbau Daressalam-Morogoro.) H. Krauss.

December 31, LIV, No. 53, pp. 2637-2652.

135 Antiferment Reaction of the Blood and Its Connection with the Opsonic Power in Acute Infectious Diseases. Wiens.
136 *Deprivation of Salt in Pregnancy Dropsy. (Kochsalzentziehung bei Schwangerschaftshydrops.) H. Cramer.
137 Pruritus in Tabes. Günzburger.
138 Improved Mannikin for Obstetric Teaching. (Neuerungen auf dem Gebiete der Hilfsmittel für den geburtshilflichen Unterricht am Phantom.) H. Gloeckner.
139 Improved Tampon for Nose and Nasopharynx. (Zugstreifentampon.) G. Lennhoff.

126. **Gastric Digestion.**—Cohnheim relates a number of interesting results from research on dogs with a fistula into the upper part of the duodenum. This technic allows particularly instructive conditions for pharmacologic studies and for study of stomach disturbances. One of his dogs presented symptoms similar to those of achylia in man.

127. **Cutaneous and Ocular Reaction to Tuberculin.**—Mainini applied the cutaneous test in 208 cases and the ocular test in 100 cases, and was impressed with the constancy of the local reaction in the patients with certain tuberculosis, excepting those in very advanced stages. He does not, however, accept the dictum that the reaction is absolutely specific. The cutaneous reaction was positive about six times more frequently among the patients merely suspected of tuberculosis than the ocular reaction. Assuming that the reaction is a specific one, these findings seem to indicate that the ocular reaction corresponds to an active tuberculous lesion while the cutaneous reaction is an index of latent foci as well. Wiens and Günther warn decidedly against the ocular reaction as by no means such a simple matter as heretofore assumed. It is liable to aggravate a mild conjunctivitis and cause serious trouble, as they illustrate by several instances from their experience. One patient was a child of 3 with a spinal tumor. The instillation was followed by a chronic catarrhal conjunctivitis, still evident months after the injection. In another patient there was swelling and suppuration of the conjunctiva, with slight irritation for some time and finally phlyctena. The conditions are still far from normal, more than three months since the instillation. In a man of 24 the suppurative secretion soon ceased, but it was followed by hemorrhage into the conjunctiva and inflammation for more than a week. Since these experiences the 1 per cent. solution of tuberculin was reduced to half strength and applied in 38 cases with negative reaction in all but one. In this case a pre-existing mild conjunctivitis became much aggravated, with formation of pseudomembranes, hemorrhages, keratitis and severe subjective disturbances. By the end of the week the symptoms gradually subsided until conditions were normal by the end of the second week. Their experience confirms the necessity for refraining from this test in case of pre-existing conjunctivitis. It also shows that when a reaction occurs, superposed on a conjunctivitis, the reaction still presents the same typical course. Klieneberger relates his experiences with 61 cases and declares that a reaction to a second instillation in the same eye is merely an evidence of hypersensitiveness.

130. **Elimination of Salicylic Acid.**—Ehrmann's latest research has confirmed his previously announced conclusions in regard to the transient nature of the nephritis sometimes observed after administration of the salicylates. He refers to the fact that nephritis as an after-affection of acute articular rheumatism is practically unknown. The real danger from large doses of salicylates, if there is any liability to danger at all, lies in the medulla oblongata and the brain, not in the kidneys. Slowing of the heart beat and respiration, delirium and collapse, and dyspneic coma have been observed in salicylic intoxication. Ehrmann's discovery that the elimination of salicylic acid is immeasurably hastened by ingestion of sodium bicarbonate, suggests the importance of administering large doses of sodium bicarbonate in case of symptoms suggesting a tendency to salicylic poisoning. Administration of large amounts of sodium bicarbonate has also a marked effect on the elimination of beta-oxybutyric acid. He adds that it might be well to keep in mind the patients who presented albuminuria under the salicylates, in view of the possible development of nephritis in after years. It is possible that the kidneys in such patients are inclined to be functionally incompetent and predisposed to disease. If so, then we have in the reaction to the salicylates a valuable index pointing to impending trouble which may be warded off by appropriate measures.

133. **Vaginal Varices in Pregnancy.**—Grünebaum calls attention to the itching which seems to be a frequent accompaniment of varicose enlargement of the veins in the vulva and vagina. When this pruritus occurs the patients should be warned of the danger of varices and of rupture of a varix, and be instructed how to arrest hemorrhage. In one of his cases the patient bled to death from a ruptured vaginal varix before medical aid could be obtained. She had suffered from pruritus of the vagina for two or three months, but had not informed her physician.

134. **Sanitary Measures in Construction of Tropical Railroad.**—Among the measures introduced was the "quinin calendar," an ordinary large calendar hung on the wall. Every eighth, ninth and tenth day were printed in red letters, and each day thus distinguished bore the legend to take 15 grains of quinin fractioned in five doses, with an acid drink afterward to help dissolve the capsules. Each calendar also bore the following instructions: 1. Never drink unboiled water (dysentery). 2. Never allow constipation to last over one day. 3. Never sleep in the negro huts or shelters (relapsing fever). 4. In case of blackwater fever (bloody urine), drink lots of water, light hot tea, and, to control vomiting, take six drops of tincture of iodin in a glass of water, sipping it. No quinin! Send for the doctor. 5. In case of bloody diarrhea eat nothing but gruel and milk. Stay in bed and keep the abdomen warm. Send for the doctor. 6. Protect the feet evenings against mosquito bites. No low shoes! 7. Never sit down in sweaty clothes in a draft. 8. Sleep only under a tight mosquito net.

136. **Deprivation of Salt in Treatment of Dropsy of Pregnancy.**—Cramer has achieved brilliant results during the last two years in conquering the tendency to hydrops in pregnant women simply by ordering them to refrain from milk and meat, as those contain naturally much salt, and to avoid the addition of salt to any article of food. The ingestion of fluids is not restricted. Otherwise the women make no change in their habits. In less than three days the amount of urine voided is much increased, the general health improves, and all disagreeable sensations from the tension in the tissues vanish in a few days. He orders this diet kept up to the end of the pregnancy, and has never noted anything tending to show an injurious influence on the fetus from the deprivation of salt. On the contrary, he witnessed in one case the subsidence of a hydramnion and consequent normal delivery at term. It is remarkable, he says, how quickly any return to salt in the diet is followed by recurrence of the dropsical condition. Dropsy of pregnancy is liable to entail a predisposition to eclampsia and albuminuria, he says, and hence it should be kept under control. No measure to accomplish this is so convenient and free from danger for the heart as simple deprivation of salt in the diet.

Therapie der Gegenwart, Berlin.

December, XLVIII, No. 12, pp. 529-576.

140 *Opium in Treatment of Appendicitis. (Opiumbehandlung bei Perityphlitis.) I. Boas.
141 *Medicine and Appetite. (Arznei und Appetit.) W. Sternberg.
142 Treatment and Prognosis of Epidemic Cerebrospinal Meningitis, and Symptomatology of Acquired Chronic Hydrocephalus. G. Koch.
143 Operative Treatment of Tuberculous Affections of the Mucosa of the Upper Air Passages. E. Holländer.
144 Special Schools for Children with Curvature of the Spine. (Skoliosen-Schulen.) G. Müller.
145 Corrosion of Lower Intestine from Druggist's Mistake in Dispensing Chlorinated Lime Instead of Calcium Chlorid. (Chlorkalkverätzung des untersten Darmes.) O. Schloss.

140. **Opium in Appendicitis.**—Boas thinks that the only virtue of opium in appendicitis is to relieve the pain, and he strives to accomplish this with the smallest possible doses, trying to get along without it at all as much as he can. Stricker reported in 1906 that the mortality in the army was only 1 or 1.2 per cent. in the cases in which no opium was given, while it was over 4 per cent. in the cases in which opium or purgatives had been administered. Boas states that he has not lost a patient from appendicitis during the last five years, and that none of his patients was operated on during the acute attack, and none succumbed when operated on later. He aims to tide the patient past the acute attack, under incessant medical supervision. Absence of opium allows the cases that demand immediate intervention to be differentiated from the mild cases.

141. **Medicines and Appetite.**—Sternberg insists that the way the food is prepared and served is more important than drugging in case of loss of appetite. He preaches that the kitchen should be developed further as an indispensable requisite for the progress of modern therapeutics. Much drug taking impairs the appetite and sometimes appetite is restored merely by suspending all medication.

Virchow's Archiv, Berlin.

CXC, Supplementary Tuberculosis Number, pp. 1-544.

146 Protection of Guinea-pigs Against Tuberculosis with Friedmann's Turtle Bacillus. (Können Meerschweinchen durch den Schildkrötenbacillus gegen Tuberkulose geschützt werden?) J. Orth and L. Rabinowitsch.
147 History of Attempts to Immunize Against Tuberculosis with Tubercle Bacilli of Cold-blooded Animals and Acid-proof Bacilli Resembling Tubercle Bacilli. Id.
148 Infection of Man with Bovine Tuberculosis. (Infektion des Menschen mit Rindertuberkulose.) H. Beitzke.
149 Experimental and Pathologic Anatomic Research on Ocular Tuberculosis. (Augentuberkulose.) F. Daels.
150 Immunization in Tuberculosis. E. Klebs.
151 Spontaneous Tuberculosis in Monkeys. (Affentuberkulose.) L. Rabinowitsch.
152 Tuberculosis in Birds and Its Relation to Tuberculosis in Mammals. (Tuberkulose der Vögel und ihre Beziehungen zur Säugetiertuberkulose.) Id. and M. Koch.

Books Received

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

A TEXT-BOOK OF BOTANY AND PHARMACOGNOSY. Intended for the use of students of pharmacy, as a reference book for pharmacists, and as a hand-book for food and drug analysts. By Henry Kraemer, Ph.B., Ph.D., Professor of Botany and Pharmacognosy, and Director of the Microscopical Laboratory, in the Philadelphia College of Pharmacy; Member of the Committee of Revision of the Pharmacopeia of the United States of America. Illustrated, with 321 plates, comprising over 1,500 figures. Second edition. Price, $5.00. Philadelphia: J. B. Lippincott Company, 1907.

NERVOUS AND MENTAL DISEASES. Vol. X of the Practical Medicine Series. Under General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Edited by Hugh T. Patrick, M.D., Professor of Neurology in the Chicago Policlinic, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Cloth. Pp. 240. Price $1.25. Chicago: The Year-Book Publishers, 1907.

THE PROLONGATION OF LIFE. By Elie Metchnikoff, subdirector of the Pasteur Institute, Paris. English Translation Edited by P. Chalmers Mitchell, M.A., D.Sc., Oxon., Hon. LL.D., F.R.S., Secretary of the Zoological Society of London. Cloth. Pp. 343. Price, $2.50. New York: G. P. Putnam's Sons, 1908.

MOVABLE KIDNEY. By David Newman, M.D., F.F.P.S.G., Surgeon to the Glasgow Royal Infirmary. Cloth. Pp. 233. Price $1.75. New York: Longmans, Green & Co., 1907.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. Paper. Pp. 235. Published by the Society, 1907.

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Original Articles

ENFORCEMENT OF MEDICAL PRACTICE LAWS BY COUNTY SOCIETIES.

AS EXEMPLIFIED BY THE LEGAL WORK OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.*

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NEW YORK.

In the scheme of medical organization county societies have certain peculiar and specific functions which other medical bodies do not possess. They are especially charged with the duty of guarding the financial and temporal interests of medical men, of standing as their representative before the people, and of performing some of those duties which the medical profession owes to the public. The county society may well be denominated the business agent of the medical profession.

Enforcement of the medical practice laws, and the protection of the public against illegal and criminal practitioners, are among the duties which the county society owes to the profession and to the public. A never-ceasing warfare is waged by the charlatan and criminal practitioner, and they must be met on two battlefields, the legislature and the courts, and there the medical profession requires an alert and experienced champion who is ready not only to defend but also to attack. The Medical Society of the County of New York has performed this special duty with particular energy and success. The work of its legal department is carried on systematically every working day of the year. It is only by persistent and systematic work that the best results can be obtained.

In small counties and rural communities occasional work is all that is required, but the county society should be ready to do it as the need arises. Actual prosecution by the society is not always necessary to the doing of "legal work." An important feature of a legal case is thorough preparation of the evidence. That function may be assumed by an individual or a society, even in states which do not confer special legal powers. Such evidence may then be placed in the hands of the district attorney for presentation in court, unless that official is inimical to such work. If he is the kind of man to push the prosecution in a conscientious and efficient manner, the county society may do much to keep the county free from illegal practitioners, without maintaining a counsel or a full legal department. Unfortunately, many district attorneys can not be relied on, for in some localities neither the people nor the prosecuting officers or judges are educated to the belief that quackery is a very serious offense. Persistence on the part of a county society, however, in most cases, would enable it to accomplish results through the constituted legal authorities. The simpler class of quacks and illegal practitioners could thus be reached, but special legal training and experience are necessary to convict many of the clever charlatans who operate outside the routine lines. In the larger cities the work can be done satisfactorily only by specially experienced lawyers, for it has come to be a highly specialized department of legal practice. In New York all of the legal policies adopted by the Medical Society have been the result of inventive legal work and the securing of evidence to back up the legal principles which have been established has been a mere detail. The New York County Society prosecutes most of its cases through its own counsel, by courtesy of the district attorney, but occasionally, for special reasons, the evidence is turned over to the local district attorney or to the United States District Attorney.

The state and county societies in New York were organized pursuant to the important law of April 4, 1806, and the duty of regulating medical practice was placed on them by the state at their very inception. On the county societies legal powers are conferred which make them members of a group of organizations to which are entrusted the duty of enforcing certain provisions of the criminal law. Some of the well known societies of this group are the societies for the prevention of cruelty to animals and to children.

While the actual legal work must be done by an attorney qualified to practice in the New York courts, it is kept in the hands of the society by a provision of the constitution, which makes its supervision a special duty of the board of censors. No legal action can be instituted without the knowledge and approval of that board. Under these provisions, Champe S. Andrews, Esq., of the New York Bar, has been counsel for the past eight years.

Having now come to the end of seven years of service on the Comitia Minora, by a very proper precedent, I shall soon retire from official work. So great have been the changes during this time and so important have been the results of certain phases of the legal work that I have felt that they should be presented in comprehensive form. The reports made at the annual meetings are full and complete, but are necessarily fragmentary, as each one covers but a single year. A statement of the aims of the counsel and censors in the legal work and an account of the results obtained during recent years seems eminently proper.

An interesting fact disclosed by the legal work is the change in the methods of the modern charlatan. He is eminently up to date and keeps well abreast of every discovery. It is one of his chief characteristics that he imitates the latest scientific methods. In combating him, therefore, the methods of attack must be changed constantly. Many of the legal methods of five years ago would be useless to-day. Not only does the quack change his methods as new discoveries are made, but he has also learned a lesson from the promoters of questionable business schemes, and frequently seeks legal advice as to how he can safely conduct his unlawful business. In addition to this, powerful political influence is sometimes encountered. The successful prosecution of these cases is no easy task and requires not only legal ability of a high order, but experience and energy, and no small amount of courage.

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* Read before the Medical Society of the County of New York at its One Hundred and Second Annual Meeting.

Notwithstanding these difficulties, some of the strongest and most resolute violators of the medical law have been attacked successfully during the past few years. One of the magistrates of the Court of Special Sessions said not long since, "The medical society has practically run out of business the ordinary quack. It now seems to be turning its attention to the quack who is coached by a lawyer, or has worked out some ingenious method of his own to evade the medical law."

It is frequently asserted that credulity is increasing, notwithstanding our supposed advancement in civilization. A more feasible explanation, perhaps, is the fact that the credulous are more easily reached by the sharpers than they ever were before, which makes the legal work more difficult. I do not need to describe to you the means of communication between the impostor and the credulous dupe. Newspaper publicity is the breath of life of the modern charlatan. Shut him out from the newspapers, lay and religious, and debar him from the mails, and you exterminate him, as you do the mosquito by draining the swamps and oiling the water.

Much of the legal work has become well understood by members of the society. But little has been said, however, on one important feature, and it is not generally understood. It is to this feature that I wish especially to call your attention. I refer to the systematic efforts that have been made to place the work of enforcing the medical practice laws on a more sound and comprehensive basis. To that end, certain systematic series of prosecutions have been taken up for the purpose of establishing legal principles and precedents. Many prosecutions have been instituted, not alone to convict an individual, but even more, as a step toward establishing a principle of law, for in legal practice precedent is a most important and necessary factor. In this state, as in other states of the Union, enforcement of the medical practice laws has been almost an unworked field, and, up to five or six years ago, there were but few precedents, principles, or guiding landmarks. Prosecutions were instituted for but few offenses, and were conducted along certain well established lines. The worst offenders were beyond reach by the established methods and a systematic widening of the lines was necessary.

The first step toward better work, therefore, was to attack more important cases and to begin a systematic campaign for the establishing of legal precedents. This was in the nature of an evolution, the decision on one case being used as a basis for securing a decision on one a little more difficult, until to-day the judges are constantly rendering decisions which would not have been possible five years ago. For purposes of education, complete records of many cases have been printed and distributed by the society, not alone to physicians, but also to the bench and bar.

The first and most important principle to be established was a decision by the highest court of the state defining the practice of medicine, for no such definition existed in this state. We were told on more than one occasion, at Albany, that a definition of the practice of medicine could probably not be obtained from the legislature until one had been formulated by the courts. The only ruling on the question by the higher courts was the well-known decision by Judge Daniels, of the Supreme court, in the case of Smith vs. Lane, in 1881, in which it was asserted that it could not be maintained that one practiced medicine unless drugs were administered. That is, the practice of medicine in New York, from the legal point of view, consisted only in the prescribing of drugs. The reason for this intolerable state of affairs must be sought by a brief reference to history. Up to a few years ago medical science was meager as compared with the science of to-day. Medical treatment meant simply the giving of drugs and almost all diseases were treated by drugs. Anesthesia and asepsis were unknown and surgery was almost unutilized. Climate, diet, exercise, massage, electricity, *x*-ray, orthopedic appliances and many other remedial agencies were never used. Then, medicine and drug giving were, indeed, synonymous. The laity and the courts were slow to recognize the changes wrought by modern knowledge and methods of treatment, and legally we retained the conception of medicine of a century ago.

As a result of this misconception and limited definition, we have seen a strange thing come to pass during recent years. A swarm of new systems of practice has arisen, some of them grotesque in nature. A study of these new systems shows that no matter how diversified they may be in character, they have one feature in common, namely, they use no drugs. This they proclaim from the housetops. Is not the reason clear for this alleged fear of drugs and this development of non-drug giving systems? The repudiation of drugs has been the most certain way to circumvent the medical laws and escape those annoying requirements of preliminary education, four expensive years in a medical college and a state examination.

Thus matters stood until 1901, when the counsel, with the full support of the censors, entered on a campaign to secure a definition. This campaign was undertaken in the belief that with well selected cases modern conditions of practice would be recognized by the courts, and the conviction of unlicensed practitioners could be obtained when no drugs were used. The first of these selected cases (People vs. Martin, 1901) was brought against a man who used electricity in a case of fistula, and a conviction was obtained, the first in the state. The next case (People vs. Rohrer, 1902) was brought against a man who styled himself "hydropathic physician" and employed steam baths and electricity. The third important case (People vs. Sadow, 1904) was a prosecution for the employment of electricity and massage. The fourth case (People vs. Starken, 1904) was a prosecution for simply giving steam baths. Other convictions were secured, one for giving hypnotic treatment only. In all these cases the main question raised in the trial was as to whether the defendant undertook to diagnose and cure disease. The method of treatment, whether with or without drugs, was made incidental to the main question.

These cases established precedents in the lower courts and had their value, but not one of them was appealed. Hence, each case was a test case in itself, and no definition was obtained. Finally, a man was arrested for holding himself out as a doctor of "mechanico-neural therapy." He was defended by one of the ablest law firms in the city, and it was two years before the case (People vs. Allcutt) could be brought to trial. Conviction resulted and to our great satisfaction the case was appealed. The conviction was unanimously affirmed in February, 1907, by the Appellate Division of the Supreme Court, and after an able argument on appeal by Robert C. Taylor, Esq., of the District Attorney's office, was unanimously affirmed June 14, 1907, by the Court of Appeals. The old adage regarding a famine or a feast was exemplified. Not only has the year 1907 seen the long sought definition established by the court of final appeal, but it has also seen the best legal definition yet formulated enacted into law in the Medical Unity Bill.

Certain features of the decision of the Appellate Division, written by Justice John Proctor Clark, are worthy of notice, for they show a clear understanding of modern medical conditions. "To confine the definition of the words 'practice medicine,'" reads the decision, "to mere administration of drugs or the use of surgical instruments, would be to eliminate the very corner stone of successful medical practice, namely, the diagnosis. . . . Diagnosis would seem to be an integral part of both the study and practice of medicine, so recognized by the law as well as common sense. The correct determination of what the trouble is, must be the first step for the cure thereof." The judges in their decision then ask the pertinent question, "Would the physician, who by his skill discovered incipient consumption, and who advised the open air treatment and refrained from administering drugs not be practicing medicine?" The decision was strong and comprehensive, and a much more liberal reward for years of labor than is sometimes reaped in this world.

The portion of our work next in importance, perhaps, is the campaign against the abortionists. It is the part that is least understood and most criticised. The production of abortion has been a crime from the dawn of civilization, and has been a penal offense since the earliest Ptolemaic period. From Colonial times, few other offenses have figured more largely in the penal code of this state. We have added no laws on this subject, nor have we asked that any be enacted. We have simply enforced the existing laws of the state. The extent of the abortion business, and the appalling rapidity of its increase, is appreciated by but few. There is substantial ground for the belief that 100,000 abortions are committed annually in New York. We do not and never have believed that it can be wholly stopped, any more than we expect to wholly stop many other forms of crime, but it can be controlled and limited. So long had it flourished without let or hindrance, that it had become reckless of the laws and of public decency. We were driven into the work, as Chicago is now being driven into it. In that city, as in this, midwives and advertising abortionists had been wholly unrestrained, and conditions had become so intolerable that certain organizations applied to us last summer for advice and help. The Public Health Defence League, therefore, sent Miss Crowell to Chicago, and this society sent one of its experienced detectives to aid in investigating and laying the foundation for a campaign against the evil. It is a loathsome business, and the censors and counsel of the society attacked it not from choice or desire, but because it was forced on them. Not only were complaints being received more and more frequently from members of the society, but the Police Department, the District Attorney's office, and the Health Department, were referring cases to us as a part of our proper work. Notwithstanding its repelling character, we undertook it as the surgeon undertakes to relieve a sloughing sore.

The midwives were the first against whom action was taken. There are about one thousand midwives in Manhattan Borough. Last year, in the greater city, 48,111 mothers were attended in their confinements by midwives, or 43 per cent. of the total number of births. Conditions relating to midwives are no longer matters of conjecture solely, for many facts have been determined by personal investigation, particularly by that of Miss Crowell,[1] who visited 500 midwives and studied their methods. Among the midwives of New York are many women against whom it would be gross injustice to cast any aspersion and certain classes of our population rely wholly on them for obstetric service. But because of imperfect registration and lack of supervision, many women have assumed the title of midwife who are nothing more nor less than abortionists, and have used it as a cloak to cover a criminal business. Under the law enacted last spring, we have reason to expect radical improvement, but our work thus far has been conducted under the old conditions, which were very bad.

Another extremely important fact is well established. The midwife abortionist does not use drugs in her work. She uses instruments. Miss Crowell found 269 bags and sets of instruments which she designated as dirty. Every physician knows too well what is meant by the use of such instruments in total disregard of ordinary cleanliness, not to speak of asepsis. The path of this class of abortionists is strewn with the corpses of women and girls.

The first efforts in the campaign against the midwives at once demonstrated great difficulties. Legal evidence is very difficult to obtain. The operation is performed behind closed doors, and the victim, for obvious reasons, can rarely be used as a witness. Some of the methods that had been universally employed for obtaining evidence in such cases, while admissible, perhaps, by the police, were of a character unappropriate to a society like this, and it was felt by the officers and counsel that they should not be employed. The counsel, therefore, began a series of cases which has established a principle in the courts, by which many criminal midwives have been convicted for agreeing to perform a surgical operation and doing any overt act tending to consummate that agreement, and we now successfully prosecute, without using those old objectionable methods.

But efforts did not end here. The counsel then advanced a theory which had never been brought forward in a legal case, either in this country or abroad, namely, that to conduct a house where abortions are habitually performed constitutes a nuisance, and as such can be abated. The working up to this principle was a long and laborious process. The test case (People vs. Hoffman) came in December last in the prosecution of an especially revolting criminal. She burned a portion of the fetuses in the furnace, but many of them, by an arrangement with a neighboring undertaker, were hidden under the linings of caskets and were thus disposed of. At the trial, however, no operation and no attempt at an operation was shown, nor the commission of an overt act. It was simply shown that she harbored in her house many women on whom criminal operations were performed, and in veiled language advertised her house in the daily papers as open for such work. She was convicted of maintaining a nuisance and was sentenced to a year in the penitentiary and to pay a fine of $500. On appeal, which was argued by Mr. Kindelberger of the

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[1] Charities and the Commons, Jan. 12, 1907, abstracted in THE JOURNAL, Feb. 23, 1907, p. 712.

District Attorney's office, the Appellate Division, on April 19, 1907, affirmed the conviction and called attention to the fact that although no similar adjudicated case could be found, the theory of the prosecution was sound. The decision of the court was that "While the offence of abortion is one thing; that of maintaining premises open to the public for the purpose of consummating that crime is another and separate offense against the peace and good order of the state." This is a most important decision and renders easy a problem that three years ago was considered almost impossible of solution. Two weeks ago the conviction was further affirmed by a unanimous decision of the Court of Appeals. The end of this portion of the work has not yet been reached. A still farther principle is in process of evolution, which it would be impolitic to discuss at this time.

Another phase of this question requires notice. Our first efforts were directed toward the smaller and more obscure offenders, like midwives. There had arisen in this city a class of abortionists much more powerful and dangerous. Doctors of medicine, legally qualified practitioners, were openly and unblushingly announcing themselves as abortion specialists. They were circularizing the profession and taking every means of bringing their vile trade into prominence. The judges began to demand that some of these big criminals, as well as the smaller ones, be brought before them. A judge of the Court of Special Sessions told me personally, as other judges told the counsel, that if we did not attack some of these big criminals and improve the character of our work, we would lose the respect of the judges and our standing before the courts would be compromised. We came to the point where we were obliged to stop this criminal business by medical men or go out of business ourselves. We struck, therefore, at two of the largest and most powerful ones, and you know the result. The one became a fugitive from justice, and the places that once knew him now know him no more. The other, after as hard a battle as ever was fought in the courts, was convicted. After two appeals the conviction was sustained by the Court of Appeals, and he served his term in Sing Sing, and has been refused pardon by two governors. Moreover, the principle of law was established that it is a crime to attempt to commit abortion.

The charlatans who play on the credulity of young men are a particularly vicious type of scoundrel. Extortion and blackmail are constant features of their work, and they probably wrest more money from their victims than do other quacks. Among seven cases that came under our counsel's investigation, the amount exacted ranged from $490 to $9,872, the aggregate being $15,229. One concern which was put out of business used to sell an ounce of simple ointment for several hundred dollars, the price varying with the patient. This ointment was alleged to be goat lymph. Another concern charged one of its victims $700 for a small bottle of tincture of gentian, which was called radium.

The savings of a liftime are extorted without compunction by this class of harpies, and men are driven into mortgaging or pawning the last of their property. By false diagnosis and by preying on the fears of their victims these vampires thrive on extortion and blackmail. As they are mostly registered physicians, it is possible to reach them only on such a charge as grand larceny or extortion. They confine their practice to the private diseases of men, and the victim, even of the most iniquitous frauds, will rarely face the exposure which prosecution would involve. The unregistered quack can easily be reached by detectives, but it is obvious that a detective cannot readily gather sufficient legal evidence of larceny or extortion against a registered physician. Hence, these men are the most difficult of all impostors to reach.

In addition to this, the advertising of these men is more indecent than that of any other class of medical impostors. They advertise through the daily papers and through the agency of obscene pamphlets, which are given out in the streets. The harm done by this kind of advertising can not be described without seeming exaggeration.

Our work in this direction has been extremely successful. The methods employed have varied. Some individuals have been arrested for grand larceny or false pretense, some for false diagnosis. Others have been reached through the Post Office Department, which has declared their business fraudulent. By this means, half a hundred extortionists were put out of business at one blow, without going into court. It was accomplished through the post office authorities, who caused letters to be sent to fifty-two advertisers in the New York papers. When the replies were received the advertisers were summoned to the post office and informed that they must make certain affidavits, admitting responsibility for the business advertised, before any more mail would be delivered to them. This, with one accord, they refused to do, and all of their mail was withheld. This was only the first step. The newspapers carrying the advertisements were at once notified that these were fraudulent concerns and their advertisements must be withdrawn immediately or the papers would be excluded from the mails. With their advertisements stopped and being unable to receive any mail whatever, these fifty-two fraudulent medical concerns withered like plants in the desert and those vile medical columns were at once obliterated.

Another important class of charlatans whom we have successfully attacked, are the alleged consumption cures. These impostors do a vast amount of harm, for they impoverish the poor and prevent their dupes from adopting those measures which will be productive of most good. A principle is now in process of evolution which gives promise of ultimately exterminating these quacks who prey on the consumptive poor. Another vital principle to be established was the limitation to be placed on the use of the title "doctor" by those who are not registered. After several successful prosecutions a man was convicted and sentenced to imprisonment who held a diploma of a western medical school not recognized by the Board of Regents. He was not registered, and held no license to practice in New York, but, nevertheless, advertised as a practitioner in the daily papers, using the title "Dr." The desire on our part for a test case on this question was fulfilled by an appeal in this case (People vs. Somme). After argument on appeal by Assistant District Attorney Johnson the conviction was sustained by the Appellate Division in June last and the case is now pending before the Court of Appeals.

This man was prosecuted, not for illegal practice of medicine, but for the illegal use of the title "Doctor." The question raised in the trial was whether or not a graduate of a medical school not recognized by the Regents can use the title doctor in such a way as to convey the impression that he is a practitioner of medicine, without being registered as such. The decision of the court on that point was as follows: "Neither the lawyer nor the doctor coming from another state or holding the degree of a law or medical school in another state, can hold himself out or advertise himself in such a manner as to convey the impression that he is a legal practitioner of either profession, unless duly and legally licensed to practice in this state under our laws, without being guilty of a misdemeanor." This is the first time a court of record in New York has passed on this mooted question. It simply means that in New York a man, even though he hold the degree of M.D. and may use it in a social or literary way, can not use it for business purposes, unless he is licensed to practice medicine and is lawfully registered.

The most recent legal principle to be sought for was formulated some time ago by the counsel, but it was not thought best to test it under the old law. The new law, however, contains a clause embodying this principle, which seemed to warrant the prosecution of a well-known dermatologic concern (People vs. Woodbury). This business was established and owned by a layman, who sold it about three years ago to another layman, who is now conducting it, registered physicians being employed to do the professional work. Simply stated, the principle is this: The license to practice medicine is a strictly personal one. The physician takes a prescribed course in a medical college, passes personal examinations, and receives a personal diploma which he can not legally sell or exchange. He then passes, personally, a state examination and receives a personal license. This license he can not sell or exchange, and the privileges it grants die with him. One of the direct corollaries of this is that a corporation, having no personal license, can not legally practice medicine or advertise to do so. If this principle is upheld by the courts, it will at once put out of existence the most fraudulent of the medical concerns.[2] Each physician will have to practice under his own name, and be responsible for his work, and a corporation can not conceal the identity of its owners or escape all legal and medical responsibility. The principle, if recognized as law by the courts, will also be an entering wedge in the campaign against "patent medicines."

Other principles of law have been established and other methods of attack have been adopted, for numerous criminal laws have been utilized, other than the so-called medical laws. I have described enough, however, to show the character of the work and the motives which have guided its conduct. Most of the methods which I have set forth were never before used as weapons against quackery until they were developed and employed in this work by our counsel. The ingenuity with which they have been worked out, and the persistence with which they have been followed up, until established by decisions of the highest courts, are worthy of the fullest commendation. The high character of his professional work and the correctness of his legal action are shown by the fact that among more than 900 prosecutions but one case for false arrest has been brought against the society, and in that case the society easily won. While the censors and Comitia Minora have heartily supported every effort to improve the character of the legal work, the principles of law which have been established have in every case originated with Mr. Andrews, and have been developed by him, and the verdicts which have confirmed them have been obtained by his professional work, which has been creative and inventive to a high degree.

The able work done in the appeal bureau of the district attorney's office in preparing and presenting the important questions of law involved in these decisive cases, has been a potent factor in their establishment by the higher courts. That office has frequently assisted us in our work, also, in the trial of cases, and it is a pleasure to acknowledge the aid thus given. The legal work has been greatly aided also by the assistance rendered by Police Commissioner Bingham, who has detailed a special police officer to the work of the county society, something that had never before been done.

A most satisfactory feature of the affirming of these legal principles by the higher courts is the fact that they acquire the force of law, not for New York County only, but for the state. The value of our work, therefore, is not limited to our own boundaries. While they have no such binding force outside of New York State, they have attracted wide attention among judges and prosecutors, and have opened the eyes of many throughout the country to new and effective methods of attacking quackery. Notwithstanding the success of our work, we have often been hampered, because we are limited by law to certain classes of cases and can not go beyond the limits of New York County. Moreover, we are always hampered by lack of funds, for we are all the time working up to our financial limit. We dare not attack a criminal until we have positive legal evidence, and legal evidence is very different from opinion or suspicion, and it costs money to secure it. Among the hundreds of complaints received yearly, it is almost an unknown thing that the accuser or victim of a charlatan consents to appear as a witness. The society procures its own evidence in every case it prosecutes.

Some organization is urgently needed to carry on the work of law enforcement in a broader way, and over a wider territory, than can be done by any county society. This need seems about to be filled by the new organization resulting from the union of the Public Health Defense League with the Committee of One Hundred of the American Association for the Advancement of Science.

One other subject should receive brief consideration, namely, the so-called Medical Unity Bill, which became a law by the signature of the governor on May 13, 1907. It is the prevailing idea that this law simply abolished the three medical examining boards and instituted one board. As a matter of fact, it is a general medical law, one of the most important and comprehensive that has been enacted since the great law of 1806. In all previous laws, the mistake was made of including but few provisions against illegal practice and medical fraud. In the new law, on the contrary, such provisions are ample, owing largely to the efforts of Mr. Andrews.

A very important provision is the one relative to the revocation of the license to practice medicine. The lawyers have long been able to disbar their disreputable brethren, but the medical profession of New York has stood with tied hands when a physician has turned quack or resorted to a personal or professional life of dishonor. Virtually speaking, nothing short of conviction for a felony could nullify the license to practice after it had once been obtained. Now the license can be revoked by the Board of Regents for many misdemeanors or professional misdeeds, including fraud in practice, but the rights of every physician are fully safeguarded by the prescribed methods of procedure. Hereafter, the advertising doctor and the medical black sheep can not pursue their evil ways with the impunity they have hitherto enjoyed.

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[2] A conviction has since been obtained.

Another important provision of the law enables the Board of Regents to inquire into the identity of any person claiming to be a licensed physician. No such power was given in the old law. This will make it difficult for a person to practice on the license of a deceased physician, and will render it far easier to detect fraud in medical companies. It will also render it more difficult for quacks to combine and shelter each other, or hide behind licensed practitioners, as they have frequently done in the past. Prosecutions may now be conducted by the society under five sections of the penal code, instead of one as formerly, and also under the special provisions of the new law. The restrictions of the old law making it impossible for a judge to impose a sentence of both fine and imprisonment for a first offense for the illegal practice of medicine has been abolished, so that much heavier and more deterrent penalties may now be imposed.

For several years the volume of legal work has annually increased, and during the year now closing it has exceeded in every particular that of any former year. The number of prosecutions, convictions, fines, and imprisonments, and the aggregate amount of fines have all been greater than in any previous year. The work has not only been an evolution in principles and methods, but has yearly expanded in scope and volume.

In the prosecution of this work all sorts and conditions of men have been revealed as doers of evil, some of whom have posed as moral citizens; many lucrative but corrupt business concerns have been disrupted; many influential citizens and powerful interests have been hard hit. As the work has broadened and the number of such cases has increased, violent animosities have been engendered, not alone against individuals, but against the work itself. And so long as the work is aggressive and effective, opposition to it must be at times expected. To those who feel that the society should limit itself to scientific and professional work, I would call attention to the fact that legal work was one of the essential objects for which it was organized. The title of the legislative act which called this society into existence in 1806, read as follows: "An act to incorporate medical societies for the purpose of regulating the practice of physic and surgery in this state;" and this is incorporated into the constitution as a prime object of the society to-day. With such a mandate from the state and in view of the results accomplished, it seems to me that the society should not shirk its duty as regards the legal work, for it has been a great work, it has been a good work, it has been a clean work.

THE INDICATIONS FOR OPERATION IN ELECTIVE SURGERY.*

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Before the use of anesthetics and before the introduction of aseptic principles, major surgery was limited almost entirely to emergency or imperative surgery. That is, operative procedures were employed only when severe, urgent symptoms could be relieved without too great risk from the operation itself, or when an immediate operation was imperatively indicated in order to save life.

Formerly most operations were in themselves dangerous. Now, in the majority of cases, the risk from the operation itself is slight. The element of danger usually depends on the severity of the condition which makes the operation necessary. This reduction of the operative risk, together with the assurance which we have of obtaining good aseptic results in the great majority of cases, has created for us an entirely new surgical field, that of elective surgery.

The operations of elective surgery are those operations which are usually done in order to relieve distressing symptoms, more rarely in order ultimately to save life. Their especial characteristics are that the operation does not necessarily have to be done immediately, and that there may often be a question as to whether or not the operation really is advisable.

I will mention a few of the many conditions which may come into this field in order to make the conception of elective surgery more clear. Gynecology offers many instances. Displacements of the uterus, tears of the perineum or cervix, inflamed tubes or ovaries, and many cases of ovarian or uterine tumors are frequent examples. The great majority of such cases do not require immediate operation. Many of these patients do not need an operation in order to save life, and in others the question may be fairly raised as to whether or not it is advisable to do any operation at all.

In general abdominal surgery we may consider nonstrangulated hernia, floating kidney, many cases of gall-stone or gastric ulcer, and suspected chronic appendicitis which has never shown any symptoms of acute attacks. Without extending this list further, I think enough conditions have been given to impart a fairly clear idea of the sort of case coming in the province of elective surgery.

In imperative surgery the diagnosis is often clear and the necessity for an immediate operation is usually apparent. In such cases there is but one major responsibility devolving on the physician. That is the responsibility of having a sufficiently skillful and satisfactory operation performed at once.

In elective surgery, however, there are usually two major responsibilities. There is as great a need for a skillful operation as in imperative surgery, but of equal, if not of greater importance, is the responsibility of first deciding whether or not the patient actually needs any operation at all.

Who is the man to settle this question? The operator assumes the moral and professional responsibility for the operation. His judgment dictates the procedures used; his is the actual credit if the operation is successful, and his is the blame if it is not. Inasmuch as the operator will thus have to bear the responsibility for the results of the proposed operation, it is only fair that he be allowed to decide whether or not operation is necessary.

To aid the surgeon to make a wise decision he must be given every opportunity for full and free examination of the patient. He should be permitted to express his opinion freely, and should be allowed to follow unhampered the dictates of his own best judgment. The surgeon who waives this privilege of prior examination, unless compelled thereto by extreme circumstances, who sees the patient for the first time after anesthesia has begun, and who does a certain routine operation at another's request, degrades himself and his profession. He assumes the status of a skilled mechanic rather than that of the scientific physician. His operation is human carpenter work, done to order, rather than scientific surgery.

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* Read at the Thirty-fourth Annual Session of the Florida Medical Association, Tampa, April 17, 1907.

On the other hand, we should not tie the surgeon's hands and hinder him in his attempt to do his best work by sending patients to him with the request that he perform a certain specified operation. Rather let us tell the patient that an operation may be necessary, but, inasmuch as the surgeon has to stand for the results of his operation, let us permit the surgeon himself to decide whether or not an operation will be necessary in a given case of elective surgery.

It is manifestly impossible to go over all conditions and operations coming at times under the heading of elective surgery. I do wish, though, to take up a few special procedures and consider them in some detail from the standpoint of operative indications.

From the particular points which this study will bring up I hope that we shall be able to deduce conclusions applicable to the whole field. As most gynecologic conditions belong to elective surgery, so most of the operations of gynecology come under this heading, and I shall confine my consideration of special operations to this line.

DILATATION AND CURETTAGE.

Probably the gynecologic operation which is done more frequently than any other is dilatation of the cervix uteri, followed by curettage of the endometrium. While in many cases the operation is indicated and the good results justify it, yet I have no hesitation in stating my belief that a large percentage of all these operations are unnecessary, unjustifiable, and frequently actually injurious.

The majority of all curettages are done on account of one of four or five reasons: (1) As treatment for endometritis or general inflammatory conditions of the pelvic organs; (2) as treatment for dysmenorrhea or sterility; (3) as treatment for, or diagnosis of, uterine hemorrhage; (4) empirically, in poorly understood, obstinate cases, with the hope that in some unknown way good results may follow.

Curettage in Inflammatory Conditions.—Very careful examination is necessary before resorting to the curette in actual inflammatory processes of the endometrium. In acute endometritis the consensus of opinion is that curettage is absolutely contraindicated if there be any involvement of the tubes, and, even when the tubes are free from infection, it is usually inadvisable. Curettage in acute endometritis usually increases the degree of inflammation and leaves the patient's last condition worse than the first.

In chronic endometritis the operation may be of great benefit, but care is needed in selecting cases. Whenever there is any suspicion of tubal infection the operation is usually contraindicated.

I will merely mention in passing that actual chronic endometritis, that is, a true chronic inflammation from the pathologic standpoint, is not often seen without accompanying inflammatory changes in the tubes also. The clinical symptoms which are usually considered those of chronic endometritis are actually due to a number of different pathologic conditions of the endometrium, most of which are not at all inflammatory in origin.

Curettage in Dysmenorrhea or Sterility.—This operation is frequently employed in treating dysmenorrhea or sterility. Though dilatation for dysmenorrhea was originally based on the theory that an obstruction in the menstrual flow was the cause of one form of dysmenorrhea, the procedure has since been applied to every form of dysmenorrheal pain. A few years ago I made a study of the results of this treatment.[1] I was able to get reports from nearly one hundred women at periods varying from one to twelve years after curettage for dysmenorrhea had been done at the Johns Hopkins Hospital. This study showed that the operation is far more likely to give good results in those patients whose monthly pains are sharp or paroxysmal, begin on the day of flow or the day before, and last but a day or two. The likelihood of relief is much less when the pain is dull in character, begins several days before the flow appears, and lasts for several days or throughout the flow.

Before dilating and curetting for dysmenorrhea we must satisfy ourselves that the symptom is not due to some general or local pathologic condition. Manifestly dilatation of the cervix would do no good in dysmenorrhea caused by a retroflexed uterus or an inflamed tube; in like manner dysmenorrhea in a neurasthenic patient is not likely to be relieved unless the neurasthenia is also relieved.

A word as to the value of this operation in relieving sterility. While sometimes women, previously sterile, do become pregnant so soon after a dilatation that it seems as if the operation must have relieved the sterility, yet as a routine operation I do not believe that it will give a large percentage of successful results. In my study on dysmenorrhea, just referred to, there were twenty married women who had been sterile before the dilatation and curettage. Of these twenty women but three became pregnant within six months after the operation. It behooves us, therefore, to be very chary in promising results from dilatation as a method of curing sterility.

Dilatation and Curettage in Uterine Hemorrhage.—In the diagnosis and treatment of uterine hemorrhage curettage reaches its noblest and most useful plane. In every case of uterine hemorrhage, when the cause of the bleeding can not be satisfactorily explained by the findings at the ordinary pelvic examination, a thorough curettage should be done and the curettings examined microscopically by a skilled pathologist. In this way we may frequently diagnose an early case of cancer of the uterus when, with the exception of bleeding, all symptoms of cancer are lacking. Since the meeting of last year I have been able to diagnose two very early cases of cancer by this method. Neither of the women had any symptoms of cancer except an irregular uterine bleeding, which local examination did not explain satisfactorily. Each patient was curetted and the pathologic examination of each specimen showed cancer. A thorough operation was done in each case and I feel that we have good assurance that the life of each patient will be saved. If so, it will be due in great part to the diagnosis given us by the curettage.

As a treatment for uterine hemorrhage the curette is most successful in cases of retained secundines after labor or miscarriage and in the so-called chronic polypoid endometritis. When the bleeding comes from one or more large uterine polypi the curette may be sufficient, but it is often hard to remove these tumors by curetting alone. Curettage will check the bleeding in acute or chronic endometritis, but from the considerations given above it should be done only as a last resort in such cases.

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[1] American Medicine, Nov. 4, 1905.

Before performing curettage in any case of uterine hemorrhage it is necessary to rule out the presence of an extrauterine pregnancy. Contrary to what we might gather from most text-books, extrauterine pregnancy does not usually have for its first symptoms those of shock from the uncontrolled bleeding of a ruptured tube. Out of eighteen patients on whom I have operated for extrauterine pregnancy during the last two years but two had the classical text-book symptoms. The others were all able to walk either to my office or to the hospital. Irregular uterine hemorrhage was a symptom in each of these cases. Curettage in a case of extrauterine pregnancy would be a most unreasonable procedure, certain to do no good, and very likely to do great harm.

Curettage from Empirical Reasons.—Finally, I am sorry to say, curettage is sometimes done in an unreasoning, empirical way, with the hope that in some mysterious manner a patient who has heretofore resisted all treatment may be benefited. In such instances the case is usually poorly understood, no accurate diagnosis is made, and the operation is done with no definite idea as to how it is to produce the desired results. If one should ask the operator what his justification for the operation was he would probably reply that he had tried everything else he knew, that this would do the woman no harm and that it might do her good.

Of course such operating is not surgery. The conscientious surgeon always remembers that there is a certain element of danger in every operation, no matter how trivial the procedure may be. He never advises an operation unless he feels assured that it is definitely indicated in the case in question.

OPERATION FOR CERVICAL LACERATION.

The procedures which I wish to consider next are those intended to repair the lacerated cervix.

A certain degree of laceration of the cervix must be regarded as an invariable result of every labor. In most cases these wounds of the cervix heal kindly, with no infection, and leave a good scar. Some degree of healed cervical laceration, therefore, must be regarded as practically a normal condition in every woman who has borne children.

Operation is sometimes necessary in old cervical lacerations for one of two reasons. First, on account of the local inflammation about an unhealed tear; and, second, as a prophylactic measure against cancer of the cervix.

A cervical laceration, with engorged, congested surfaces, the dilated glands pouring forth a profuse mucoid secretion, certainly calls for operation when local treatment fails to relieve the condition.

Operating on a well-healed scar of the cervix with the view of preventing a possible occurrence of cancer in the future is, however, a question for careful consideration. Most cervical cancers do start in old lacerations, it is true. That is no justification, however, for repairing every laceration, as the separate individual's chance of having a cancer is very slight. Some lacerations are so extensive, though, even when well healed, that, coupled with a family history of cancer, we do sometimes seem justified in repairing them even merely as a prophylactic measure.

Looking at the subject of cervical laceration in general, it must be confessed that not all the operations done are justified or necessary. There are two main paths of error which may lead the ambitious operator to the performance of needless cervical repairs. The first lies in the old belief that various hysterical and neurotic symptoms may arise as reflex phenomena from a lacerated cervix. The second lies in the fact that the surgeon may fail to discover the diseased conditions of tube or ovary, which is the real cause of the symptoms, and attribute all the trouble to the cervical laceration which he easily makes out.

The idea that general nervous conditions can arise directly as reflex phenomena from lacerations of the cervix, or, indeed, from any other diseased condition of the pelvic organs, is now being abandoned by nearly all prominent neurologists and many gynecologists. Neurasthenia and hysteria, when associated with gynecologic troubles, either exist independently of them or else are merely the symptoms of the final nervous breakdown which any form of long continued pain and suffering may cause in women of naturally neurotic temperament. Healed scars of the uterine cervix can cause reflex neurasthenia or hysteria no more than can a well-healed wound on the leg or arm.

The second reason which may lead one to do unnecessary cervical operations is, as I have said, the failure to discover the pelvic lesion which is the real cause of the trouble. Such a mistake may seem at times almost excusable. Laceration of the cervix is one of the easiest pathologic conditions in all medicine to diagnose. Many other pathologic conditions of the pelvic organs are very hard to make out, especially when the patient is not under an anesthetic. What then is more natural for the man who has not a wide experience in gynecology and who, perhaps, does not appreciate keenly the proper relation between pathologic conditions and subjective symptoms, than to miss the inflamed tube and ovary above and attribute his patient's complaints to the innocent, healed scar of the cervix?

The way to avoid these mistakes is, of course, to use the utmost care in ruling out every other condition before ascribing to the laceration the patient's symptoms.

OPERATION FOR UTERINE DISPLACEMENTS.

The normal position of the uterus is that of slight anteflexion and anteversion, the fundus resting on the bladder, the cervix pointing toward the lower part of the sacrum. Theoretically, any deviation from this position may be regarded as abnormal and as offering a possibility for operative interference. Shall we, therefore, operate on all uteri whose position is in any way different from that which we call "normal"? It seems almost as if this has been the position which has been taken from time to time by different operators. If a woman with a retrodisplaced uterus was unlucky enough to fall into the hands of one of them, operation was immediately advised, no matter whether her symptoms were referable to the displacement or not. A much more sane view is now generally held.

Let us first discuss anteversion and anteflexion. It is now considered that the uterus may have a wide degree of anteflexion or anteversion without really being abnormal at all. When the condition is extreme we usually find that we are really dealing with mal-developed pelvic organs. This maldevelopment, rather than the anteflexion, is the main feature and is no indication for operation. On account of the general acceptance of this view operations for anterior deviations of the uterus are now done much less frequently than formerly.

With retrodisplacements the question is different. Although some eminent gynecologists deny that a simple retrodisplacement can in itself cause symptoms, the majority do not agree with this view. While we know that in many instances retrodisplacement can exist with no symptoms whatsoever, yet most gynecologists are convinced, by the accumulated mass of clinical evidence, that in other cases the mere displacement does in itself cause distressing subjective symptoms.

An especially careful analysis of symptoms is necessary before advising treatment in this condition. In the case of a hysterical woman with a retrodisplaced uterus it is often difficult to decide whether or not an operation is necessary. There are many hysterical women in whom the uterus is in normal position. On the other hand, many a woman with retrodisplaced uterus is perfectly well. How careful, therefore, must we be before advising operation for this condition in a patient whose predominant symptom is hysteria. If, by careful study of the history, we find that the neurotic symptoms came as a sequel to a long period of pelvic symptoms which were at first free from any hysterical complication, then we can feel that correction of the displacement may do some good. If the woman is first relieved from the chronic dragging pain, which by its constant strain has finally broken down a naturally weak nervous system, we are more likely to treat the hysteria successfully by medical means.

Treatment directed toward a retrodisplaced uterus in a case of pure hysteria which has never shown any symptoms directly referable to the displacement is unjustifiable. The good results sometimes obtained in such cases are really the effect of suggestive therapeutics and surgical operations are not justifiable methods of hypnotism.

In general, operative interference is indicated in the treatment of retrodisplaced uteri only when local treatment has failed to relieve symptoms directly referable to the displacement. Such symptoms are more frequently met with in multiparæ than in nulliparæ. The displacement then is usually associated with torn perineal muscles and a certain degree of uterine prolapse. The symptoms which most frequently call for treatment are sensations of weight and discomfort in the pelvis, backache and pain in the lower abdomen, often running to the legs. These symptoms are usually intensified by exertion or at the menstrual period. Actual dysmenorrhea is far more frequent in nulliparæ than in multiparæ.

In nulliparæ we must always be on our guard against a retrodisplacement, which is merely one manifestation of a general maldevelopment of the pelvic organs. Often the anterior wall of the vagina is so short that the uterus is of necessity kept in the posterior position. Operations in such cases are not indicated, as they do nothing to relieve the main factor of the trouble, the maldevelopment.

REPAIR OF THE LACERATED PERINEUM.

While there are few routine procedures which have brought more relief from suffering to thousands of women than the repair of old perineal lacerations, still the surgeon must always be on his guard to see that the necessary indications are satisfied before advising operation. The mere existence of a tear, even if it extends completely into the bowel, does not necessarily justify an operation. Many women go for years with the sphincter ani completely torn through and yet have a wonderful degree of control with no symptoms whatsoever from the uterine prolapse. In such cases we must assure ourselves that the general condition is perfectly good before we are warranted in saying that operation is indicated. Operation is called for more on account of the severity of the symptoms which the lesion causes rather than the degree of the lesion itself.

In an old laceration of the perineum in which the sphincter ani is not involved the indications are very definite. The most important symptom is the sense of loss of support for the pelvic organs; the patient describes it as feeling that "everything is falling out" of her. In addition we have dragging sensations, pain in the back, more or less abdominal pain, and resultant general physical depression. The pathologic condition which causes these symptoms is the descensus allowed by the weakened pelvic floor below. The operation indicated is one which will restore this muscular floor. Mere suturing of vaginal connective tissues or skin is not sufficient. An operative technic which I described in a previous article[2] is, I think, about the most satisfactory and simple method of accomplishing this result.

OÖPHORECTOMY.

The history of oöphorectomy presents the same features that we find common to many other operations, capable of accomplishing much good. After its value was finally demonstrated the medical world ran wild for a time; oöphorectomy was done in every sort of condition and hundreds of women were needlessly mutilated. The inevitable reaction came later and now we realize that, while this operation is a procedure of greatest value in its proper place, reckless oöphorectomy, without proper indications, can do an enormous amount of damage.

To remove both ovaries is an operation of the greatest magnitude, not on account of any difficulty in the operative technic, but because of the serious after-effects which it may bring to the patient. The nervous and mental disturbances which the premature removal of both ovaries sometimes occasions is often much worse than the original symptoms for the relief of which the operation was performed.

The following conditions will cover most of the indications for oöphorectomy: Malignant disease of the uterus, ovarian cysts or tumors, some cases of pelvic inflammatory disease and some cases of myomata.

One important point, from the patient's standpoint, is whether or not one ovary or a part of one is left *in situ*. If it is possible to do this the nervous symptoms which follow after the entire removal of both ovaries do not occur. The theory is that the ovary has an internal secretion poured into the blood, which exerts a powerful effect on the general nervous system. One ovary, or even a part of one ovary, can keep up this internal secretion and thus spare the patient the possibility of many distressing symptoms.

With these points in mind, let us examine the conditions which I have just mentioned as possible indications for oöphorectomy.

In malignant disease of the uterus conservatism is thrown to the winds, and all the pelvic organs, including both ovaries, should be removed. Malignant disease demands most heroic treatment if other than palliative result is desired.

The indication for operation in ovarian cysts or tumors lies in the presence of the tumor itself. Every ovarian tumor should be removed as soon as possible after diagnosis is made unless disease of some other organ renders an operation especially dangerous. Early interference is indicated for a number of reasons, but especially because malignant disease of the ovary is frequent, and because it is often impossible to tell with certainty by local examination whether an ovarian tumor is malignant or not. Neither extreme youth nor old age are in themselves contraindications to the removal of ovarian tumors. Old women usually stand this operation remarkably well, while in little girls malignant disease of the ovary is by no means uncommon.

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[2] The Amer. Jour. of Obstet., October, 1905.

The ovarian tumor is usually unilateral, and whenever possible the other ovary should be left.

The indication for oöphorectomy in inflammatory troubles depends solely on the pathologic condition of the ovaries, not on the patient's symptoms. The focus of infection is the tube in most cases. The oöphoritis then begins at the outside of the ovary and oftentimes completely clears up on removal of the offending tube. The indications for oöphorectomy in inflammatory diseases of the pelvic organs are, therefore, about as follows: When the tube and ovary are so bound together by adhesions that removal of the tube alone is technically impossible, the ovary must also be removed. If both ovaries are in this condition, efforts should be made to leave at least a part of one ovary to keep up the internal secretion. The ovary should also be removed in operations for inflammatory disease when it is so extensively inflamed that a restoration to normal is apparently impossible. As a commentary to this last indication I would add that I believe that the more operations one does the less likely one is to remove ovaries through this indication.

In hysterectomy for myoma it is sometimes necessary to remove one or both ovaries on account of dense adhesions between the ovary and the growth. As a rule, one or both ovaries can and should be left.

Removal of normal ovaries on account of chronic pain "in the ovarian region," or double oöphorectomy in order to relieve dysmenorrhea is not indicated.

HYSTERECTOMY.

As in oöphorectomy, the more major operations one does the less inclined one is to do hysterectomy. The same general principles hold good here as in the preceding considerations. Removal of the normal uterus, because the woman has some vague "female trouble" which does not yield to treatment, is never justifiable. Clear, well-defined indications are always necessary to justify hysterectomy.

Such indications are given for the most part in malignant disease of the uterus or ovaries, myomata, pelvic inflammatory disease in which the uterus is generally involved or in which the process is tuberculous in character, some cases of complete prolapse and a few cases of intractable uterine hemorrhage arising from microscopic changes in the endometrium or uterine musculature.

CONCLUSIONS.

I will not carry this discussion of special operative procedures farther. It has been seen that there are certain considerations common to the discussion of all of them. I wish, in conclusion, to deduce from these common factors a few simple principles, the strict observance of which is of vital importance in the successful practice of elective surgery.

Before it can be said that any given operation is necessary or advisable three conditions must be satisfied beyond reasonable doubt:

First, we must be satisfied that the symptoms of which the patient complains are caused by the lesion toward which the operation is directed.

Second, we must have a reasonable assurance that these symptoms will be relieved entirely or greatly benefited by the operation which is proposed.

Finally, we must be reasonably certain that the probable danger from the operation itself, when compared with the severity of the lesion and the expectation of relief, is small enough to justify the patient in taking the operative risk.

These postulates seem absurdly simple and self-evident. They are, of course, the fundamental principles of all therapeutics. But in elective surgery, more than in any other department of medicine, we are prone to lose sight of them or to minimize their importance. In just so much as we disregard them in the same proportion will the results of our surgical work fall below the high plane of excellence. If we should carefully consider them before every proposed operation of elective surgery I am sure that, while we might not do as many operations as we may be doing now, on the other hand, the end results of the operations which we would do would be much more brilliant than at present.

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EARLY AND LATE CASES OF GASTRIC ULCER.*

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Two conclusions have impressed themselves on me regarding gastric ulcer: 1, Heretofore the condition has not been diagnosed early enough; 2, it has not received sufficiently rigorous treatment after the diagnosis has been made.

NEED OF EARLY DIAGNOSIS.

Early diagnosis is of immense value as an aid to cure, certainly as much so as in gastric cancer, possibly as much so as in pulmonary tuberculosis. It has been too much the custom in the past to consider no case gastric ulcer unless certain definite evidence was present, such as vomiting of blood, blood in the stools, violent attacks of gastralgia and lancinating pain through the abdomen from epigastrium to back. These signs are classical and are usually accepted as convincing, but diagnosis ought to be made and treatment instituted before this stage has been reached.

My own conviction is that many cases of chronic dyspepsia, characterized for weeks or months by flatulence, waterbrash, burning and distress after food, where the epigastrium shows tenderness and the test meal shows hyperacidity, are in reality gastric ulcer, even when the feces show no occult blood. Such cases can not positively be diagnosed as ulcer any more than incipient tuberculosis can positively be diagnosed before bacilli are found in the sputum; yet they deserve routine treatment on suspicion, in one instance as truly as in the other. If these dyspeptic cases are allowed to go on indefinitely without treatment or with only haphazard treatment, serious symptoms are likely sooner or later to appear that make the diagnosis clear but that render the results of treatment much more dubious. I would not urge the ulcer cure at once in every case of acid dyspepsia, but if one month's treatment by ordinary methods, with the patient up and about, does not cause a marked decrease of the trouble I have learned to insist on a rigid course directed to the cure of ulcer, even though no positive evidence of its presence has yet appeared.

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*Read before the California Academy of Medicine, June, 1907.

TREATMENT.

As regards treatment, it should be understood by the patient as well as by physician that rest and time are the two great requisites for the cure of gastric ulcer. Half-way measures will not suffice as regards either rest or time. Rest means absolute rest in bed at the outset, then limited activity for weeks to follow. Rest of the stomach is also a necessity, at first perhaps by rectal feeding exclusively, later by milk and then by soft and carefully selected diet under the physician's direction. As regards time, the patient should be told that he must submit to direction for at least one year and possibly two. It is not necessary here to repeat the details of diet, for they are given very definitely in numerous textbooks. The point I wish to make is that neither patient nor physician can afford to be too liberal about increasing the variety of diet, or too hasty about modifying the plan laid down.

During many months of its course gastric ulcer is undoubtedly a medical disease and subject to cure by medical means, provided these means are adequate and are persistently followed. But the trouble is that these months are allowed to go by without adequate treatment, either through laxness on the physician's part or through carelessness or objections and arguments on the patient's part until at last complications and sequelæ arise that make the case a surgical one. The possible consequences of gastric ulcer do not seem to be sufficiently appreciated. If they were they would not be permitted to occur so often when in many cases they could be prevented by early diagnosis and by early and earnest management.

The following case history will show what I mean by early diagnosis and treatment of gastric ulcer. Of course, in the early stage, diagnosis can not be proven absolutely and the conclusion must be reached by inference rather than by demonstration; but I have seen a number of cases similar to this one and have never had cause to regret aggressive action based on such a history and findings:

UNCOMPLICATED GASTRIC ULCER, WITH APPARENT CURE.

Case 1.—*History.*—Mrs. K. G., aged 24, came to me Feb. 18, 1907, complaining of attacks of trouble with her stomach for eight months previous. These attacks consisted of pain and distress very severe in character, beginning centrally over the region of the stomach and running through to the back, as if something was sticking through. She vomited severely and repeatedly, until the stomach was entirely empty, but then obtained relief; although she felt very sore and lame for a day or two afterwards. Such attacks came every few days without warning, sometimes immediately after food, sometimes several hours after. She compared the intensity of the pain to that of childbirth, said it always persisted until the stomach was entirely empty, which meant one to two hours or sometimes longer. She had never vomited blood; and had never become jaundiced during or following an attack. In the intervals between attacks she had much heartburn, waterbrash, distress after food and a feeling of "drawing" over the stomach. She had a good appetite but was afraid to eat.

Examination.—This showed that she was fairly well nourished and no physical abnormality was found except marked tenderness over the epigastrium and right hypochondrium and in one spot especially, just to the right of the median line in the epigastrium. There was no tumor and no succussion splash. After the Ewald test meal, only about two ounces were obtained, well triturated, semi-solid, containing no abnormal food particles; with a total acidity of 45 and free HCl 40.

Treatment.—She was put to bed for two weeks on a milk diet exclusively; after that soft boiled eggs, broths, soft toast, and thoroughly cooked cereals were gradually added. She never had any distress or nausea or any of her old dyspeptic symptoms after the first two or three days of treatment. She was last seen June 18 and reported that she had had no recurrence whatever of her old trouble. She is still on a diet limited to soft articles of food and living strictly according to directions.

The following cases, on the other hand, show some of the consequences that have resulted when treatment has not been sought early, or has not been vigorous enough when it was undertaken. In all of them the diagnosis of gastric ulcer has been confirmed by operation or by autopsy, but in all of them other conditions beside ulcer were present, as a result of long-continued ulceration or inflammation, that made medical treatment too late to be of use.

CHRONIC GASTRIC ULCER WITH DEATH FROM HEMORRAGE.

Case 2.—*History.*—J. S., male, aged 38, first seen August 1, 1901. He complained of pain in his stomach and vomiting. He had had recurring attacks of stomach trouble similar to the present one for several years previous but never so severe as this one. The last previous attack was in January, 1901. The present attack was characterized by pain after food, always worse at night; felt first below the border of the ribs on the right side, stabbing in character and running through to the small of the back; present for the past three weeks no matter what food was taken. Vomiting had occurred quite regularly since the pain began; always occurring at night and always relieving the pain until food was again taken. The vomitus was mostly liquid, sour and irritating, but never contained blood. There was much belching and flatulence, tenderness over the abdomen and persistent constipation, with loss of weight of fifteen pounds during the three weeks' illness.

Examination.—On physical examination some fulness was found along the right costal margin, greater resistence there on palpation than on the left and decided tenderness over the right hypochondrium and the epigastrium. After the Ewald test meal, the total acidity was 71, made up mainly of free HCl.

Treatment.—The patient was sent to Lane Hospital, kept in bed for two weeks on a diet of milk and lime water, and on soft proteid foods for another two weeks; and apparently made a complete recovery. Following this he had no pain, no vomiting and no dyspepsia for nearly a year, although he ate whatever he pleased.

Subsequent History.—On July 2, 1902, he returned for treatment because of a recurrence of his symptoms. At this time, in addition to the physical signs mentioned above, a persistent succussion splash was noted; and after the Ewald test meal the total acidity was 100, the free HCl 70, and the combined HCl 13. This time the patient refused to go to bed and was treated by milk diet and alkalies while he kept about at his work. There was no relief afforded and all the symptoms persisted. On August 4, after the Ewald test meal, the total acidity was 100, and the free HCl 65. On the evening of August 5, while lying at home quietly in bed, the patient vomited a large quantity of blood sufficient to cause syncope. He was taken at once to the hospital, and under treatment by rest, ice bag over the abdomen and rectal feeding exclusively, the hemorrhage ceased. On August 16, however, he had another profuse hematemesis. In spite of treatment further hemorrhages continued to occur daily, characterized by both hematemesis and melena, until finally, on August 28, following a profuse hemorrhage, the patient died. Autopsy showed an oval ulcer, two by three c.m., lying across the pylorus, one-third in the stomach and two-thirds in the duodenum; with a large branch of gastroduodenalis artery lying open in its floor.

CHRONIC GASTRIC ULCER; OPERATION AND RECOVERY.

Case 3.—*History.*—J. L., male, aged 32, first seen October 1, 1904, complained of pain and vomiting after meals which had been going on more or less constantly for two years, but without vomiting of blood at any time. This patient was instructed to take an Ewald test meal and to report at my office for its withdrawal on October 3. But about noon, October 2, he was suddenly seized with very violent pain in his abdomen while he was leaning over washing his face. When seen at his home shortly after, he was found in a condition of collapse, very pale and prostrated, perspiring profusely, complaining of terrible pain in his stomach, with a rapid, thready pulse and subnormal temperature.

Operation.—He was taken as soon as possible to Lane Hospital and his abdomen opened by Dr. Emmet Rixford at 6 p. m. An ulcer was found situated on the anterior wall of the stomach, approximately two inches from the pylorus. Through this there was an opening about one quarter of an inch in diameter, leading directly from the interior of the stomach into the peritoneal cavity. Through this opening food had escaped and a quantity was found lying free in the peritoneum. The foreign material was removed, the peritoneum cleansed and the opening in the wall of the stomach closed by gastro-plication.

Subsequent History.—The man recovered rapidly and has remained well ever since. I saw him in March, 1907, when he reported that he had no trouble of any kind with his stomach, weighed more than he ever had in his life and was working hard every day.

CHRONIC GASTRIC ULCER; DEATH FROM JAUNDICE AND HEMORRHAGE.

Case 4.—*History.*—V. O., male, aged 32, first seen June 29, 1906. He had always been well previously except that two years before he had an illness similar to the one for which he now sought advice. At that time he recovered under treatment and remained well subsequently until the present attack. About April 1, 1906, he began to have trouble with his stomach like that two years before, consisting of pain rather widespread; vomiting several times a week which always relieved the pain; sour eructations frequently; tenderness over his stomach; never any vomiting of blood; great loss in strength but only slight loss in weight.

Examination.—Physical examination June 29 showed nothing except tenderness in the epigastrium; after the Ewald test meal the total acidity was 60, and the total free HCl 34.

Treatment.—Under treatment at first by exclusive milk diet and later by the addition of other proteids his vomiting ceased entirely and his pain disappeared; but his hyperacidity persisted, the total acidity on July 11 being 72 and the free HCl 50. On that date, after two weeks of dieting, he insisted on leaving the hospital because he felt so well. I saw him again on August 8, when he was complaining once more of burning in his stomach but had had no further pain and vomiting; on this date the total acidity was 128, the free HCl 92 and the combined HCl 20.

Subsequent History.—I did not see the patient again until November 29, 1906, when he returned with complaint of pain in his stomach for the previous month, vomiting at least once every day, usually at night, when his pain was always especially severe; the vomitus consisted of a very sour irritating fluid but never anything resembling blood. At this examination he had a decided succussion splash over his stomach five hours after food and a tender spot in his epigastrium slightly to the left of the median line, but no tumor visible or palpable. The total acidity at this time was 78. He was again put to bed, fed for two days exclusively by rectum, then on small amounts of milk and lime water, gradually increased. This time he remained under treatment until December 21, on a continuous proteid diet consisting mainly of milk, softly boiled eggs and Hamburg steak. Under this treatment his vomiting ceased entirely, his pain disappeared and he once more returned to his home in the country apparently cured.

On February 6, 1907, he wrote me that again he had severe pains in his stomach nearly all the time, so severe at night he could not sleep; this pain was felt, not only over the stomach, but with special intensity in the back. I wrote to him advising that he return and have treatment again for gastric ulcer, but he did not come and I did not see him again until February 21, when I was called to the country to see him in consultation there. I found him at this time deeply jaundiced and learned that he had been more or less so for several weeks previous. Furthermore, during the previous week he had twice vomited blood in considerable amount and during the previous two weeks he had passed from his bowel much black material, tarry in consistence. In addition to his jaundice he was very anemic, weak and could scarcely talk, complaining most, however, of pain in his back. At this time there was a palpable mass found in the right hypochondrium, tender and resistent to palpation; and the stomach was visibly and palpably dilated. He was immediately placed on a cot in a baggage car and brought to Lane Hospital, hoping that a gastroenterostomy might yet save his life; but he died a few hours after his arrival at the hospital, before any operative procedure could be undertaken. With the greatest difficulty I succeeded in getting permission to make a partial autopsy and found as I had expected an old, dense, fibrous ulcer, situated on the lesser curvature near the pylorus, very indurated and thickened, the size of a silver dollar. Behind the ulcer there was a dense mass of adhesions involving the common duct, while the gall bladder was contracted and atrophic and much thickened; and the pancreas converted into a hard fibrous mass, evidently by chronic pancreatitis.

CHRONIC GASTRIC ULCER; GASTROENTEROSTOMY AND RECOVERY.

Case 5.—*History.*—Mrs. P. B., aged 30, first came under my care in January, 1905. At that time she told me that at intervals for ten years previous she had had trouble with her stomach, consisting principally of burning pain. This pain had not been constantly present and during the ten years there had been times when she went for several months without any discomfort at all; then the trouble would recur and last for six months or more. During the attacks of pain she frequently vomited a very sour material that irritated her throat, but never had vomited blood. There was much flatulence, continued belching and obstinate constipation. At the time I saw her in January 1905, she said she had suffered continually since the previous June with the symptoms just described, especially at night, when she could not sleep until she had emptied the stomach by vomiting. There had been no loss in weight.

Examination.—On examination of her abdomen a tender spot was found in the epigastrium in the median line, but no similar spot of tenderness was found elsewhere over the stomach. There was a loud succussion splash three hours after food was taken and the patient said that she frequently noticed this noise in the abdomen. No tumor was palpable. On manipulation of the abdomen a definite wave of peristalsis was elicited from the stomach, running from left to right. On inflation with carbonic acid gas the stomach was found to be greatly dilated, the greater curvature extending 9 cm. below the navel and as the abdominal wall was thin, the entire contour of the stomach was easily visible after inflation. It was absolutely impossible to introduce the stomach tube in this case because the patient simply would not permit it to be done. No analysis of gastric contents could therefore be obtained.

Subsequent History.—I did not see her again until March 11, 1907. She then returned to me with the same symptoms as before, which she said had been present off and on ever since the previous examination, worse at times, but never entirely gone. Briefly, her story at this time was of a rattling in her stomach, especially when it was touched or moved; of much pain above the navel; of vomiting, which relieved the pain and which she often induced herself for relief; of constant belching of gas; of a burning feeling in the stomach; and of very bad nights, when the pain seemed worse than by day.

Second Examination.—At this time a tumor was found corresponding in size and shape to a dilated stomach, with the greater curvature situated a handbreadth below the level of the navel. Across this tumor from left to right ran a vigorous peristaltic wave, and over the tumor there was a loud succussion splash. A tender spot was found just to the right of the median line about midway between the navel and the ensiform cartilage; and there was marked tenderness also in the back over the lower dorsal vertebræ where the patient said she had intense pain at times. There was no mass palpable at the pylorus but the tenderness in that region was too great to permit deep pressure to be made. No gastric analysis could be obtained because the stomach tube could not be passed.

On March 12, she was seen again at Lane Hospital. She said she had not slept at all the night before because of pain and at the time of my visit she was writhing and crying with pain. The dilated stomach with vigorous peristalsis was still visible and palpable and the peristaltic waves seemed to cause the cramp like pain; indicating that there was obstruction at the pylorus. All food by stomach was withheld and the patient fed by rectum, with morphin, hypodermically, sufficient to relieve her pain.

Operation.—On March 14, after she had gone for forty-eight hours without food by stomach, the contour of the dilated organ was still visible and palpable, the succussion splash persisted and the peristaltic waves could be elicited just as before. She then decided to accept the operation of gastroenterostomy proposed for her relief. On the morning of March 15, previous to the operation, the stomach tube was passed after the patient was under the anesthetic; a feat that I had never been able to accomplish while she was awake. The stomach was washed out with several gallons of sterile water and a large amount of food detritus was removed. At the operation, performed by Dr. Stanley Stillman, an ulcer was found at the pylorus almost completely obstructing its opening. A Finney pyloroplasty was done in this case. In the afternoon of the same day, much to our surprise, she vomited about a pint more of food detritus, consisting of remnants of potato, bread, and corn. There was no complication of any kind following the operation and she made an uninterrupted recovery. On June 4, when I saw her last, she reported that she ate whatever she pleased, had no pain or distress of any kind and had gained ten pounds in weight since her operation was done.

CONCLUSIONS.

My conclusions, not simply from these cases but from the groups they represent, are therefore the following:

1. There is an early stage of gastric ulcer, lasting for weeks or months, during which rigid medical treatment suffices for cure; but the clinical picture of this stage does not correspond to the classical one presented in the text-books, and the diagnosis at this time must be inferred rather than demonstrated positively.

2. In the later stage, commonly described as gastric ulcer, the symptoms are really due to complications rather than to the original disease; (a) to perigastric adhesions, (b) to pyloric stenosis, (c) to gastric dilation and retention, (d) to localized peritonitis, (e) to the opening of a large blood vessel, (f) to perforation of the stomach wall; complications that lie beyond the realm of medical treatment and have crossed the border line into the surgeon's domain.

THE ETIOLOGY OF EPITHELIOMA; A LABORATORY AND CLINICAL STUDY.

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As a basis for the report of a study of the etiology of epithelioma, I shall quote briefly some statistics from a recent monograph by Röpke in which the relation of trauma to tumor formation was studied with care in a large series of cases. A few other references are made to statistics covering points omitted by this author. Röpke analyzes the material of the surgical clinic in Jena, comprising 800 cases of carcinoma. In this series there were 74 cancers of the lip, of which 7 were due to single traumas followed by chronic inflammatory processes. Of those due to a frequently repeated trauma 2 cases were from sharp teeth, 5 from a pipestem and 1 from the mouthpiece of a horn.

In the mouth there were 54 cases, 16 of which were on the tongue, and of these 5 were due to trauma. The cheek was involved in 11 cases, 5 of which were traumatic. The jaw was affected in 18 cases, 11 of which were traumatic.

Of the 32 face cases nearly all were preceded by seborrhea senilis or warts of some kind.

In the esophagus there were 26 cases, nearly all of which were found at one of the anatomic constrictions.

The stomach was involved in 79 cases; 68 were found at the pylorus, 7 at the small curvature and 4 at the large. In 24 cases a history of ulcer preceded the epithelioma and in 7 cases an ulcer certainly pre-existed.

Of the 140 cases involving the intestinal tract the small intestine was involved 3 times, the cecum 4 times, the hepatic flexure 5 times, the transverse colon 3 times the splenic flexure 4 times, the sigmoid 15 times and the rectum 105 times.

The gall bladder was involved in 103 cases, in 74 of which gallstones coexisted. In Fütterer's 268 patients with cancer of the gall bladder all but 8 had gallstones.

In the mammary glands all but 2 per cent. occurred in females, in about 12 per cent. of which abscess preceded the epithelioma. This does not take into account those cases in which mastitis without abscess formation had preceded the malignant disease.

Of the extremities, in Volkmann's 223 cases, only 27 cases occurred on normal skin. In 98 cases there was chronic ulceration, 32 occurred about fistulous openings, 11 from congenital warts and 12 from acquired warts.

From this array of facts it may easily be seen what an important rôle traumatism, generally leading to ulceration, plays in the formation of cancer. These occurrences are too frequent to be regarded as coincidences and there is no reason to assume that congenital displacement should occur at these regions more often than at any other. These ulcerations are not necessarily attended by the over-production of fibrous material, but such is usually the case and some change in its tinctorial reaction probably always occurs. Such change is probably a passive process. If active, as Ribbert assumes, the cause of epithelial proliferation would still remain unexplained.

When one has reviewed the various theories of tumor formation he finds that none of them attempt to explain the ultimate cause of aberrant cell proliferation. Ribbert's "tension" theory may perhaps be regarded as an exception to this, though no very convincing evidence has been produced to substantiate his theory. He believes that in some way the tension of a cell becomes so great that the resistance of the surrounding cells is overcome. In what way this restraint is normally exercised he does not attempt to explain. Lewin made experiments in which he attempted to free cells mechanically from such restraint, but all his experiments were failures. Some years ago I tried to gain such freedom from restraint by injecting emulsions of embryonal cells into the tissues of animals. This idea had for its basis, of course, Cohnheim's theory. I assumed that there might be something in the embryonal cells which would restore to adult cells the power of active proliferation. The results were all negative.

After failing to produce any results with the injection of embryonal cells, I took up a purely chemical hypothesis which had for its basis the following reasoning: We know that the epithelial cells stain with one kind of stain, while the connective tissue stains with an entirely different kind. For the sake of simplicity we may refer to the epithelial tissue as the basic tissue, for it stains with basic stains, and for the same reason we may refer to the connective tissue as the acid tissue. It must be insisted on that this assumption can have no claim to accuracy, but I believe that such a use of the terms is more than symbolical. Assuming then that the two chemically different tissues are kept in check by the juxtaposition of such different chemical reactions, this relation if disturbed should result in the invasion of one tissue by another. With this rough hypothesis I set to work to make experiments. The various stains used about a laboratory were used in rotation. They were dissolved in a great variety of vehicles and used in the most varied way. Eosin was looked to with the greatest hope on purely theoretical grounds. It was assumed that if the acid combining connective tissue could be made to combine with the stain for which it had affinity its restraining influence on the epithelium might be removed. Aqueous solutions were quickly absorbed and the fine particles, for the most part, transported by the lymphatics. Cotton seed or olive oil was found the most suitable vehicle. Alcohol in all its strengths damaged the tissues too much to be of any use. Sudan III was likewise used in the same manner as the eosin and for the same reason. The results from these two substances were, for the most part, the same. When a fine emulsion is injected subcutaneously an interesting series of phenomena develop. A certain number of leucocytes appear. The endothelial cells of the vessels become more prominent and epithelioid cells collect about the foreign body. In the papillary layer, which normally is smooth with all cells extending to the same depth, the cells are first seen to be pointed and later to project into the connective tissue beneath. This occurs as early as the second day. Later these cells project more deeply into the fibrous tissue. The older they become the more nearly they resemble the adult tissue. These cell columns tend to grow toward the oil-eosin masses. This goes on without the formation of any considerable inflammatory reaction. The growth seems to have certain definite limitations. They grow downwards in more or less extended columns and sometimes form whorls of cells resembling pearls. The limitations of such cell proliferation may be formed by the production of substances antagonistic to such growth. The repeated injection of the stain does not succeed in overcoming such limitations. I am not unmindful of the fact that similar processes are produced in many simple inflammatory reactions. It is quite possible, however, that in this very fact the theory about to be propounded receives a distinct support. The hypothesis underlying my theory is that the epithelial cells are held in restraint by a chemical difference between them and the underlying connective tissue, probably the basement membrane or its equivalent, and that in malignancy there is a disarrangement of the balance, usually by a lessening of the "acidity" of the connective tissue. Clinically considered, a number of things may be used to support this hypothesis.

In the first part of this article I called attention to certain locations where epitheliomas are frequently found. These are for the most part regions where trauma is most common. These traumas may be divided in general into two classes: Those in which a superficial lesion is produced, and those in which an inflammatory reaction results without any abrasion of the surface. It is the first class of cases which we find most frequently associated with malignant disease. Beginning at the mouth we find cancers frequently starting from irritation caused by a broken tooth. We may assume that the ulceration so produced allows the alkaline secretion of the mouth to come in contact with the "acid" connective tissue below and in this way lessen its resistance to the basic epithelium above. In the esophagus we find them at the constrictions. P. Wolf has recently called attention to the fact that in narrowing the esophageal orifice in spondylitis deformans cancer forms at the constrictions so produced. Here the alkaline saliva could act. We find in the stomach an apparent contradiction to the theory, but we know that the vast majority of cancers of the stomach occur at or near the pylorus. We may assume that a regurgitation of the alkaline contents of the intestines may act in a similar way as the saliva in the mouth.

Fütterer has noted that cancers developing from ulcers begin usually at the lower or lateral sides—those regions most exposed to prolonged bathing in the regurgitated alkaline fluid.

The rarity of cancer of the small intestine has been remarked by all writers. In the large intestine the frequency is much greater, as already noted. In the rectum the maximum is reached. The increase in trauma in the large bowel is readily understood. That cancer should arise from ulcer is not strange, but why the multitudinous ulcerations in the small intestine are so rarely followed by cancer has not been explained. While the connective tissue is exposed to the alkaline digestive juices and would, therefore, dispose to epithelial proliferation, the digestive ferments hinder the proliferation of the epithelium. As evidence I would offer a former research[1] suggesting the chemical identity of the processes of blood coagulation and wound healing. These studies reveal the fact that substances which prevent the coagulation of blood also prevent the multiplication of cells in wound healing. Among others the digestive ferments hold the most prominent place. The question of acquired immunity of tissue against such action of the digestive ferments no doubt exists as physiologists claim, but to what degree it acts here it is impossible to determine.

In the stomach the regurgitated bile, which is not a digestive ferment, neutralizes the acid gastric juice without inhibiting epithelial proliferation. It is interesting to note that cancer does not occur in ulcers attended by hyperacidity but in old ulcers in which frequently a lessened acidity exists.

In the rectum the digestive juices are absent and ulcers occurring there are exposed to the alkaline rectal contents.

In the mammary glands the alkaline fluid is not far to seek. All but 2 per cent. occur in the female and the vast majority in breasts previously the seat of inflammatory processes. In inflammation of the gland, it need hardly be remarked, cell desquamations occur, making in reality the equivalent of ulcerating processes, exposing in this way the connective tissue to the alkaline secretion of these glands.

In the gall bladder carcinoma is attended in the vast majority of cases by gallstones. We have here the combination of irritation and alkaline secretions.

In the kidney and bladder we meet with a very striking fact. Stones in these regions are not uncommon, but cancer rarely accompanies them. Israel reports 8 cancers of the kidney pelvis, in none of which was there stone, and in 74 cases of stone no tumor occurred. It is interesting to note that here the traumatized region is bathed in an acid fluid—the urine.

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[1] Trans. Western Surg. Assn., 1904.

In the cervix of the uterus the common combination of irritation and alkaline secretion occurs. The frequency of laceration preceding cancer has long been recognized.

The surface cancers in the majority of instances go out from some previous irritation. Seborrheic patches form the beginning in many instances. In seborrhea the keratin-forming process is retarded, holding the cells in a youthful state. This makes an overplus of the alkaline, which tend to overcome the acid of the fibrous tissue below. When a defect of the surface exists the alkaline perspiration has a chance to act on the subcutaneous connective tissue. It is probable that macroscopic ulcer is unnecessary, for simple clefts between cells will permit secretions to enter. The close association of seborrhea and carcinoma is made clear when it is remembered that cells change when they approach the epidermal surface from basic staining to acid staining, while in seborrhea this change no longer takes place.

In the skin another series of processes to which Thiersch calls attention can best be studied, and it seems quite probable that this plays an important rôle. I refer to the change in the connective tissue. Connective tissue, for a long time the seat of inflammatory processes, undergoes a definite change. It becomes poorer in cells and the fibers lie more closely together. That they undergo some chemical change in this process is made evident by the fact that they stain less intensely than normal tissue. This holds true of all chronic inflammatory connective tissue. The same processes take place to a certain though less variable extent in old age, but connective tissue of old age does not show the change in tinctural reaction to be noted in inflammatory conditions. The changes incident to old age lessen the acidophilic property of the connective tissue. This alone is not sufficient to liberate the epithelium, as Thiersch thought, but it makes easier the action of the chemical factors above indicated.

CONCLUSIONS.

1. Cancer occurs at that point where irritation and exposure to an alkaline secretion coexist.
2. When a chemical which has the power of combining with the acidophilic elements is injected into a tissue made up of epithelium and connective tissue the epithelium proliferates and invades the connective tissue, simulating the process in beginning epithelioma.
3. The same chemical process which prevents blood from coagulating limits the invasion of one tissue by another. Epithelium everywhere rests on a tissue similar to the membrane elastica of the blood vessel. It is this layer that confines epithelium within the normal limit.
4. The aberrant growth of cells is but the expression of some disturbance in the chemical relationship of the different kinds of cells. The results of experiments, based on the knowledge of tinction chemistry, permits us to state in general terms the nature of such disturbance of chemical balance.

The Stomach Tube.—A. T. Finch, in a paper read before the Virginia State Medical Society, stated that the stomach tube, like all important therapeutic measures, has been abused, and should not be used in all diseases of the stomach. After using it for the past ten years he believes that it will always prove a benefit to suffering humanity when used with care and proper judgment.

THE AMBULATORY TREATMENT OF HIP-JOINT DISEASE.

[With analyses of several forms of apparatus now employed, and conclusions drawn from observations of two hundred cases treated with a brace consisting of a combination of the most effectual features of these appliances.]

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Nature is able to effect a cure in a large number of untreated tuberculous hip joints with a fair amount of motion, but with the deformity of flexion and adduction; therefore it does not seem improbable that a similar result may be obtained without this deformity. In a recent article that justly eminent Austrian surgeon, Lorenz,[1] states that from his observations the best method of treating these cases is to aid this Nature cure by promoting ankylosis through the use of the limb in walking, while it is fixed in a normal position by some appliance. If this is the best result obtainable, it would seem advisable to erase the joint as soon as disease is discovered, which would cause immediate ankylosis, thereby doing away with mechanical treatment altogether or shortening the time of the same very materially.

Evidence leads one to believe that the best results may be obtained in the conservative treatment of tuberculous hip joints by placing the part in a suitable position, fixing it there, protecting it from injury, and preventing the diseased surfaces from too much pressure (fixation, traction and protection); hence any apparatus must not only embody all these requirements, but in order that it may be practicable for our clinics, it must be furnished at a small cost. When we take into consideration the fact that the parts involved in the treatment consist of two segments of the body, which differ much not only in size but in that a portion of one of them is flexible, and also that these two segments are connected by a joint that in a normal state is freely movable in all directions, it is evident that the problem is not an easy one to solve.

THE VARIOUS METHODS OF TREATMENT.

A brief study of the different ambulatory apparatuses now in use in reference to their efficiency will be of aid in determining the merits of each; and for the purpose of analyzing them we might select one from each of the several leading countries in which orthopedics is presumably developed to the highest state of efficiency, and for convenience designate them as the German, English, Austrian, and American plans of brace treatment.

The German Method.—This consists of applying a plaster-of-Paris dressing from the axillæ downward, including the trunk, thigh, leg and foot (Fig. 1); crutches are not used, neither does the patient wear a high shoe on the opposite foot. It is plain to see that in this form of treatment the only thing accomplished is fixation of the joint so that normal motion in the different directions is prevented. There is very little attempt to stop concussion of the joint surfaces, therefore it is apparent that traction and protection are not considered essential. An examination of patients who have worn this apparatus shows that a large percentage of them have ankylosis with displacement of the head of the femur on the ilium. It would seem that this dislocation and ankylosis is due to the pressure on the joint surfaces during the active stage of the disease, and that about all to be expected from this plan of treatment is a fixed joint held in a favorable position with considerable actual shortening.

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[1] Jour. Amer. Ortho. Assn.

The English Method.—The so-called English plan of treatment consists of the application of a splint (Fig. 2) which may be described substantially as follows: A flat piece of iron about one inch in width, one-eighth inch in thickness, and of sufficient length to extend from the lower angle of the scapula to a point midway of the leg. This upright, which bends readily, is shaped to the surfaces of the body over which it passes, and has attached to it a leg, a thigh and a chest band made of the same material. The splint is fastened around the thorax by straps attached to the chest band, and is bound to the leg and thigh by a flannel bandage. The relation of the upright to the body surfaces over which it passes is as follows: Beginning at the lower angle of the scapula on the affected side it extends downward over the lumbar region, crossing the pelvis near the posterior spinous processes of the ilium, thence along the course of the sciatic nerve to the above-mentioned point a little external to the calf of the leg.

A study of the efficiency of this brace shows that there is fixation as far as flexion is concerned, but that adduction may take place. There is no traction, and protection is provided only by building up the opposite boot together with the use of crutches, which might be effective in adults, but does not prevent children from resting the body weight frequently on the diseased joint. In some instances the upright is extended to a point below the sole of the boot so that the patient will not bear his weight on the foot, but in this case the joint receives scarcely any more protection, as the concussion when the brace strikes the ground is transmitted through it to the hip.

The Austrian Treatment.—The routine treatment of cases in Vienna consists of the application of a plaster-of-Paris spica (Fig. 3), which grasps the pelvis and envelops the thigh. The patient is allowed to walk without crutches in most instances. If the symptoms become acute the spica is supplemented by a brace which extends below the foot and removes most of the body weight from the diseased parts in walking. In Lorenz's recent article[1] he states that weight bearing is not detrimental to the best results, as it promotes ankylosis, which is to be sought. There can be no doubt in the minds of observers who have examined patients in whom recovery from hip-joint disease has taken place under this treatment that ankylosis with frequent dislocation is a common occurrence. It is needless to add that the only principle carried into effect is fixation, that no attempt is made to obtain traction, and that only in exceptional cases is partial protection furnished.

The American Method.—The American plan of treatment is the use of the traction splint (Fig. 4) or one of its various modifications. The brace consists of a pelvic band and an upright made of iron. The band conforms to the surface of the pelvis, around which it is fastened by a strap and buckle. To this pelvic girdle are attached four more buckles, two in front and two behind, for the attachment of perineal bands or straps. The upright is riveted to the pelvic band and extends from the top of the great trochanter to a point about three inches below the sole of the boot, where it turns at a right angle and passes beneath the hollow of the foot, thus forming a foot-piece, which prevents the body weight from being borne on the diseased side. Traction straps of adhesive plaster are applied to the thigh and leg, and the lower ends of these are fastened to a windlass in the foot-piece of the splint. Near the middle of the upright is attached a band, which controls the movements of the limb. The perineal straps, which are made of webbing, pass from the buckles on the front of the pelvic band around the perineum to those placed on the back. A high shoe is worn on the well side and the patient is allowed to walk either with or without crutches.

The above described brace is in common use at present, but it has been modified by some surgeons. The perineal straps have been discarded and a padded ring substituted, which encircles the upper part of the thigh on the affected side and is fastened to the upright. In this form of brace the body weight is borne by the ring on which rests the tuberosity of the ischium.

An examination of this brace for the purpose of determining its efficiency shows that protection is excellent, as the foot does not come in contact with the ground when the patient is standing or walking. Traction is also effective as long as crutches are used, as in this case the weight should be borne on the well side. Fixation, however, is not good, and experiments show that in a majority of cases there is motion of 30 or 40 degrees. In examining patients who have worn this splint we find that in an appreciable number flexion with adduction occurs, and that this deformity is very likely to be present unless the patient has been kept under close observation. Abscesses are not infrequent, and these seem to be due in many cases to the improper fixation and consequent destruction from the joint friction.

PRINCIPLES OF MECHANICAL TREATMENT.

Now, if we are to accept without question the principles of the mechanical treatment of hip-joint disease—fixation, traction, and protection—it can readily be seen that any one of the above described apparatuses is not sufficient to carry these principles into effect under all conditions. Yet if we take as a guide an old untreated case which has gone on to recovery with the characteristic deformity of flexion and adduction and, in some instances, dislocation, it would seem possible to construct an apparatus with the use of which good results without deformity might be assured in the majority of cases.

The first matter to be considered is the position of the limb. The tendency from the time that the disease is well established until after cure has taken place is toward adduction and flexion, and this tendency often continues after all apparatus is removed; therefore the logical position for the part would seem to be in a direction opposed to this deformity (abduction and extension). The argument against placing the limb in an extended position is that motion in a large number of cases is limited or lost, and that if either occurs a little flexion makes it more convenient for the patient. Undoubtedly this statement is rational, but ankylosis should seldom take place under efficient treatment, and if it should enough flexion would follow suspension of the apparatus to place the limb in a good position. On the other hand, a large number of cases show limited motion, and in these full extension is usually impossible. The psoas and iliacus are permanently shortened, and it is often very difficult to remedy the deformity, although there is sufficient radius of motion for all practical purposes with the exception of walking, which act must be performed with a limp on a limb which is practically shortened through placing it in an improper position during treatment. Abduction is certainly the position of choice, for it not only prevents the deformity of adduction, but, should motion be lost in this direction, this position gives a practical lengthening and for that reason is the most favorable, as it compensates to some extent for the actual shortening due to disease.

The next proposition is to hold the parts in this position (fixation), separate the joint surfaces (traction), and prevent the diseased bone from being injured (protection). The holding of the limb in a proper position, or fixation of the joint, can probably be accomplished best by enveloping the lower part of the trunk and thigh in some material which closely conforms to the surfaces of these parts, taking advantage of all bony prominences, so that any change in the position of the appliance is prevented after it is adjusted. The separation of the joint surfaces can be made by traction or pressure applied to the limb against some fixed point or points in the pelvis. It would seem best to apply this force in two directions—longitudinally and laterally. Protection may be given to the diseased joint by extending the lower part of the apparatus to a point beneath the sole of the foot, so that in walking the boot can not come in contact with the ground. If the patient should attempt to use the diseased limb either in walking or standing the body weight should be borne by that part of the splint or brace which passes beneath the tuberosity of the ischium.

Theoretically this would be ample protection, but experiments show that practically it is not sufficient, therefore it should be supplemented by the use of crutches. The patient should be instructed to bear the whole body weight on the well limb, the boot on this foot being raised by a thick sole which corresponds in height to the length of the brace which extends below the foot on the lame side.

Experiments with the above described apparatuses (the so-called German, English, Austrian and American) seem to indicate conclusively, as already stated, that no one form embodies all the essential phases of mechanical treatment. In order, then, to apply more successfully the principles of fixation, traction, and protection, we are obliged either to seek some entirely new form of appliance, or to combine the requisite features of those in common use, so that the product will carry the desired treatment into effect. If we take into consideration the matter of cost, which is indispensable in a clinic for the poor, it seems impossible to construct any form of apparatus along new lines of different material from that already suggested without putting it beyond the reach of most patients.

Turning again to the appliances already analyzed, we find that the plaster-of-Paris spica bandage affords the best fixation, the adhesive plaster straps the best traction, and the iron brace which extends beyond the sole of the boot, together with the high shoe on the opposite foot, and crutches, the best protection. The cost of this combination amounts to about $5.75 for an average-sized child.

APPLICATION OF APPARATUS.

The application of this apparatus with the patient in a favorable position can perhaps be best illustrated by describing briefly the different steps of the procedure. In lieu of the hip rest commonly employed for the support of the patient while applying the spica bandage, the gas-pipe frame with the duck hammock, such as was devised by Brackett and is utilized in putting on jackets in Pott's disease, has been used. The change from the hip rest to the hammock was made for the reason that the hammock gives a more stable and secure support, and that the patient is under far better control. The patient's body and thigh are covered by a close-fitting stockinette cut to an appropriate size and pattern, of sufficient length to be pulled over the spica and sewed so as to form a covering after the plaster has hardened and is trimmed. The anterior superior spinous processes are padded with felt and a thick piece of the same material is placed over the tuberosity of the ischium to prevent chafing. The child is then placed on the hammock face downward (Fig. 5), the position of extension being governed by raising or lowering the hammock according to the requirements of the case. Traction is made in two directions by straps fastened to the frame, one being attached to the ankle and one to the upper part of the thigh (Fig. 6). The limb is placed in the

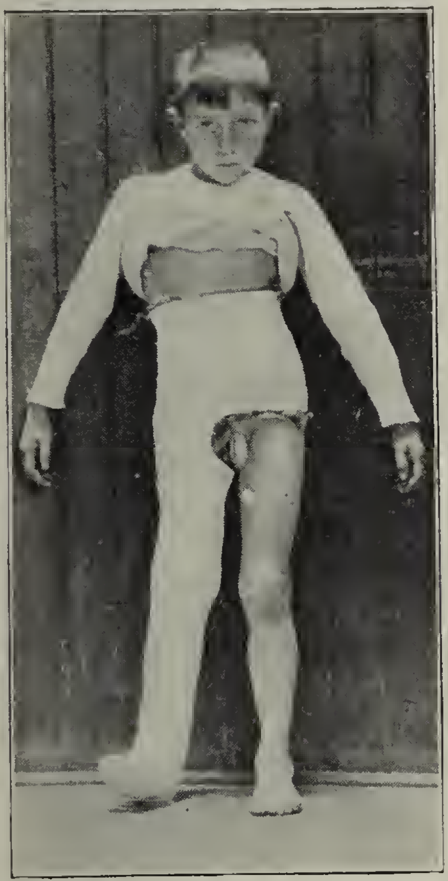
Fig. 1.—German method of treatment.

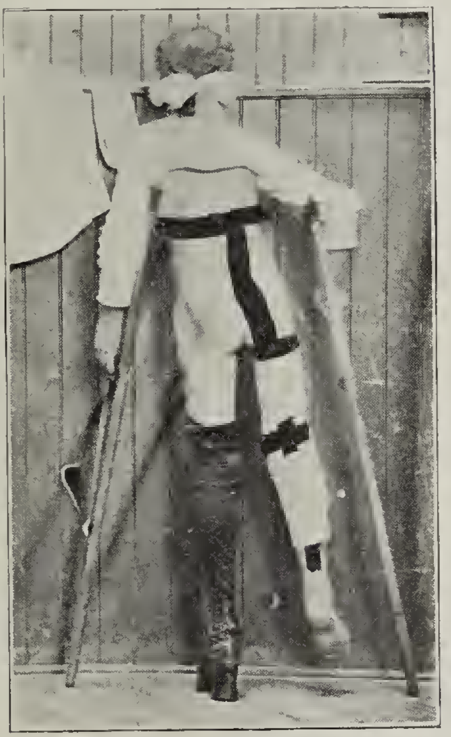
Fig. 2.—English method of applying splint.

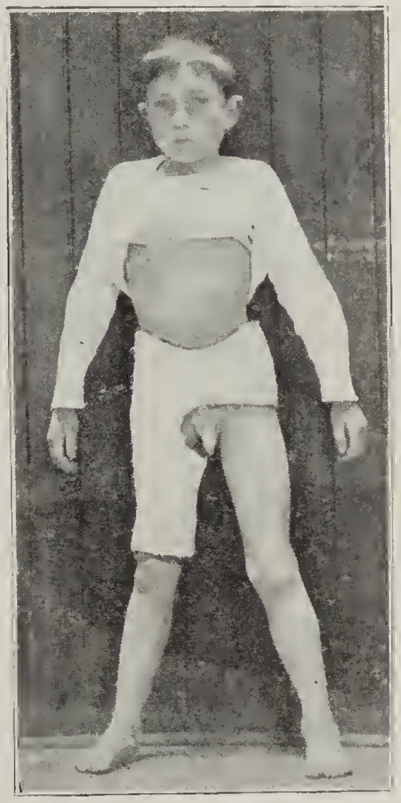
Fig. 3.—Austrian method.

position of 15 degrees of abduction and the hammock is trimmed to correspond to the outline of the patient. The spica is then applied and, after it hardens and is trimmed, the brace part is ready to be attached.

The brace[2] (Fig. 7) consists of a foot-piece to which is secured a windlass for regulating the amount of permanent traction. Welded to the foot-piece are two straps of iron which extend upward on either side of the leg. To the upper part of these iron straps are fastened cross-pieces of thin flat iron which can be easily molded. This brace, after it has been bent with wrenches so that it will conform to the surface of the plaster, is fastened to the spica at its lower end just above the knee by winding a plaster bandage around it. The adhesive strips which have been applied to the leg are now attached to the windlass, which is about two and one-half inches below the sole of the foot. The stockinette is now pulled over the spica and sewed in place for a cover, and the application of the apparatus is completed (Fig. 8). The high shoe is placed on the opposite foot, and with the selection of suitable crutches the patient is ready to begin the course of ambulatory treatment (Fig. 9). He is instructed to bear all his weight on the well side, and, if the brace is applied so that it does not come within one-half inch of the floor when he stands erect, there is little desire to put it to the ground in walking. The joint is so firmly fixed and protected that any accidental weight bearing on the diseased side will not materially disturb the joint. Careful experiments with this apparatus will show that the fixation, traction and protection are excellent, while the limb is held in a most favorable position.

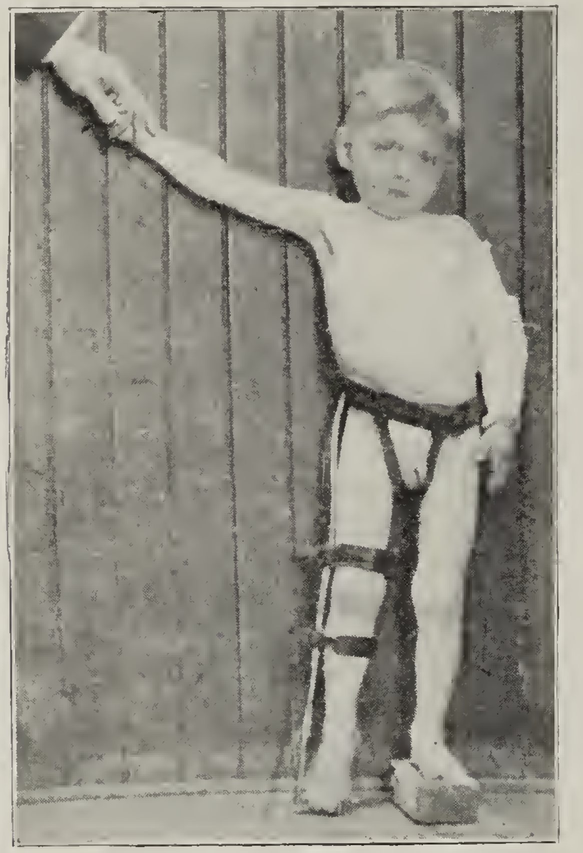

Fig. 4.—American traction splint.

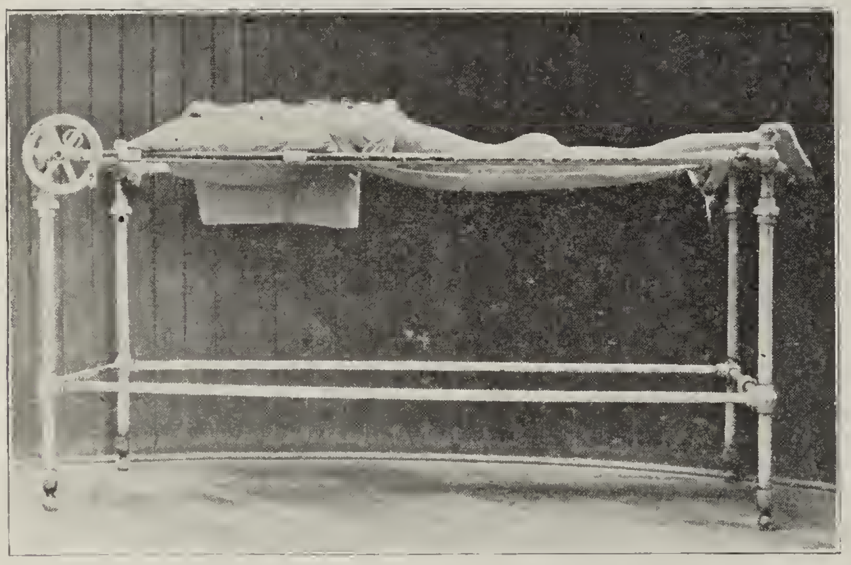

Fig. 5.—Child in hammock showing extension face downward.

OBJECTIONS.

The objections usually raised to such a method of treatment are three: First that it is uncleanly; second, that such rigorous confinement causes atrophy of all the parts involved; and third, that a certain amount of jar is transmitted to the diseased joint through the use of the well limb in walking.

Granting the first, viz., uncleanliness, which should not be considerable if the spica is properly applied and due care on the part of the patient is observed, should we hesitate to adopt any form of treatment which is productive of good results in cases of such a serious nature as hip-joint disease? The uncleanliness is most assuredly not so great as occurs in those cases in which suppuration ensues with one or more discharging sinuses, due probably in a large number of instances to the inefficient treatment which the patient has received. The use of plaster spicas is universal in congenital dislocation of the hip, and the patient is obliged to wear them often six or eight months without change, and this, too, in a condition in which there is no actual disease or danger to the patient's life. A comparison of the deformity which follows an unsuccessful treatment of hip-joint disease with that of a case of congenital hip

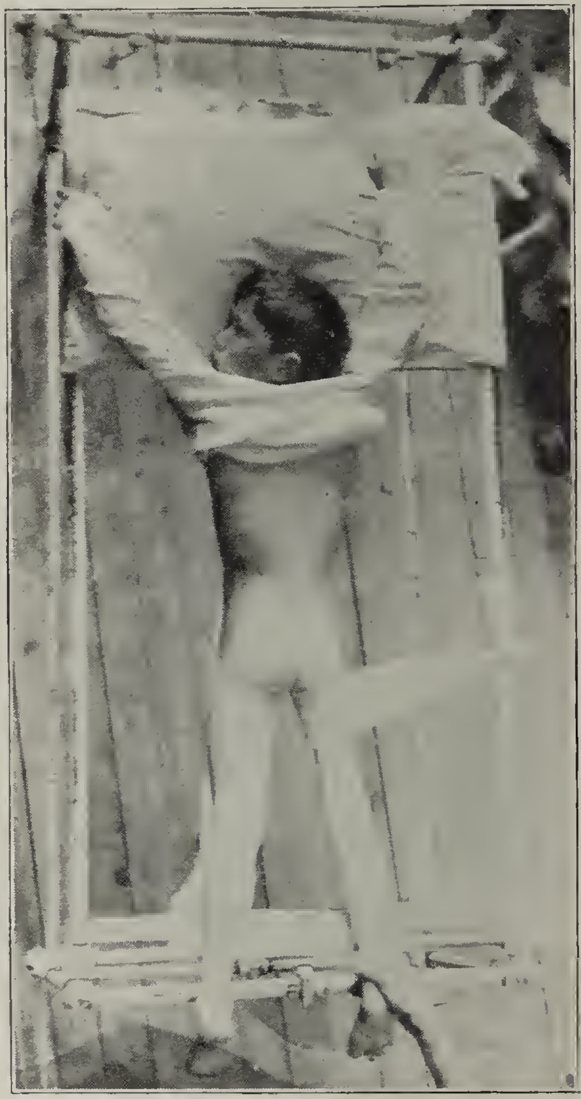

Fig 6.—Showing how traction is made in two directions by straps fastened to frame.

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[2] The brace is very similar to the one used in Austria in those cases where the symptoms are marked.

dislocation would certainly indicate that the former condition demanded the resort to even more radical measures than the latter if the results could be improved thereby.

The second objection, or atrophy following long-continued confinement in such an appliance, will bear investigation. In the first place, how much of the actual shortening is due to disuse and how much to disease? In a case left without treatment it is very evident that the actual shortening is due largely to the disease, for comparisons will show that when treatment has been effective the limb is nearer normal in length than that of a like member in a neglected patient; therefore, while disuse is a factor in the cause of the shortening, it does not seem to be the prime one. The hastened repair of the disease in consequence of the treatment certainly promotes growth and this should more than offset the shortening from disuse. A study of the limbs in congenital dislocations of the hip in which one or both are confined for a long time after operation, does not bear out the theory that long fixation is a considerable factor in diminishing the growth of the part. It must be admitted that there is some use of the limb in these cases, but the fixation is excellent and the atrophy following is very slight.

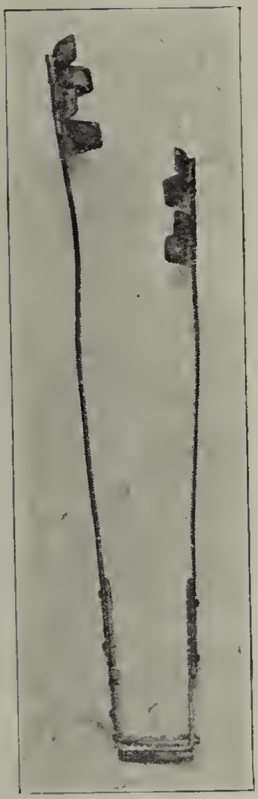

Fig. 7.—Brace consisting of foot-piece, welded to which are two iron straps extending upward on either side of the leg.

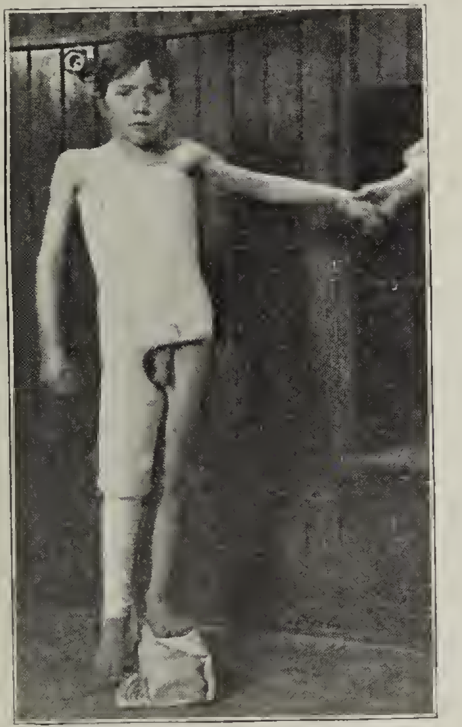

Fig. 8.—Showing apparatus in place; spica covered with stockinette which is sewed in place.

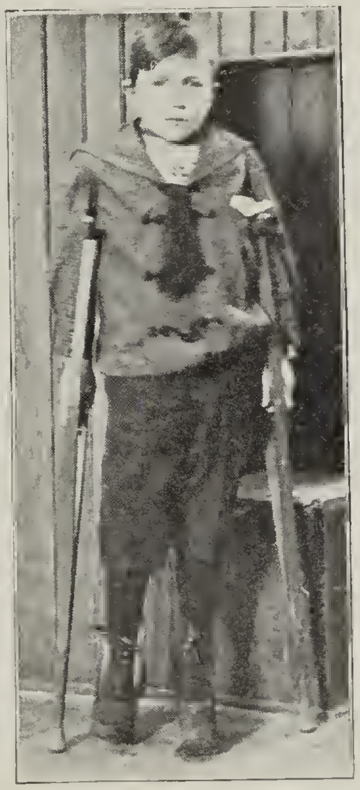

Fig. 9.—Showing patient with high shoe on opposite foot and with suitable crutches ready for course of ambulatory treatment.

Some observers[3] of large experience believe that a certain amount of motion is helpful in hip-joint disease, while others are pronounced in their opposite views. In the experience of the authors of this paper it has seemed that the more perfect the fixation the better the results.

Traction undeniably exerts a favorable influence toward increasing the length of the limb. Experiments will show that a weight applied to a well limb will increase its length considerably, so that when it is compared with its fellow quite a difference will be found to exist between the two. The muscular atrophy which follows treatment, is not of so much importance, and, if the disease is brought to a successful termination, the development which results from its use is rapid and largely compensates for the diminution due to the confinement.

The third objection, which can be demonstrated to some extent by experiments, is not borne out clinically. Careful observations show that patients subjected to this form of treatment respond just as readily as those placed in bed with the joint fixed in any conceivable form of apparatus.

CONDITION OF PATIENTS.

The clinical history of the patients who have been placed under this treatment is very gratifying. About two hundred of them have been kept under close observation and their progress has been carefully noted. Comparisons have been made also with similar cases treated by the usual splint method. Some patients have left during the course of treatment to go to other places, and these have not been considered; others are still under treatment and the final results can not yet be determined; there are, however, a sufficient number for one to draw fairly strong conclusions. No selection of favorable cases has been made, but the patients have been taken as they presented themselves for treatment regardless of their condition, unless signs of an abscess were apparent or the symptoms were so acute that rest in bed for a while was demanded. In every patient the usual symptoms have disappeared in a short time, the general health has improved, and in not one instance has abscess formation taken place in which it could not be clearly demonstrated before the first spica was applied.

Brace treatment had already been instituted in some, but the symptoms were so marked, and the condition of the patient showed that the treatment was so inefficient, that some change was necessary. The response to this change was so satisfactory; the general health improved and the symptoms disappeared in a short time.

In analyzing and presenting these cases of hip-joint disease with their treatment there is advanced no claim of originality, but only the claim of a thorough application of well-known principles through combining the most efficient parts of several appliances that are familiar to all.

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[3] Goldthwaite: Boston Med. and Surg. Jour.

CONCLUSIONS.

From the observation and study which have been made of these patients through a period of six years it seems that the following deductions are warranted:

1. The case is under excellent control, as the apparatus can not be removed and replaced by the patient or family at will.

2. The appliance can be produced at much less expense than any other that is efficient. These two considerations are of the utmost importance in clinics where the cost must be taken into account, and where the ignorance of the family causes them to meddle with the apparatus through their own ideas of what is best, or from those of near-by friends who are only too ready to contribute their experience and skilful advice.

3. The duration of the treatment may be lessened, which is a factor to be thought of; there is less danger of abscess formation; and the preservation of the joint structure is more certain.

4. Finally, the position of the limb can be regulated to a nicety otherwise obtained only through the use of expensive apparatus accurately adjusted by skilled hands and kept constantly under the closest observation.

THE ROENTGEN RAYS IN ORAL SURGERY.

DESCRIPTION OF A ROENTGEN TUBE FOCUS FINDER AND LOCALIZER.*

G. E. PFAHLER, M.D.
PHILADELPHIA.

The Roentgen rays have demonstrated their usefulness in diagnosis in all branches of medicine, and not the least in oral surgery. Without doubt many, if not all, physicians make use of it in all obscure cases. My object, therefore, is simply to show my methods of application of this agent in the diagnosis of true oral surgical conditions and to describe a little device which has been of great assistance to me in all kinds of Roentgen examinations, but particularly in this field.

A ROENTGEN TUBE FOCUS FINDER AND RAY LOCALIZER.

One of the difficulties encountered since the discovery of the Roentgen rays has been to determine the exact focus point on the anode of the tube. This is especially difficult with a new tube that has not had its focus point burned. The next difficulty, since the diaphragm technic has become practically universal, is to place this focus point exactly in the center of the diaphragm. The third difficulty is to know exactly where the center of the field will be and precisely the direction that the most central ray will take. This is especially difficult when we are making the exposure in an oblique direction, such as is commonly done in the study of the maxillæ. These three difficulties have had to be overcome at each exposure with great care, patience and good judgment. We need, however, a mechanical device which will overcome these difficulties absolutely and thus make our work more exact.

To overcome these three difficulties I have designed a very simple device that does not expose the operator to the rays, that is convenient to operate and that renders results accurate. The device with slight modification is applicable to any diaphragm, but to meet my own needs I have adapted it especially to the Roentgen table. It consists of a piece of sheet iron or lead that will exactly cover the diaphragm opening. To the center of this sheet iron is screwed a piece of brass tubing eight inches long and having one-fourth of an inch bore. This piece of tubing is then arranged to contain a second piece of tubing similar to a telescope.

For use with the Roentgen table the sheet iron is made square, 13.7 cm. (about 5½ inches), which exactly fits into the diaphragm clamp. To the center of this is attached the telescopic tube (Fig. 1). This is then adjusted so that the rays pass through the tube on to a fluorescent screen lying underneath. The focus point will have to be exactly over the center of this tube or no rays will pass through (Fig. 2). Having found the position of the Roentgen tube that will exactly allow the rays to pass through the brass tube and cast a circle on the screen, we know that the focus point is exactly central. The Roentgen tube is then marked by a piece of adhesive plaster so that it can be replaced at any time in exactly the same position.

This focus finder is then removed and the diaphragm replaced. The focus point will be exactly in the center of the diaphragm.

The next service that this little device will render is that of properly placing the Roentgen tube. The brass tubing when placed in position will always occupy the position and indicate the direction of the most central bundle of rays. By this means this central bundle of rays can always be directed through the most important part of the body under examination, in the direction desired, and on the central part of the plate. All who have used the diaphragm technic have been disappointed to find that at times they did not have the part of the body on the plate that they expected, either because the focus was not central or because the oblique direction was miscalculated.

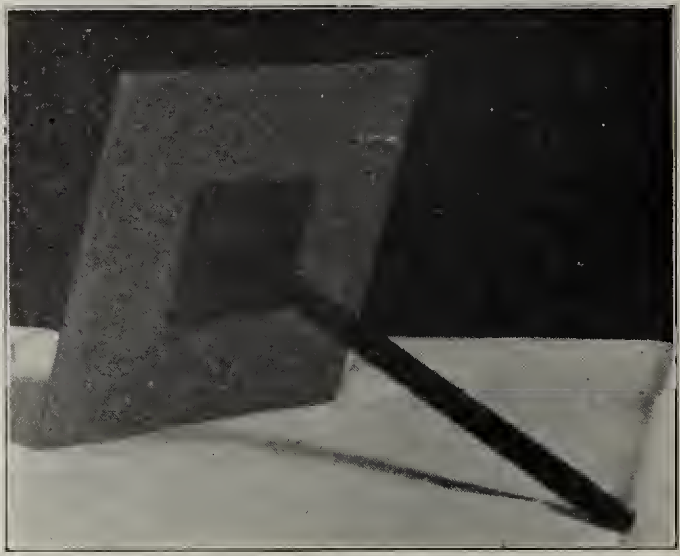

Fig. 1.—Roentgen tube focus finder and ray localizer.

I have found this simple device of great value and trust that it will be equally valuable to others. It is of especial service in oral surgery, because small sharp fields are desirable and an oblique illumination is often necessary.

My work in connection with stomatology has been more particularly on the bones, or position of the teeth, and the accessory cavities, rather than a detailed study of the structure or the minute condition of the teeth themselves. For this reason I have found plates more useful than the small film which is placed in the mouth. The film is, however, most important, and when it can cover the desired field it will usually give greater de-ail than the plate. The plate gives a larger field for tudy and comparison of the abnormal with the normal nd it gives more of an idea of the relation of the parts.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

By careful technic I believe that every portion of ither jaw can be clearly shown on the plate. To show he angle of the lower jaw, with the condition of the one and the three molars and two bicuspids, it is best o place this side on the plate, stretching the neck as ar as possible. Then the Roentgen tube should be laced eighteen inches distant and the rays thrown obiquely between the angle of the jaw and the spinal colmn. This will project the opposite jaw out of the ield, and we have only the one jaw clearly on the plate.

Now to show the anterior quarter of the lower jaw hich will unite with the section previously described. his portion is placed on the plate; the head is slightly wisted to the opposite shoulder. The rays are passed etween the spinal column and the angle of the jaw.

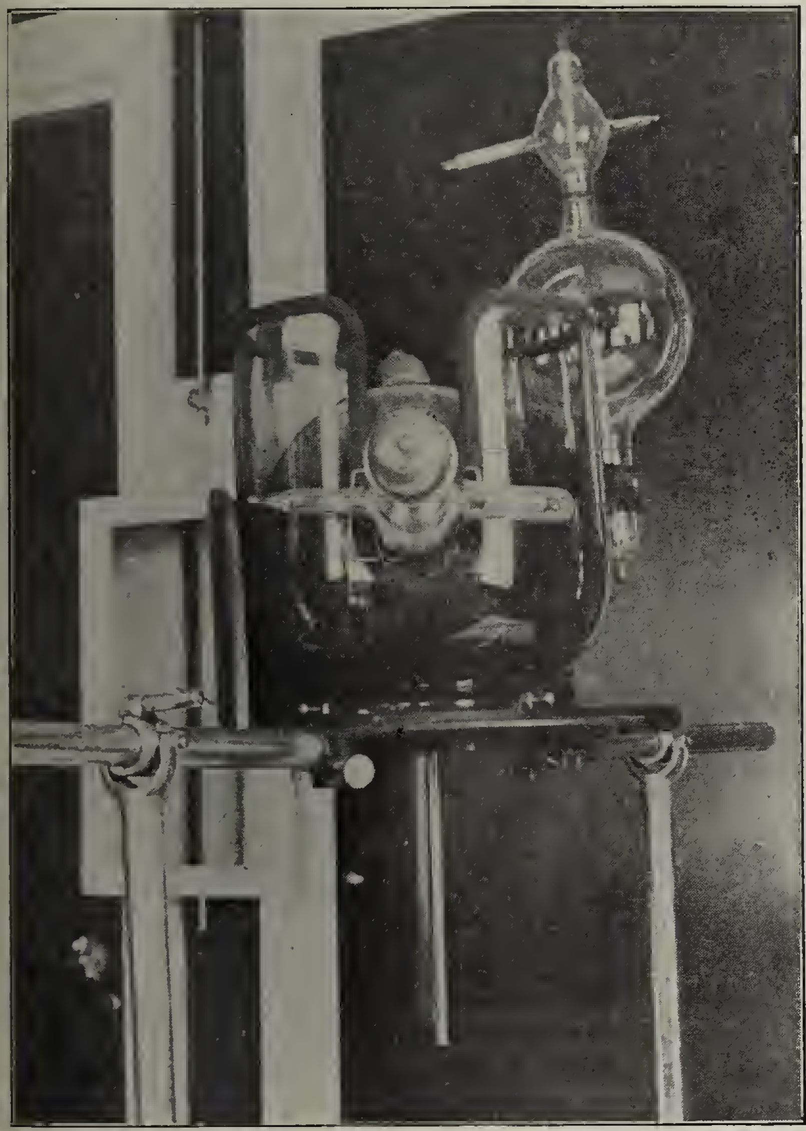

Fig. 2.—Roentgen ray localizer attached to table or diaphragm.

To obtain good definition of the posterior portion of the upper jaw, a position very similar to the one described for the angle of the jaw is used, except that the head is thrown farther forward, and the rays are directed more obliquely upward.

To Roentgenograph the anterior portion of the upper jaw, this portion is placed on the plates and the rays are passed forward just below the mastoid process of the opposite side. This position may also be used to study each antrum separately. Ordinarily, however, to determine the condition of the antrum of Highmore a Roentgenogram is made of both sides at once by passing the rays through the head antero-posteriorly. The face is placed on the plate, resting it on the forehead. The rays are then passed through the median line of the body and just below the level of the mastoid process.

CLINICAL APPLICATION OF THE RAYS.

Ordinarily the rays are used in diagnosing or differentiating malposition of the teeth, unerupted teeth, impacted teeth, dental spurs, retained roots, and exostoses growing from the roots of the teeth and thus making extraction difficult.

Necrosis of the bone, whether this originates about the root of a tooth or is due to some general condition, can be clearly shown. The recognition of the exact lines of fractures and their relation to the adjacent teeth often have an important bearing on the treatment. For instance, one of Dr. Schamberg's patients came with the history and the appearances of an abscess of the jaw with no history of traumatism. Roentgen examination showed a fracture of the jaw, with an abscess at the root of the tooth which was wedged in the fracture. Here a poor result and the later discovery of the fracture might have been embarrassing. When we have the signs of root abscess, it is important to find exactly the source of the infection, so as to save time, tissue and suffering.

The study of the condition of the antrum of Highmore can best be done by this means. If the antrum is found filled with pus we can often determine the source of the infection. Tumors also can be demonstrated in this region, as I illustrated by the case of round-celled sarcoma, which almost filled the antrum and which grew downward from the ethmoid cells.

The diagnosis of malignant disease of the maxillæ is often difficult, and any assistance that can be obtained is a step in advance. Malignant disease usually gives some increase in the size of the bone, and in addition to this there is at first some disturbance of the arrangement of the bone trabeculæ and later actual destruction of the bony substance. The differentiation between an abscess and a rapidly growing neoplasm will not always be easy clinically, but Roentgenologically an abscess will usually show some destruction of the bone early, while this is not likely to be true in a neoplasm.

In conclusion, the Roentgen examination should be used in the diagnosis of every obscure condition. It should also be used to determine exactly the extent of disease even when the general diagnosis is clear. By following this rule much embarrassment and much suffering will be avoided.

DISCUSSION.

Dr. G. V. I. Brown, Milwaukee, Wis., protested against using radiography in diagnosis, to the exclusion of diagnosing by means of the senses. He stated that the practitioner should be able to diagnose a large proportion of all these cases by the use of proper diagnostic methods, and that he ought to develop his skill in that direction.

Dr. G. E. Pfahler, Philadelphia, stated that the radiographs he presented were not intended to supersede diagnoses by means of the senses, but that they were intended as an aid in diagnosis and as confirmatory evidence where doubt existed.

Hospital Floors.—Charles J. Fox, in *Yale Medical Journal*, November, 1907, states that in the construction of the modern hospital too great importance can not be attached to the subject of floors. In spite of the present-day system of thorough ventilation, the isolation of the kitchens, laundries and closets, the immediate removal of all dirt of every character, the frequent use of disinfectants and the sterilizing of all instruments, the hospital can not be sanitary unless it is provided with an aseptic floor. The wooden floor so common in many of our finest hospitals is not only quite out of keeping with the sanitary arrangements of the building, but is a positive danger from the fact that it becomes a harbor for micro-organisms and infectious growths of all kinds.

SENSORY DISSOCIATION AS A SYMPTOM.

WITH REPORT OF A CASE OF SYRINGOMYELIA.*

L. HARRISON METTLER, A.M., M.D.
CHICAGO.

The following case of syringomyelia I saw in consultation with Dr. John L. Porter, to whom I am indebted for the privilege of reporting it. The case is presented not on account of anything unusual about it, but as a text merely for the discussion of sensory dissociation.

History.—A. S., aged 30, an unmarried German woman. Her family history was negative, no hereditary neuropathic taint being anywhere discoverable. Her father, mother, sister and brother were vigorous, hard-working people, simple in their tastes and plain in their mode of living. A brother died of typhoid fever, complicated by pneumonia, having been perfectly healthy up to that time.

Until she was 8 years of age the patient was a strong and robust child. Photographs, which I have seen, taken prior to this age, would seem to confirm this. At 8 years of age, however, she was stricken with some severe form of fever, which the family was told was typhoid. She was confined to her bed about four months, a large part of the time being "out of her head." For a while she was highly delirious and screamed incessantly. From this illness, whatever it may have been, she dated her present progressive invalidism. On account of the paralyzed condition of her limbs, she was more or less bedridden the first seven years succeeding her "typhoid" attack. During the first six months she remained at home utterly helpless and requiring to be fed. Then she went to a hospital for three years, remaining in bed the first year absolutely, wheeling about in a chair occasionally the second year and hobbling around a short time each day on crutches the third year. While in bed she still had to be fed and she could only get up and down by means of a rope and pulley hung from the ceiling. During this period she had several obstinate bedsores on the hips and over the sacrum. The scars of these were plainly visible. An apparent, slow but gradual improvement having taken place so that the patient could walk a few steps, this at first being accomplished with a little more facility backward than forward, she at length returned home. Later on it was observed that her left hip joint was becoming fixed or ankylosed and that her right hip had already become somewhat dislocated. Dr. Porter is inclined to attribute these particular joint troubles to typhoid infection, he having a number of cases now under observation with identically the same condition following typhoid fever.

All this time the patient made no special complaint of pain or other sensory disturbance. At about 13 or 14 years of age it was noticed that she was beginning to lose the use of her arms and hands. They seemed to be growing progressively weaker and thinner, and she could not grasp or hold things properly. Medical advice was sought; a tentative opinion of generalized neuritis was hazarded, and electric treatment was administered the next three or four years, with apparently some slight degree of improvement. At 18 years of age all of the symptoms suddenly seemed to take on an exaggerated form. From that time until she entered the Cook County Hospital she had been entirely from under medical observation. Not knowing the nature of her disease, totally ignorant of any sensory manifestations in connection with it, and cognizant only of her deformities and increasing paralyses with muscular wasting, she consulted, on advice, Dr. Porter in the hope of obtaining some benefit from orthopedic treatment. Suspecting the central nature of the trouble, the doctor kindly invited me to see the case with him.

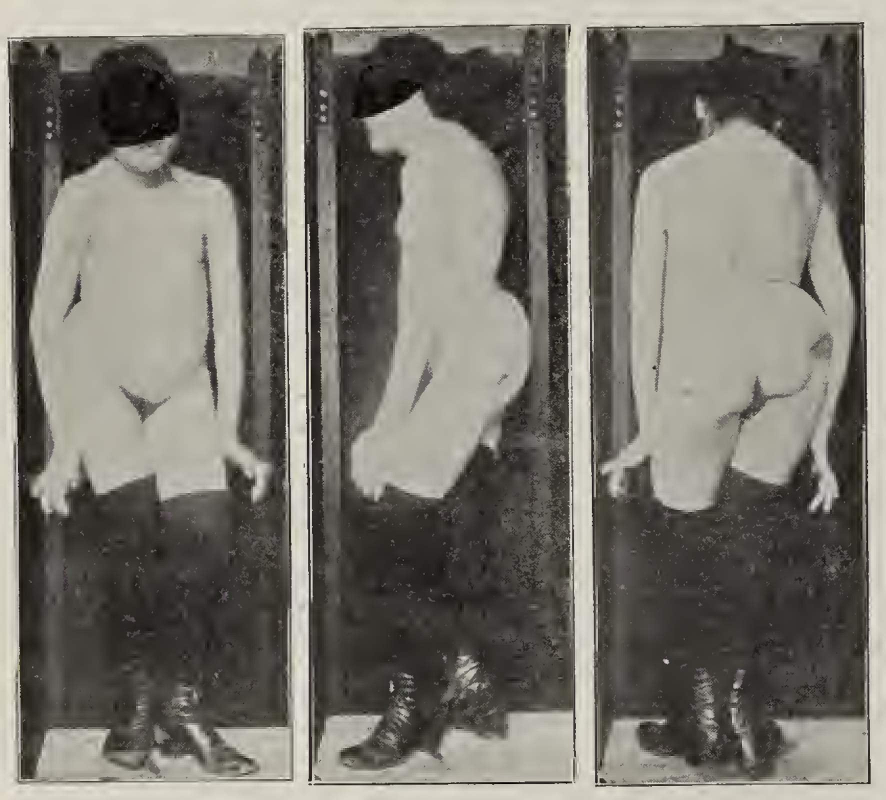

Fig. 1.—Syringomyelia; showing deformity of the spine and atrophy and rigidity of the hands. (Case of Drs. Porter and Mettler.)

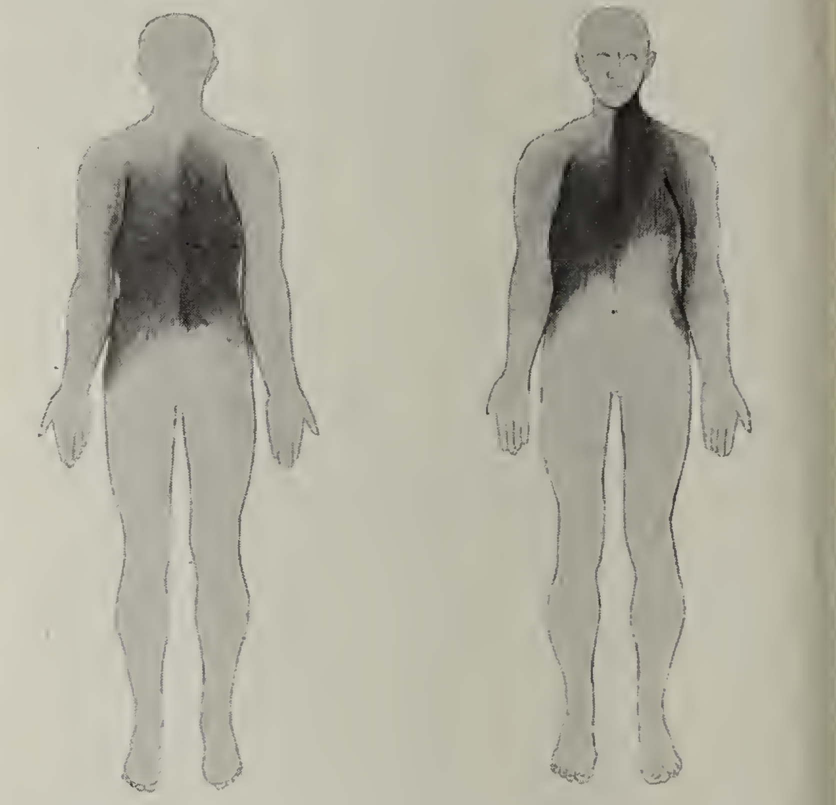

Fig. 2.—Areas of analgesia and hypoalgesia in a case of syringomyelia. In the darkest areas the loss of pain sense was most complete.

Examination.—My examination promptly revealed the well-known symptomatology of syringomyelia, namely, the amyotrophic lateral sclerosis form of progressive muscular atrophy, the dissociation of tactile from pain and temperature senses with more or less suppression of the latter, and the spinal curvature with other arthropathic manifestations. As the photographs (Fig. 1) of the case, taken by Dr. Porter, reveal the atrophies and deformities better than any description can, I will economize space by detailing only the condition of the reflexes and the sensory phenomena, roughly indicated in the diagrams (Figs. 2 and 3).

The reflexes of the upper extremities were all abolished. In the lower, the ankle and knee jerks were markedly exaggerated. An ankle clonus could be readily elicited. The muscles of the lower limbs were in a condition of moderate spasticity. In regard to the sensation, the tactile was perfect everywhere, the patient being able, with her eyes covered, to tell letters of the alphabet traced with a camel's hair brush on any part of the skin. Indeed, it sometimes seemed as if there were an exalted degree of tactile sensibility, a hyperesthesia, in the parts shown by the darker areas of the diagrams. Pressure and localization sense were everywhere intact. In regard to the diagrams (Figs. 2 and 3), I must state that they were made after a single, though a long and painstaking examination. Every precaution was taken against autosuggestion, and yet so variable at times were the patient's answers—not in essentials but in degree of positiveness—that allowance must be made for some inaccuracy in the intensity and outline of the shadings.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

The pain sense was nowhere absolutely abolished. In the darkest areas, however, it approached almost to a complete analgesia. Severe pinching and transfixion of the skin with a needle produced no painful response, though the patient sometimes said she did not exactly like it. The analgesia shaded off into a hypoalgesia in the lighter areas. No sharp line of demarcation could be made out anywhere. Anteriorly, the left side of the thorax and the inner side of the left arm seemed to be the more analgesic. Posteriorly, the thoracic region was almost completely analgesic on both sides, and over a larger area than anteriorly. The outer posterior part of the right arm seemed normally sensitive to pain. Both arms from about midway below the elbow to the tips of the fingers, the whole of the head, a small strip on the top of the right shoulder, and the whole of the lower part of the body below the level of the umbilicus were practically normal in regard to pain sensitivity. The area of pain sense disturbance was uniformly somewhat smaller, both anteriorly and posteriorly, than was that of the temperature sense disturbance.

All over those portions of the body shown by the shaded areas of the figures the temperature sense was more or less lost, though sometimes the patient said "warm" when cold was applied to the skin. In the areas shown by the darkest parts she always frankly stated that she felt only the touch of the hot and cold tubes and was not able to even imagine any temperature differentiation. In the hands, the head, the tip of the right shoulder anteriorly, and the whole of the lower limbs, cold and heat were promptly and accurately distinguished. There were no hysterical stigmata in the case, and mentally the girl seemed bright and well poised.

Sensory dissociation, as a biologic fact, did not provoke any very extraordinary interest until it was recognized as a symptom of syringomyelia. The distinction between the so-called five primary senses was mere commonplace knowledge, and the few observations made by physiology in regard to the pathways of one or more of these primary sensations added but little to our knowledge. Psychology went farther than either anatomy or physiology in analyzing sensation, but without the requisite data from anatomy and physiology it was powerless to offer any satisfactory reason for the variety of sensory phenomena.

Thus matters stood when pathology took up the problem and awakened a general interest in it by somewhat identifying a rare and unusual form of sensory dissociation with a more or less definitely fixed pathologic condition. So frequently appeared together this peculiar break in the complexus of cutaneous sensations and the hollowing of the spinal cord that the former came to be recognized as a pathognomonic sign of the latter. Syringomyelia at once became the great exemplar of sensory dissociation.

In all works on physiology, and even in many on psychology, syringomyelia was pointed to as the final argument for the establishment of the separation of the senses integrally and *ab origine*. Indeed, the very term dissociation, especially when applied to the cutaneous sensations, was always qualified by the adjective "syringomyelia," though the dissociation had often been observed in hysteria and other states in which hollowing of the cord was not even thought of.

The great importance attached to this correlation of the syndrome, loss of pain and temperature sense with preservation of tactile sense, with the hollowing of the cord, has caused, down to the present day, the iteration and reiteration of two gross errors. These are: 1. That syringomyelia can be, all but positively, diagnosed by its peculiar sensory manifestations; 2, that these manifestations are in character at least, if not always in origin, syringomyelic. The former error is kept alive by the positiveness with which the text-books assert that the differentiation of syringomyelia from all other diseases is made by the presence of the phenomena of sensory dissociation, and the latter by the way that we constantly refer to the dissociation as the "syringomyelic syndrome."

Had we not been overwhelmed by the blind and unreasoning enthusiasm of a certain number of prominent pathologists and clinicians, we might have long ago suspected what we are now learning to be true; that is, that this so-called syringomyelic sensory dissociation is, as Grasset first demonstrated, nothing more or less than a localization sign, the expression of a mere anatomic state, such as aphasia or hemianopsia is, and is not in any sense of the word an indication of a disease or of a particular pathologic process. Nay, more, we would have recognized, long before the overenthusiastic identification of the dissociation of pain and temperature sense from tactile sense with hollowing of the cord, that we had been the observers of the syndrome in many cases and forms of disease other than syringomyelia. We would have discovered, on other grounds than mere coarse pathologic observation with its dangerous tendency to the *post hoc, propter hoc* mode of reasoning, that this now called "syringomyelic syndrome" is a functional and not a mere anatomic manifestation. As a functional manifestation it may occur in many conditions, other than mere hollowing of the cord, that disturb the complexus of cutaneous sensation.

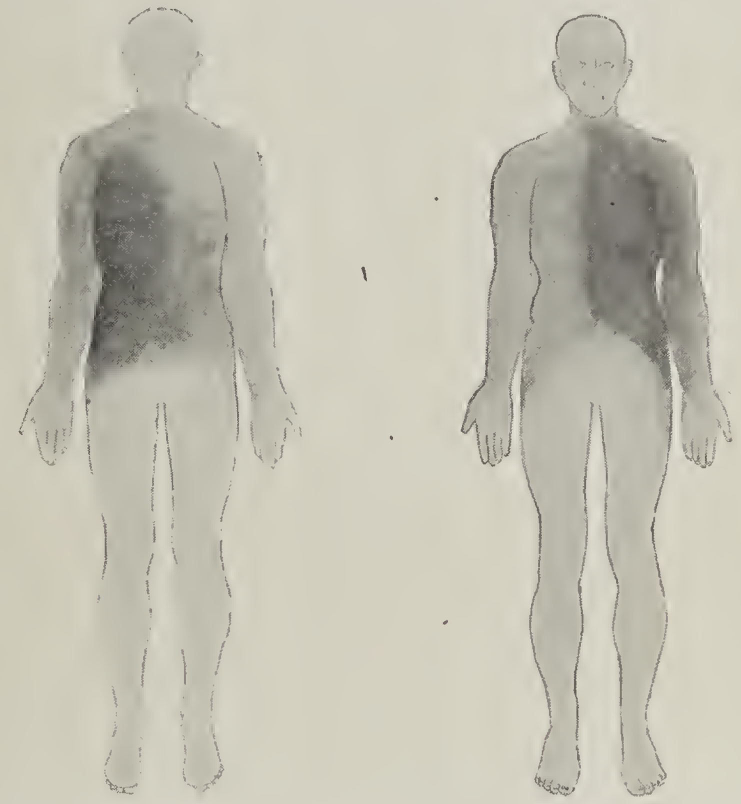

Fig. 3.—Areas of thermoanesthesia in a case of syringomyelia. In the fainter areas cold and heat were both spoken of by the patient as warmth; in the darker areas there was no response as to either heat or cold. The shading is extending a little too far down on the trunk.

This so-called syringomyelic syndrome, on account of the absence of which in two of Joffroy's cases Déjérine contested the diagnosis, though the autopsy revealed the presence of a medullary cavity, saying that "not a single observation of syringomyelia with autopsy had been made in which muscular atrophy was not accompanied by sensory disturbances," has since been seen many times (Lámarcq and others) where there was no hollowing of the cord and *vice versa* (Newton, Strauss, Schlesinger, Charcot, Obersteiner).

To-day it is an established fact that syringomyelia can exist without the dissociation syndrome and the dissociation syndrome can exist without the syringomyelia. As a syndrome the syringomyelic dissociation has been seen in hydromyelia and hematomyelia, in various forms of neuritis, Morvan's disease and anesthetic leprosy, in Pott's disease of the spine, locomotor ataxia, extramedullary tumor of the cord, mixed cases of injury to the cord and nerve roots and cervical pachymeningitis. It has often been observed in hysteria and it has not infrequently been induced by suggestion.

Not only is the syringomyelic sensory dissociation recorded as being wanting in many cases shown at autopsy to be instances of genuine syringomyelia, and not only is it noted in many other non-syringomyelic forms of disease, but even when present in true syringomyelia it seems to lack stability and uniformity. Burr and others have reported cases in which the phenomenon appeared and disappeared in a way that can not be satisfactorily explained on the basis of a definite, uniform, fixed lesion, even though that lesion should exert variable intramedullary pressure by reason of a variable intramedullary gliomatous mass.

As the result of an analysis of thirty-three cases of syringomyelia, Wichmann declares that one of the most striking features of the disease—almost a characteristic—is the remittent type of the symptoms with an occasional remarkable improvement. The experience of Schmitt and Baraban is far from being unique. Their case was diagnosed at various times as tabes, chronic diffuse myelitis, spastic paralysis and lateral amyotrophic sclerosis by various eminent and able diagnosticians, though at autopsy it proved to be a very typical syringomyelia.

Schultz affirms that in many cases there are most assuredly no characteristic symptoms. That this must be true is indicated by Birdsall when he notes that, whereas during the year 1889, for instance, numerous cases of syringomyelia were reported without the verification of an autopsy, the three or four cases that were proved by autopsy to be syringomyelia were not diagnosed as such during life. And, again, the literature in 1890 contained the reports of nine postmortem demonstrations of syringomyelia, in only one of which was this disease diagnosed during life. The same uncertainty as to the symptomatology of syringomyelia is testified to by Obersteiner, Hoffmann, Schlesinger and others.

Roth saw a case of the disease in which there were thermoanesthesia and muscular atrophy, but no disturbances of the pain and tactile senses. Déjérine and Thuilant have put on record a case that exhibited loss of the temperature sense to heat, but not to cold, the pain and tactile senses remaining at the same time perfectly normal. Sometimes the pain sense has been wanting, while the touch and temperature sensations remained intact. To be sure, these are all rare exhibitions, but they are sufficiently numerous, when compared with the whole number of cases of syringomyelia reported and verified by autopsy, to upset one's confidence in the autonomy of the so-called syringomyelic sensory dissociation. Above all, they make untenable all hypotheses which, based on the well-known pathology of syringomyelia, affirm that pain and temperature sensations travel along one side and the same path (Gowers' tract), while touch sensations take a different route. threw a case out of the category of classical syringo-

At one time the slightest degree of tactile anesthesia myelia; to-day it is admitted that a considerable proportion of very typical cases (Kretz, Marwedel, Armand and others) manifest some very slight degree of tactile disturbance when they are minutely and thoroughly examined, while not a few cases present areas of complete tactile anesthesia.

A most suggestive summary of the sensory manifestations of syringomyelia is elaborated by Roth, who, in his classical article on the subject, nevertheless lays great stress on them as diagnostic criteria. He says that thermal anesthesia was found in all of his ten cases, and that this is always the most important sensory disturbance. In seven cases of his own group it was accompanied by analgesia. In two of the cases the areas of analgesia and thermoanesthesia coincided; in others they did not. From time to time there was marked variation in the degree of thermoanesthesia. Its distribution did not follow the distribution of individual nerves, but involved certain parts or divisions of a member.

Rarely does one ever observe, he continues, total loss of temperature sense. The same asymmetry and irregularity of distribution, with variability of intensity, characterize the analgesia. One side of the body may be analgesic while the other side is thermoanesthetic. Tactile manifestations, when present, are equally discordant. The muscular sense usually remains intact. Among the other subjective phenomena, it is suggestive to note sensations to heat and cold, formication, pressure, dull pain, despondency and hypochondriasis. All of which led Roth to say, anent the sensory manifestations of syringomyelia, "It may not be so much a question of the tracts involved as degree of impairment." To the writer's mind, it certainly argues against the association of pain and temperature transmission in the same (Gowers') tract at the same time. It opens the way for the hypothesis that pain is not a sense in the same way that touch and temperature are senses; or that there may be under certain conditions the power of functional substitution among all of the tracts; or, finally, that all three sensations, pain, temperature and touch, are but different modes of psychic reaction, under special conditions, to the same general form of extraneural and neural stimulation. At all events little can be learned from the gross pathology of syringomyelia in regard to the nature or transmission of these cutaneous sensations, and it is premature to thus make use of syringomyelia to discuss sensory dissociation in any other way than as a curious and slightly helpful clinical syndrome.

Church and Peterson's text-book, after speaking of the "sensory symptoms" of syringomyelia as "well-nigh characteristic," goes on to say that "sometimes heat is felt as pain or hot as cold;" that "the distribution of the thermoanesthesia is also significant. Rarely it may be hemiplegic; it is seldom general. Ordinarily it involves the limbs, or portions of them, such as would be covered by a glove or sleeve, a sock or long stocking." In parentheses let me recall the psychic interpretation usually put on this distribution of sensory phenomena in hysteria. Newton tabulates the sensory phenomena observed in syringomyelia thus: Thermoanesthesia almost invariably present; analgesia generally present; tactile anesthesia rarely present; loss of muscular sense rare; also loss of localization sense rare.

Gowers lays less stress on the sensory dissociations as symptoms of syringomyelia than most authors do.

Taken altogether, then, it may be said that the so-called syringomyelic sensory dissociation has lost much of its importance as a distinctive sign of the disease syringomyelia. It is not only variable and unstable in syringomyelia itself, but as a syndrome it is not infrequently observed in many other forms of disease.

Why has this striking form of sensory dissociation thus fallen from its former high appreciation? I think for two prominent reasons, among possibly many others. In the first place, the simple phenomenon, sensory dissociation, was not clearly recognized until it was observed in and studied as a symptom of syringomyelia. In the second place, the teachings of psychology anent the nature and constitution of all sensations, especially the five senses, were not given due weight by physiologists and pathologists until the revelations of syringomyelia showed that at least in one of these five senses, the touch sensation and so-called general sensation of the old physiologists, there was a combination of sensations, as the psychologists had long insisted on.

At last physiology and pathology have demonstrated to their own satisfaction and on their own peculiar type of data the complicated nature of sensation. The complicated nature of all sensations and the possibility of their dissociation, both as common and as uncommon phenomena so long taught by psychology, have at last been acknowledged by physiology and pathology. What was long a mere truism in psychology has finally become even a commonplace in physiology and pathology. As a consequence sensory dissociation has lost its importance as a mere phenomenon, and thus it has lost its importance as a mere symptom of a particular disease. It represents a mere functional or localization disorder.

Just a word to show the commonplace nature of sensory dissociation. The separation of the five senses, touch, sight, hearing, taste and smell, has been so long obvious that it seems almost like an absurdity to refer to it as a form of sensory dissociation. And yet as a matter of fact that is exactly what it is. Phylogeny and ontogeny both demonstrate that these so-called five primary senses are very far from being primary, being, in fact, mere readaptations and evolved elaborations of the primary phenomena of protoplasmic contact.

Mere contact is the one process that lies behind all of these forms of sensation. If the receptors undergo, in the course of evolution, changes to merely adapt them to various modes of external stimulation, that does not modify the axiom that contact is the essential and sole element in the primary constitution of what is called sensation. Psychology and comparative psychology step in here and show us that these so-called five primary senses are more or less dependent on one another for their commonplace expression. Each one of them involves more or less all of the others. In other words, they are in their every-day manifestation nothing but psychic judgments. Analyze and tear them apart and they cease to be the five sensations that we usually refer to. Strip them of their borrowed encrustations, their judgment or intellectual characteristics, and there is left nothing but five modes of contact.

Histology shows that, essentially, the contact process, so far as the nervous elements are concerned, is practically the same for all. This will be shown later in the analysis of sensation. Here I want merely to emphasize the fact that sensory dissociation is seen in so old and commonplace an observation as the separation of sensation into the so-called five primary senses.

Sensory dissociation has been long unwittingly observed in some of these five sensations. Some of these dissociations are almost as permanent and distinct as the dissociation observed between the senses themselves. For instance, form vision and color vision is a sensory dissociation; so likewise is pitch audition as contradistinguished from tone audition. The dissociations in the gustatory and olfactory spheres are less marked, but are none the less present. In the cutaneous sphere there is the distinction between the touch, pain and temperature perceptions.

The similarity of all these phenomena makes it seem strange, now that so little wonderment was shown in the frequent separation of the color from the form vision as compared with the wonderment that has heretofore been aroused by the separation of the pain and temperature senses from the touch sense. The loss of color vision with preservation of form vision is, as a clinical exhibition, not unlike the loss of temperature sense with preservation of tactile sense. In fact, the cutaneous sensory dissociations are not remarkable at all. They fall in line with and are analyzable in the same way that all sensory dissociation is.

I have already noted the cutaneous dissociation in various states of disease. To these I may add those noted by McKeag. Puchelt observed four cases which showed thermoanesthesia, with no impairment of the pain and touch senses. Berger, Mosler, and Landois report similar observations. Thermohyperesthesia occurred in one case wherein the senses of pressure and locality were lost. A case of typhus, according to Fritz, exhibited only analgesia. Gowers had a case that was completely analgesic on one side without loss of the tactile sense. The opposite of this condition has been recorded by Mosler. These look much like hysterical manifestations. In a case of myelitis, Herzen observed a loss to cold and touch stimuli in the lower limbs, with retention of heat and pain sensibility.

Adamkiewicz mentions as an illustration of elective anesthesia the fact that while the sensitivity to touch and pain is increased on the skin area to which a blister has been applied, and is diminished on the opposite side on the corresponding spot, this "sinapismic transfer" does not take place in the case of temperature sensations (McKeag).

To these may be added other modes of the dissociation, noted by McKeag, in which drugs play the etiologic rôle. Donaldson, for instance, found that cocain applied to the conjunctiva destroyed the pain, but not the temperature sense. According to Shore, the tongue of the gymnema revealed preservation of the touch and temperature senses when all other forms of sensibility were lost. Kiesow finds that touch, pain, heat and taste sensations are not equally diminished by the application of cocain to the tongue and mouth. Goldscheider observes that the intensity of the cocain effect differs for different sensations.

The tickle sensation is most affected, next temperature, then taste, and finally pressure, sense of locality and pain. On the tongue a 10 per cent. solution of cocain will cause the sensation of temperature to disappear entirely, while sensations of pain from a mechanical stimulus can still be felt, though much weakened. Contact, though weakened, can still be felt after cold and heat sensations have disappeared. In one experiment, before which the skin was blistered and the epidermis removed, it was found that after the application of cocain, "contact with a cylinder only slightly heated gave a painful sensation without a trace of heat sensation. . . . Mechanical stimulation does not produce this painful sensation." Carbolic acid applied to the tongue in 5 per cent. solution destroys the sense of taste and of temperature, but only weakens pressure and pain. Chloroform and also the drug kava-kava have a similar effect. All of these drugs produce a hyperalgesia toward heat stimuli, whereas menthol produces a hyperasthesia for cold stimuli (McKeag).

According to Ribot, the sense of touch is destroyed by saponin, while that of pain remains unaffected. Richet notes that in the abnormal states provoked by the use of arsenic and belladonna the temperature sense remains, though the skin is anesthetic in other stimulation.

In the normal state, cutaneous dissociation has been observed. For instance, a case of natural analgesia was put on record by Weir Mitchell. Witmer saw a man for some time who could by mere volition render himself completely insensible to pain from pricking, cutting, burning and electrical stimulation (cited by McKeag). These cases bring up the thought of hypnotic suggestion, as a result of which, as I have said, all forms of sensory dissociation seem to be possible.

Psychologically suggestive is the fact noted by Richet that mere contact, for instance, can not be made hyperesthetic. What is contact in the normal state will be observed in the hyperesthetic state, not as mere contact, but as pain. Hyperesthesia for temperature has never been observed in spinal meningitis, according to Dessoir. Brown-Séquard remarked that hyperesthesia does not increase the accuracy of localization; it rather duplicates and multiplies the number merely of the sensations. And thus we see that cutaneous sensory dissociation is far from being an uncommon manifestation both in health and in disease.

There are to-day three general hypotheses or conceptions of the origin, nature and course of sensation. All are more or less authoritatively well supported. In one particular only do they all completely agree, and that is the necessity of the presence of consciousness.

THE ANATOMIC CONCEPTION.

The first conception—perhaps the most popular because it is the most easily apprehended—rests on the old notion of "specificity of nerve function." For every special form of sensory manifestation there is a special nervous element. Pain always travels along pain nerves or paths; tactile, along tactile nerves or paths; temperature, along thermal nerves or paths. The conducting apparatus, including peripheral end-organ, intervening neurons and central receiving station, is always a pain, touch or temperature apparatus and nothing else.

This is rather a crude conception of the nature of sensation. It is predominantly the anatomic conception. It assumes plainly that the impulse which starts at the periphery is *the* sensation and that as such it continues unchanged until it has arrived at the cortical areas, where, in the sphere of consciousness, it is recognized in all of its original specificity.

This anatomic conception forms the background of the three subsidiary hypotheses, involving, respectively: 1, The existence of specific skin areas (Blix, Goldscheider, von Frey and others); 2, specific peripheral nerves and central tracts (Head, Gowers, Bechterew and others); 3, specific central ganglia and cortical areas (the Ferrier school of cerebral localizationists).

The holders of this objective, anatomic conception of sensory manifestation have only to determine the anatomic base of each specific sensation and their task is practically ended. By means of pathologic observation and laboratory experimentation they endeavor to correlate sensory revelations with particular histopathologic changes and thus deduce the basic anatomic *raison d'être* of the specific sensation in question.

This conception does not attempt to explain why, for instance, pain sensation is different from touch sensation; why cold is not the same as heat. It leaves that for others to theorize about. It simply affirms that the nervous apparatus which transmits pain impulses, for example, is separate and distinct and *sui generis* from the apparatus which transmits touch impulses. With or without the assumption that the distinction may depend on the differences in the extraneural stimuli at one end or on the mere psychic judgments at the other end, it postulates practically that the specificity of the sensation itself is sufficiently accounted for by the assumption of specificity in the respective neural elements.

THE PSYCHOLOGIC CONCEPTION.

The second conception of the origin, nature and development of sensation is one almost wholly psychologic and philosophic. It insists that sensation itself, and, above all, every form of sensory differentiation, is a pure content of mind, strictly a psychosis. No mind, no sensation, would be the bald statement of its guiding formula. It argues that impulses, nervous irritability, neuronic excitability or whatever we choose to call it, are terms to be used merely in stating what we unknowingly assume takes place in the physiologic processes lying behind what is denominated in consciousness as sensation. Touch, for instance, is a psychic term; the physiologic correlate is probably a mere chemical or molecular disturbance.

This conception of sensation presupposes a full and complete definition and knowledge of mind. In such a definition, the term sensation would stand for one of the products or integral constituents of mind activity. Whatever the mind is constructed out of, among the innumerable physiologic functions, processes and anatomic elements of the animal organism that may be involved sensation, as we understand the term, is not one of th elementary materials of construction.

It is, rather, one of the end-products or even intermediate products in the constructive process. Just as it i the mind only that sees and hears—that is, gives interpretation to the particular forms of irritability whicl the auditory and visual paths, like all other paths, happen to transmit to it—so it is the mind only that feel and experiences pain and temperature manifestations.

This psychologic conception of sensation leaves t physiology the determination of the physical basis o mind and only insists on the dictum that sensation is manifestation of a psychosis, a change of consciousnes a psychic product or process, made up, it may be, o many elementary but quite different, though interrelated, physiologic products and processes.

THE ECLECTIC CONCEPTION.

The third conception of the origin, nature and development of sensation is somewhat eclectic. It attempt to harmonize the two preceding, somewhat opposin views. It represents the latest scientific thought alon this line. It acknowledges that sensation is a psychi content, even a psychic product, but it also maintain that it is the result of a definite, definable physiologi process in a sort of specific neural apparatus.

It teaches that by means of intercalated neuron ganglia and relay stations of gray matter an impuls that starts at the periphery as a mere chemical or molecular disturbance is so added to, modified and elaborated in its progress upward toward the centers of consciousness in the brain that, by the time it has arrive at those centers, and not before, it has become all tha we mean by the specific term sensation. Sensation is thus a direct product of histophysiologic activity, but it is a physiologic elaboration or summation. It does not exist at the periphery; it is only complete at the center.

I have elsewhere treated in detail these three conceptions of sensation and given the arguments and data *pro* and *con* in regard to them. I will, therefore, merely repeat here the conclusions of my paper.

From the very nature of sensation, dissociation phenomena should not be looked for in mere coarse anatomic differentiation. Sensation, its dissociations and its differentiations with all of their variations is, in its ultimate analysis, a psychophysiologic phenomenon. Its interpretation, therefore, involves, essentially and integrally, the interpretation and explanation of mind.

As psychophysiology postulates that sensations are due to physical stimuli, on the one hand, and to complicated functional processes, on the other, their differentiation and dissociation must likewise be due to differences in the stimuli or in the functional processes. In terms of pathophysiology this would mean that clinical dissociations are to be attributed either to differences in the deleterious, etiologic agents and malign influences at work or to differences in the resistive capacities of the constituent elements of the systematic apparatuses that subserve the manifestation of the specific sensations. In other words, clinical dissociation of sensation is not a matter of mere anatomic structure, but of disturbed functional activity.

Sensory dissociation is not a very valuable symptom *per se*, because in the first place it is as common a phenomenon in the normal as it is in the abnormal state, and in the second place it is dependent not on direct, observable, fixed, histopathologic changes, but on indirect, all but unknown and unexplainable differentiations in the extraneural stimuli and in the processes underlying pure psychosis.

DISCUSSION.

Dr. Charles K. Mills, Philadelphia, did not think that some of the points in Dr. Mettler's paper were well taken. Every neurologist of any considerable experience knows full well, both from living cases and cases with necropsy, that there may be dissociation of sensation in a variety of diseases, such as syringomyelia, peripheral disease, tabes, hemorrhagic myelitis, disease of the parietal lobe, hysteria, etc., but, he said, it is a wrong standpoint to take that this dissociation of sensation is of little or no value to the neurologist. It is not dissociation of sensation which points to syringomyelia, but it is dissociation of sensation with other clinical manifestations. Dr. Mills felt that Dr. Mettler was substituting uncertainty for relative certainty. He has not overturned any of the fundamental positions taken by localizationists.

Dr. L. Harrison Mettler, Chicago, agreed with Dr. Mills that he was substituting an uncertaianty for a certainty. He would rather, however, recognize an uncertainty and go slow than believe in a certainty, which, according to psychologic demonstration, according to the diagnostic findings recorded in literature and according to the latest physiologic observations, is shown not to be such. That is the position which he feels must be taken to-day in regard to the question of sensory dissociation. He wished that he could subscribe to the fact that, in these reactions of the nervous system, certain phenomena of sensation do always make their appearance the same way under the same conditions. The object of his paper, he said, was not to arouse opposition to well-established facts in diagnosis, prognosis and therapeutics, but to show that in our present state of knowledge in regard to the sensory reaction we must not be too hasty or dogmatic. Dr. Mettler took exception to the assertion that sensory dissociation, as a cardinal symptom, determines whether a given case is one of syringomyelia or not. He has seen instances where a diagnosis of this sort was made on the presence of sensory dissociation. Dr. Mettler mentioned instances in his paper of just such errors into which we are liable to fall by resting the diagnosis on the belief that our knowledge is certain.

THE MAJOR OPERATIVE TREATMENT OF MIDDLE-EAR SUPPURATION AND ITS INDICATIONS.*

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The indications for major operative treatment for middle-ear suppuration, together with the operative procedures necessary in the various conditions, must naturally be divided into two distinct classes: 1, the indications and operative procedures in acute cases; and, 2, the indications for operation and the proper operative procedure in chronic cases.

While in acute middle-ear suppuration the indications for operative interference are usually sufficiently clear, it is sometimes difficult to decide whether an operation is absolutely imperative in a certain case, or whether, even in the presence of apparently positive indications for operation, the condition may not resolve.

The two most prominent indications for operative interference on the mastoid in acute middle-ear suppuration are, first, the presence of local tenderness over the mastoid, and second, the sinking of the upper and posterior wall of the external auditory meatus close to the drum membrane. Regarding local tenderness, the persistence of this sign in spite of the fact that drainage from the external auditory canal is free, or the exaggeration of this sign, when drainage from the canal is apparently obstructed. is one of the principal indications for operative interference. The mastoid may be tender either over its entire surface or only over certain areas. It has been my experience that in almost every case of acute otitis media, tip tenderness may be elicited within the first twenty-four hours of the attack, even although free incision of the drum membrane is performed early.

Tip tenderness alone, therefore, in the early stages of an acute inflammation, while it is a sign which should always be borne in mind, is not an indication for operation. Tenderness over the mastoid antrum should, theoretically, appear earlier than tip tenderness, owing to the fact that the mastoid antrum is really a part of the tympanic cavity. As a matter of fact, however, in acute cases antrum tenderness usually appears after the tenderness at the tip. Tenderness beginning over the antrum and spreading toward the tip is a very significant symptom. The importance of local tenderness as an indication for operation depends on the period in which it appears. The tenderness, although very pronounced. coming on at the time of a middle-ear inflammation and persisting in spite of free drainage for forty-eight hours or more, is not necessarily an indication for immediate operation, provided the drainage from the middle ear has been freely established by means of a free incision of the membrana tympani. The same amount of tenderness occurring on the fifth or sixth day of an acute middle-ear inflammation, would render immediate operation imperative. We may say, therefore, in regard to local tenderness that if the middle ear is draining freely through a large incision in the membrana tympani, if the patient is not suffering pain, and if the temperature is but slightly elevated, that the local tenderness may be disregarded for, at least, two days from the beginning of the acute attack. If the temperature is elevated, if the patient is suffering severe pain, or if the discharge instead of being free is only scanty, local tenderness points strongly to the necessity of an immediate operation at the end of thirty-six hours from the beginning of the attack.

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Another important symptom is the appearance of the fundus of the canal. A sinking of the upper and posterior walls of the external auditory meatus, close to the drum membrane, or an actual shortening of the meatus, indicative of distension within the tympanic cavity, or, in rare instances, a slight elevation of the postero-inferior wall of the meatus, all point to inflammatory products within the mastoid, which require evacuation by operative interference. These otoscopic appearances, together with local tenderness, constitute the two most important indications for operative interference. The later the case is observed after the beginning of the acute attack the more imperative is immediate operative interference, the indication being that drainage through the membrana tympani is insufficient.

A study of the temperature in these cases, particularly in adults, is exceedingly misleading. While a temperature elevation would be indicative of the necessity of operative interference on the mastoid, the fact that the temperature is not elevated would, by no means, indicate that operative measures should not be instituted. This is particularly true in the case of adults. In a large number of cases of extensive destruction of the mastoid, following an acute suppurative process, I have found absolutely no elevation of temperature. This afebrile condition is seldom observed in infants. Mastoid involvement in infants is ordinarily accompanied by a moderate amount of temperature elevation and sometimes by a considerable elevation.

The value of the blood count in determining the necessity of operation has not proved itself of much value in my hands. In only a few of the doubtful cases has the increase in the number of polymorphonuclear cells proved a safe guide. In the great majority of doubtful cases the differential blood count has been of but little value. While, therefore, a differential blood count should always be made, negative evidence in this direction should not deter the surgeon from interfering if other signs are present. On the other hand, in the absence of other signs, a positive blood count, that is, an increase in the number of polymorphonuclear cells, should only be taken as an indication for operation, if suppurative lesions in other parts of the body can be excluded. I remember a doubtful case seen in consultation this winter, in which the differential blood count showed 85 per cent. of polymorphonuclear cells. The attending physician assured me that there was no other suppurative condition present. Questioning the patient revealed the fact that he was suffering from a chronic prostatitis. This patient recovered absolutely without any operation on his mastoid. Had we relied on the blood count alone he would have been subjected to an unnecessary operation.

With reference to the discharge from the ear, a sudden cessation of the discharge, together with the appearance of local tenderness and physical signs in the canal, should always constitute an indication for immediate operation. In cases where the discharge has persisted for two or three weeks, a very profuse discharge from the meatus may also be considered as an indication for operative interference. In other words, an acute suppurative otitis, with free drainage by incision of the drum membrane, should clear up in from one to two weeks. If a very profuse discharge continues beyond this time we are almost certain, even in the absence of other symptoms, that there is involvement of the mastoid cells, and that the patient's interest will be best conserved by establishing drainage through the mastoid.

The bacteriologic examination of the discharge is also of importance. While all infections may occasionally cause excessive destruction within the mastoid, we find that the streptococcus infections, the infection of the Friedlander bacillus or the encapsulated streptococcus, usually cause the most extensive destruction within the mastoid, and in the presence of these organisms it is wise to operate earlier than we would do if the infection were either a mixed infection or a staphylococcus infection.

Regarding the advisability of early operation, I believe that the best interests of the patient are conserved by early posterior drainage. I am speaking now not only as far as the life of the patient is concerned, but also regarding the integrity of the organ of hearing. An early mastoid operation subjects the patient to practically no risk if the operation is skilfully performed, while, if the surgeon is in doubt, he is certainly giving the patient the benefit of the doubt as far as the danger to life is concerned, by operating early.

Regarding the function of the ear, we all know how seldom the hearing is seriously impaired after an early mastoid operation, while in cases of suppurative otitis, which are allowed to continue for a considerable period of time—even though the suppuration may ultimately cease—the hearing is very frequently impaired. This is another reason why we should urge early operation in all doubtful cases.

I will go into the technic of the mastoid operation but briefly. The first step after the exposure of the mastoid by an appropriate curvilinear incision supplemented, if necessary, by a posterior incision at right angles to the center of this, should be the removal of the mastoid cortex. This is best done by a large gouge. The mastoid cortex being removed, there are three regions which the surgeon must thoroughly explore: First, the mastoid antrum, which must be cleared of all inflammatory products so as to afford free drainage from the middle ear through the posterior opening. Second, the cells at the mastoid tip must be completely removed, as it is here in acute cases that we frequently find foci of infection, even though the antrum may contain no pus. Third, a careful investigation of the cells at the root of the zygoma, as in this region infection is common, particularly in children. All of the pneumatic spaces of the mastoid should be freely broken down by means of the curette, but the antrum, the tip cells and the zygomatic cells should receive special attention.

I will not speak of accidental injury to the lateral sinus or injury to the facial nerve. The sinus is frequently exposed during the conduct of the operation for acute mastoiditis, but the mere exposure of the sinus constitutes no menace to life. An accidental wounding of the sinus, while it opens the possibility of septic infection through this large venous channel, is seldom a fatal accident. The hemorrhage is easily controlled, and if the operation is conducted properly infection seldom occurs.

Injury to the facial nerve is exceedingly rare in the operation for acute mastoiditis. I think I have seen it occur once or twice in over five hundred operations.

After the operation is completed, one of three methods of treatment may be followed as regards the dressing of the wound: First, the wound may be simply packed with gauze and treated as an open wound, allowing it to heal from the bottom; second, the wound may be completely sutured, having been previously allowed to fill with blood in the hope of obtaining primary union and organization of the blood clot; third, the wound may be sutured throughout the greater portion of its extent and a narrow gauze drain inserted into the cavity so as to obtain healing of the major portion of the wound, by first intention, and the probable organization of a large portion of the contained clot. Of these three methods I believe that complete suture, with organization of the blood clot, is applicable to only a very small proportion of cases. In forty mastoid operations performed during the last year complete or partial suture was employed in a considerable number. In every case of complete suture, with one exception, the wound broke down and healing, in every instance, was effected by packing. A certain proportion of the cases of partial suture were successful, and this method is applicable to certain cases where the disease is not very far advanced. In the large majority of cases, however, I believe that the open method is the one which yields the best results and which is least liable to be followed by recurrence.

There is a class of cases which should be spoken of here, in which, after an apparently successful mastoid operation, the wound either fails to heal or, after perfect healing has taken place, the wound subsequently breaks down, a subperiosteal abscess appearing beneath the old cicatrix. In almost every case of this kind, where recurrence has taken place, I have found that the radical operation was the only procedure which effected a cure. This is invariably true of cases where, in addition to recurrence of the mastoiditis, we have a discharge from the external auditory canal. In a few cases a recurrent mastoiditis may be due to imperfect removal of the cells either at the tip of the mastoid or at the root of the zygoma. Almost always, however, these recurrent cases are due to caries in the tympanic vault, a condition which can only be relieved by the radical operation.

When we come to consider the cases of chronic middle-ear suppuration, and the operative procedures indicated for their relief, I believe that every case of chronic middle-ear suppuration should be subjected to the radical operation. This applies not only to cases suffering from a persistent purulent discharge, but also to those cases where there is a history of intermittent discharge, or to instances where there is only a slight discharge from the canal. In the class of cases last alluded to, the discharge may never be profuse, but may be so slight as to simply form a crust on the upper and posterior wall of the canal, and on the removal of this crust a small quantity of pus may be seen coming from the tympanic vault. It has been my experience that cases of this character and cases of intermittent discharge are frequently more in need of operative interference than are those cases where the discharge is very profuse. In a large number of instances I have operated on patients where the discharge has never been profuse, and have found very extensive destruction within the tympanic cavity.

The otoscopic appearances demanding radical operation vary considerably. I think we may lay it down as a definite rule that, in every case where we have a sinus leading into the tympanic vault, and where a discharge is present, these cases should be operated on, even although the perforation is small. Cases where granulation tissue is present will ordinarily demand operation. In every instance where a perforation exists above the short process of the malleus, that is, in Shrapnell's membrane, operative interference is absolutely indicated. A few cases of chronic suppuration, with a small perforation in the lower portion of the membrana tympani, may recover by free incision of the drum membrane thus draining the tympanic cavity freely, and in a few other cases where the drum membrane has been extensively destroyed, dermatization of the tympanum may take place in spite of the destruction of the drum membrane, and the ear may never discharge. These cases do not need operation. In all other instances, however, I believe that the radical operation is indicated.

The ordinary technic of the radical operation is so familiar that it is not necessary for me to enter on it here. The only point which I wish to emphasize is that, in performing this operation, every diseased cell must be entered and thrown into the radical cavity. In order to accomplish this end, the incision through the soft parts should lie further behind the line of auricular attachment than is necessary in performing the operation for acute mastoiditis. This allows the anterior flap to cover the radical cavity completely when the flap is returned to its position and avoids any external deformity.

In the radical operation the incision should begin at a point just below the tip of the mastoid and should extend upward and backward to the point of superior auricular attachment, being located at least half an inch behind the line of posterior auricular attachment. When the anterior flap is elevated, almost the entire mastoid cortex will be exposed without any very extensive elevation of the posterior flap.

The first step in the radical operation is to enter the mastoid antrum. This is best done by removing the bone by means of a large gouge, so as to enlarge the external auditory canal, the outer portion of the posterior wall of the external meatus being broken down at the same time that the mastoid cortex is removed. The antrum should be opened in the usual situation, that is, in the suprameatal triangle. As soon as this is accomplished, the operator is able to map out with the probe the size of the antrum and to modify his technic somewhat according to the conditions found. If the antrum is large and extends for a considerable distance backward, the cortex of the mastoid should be removed backward to near the posterior limits of the antrum. This gives a large field of operation and renders the subsequent steps of the procedure more simple. This having been done, it is necessary to break down the bridge of bone covering the aditus ad antrum, so as to expose the prominence of the horizontal semi-circular canal. This bony prominence is an important landmark and should be sought for as soon as the bridge of bone separating the external auditory meatus from the mastoid wound has been broken down.

The next step is the removal of the external wall of the tympanic vault. This is best done either with the gouge or with the curette. It is exceedingly important that the horizontal semi-circular canal should be recognized early, as its position varies considerably in different cases, that is, in some cases the antrum and tympanic vault lie very high, while in other cases they are placed at a lower level. In the one instance, if the operator removes the bone too low down, he is almost certain to injure the facial nerve. In the other instance, if he tries to avoid the facial nerve and remove the bone high up, he is almost certain to enter the middle cranial fossa. The only safe plan, then, is to remove the bone cautiously until the prominence of the horizontal semicircular canal can be seen, and as soon as this is recognized to remove the remainder of the outer wall of the vault and also any overhanging edges of the outer wall of the antrum. The ossicles should next be removed either with the curette or forceps. Any granulation tissue lying in the tympanic cavity should be curetted out. Hemorrhage is sometimes annoying, as it obscures the field of operation, but this may be controlled by packing the cavity with strips of sterile gauze, saturated in a 1/1000 solution of adrenalin chlorid, and allowing the packing to remain in place for a few minutes. It is exceedingly important to have the field of operation as free from hemorrhage as possible in order to avoid the accidental injury of important structures, such as the facial nerve, or the accidental dislocation of the stapes.

After the radical cavity has been roughly formed in this manner, there are three points the operator must carry out: First, the obliteration of the posterior tympanic space by the cautious removal of the posterior wall of the external auditory meatus; second, the obliteration of the hypotympanic space by the removal of the inner extremity of the inferior wall of the canal, and, third, the thorough curettage of the tympanic orifice of the Eustachian tube, in order to secure the obliteration of the tube at its tympanic orifice, and the complete separation of the radical cavity from the vault of the pharynx. The posterior wall of the external auditory meatus may be removed as low down as the plane of the inferior wall of the bony meatus for a distance of two-thirds of its extent from without inward. Its removal for the inner third of its extent must be cautiously performed, a ridge being left which slopes upward to join the ridge of the horizontal semi-circular canal. In this way the descending portion of the facial nerve is avoided, excepting in very rare cases where the facial nerve runs obliquely through the mastoid. If the posterior wall is removed cautiously by means of the gouge and curette, the bony spur being first sloped from the floor of the external orifice of the meatus upward to the plane of the horizontal semi-circular canal, and the outer portion of this sloping bony wall is gradually cut away with the gouge or curette, keeping the field of operation perfectly clear, the facial nerve may be avoided, in this position, in every instance. In the obliteration of the posterior tympanic space, I have found the gouge cautiously used, supplementing its use with the curette, to be the best method of obliterating the space and, at the same time, preserving the integrity of the facial nerve. The hypotympanic space is best obliterated by means of the curette, the instrument being used to cut down the inferior wall of the meatus at its inner extremity, until the space is obliterated. In curetting the mouth of the Eustachian tube, it must be remembered that the curette should only be employed upward and forward. The use of any cutting instrument in the tympanic orifice of the Eustachian tube in a backward and downward direction imperils the internal carotid artery.

Regarding injuries to the facial nerve, although the nerve may be injured in its downward course, the technic advised will usually avoid such an accident. Most frequently the facial nerve is injured in its horizontal portion as it crosses the tympanic cavity from behind forward, lying in the aqueductus Fallopii. This portion of the tympanic cavity should be subjected to very cautious curettage in the removal of granulations. The curette should never be forcibly used in this region. Exposure of the dura in the middle cranial fossa is frequent in these operations. It constitutes no menace to life, and a number of operators remove the roof of the tympanum and mastoid antrum in every instance, in order to be absolutely certain that no carious bone remains in this region. My own practice is to remove the roof of the tympanum and mastoid if they are carious; otherwise to leave them in position. The same may be said about the bony covering of the lateral sinus. It may be necessary to expose the lateral sinus during the radical operation. It certainly is necessary if the outer wall of the groove shows any disease. If we can avoid exposing the sinus, however, so much the better.

In a large proportion of cases of chronic suppurative otitis which come under observation, it is not necessary to remove the mastoid tip. In most cases of chronic suppuration, the mastoid is sclerotic and the cells at the tip are completely obliterated. In other cases, the tip cells, although present, are perfectly healthy. My own rule is to follow the mastoid structure carefully until every trace of diseased bone has been removed. If the cells leading toward the tip appear healthy, I do not consider it necessary to obliterate them. In two cases recently seen, all of the cells at the tip were filled with cholesterin. In these cases it was necessary to remove the tip cells. Of course, if the tip cells contain pus, they should, in every instance, be obliterated.

Having completed the radical cavity, certain measures are necessary to secure its rapid dermatization. Foremost of these is the enlargement of the meatus by a plastic operation. Several varieties of plastic operation are advised. In one the meatus is split longitudinally along its posterior aspect, the incision being carried well out into the concha. From the conchal extremity of this incision, two incisions are made at right angles, one upward and the other downward, so as to form two quadrilateral flaps. The cartilage is removed from these flaps, and the upper one is stitched upward on itself, the other one downward on itself, in this way widening the meatus and forming a partial dermic lining for the radical cavity. In another form of the plastic flap, that is, the one known as the "Körner" flap, one incision is made from the inner extremity of the meatus outward into the concha along the postero-superior wall of the meatus. Another incision, of similar length, is made along the postero-inferior wall. The cartilage underlying the tegumentary covering of this flap is removed, and this large quadrilateral flap is reflected backward into the radical cavity, partially lining it.

While both of these methods have their advantages, I believe the best method is the formation of a tongue-shaped flap from the meatus. This is formed in the following manner: A director is inserted through the posterior wound into the canal and pressed down close to the floor, the point of the director emerging through the meatus. The meatus is then split by means of the knife passed along the groove of the director, care being taken that as the knife approaches the concha it enters the canal at its very lowest point, at its antero-inferior angle. The blade of the knife is then turned backward and upward and swept around the margin of the meatus into the concha, it being carried as far upward as the anterior crus of the antehelix. In this way the meatus is uniformly enlarged. The cartilage and fibrous tissue are then removed from this tongue-shaped meatal flap, and the flap is turned upward and backward into the posterior opening and stitched to the raw surface on the posterior aspect of the auricle or, in some cases, to the very lowest portion of the temporal fascia or temporal muscle. This reflected skin flap will, when the auricle is sutured backward into position, cover the roof of the tympanum and a portion of the roof of the mastoid antrum.

A few words should be said here about the extent to which the external auditory meatus should be enlarged. I believe in forming a rather large meatus, as in this way free drainage of the radical cavity is secured and dermatization is very much hastened. The degree of enlargement will in every case depend on the size of the radical cavity. With a large radical cavity the new meatus should be much larger than if we have a narrow mastoid and consequently a small radical cavity. It is particularly important to secure a very wide meatus in children. In these young subjects the subsequent dressings are difficult, owing to the terror of the child and to the necessary pain incident on the procedure, and it will be found that the ultimate result will be very much better if in young subjects a very wide meatus is formed; that is, if a large conchal flap is made.

After the plastic operation has been performed, we next come to the treatment of the radical cavity itself. My own preference is to line this cavity completely with a Thiersch graft at the time of the primary operation. I invariably do this except in cases where there has been exposure of the dura in the middle cranial fossa, where the sinus has been exposed, or where the case has been so foul at the time of operation as to preclude the possibility of a graft adhering if introduced. The Thiersch graft is best taken from the inner aspect of the thigh and should be sufficiently large to completely line the radical cavity. While the graft is being cut, the radical cavity should be thoroughly packed with a strip of gauze, saturated in a 1/1000 adrenalin chlorid solution, so as to completely exsanguinate it. It is also well to pack the posterior wound and the meatus in a similar manner, so that the tissues may be absolutely bloodless when the operator is ready to introduce the graft. With a bloodless field the graft is easily put into position. The technic, roughly, is to slide the broad graft off from the spatula so as to completely cover the large radical cavity; that is, one margin of the graft is placed in contact with the anterior wall of the meatus, being held here by means of a director in the hands of an assistant, and the spatula is removed so that the graft really bridges over the entire cavity. The graft is then pressed in at its center by means of the director until it roughly applies itself to the radical cavity. A glass pipette is then introduced beneath the graft and the air is sucked out. The graft will immediately fall into position and apply itself closely to the entire radical cavity. It is then held in position by pledgets of cotton covered with aristol, these being packed tightly, so that perfect apposition between the walls of the cavity and the graft is obtained. A sufficient number of pledgets are introduced to hold the graft perfectly in position; that is, to fill up the entire radical cavity. A strip of sterile gauze inserted into the cavity completes the dressing. A graft should next be applied to the margin of the concha, cut in forming the flap for enlarging the meatus. This may be applied through the posterior wound, the graft being introduced posteriorly and wound around the cut margin of the enlarged meatus until it appears in the concha. It is then carefully spread out so as to completely cover the raw surface on the floor of the meatus and on its posterior aspect. The posterior wound is then entirely closed either with silkworm gut sutures or with the subcuticular suture of silver wire, if this is preferred. The ordinary dressing is then applied.

In cases where the disease has been so extensive as to necessitate exposure of either the sinus or the dura in the middle cranial fossa, it is not my practice to employ a primary graft. These cases may either be grafted secondarily, at the end of two to ten days after the primary operation, or they may be allowed to heal by dermatization, from without inward. In every instance the posterior wound is sutured. Where the dura or sinus has been exposed extensively, it is my practice to pack off the dural area with a separate strip of gauze, the lower portion of the middle-ear cavity being packed off with a strip of iodoform gauze brought out through the external meatus. A second strip of gauze is similarly packed over the exposed dural area and brought out of the meatus above the first strip. The posterior wound is then completely sutured. In these cases it has been my habit to use a meatal graft at the time of the primary operation, this graft being applied over the cut edge of the concha after the posterior wound has been sutured. In other words, the graft is introduced through the external auditory canal and made to cover the cut surface. It is extremely important to employ a meatal graft wherever possible, as it prevents the appearance of granulation tissue about the margins of the meatus during the process of healing and the patient is spared a great deal of pain during the subsequent dressings.

Posterior drainage is seldom employed in the radical operation. In some cases, where the operation has been very extensive and complete suture of the wound would leave a dead space at the lower angle, I have inserted a strip of gauze into the lower angle of the wound to serve as a drain. This practice has also been employed in certain cases where the sinus has been exposed in its lower portion. This gauze drain is removed at the first dressing and is usually replaced at the second and third dressings, after which time it may easily be dispensed with

The results obtained from this operation have been exceedingly satisfactory in my cases. In over 85 per cent. of the cases the ear has become perfectly dry after the operation. In most of the remainder the discharge has been greatly diminished in quantity. In only a very small proportion—I should say less than 2 per cent.—has a second operation been necessary.

Regarding the mortality of the procedure, I think we may say that the operation is entirely devoid of risk. In a few cases the patients have died, but in every instance these patients were probably suffering from intracranial disease prior to the radical operation, and the radical operation simply failed to relieve this condition, but could not be held responsible for the death of the patient. The only case directly traceable to the operation was that of a patient who died of pneumonia following the administration of the anesthetic.

The effect of the operation on the hearing has been very satisfactory in my cases. Out of over two hundred and fifty operations performed, in only a very small proportion of cases has the hearing been made worse. In a considerable proportion of cases the hearing has improved, and in the balance it has remained the same as before operation.

In very few of the above cases were there any labyrinthine involvement. I have purposely omitted mentioning the symptoms of labyrinthine involvement, as they simply form an addition to the clinical picture and merely render the indications for operation more urgent. Labyrinthine involvement is frequently unrecognized until the time of operation either for an acute middle-ear suppuration or for a chronic suppuration. When symptoms are present, they consist of vertigo and a certain amount of incoordination. The vertigo may vary considerably, but the patient tends to fall to the side opposite to the ear involved. Nystagmus is also a symptom frequently observed, although it should not be depended on too much, as it occurs in cerebellar abscess and has been noted in other intracranial conditions. One sign of considerable significance is that if these patients are made to put their feet together and then are asked to hop forward with the eyes closed they are unable to perform this movement in a straight line. This sign was first demonstrated by von Stein, of Moscow. In addition to the above symptoms, there is usually marked impairment of hearing, diminished bone conduction and a lowering of the upper tone limit. This last sign is present only when infection takes place through the oval window.

Owing to the fact that many fatal cases of meningitis and cerebellar abscess have been traced directly to infection of the labyrinth, the surgeon should always remember the possibility of such an involvement in every case of chronic middle-ear suppuration. In the cases which have come under my observation, with a single exception, there have been no symptoms which would lead the surgeon to suspect that the labyrinth had been attacked. In this one case there were well-marked vertiginous symptoms. Whether the symptoms point to labyrinthine involvement or whether these symptoms are absent, it is the duty of the surgeon in every case of middle-ear suppuration, and more especially in the chronic cases, to assure himself at the time of operation of the condition of the labyrinth. If symptoms indicative of labyrinthine involvement have been recognized prior to operation a most careful examination should be made at the time of operation in order to determine whether or not the labyrinth is involved. The most frequent avenue of labyrinthine infection is undoubtedly the horizontal semicircular canal. This has been involved in most cases which have come under my observation. In other cases, infection takes place through the oval window. This was the avenue of infection in one of my cases.

The proper operative treatment consists in thorough drainage of the labyrinth. If there is a small carious area over the horizontal semi-circular canal, frequently the only treatment that is necessary is to remove this softened bone, thus entering the lumen of the canal. A careful inspection of the oval window should then be made to see whether or not this suppuration has extended to the vestibule. In a certain number of these cases, the disease is limited to the horizontal semi-circular canal, and all the interference that is necessary is to open the lumen of the canal widely and to pack the wound with a strip of iodoform gauze, so as to secure free drainage and prevent further infection. If the suppurative process seems to involve the entire labyrinth, that is, if, in addition to an erosion over the horizontal semi-circular canal, there is a purulent discharge from the oval window, it is then necessary to destroy a considerable portion of the labyrinth. When there are signs of involvement of the vestibule, that is, when there is a purulent discharge coming from the oval window, the operator first enlarges the oval window downward and forward by means of the curette and a small gouge, thus draining the vestibule and also the lower portion of the cochlea. If the infection is confined to the vestibule, this drainage will be sufficient. If, however, there is also erosion of the horizontal semi-circular canal, it will be necessary, in addition to the vestibular drainage, to remove the carious bone in the region of the horizontal semi-circular canal in exactly the same manner as though this latter region were the sole site of involvement. It is also wise, in these extensive cases, to break down the outer wall of the horizontal semi-circular canal to a point as near the vestibule as possible, at the same time enlarging the oval window in the manner already described. Naturally, the opening in the horizontal semi-circular canal can not be continued directly to the vestibule, on account of the course followed by the facial nerve. The outer wall of the semi-circular canal should be cautiously removed in the direction of the vestibule to a point just above the facial nerve. Enlargement of the oval window downward and forward does not menace the integrity of the nerve and secures complete drainage of the labyrinth. If this narrow bridge of bone directly above the oval window is left intact, the integrity of the facial nerve can be preserved and at the same time the labyrinth be thoroughly drained.

In cases of labyrinth suppuration, in which the radical operation has been performed, it is, of course, understood that primary grafting can not be employed. The suppurating focus within the labyrinth should be carefully isolated by means of a separate iodoform gauze packing, and no attempt should be made to graft the diseased area until all purulent or seropurulent discharge from this region has ceased. Secondary grafting may be employed in these cases as soon as there is no serous or seropurulent discharge from the labyrinth. Four cases of labyrinthine suppuration have come to my attention during the past year. In every instance the patients have made a complete recovery, and in only one case were there any symptoms of labyrinthine involvement prior to operation.

17 West Forty-sixth Street.

DISCUSSION.

Dr. Frank M. Cunningham, Macon, Ga., said that he recently had an experience like this: Several days following an apparently normal mastoid operation his patient had a chill, followed by a sudden rise of temperature. In acccordance with the rules laid down he thought he would expose the sinus. He maintains, in conditions of meningitis with symptoms not unlike those in beginning sinus thrombosis, that if we open the sinus and make an artificial thrombosis, we produce the very worst effect on the meningitis; we have aggravated rather than improved the condition. Dr. Cunningham said that in the intermissions of a high temperature and a low temperature patients sometimes present an almost normal character, especially children. They will be so well they will want to get out of bed, and he is led to believe that attention to the general appearance of the patient does not count for a great deal in sinus thrombosis. The mental state of patients in this condition is sometimes clear up to the moment of death. He said his experience in over fifty cases in the last two years has been that the effect of the radical operation on the hearing is bad. He had had only a few patients in whom the hearing was unchanged; in the great majority the hearing was a great deal worse. For the first six months the hearing was apparently better; after that time it diminished rapidly. At the time of operation the patient should be told of the ultimate effect on the hearing.

Dr. Herbert E. Smyth, Bridgeport, Conn., said that while Dr. McKernon stated that direct infection of the jugular bulb from the tympanic cavity usually occurs in young children, he had recently had a fatal case in a boy of 15. The patient was taken with pain in his right ear, April 13, followed a few days later by a free discharge, there being no other local symptoms, and his temperature, which had been above 104 F., dropped to normal. When seen twelve days later, or on the twenty-third day of the illness, it was learned that his temperature had continued irregularly high during the interval, with the occurrence of chills. The middle ear had recovered, but there was tenderness over the posterior part of the mastoid, stiffness of the muscles of the neck, especially of that side, and a throbbing headache. On opening the mastoid very little disease was found, and with the exception of free and persistent venous bleeding, there was nothing to indicate involvement of the sinus. For a few days the patient seemed better, when he had another chill and a recurrence of the high temperature. Further operative measures were refused and chills, chilly sensations and high temperatures became the rule until the patient's death on the forty-fifth day of the illness. No autopsy was allowed, but his symptoms made positive the diagnosis. The temperature from the time it was systematically taken on the twenty-fifth day of the illness was remarkable, going repeatedly above 105 F., often above 106 F., and twice above 107 F., the highest being 107.6 F. by the mouth. On two or three occasions only, during the entire illness, did it go down to normal.

DR. WENDELL C. PHILLIPS, New York City, said that in regard to opening the lateral sinus, when performed by men who have the judgment possessed by the authors of these papers, it is a safe procedure, but it should only be done in the presence of positive evidence of disease. For younger operators and those less experienced, he said, a word of caution is necessary. Exploratory opening of the lateral sinus is dangerous. He has seen it opened and an apparently healthy state of affairs revealed, to be followed by thrombosis. Dr. Phillips said he fails to understand how it is possible for Dr. Dench to get any benefit from skin grafting at the primary operation. He can not understand how a skin graft put on bare bone, without granulations, is going to hold. As to the final results in Dr. Dench's cases, he has about the same experience that most of us do; in nearly 80 per cent. of cases we get perfect healing, without any further pus. At the same time many of these patients have to be watched for a long time before getting that result, and there is a considerable proportion of the cases in which the patients require further operative interference. As to the hearing, he believes the radical operation has no particular effect one way or the other.

DR. CULLEN F. WELTY, San Francisco, said that his only criticism is that Dr. Dench makes the statement that every patient with chronic suppuration of the middle ear should be operated on and then follows it with qualified indications. To his notion, Politzer makes a very clear and concise division of this subject, dividing the indications for operation into objective and subjective symptoms.

DR. G. L. RICHARDS, Fall River, Mass., said that the medical pendulum seems to swing from one extreme to the other; one year ago we went home and told our patients that every one must be operated on, and this year we will tell them that a wave of conservatism has struck us. He asked Dr. Dench what his experience is relative to the time required for complete cure after operations for chronic suppurative ear trouble; the time required when he did not use skin grafting, and when he uses it now; when the patients get well or disappear from observation. What is the time in days, weeks, months, or years? It is important for us to know.

DR. JOSEPH A. STUCKY, Lexington, Ky., said he would like Dr. McKernon in closing the discussion to emphasize two or three points, the most important being the pathognomonic indications for interfering with the lateral sinus, or doing secondary operation and opening the sinus. He said regarding the fact that Dr. Dench does not advocate the blood clot, he has, with a good deal of trepidation, entered that field and used the modified blood clot, and could report on his thirty-third case. Three patients were operated on the week he left. The result has been very gratifying where he used the perforated rubber tube but no gauze. After radical operation he has used this perforated tube instead of packing. He allows this tube to remain two or three days, after which he uses no dressing at all.

DR. W. C. PHILLIPS, New York City, said he had a case recently of a patient with acute mastoiditis, which became subacute, with a profuse discharge from the ear. For about ten weeks the pus poured out through the external meatus. After ten weeks he did a mastoid operation and discovered that the entire covering of the lateral sinus was necrosed. The lateral sinus was black and it was difficult to compress it. His diagnosis, in the absence of temperature, was aseptic thrombosis. The patient made a good recovery. He wanted to know if we have cases of aseptic thrombosis.

DR. HENRY O. REIK, Baltimore, said that where Dr. Dench speaks of his preference for the open method, and not having recurrence by blood clot operations, that the blood clot either breaks down or unites and we have primary union. He opposed Dr. Dench's view that "every case of chronic middle ear suppuration should be subjected to middle ear operation." We have heard the other side of the case, he said, ably presented by Dr. Theobald, representing the other extreme, and Dr. Jack holds a middle ground in recommending middle ear operations. He has observed a great deal of Dr. Theobald's work, having been his assistant for many years, and he follows his treatment largely in the beginning work of otitis media. He sees a large number of cases in which the patient can be cured by attention to the ear, syringing through the external auditory canal with a middle ear syringe. Then a number of cases which do not yield to that treatment get well under middle ear operations. So he finds a small percentage of chronic middle ear cases demanding radical operation.

DR. FRANK ALLPORT, Chicago, said it seems as if there must be some middle ground between the two extreme views expressed. He does not see how the ultraconservative gentlemen, with regard to the mastoid operation, are going to reconcile their views with actual conditions. What is going to be done in a case in which there is persistent discharge where to the best of our knowledge and belief the discharge proceeds from a point that is beyond the middle ear area? He does not see how ossiculectomy and introducing drainage can assist in those cases where there is antrum involvement. While he is not prepared to say that it could not be, he doubts very much whether ossiculectomy will cure antrum necrosis. Treatment of the nose and pharynx are useful, but if you have an actual condition of necrosis that is beyond a visible area, or beyond a reachable area by intramedial means, he does not see what is going to be done in those cases except operate, any more than a diseased appendix is going to be permitted to remain because of conservatism in the treatment of appendicitis. In a case of caries in any other part of the body, because of conservative tendencies, should we allow a necrosis of any structure to go on year after year, suppurating and necrosing still further and do nothing? Dr. Allport said the necessity for activity is highly necessary in cases of temporal bone necrosis over and above necrosis in other parts of the body. Necrosis of the vomer might be allowed to go on unattended, by a conservative surgeon, for some years without doing essential damage. But every man of experience realizes that temporal bone necroses are contiguous to vital parts. A discharging ear accompanied by well-marked mastoid or brain symptoms should be operated on at once. Cases of discharging ears unaccompanied by such symptoms may be treated by suitable conservative measures for a few months, after which if the discharge does not cease the radical mastoid operation should be performed.

DR. WILLIAM L. BALLENGER, Chicago, said that the particular question in reference to Dr. Dench's paper is whether the radical mastoid operation is a justifiable procedure or whether we should take up the so-called "conservative" methods. There is great danger of our getting wrong opinions as to the real situation if we believe all that has been said in this discussion. This means that we are in the midst of an educational transition, our ideas are changing, we are beginning to differentiate the indications for the radical mastoid operation; it is just as good an operation as ever for selected cases, but in certain other cases the Heath, or some other operation, is better, as the hearing is preserved or improved. If we were to follow the impressions some of us are getting we would abandon the radical operation and substitute therefor simple washings and the other local treatments we tried many years ago with disastrous results to many patients, and the result would be that in the next ten years many more patients would die of meningitis and sinus thrombosis, than if we continue to hold pretty fast to the lines we have been following for the last ten years. In spite of this, we should study our cases more carefully along the lines presented in the papers and try the simpler methods, but failing with them we should, as in the past, look to the radical mastoid operation. Dr. Ballenger said he stands for "rationalism" rather than that type of "conservatism which would cure all patients without surgical interference. Rationalism may mean true conservatism, or radicalism. It means know your case and do for it what is indicated, whether it be simple treatment or the radical operation.

Dr. Alex. B. Randall, Philadelphia, said that all the chronic suppurative conditions are due to cholesteatoma. That is not absolutely true, but truer than that all need operation; true enough to be borne in mind by a great many who have these things to deal with. The engrafting of the epithelium of the canal, especially of the drum head, on the surface of the tympanic cavities and the formation therein of laminated masses of cholesteatoma is an essential process in a majority of chronic ear suppurations.

He said he had been at work on this subject for the past twenty years and had been studying it closely, with about forty cases a year to put on record. He has treated and cured hundreds of patients, although very few have been subjected to ossiculectomy, or operation on the mastoid or tympanum. Operation, he said, is in fashion, not because Dr. Dench and others really believe in doing these things wholesale, but because they are so understood by the men who take the papers without a grain of salt, as the text of his present paper can not be taken. Dr. Randall thoroughly believes in doing the Stacke operation. We can frequently go in, not from the surface of the mastoid, but from the depths of the canal, as done by Wolff and Stacke, cut a niche in the back wall opening into the attic, extend the opening freely into attic and antrum and clear up the deeper portions of what we must still call the tympanum; remembering, as has been frequently emphasized, that the middle ear reaches from the tube-mouth in the pharynx to the remotest pneumatic cell. We must call these the tympanic cavities, three of them, the lower drum-cavity, the attic space above and the antrum behind. We can clean up all three and pursue the disease as far as need be, and need not go any further outward toward the mastoid than is requisite. He has never been a convert to the Tiersch graft, but has had a great deal of satisfaction in dealing with the matter in that when he has the wall of the canal laid out here like a glove finger, he dissects off the periosteal layer, turns it down, dissects out all cartilage as clean as possible, and turns up as much of the skin material as he can get. With these two grafts, each the full size of the available tissue, one skin the other periosteum, held there by a wick or tube, he gets results almost or quite as speedy as those obtained by the formal, to patients rather formidable, skin-grafting operation.

But while we have heard much in recent years of these radical cures of chronic suppurations, the chapter as to the after-treatment for years of many which need quarterly cleaning out of the collecting epithelium or even the cure of recurring suppurations is only beginning to be written. The conservative who does this without operation is looked on as a dangerous and unscientific reactionary. Is he right or his generally less experienced critic?

Dr. G. Arthur Dillinger, Pittsburg, Pa., said he is firmly convinced that there is even greater danger in being ultra-conservative in the mastoid operation, and treating suppurative ear conditions, than in taking what appears to many here the extreme radical view of Dr. Dench.

He called attention to one who has just been honorably retired after forty years' experience in the largest clinic in the world, Professor Politzer of Vienna, who, although probably not mentioning it in his earlier editions, in his private work, and public clinic as daily routine, carries out the very ideas expressed in the paper just read. The same, he said, is true of the other otological clinics of Europe. As one of the older members of our section warns the younger men to be extremely careful of the radical views expressed, he would most seriously urge the older operators not to delay too long and wait for the results which so seldom follow weak attempts at "washing out" and "dusting in," but to accept the more radical views of Dr. Dench, and with chisel and curette go to the bottom of the suppuration.

Dr. Henry Gradle, Chicago, said that with regard to the indications for the radical operation in chronic suppurative otitis, he wished especially to oppose some of the extreme views on either side of the question just brought out. When we deal with cases presenting urgent symptoms there can not be any discussion, as the necessity of operation, radical operation, is demanded without hesitation. When we deal with cases giving a history of repeated acute exacerbations we must also be prepared for operation, because these cases are otherwise likely to lead to a fatal issue. When we deal with so-called cold cases, where there are no imperative symptoms present, there is no reason for any immediate operative action, and unless we can tell from an objective examination that conservative treatment is apt to fail there is no reason why we should not try conservative treatment. If we can diagnosticate cholesteatoma we waste time by conservative methods. Were we able to diagnosticate necrosis we would also waste time, but we can not always diagnose necrosis. Necrosis is irremediable except by surgical means. Superficial caries can, however, heal without active surgical intervention. Dr. Gradle said he has repeatedly pointed out that the odor is a fair guide as to the indications for operative or non-operative treatment in doubtful cases. If we can overcome the odor by syringing followed by boric acid insufflated in one or two sittings there is no reason for operating. He not only has the records of hundreds of such cases on his books as cured, but can recall dozens of cases cured ten to twenty years ago who have stayed well, although a few have had an occasional readily-cured relapse. In a small proportion we can remove the odor only by intratympanic syringing through some fistula. Occasionally, too, although not often, the odor may disappear only after repeated flushing with alcohol, alternating with carbolated glycerin. If the persistence of the odor under these measures indicates the relative inaccessibility of the suppurating focus, capillary drainage by packing may still succeed. It requires good absorbent gauze and deep packing. In the more hopeful class of cases the discharge loses its odor generally before stopping completely. In another class more liable to relapse the odor does not disappear until the ear is entirely dry in consequence of gauze packing. On an average he has found that packing leads to a complete cure in about one-half the cases of chronic suppuration in which the odor resists syringing. It fails absolutely in about one-sixth of these cases and these patients can only be cured by operation. In about one-third packing leads to a partial success. The discharge becomes inodorous, but does not cease entirely, or at least returns if treatment is discontinued. In this last class of patients the question whether or not to operate depends somewhat on the patient's condition in life and his own choice. As long as there is no odor we can feel sure that the disease is not aggressive.

Dr. James F. McKernon, New York City, said he had been asked for his personal experience; that is all he has given. In regard to those cases where the symptoms were typical of sinus thrombosis after a mastoid operation had been done, sometimes not, but if sufficient time had been spent he believes in each individual case we would find the evidence of a clot present which causes the symptoms. That is, where typical symptoms are present and where every other disease has been eliminated we must go back to the original focus of infection, and the cause is right in the sinus, because when it is opened we get a free blood current from behind, the symptoms clear up and the patient gets well. As to the symptomatology being quite similar between certain forms of sinus thrombosis and meningitis, he thinks in the majority of cases they are almost opposite. One or two cases do not make a rule.

In regard to opening the sinus at a primary operation, he has never seen infection of the sinus opened at primary operation. The field is sterilized and it is just as secure as opening into the brain cavity after perfect sterilization of the field of operation. Do not open the sinus unless there are physical signs back of all the symptoms the patient has been exhibiting prior to the operation.

As to the reasons for opening the sinus, the physical signs, with a collection of pus in the mastoid, with wide excursions of temperature, constant remissions and chilly sensations are present and the sinus looks unhealthy, he believes it ought to be opened.

In regard to the aseptic sinus Körner several years ago reported several cases of aseptic thrombosis of the sigmoid sinus. In 1896, before the Otological Society in New London, Dr. McKernon said that he reported two cases of aseptic thrombosis.

Dr. **Edward B. Dench**, New York, City, said that he agreed with Dr. Cunningham that the Eustachian tube is the hardest to deal with. He is conservative, just as Dr. Phillips is, and tries every method of treatment. He does not advise the radical operation until these cases have been subjected to a long course of treatment. In regard to skin grafting, he does not make any. The grafts will adhere if put on properly. It is a matter of technic and getting the cavity thoroughly clean and thoroughly dry, and the use of packing. As to the length of time in which he got the best results: One patient he treated two weeks and five days and another three weeks, with very good results under the method of healing by granulation. The usual length of time is nearly eight weeks. More patients will get well under primary grafting than if the cavity is allowed to heal by granulation.

In reference to what Dr. Randall said, it seems the question with him apparently is whether to begin in the canal and work outward or to begin outward and work inward. Dr. Dench does not think the patient is harmed by taking away sufficient of the mastoid process to get free access to the origin of the blood clot so as to obliterate the tympanic space. Personally he can not do that except in a small proportion of the cases, as he is afraid of the facial nerve and of doing damage to the semicircular canal. It is a question of technic, and it makes no difference whether he obliterates a smaller or greater part of the mastoid cells. We must remember that occasionally we do find cases in which we have very little trouble with the small amount of cholesteatoma there. In these cases he takes away enough of the mastoid cortex to give a view of the tympanic cavity.

With reference to the Thiersch graft, the more the method is used and the more expertly it is performed, the better the results will be.

INDICATIONS FOR OPERATIVE INTERFERENCE IN CEREBRAL COMPLICATIONS DUE TO CHRONIC SUPPURATION OF THE MIDDLE EAR.*

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This important subject in the field of otology calls for a classification of cerebral affections that are the result of chronic middle-ear suppuration. Such complications divide themselves into:

1. Inflammation of the meninges, which include (a) extradural abscess, (b) intradural abscess, (c) purulent and serous meningitis.
2. Diseases of the brain, which include (a) abscess, (b) diffuse inflammation.
3. Diseases of the sinuses of the dura mater.
4. Diseases of the internal carotid artery.

I wish it to be understood that I believe in the operative treatment of purulent meningitis due to chronic suppuration of the middle ear for the following reasons: First, because the constantly increasing numbers of these affections that have been cured by drainage make this seem the only way in which we may hope to achieve more success than we have up to the present, and, second, the differential diagnosis of meningitis and brain abscess is at times so involved that by operation in ten such cases one brain abscess will be found that was not suspected.

All cerebral complications are serious, and the best advice that I can offer is to operate immediately on the onset of cerebral symptoms. By so doing the otologist is sure of eliminating some of the more serious affections. In other words, early operation for cerebral affections due to ear complications should be considered conservative surgery. Without doubt, unnecessary operations will be done, but the good results that will usually follow will more than compensate for the added risk. No doubt cases will be sacrificed; probably from one-half to 1 per cent., but, on the other hand, if one waits for cerebral complications to develop the mortality will be increased from 20 to 40 per cent.

At this place I wish to quote some of Jansen's findings. In 184 cases of cerebral complication he found 144 of extradural abscess, 35 of sinus thrombosis and 5 of brain abscess. When we analyze this paper we are surprised at the absence of meningeal complications. I believe that not another similar report is to be found. The explanation of this is that Jansen operates on the least possible indication. Many members of this Section have seen more or less of his work, and all will say that it is well done. It is a common criticism that he does unnecessary operating, but when confronted with such statistics as I have quoted it is readily seen wherein the good lies. The small number of brain abscesses in relation to the whole number of cerebral affections is undoubtedly due to such early intervention. It is also worth noting that the number of sinus thromboses is comparatively small. I take it for granted that perisinus abscess was included as an extradural abscess. Anatomically the same, clinically they are different. I use Jansen's small hook-like instrument, which I call a searcher. I think that this instrument has been responsible for finding many extradural abscesses that otherwise would have been overlooked. I have found a few that were not suspected before operation.

I wish particularly to emphasize the advisability of early operation. A life may be sacrificed, I am sorry to say, but the more skilled the surgeon the fewer the number of patients sacrificed. It must be borne in mind that one is dealing with a life-saving device and heroic efforts are necessary.

Of late there has been considerable criticism regarding the indications for the radical mastoid operation, some authors claiming that cerebral affections, particularly meningitis, are induced by this procedure. I am led to believe that such criticisms are based on insufficient data both as to number of operations and number of cases. The results of ten or twenty surgeons should be accepted and so make an average, as one operator may have few infections following the operation, while another equally good surgeon will have a high rate of mortality. My conclusion in regard to chronic suppuration of the middle ear is that every indication for operation should be strictly complied with, that a chronic discharge from the ear without any other symptoms should be considered an indication for operation if the condition remains un-cured after a treatment of six or eight weeks. The accidental mortality of the interval operation is about 0.5 per cent.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

If one insists on having well-defined and positive indications before doing the operation, such cases will progress steadily and sooner or later will be complicated by cerebral symptoms. For example, in 100 such cases what proportion of the patients will die from lack of operation? In a mortality table made up by myself,[1] I proved that 17.5 per cent. of patients with chronic suppuration of the middle ear die of cerebral complications if not operated on. I believe that 25 per cent. would be nearer the right figure. For argument accept the latter, making allowance for this particular condition, and I should say that at least 10 per cent. would succumb without operation; with operation for the cerebral affections probably 5 per cent. would recover, while with an interval operation all would recover. I say all because we are dealing with a preferred risk and, as we allow it on the one side, it should be allowed on the other.

The polymorphonuclear leucocytes are of the same value in cerebral infections as in bacterial invasions in other parts of the body; and it must not be forgotten that in some cases the infection may be so overwhelming that no protective reaction will be elicited, and instead of a leucocytosis we may be confronted by a leucopenia.

EXTRADURAL ABSCESS.

Extradural abscess is the most frequent cerebral affection following chronic suppuration of the middle ear, and is the most important, in that 90 per cent. of the remaining cerebral affections are caused by extension from an extradural abscess. The symptoms of this condition are seldom of such a nature that an absolute diagnosis can be made, though well-defined symptoms at times are present. For example, if following the mastoid operation there is meningeal irritation, fever, intense pain over the entire temporal bone without other evidence of brain pressure, this should be considered an indication for further operative procedure. On the other hand, it must be borne in mind that this group of symptoms is not pathognomonic of extradural abscess, but may come from meningitis and brain abscess. Exudate between the dura and the skull cavity may cause pressure symptoms. Brain symptoms, such as sleepiness, dizziness, vomiting, optic neuritis and nystagmus, may occur, associated with extradural abscess, yet the appearance of these is not to be relied on in making a differential diagnosis.

When the extradural abscess is situated in the posterior cranial fossa it is seldom to be diagnosed by local symptoms. In such cases torticollis has been noted by Jansen, Lane and Page, and impediments of speech, when located on the left side, have been observed by Pritchard and Macewen. The rapid appearance and disappearance of threatening symptoms, especially following the discharge of large quantities of pus and a subsidence of the symptoms, is an absolute indication for operation; this is especially true when the quantity of discharge is greater than can be allotted to the middle ear.

If after a radical ear operation for chronic discharge, dizziness and headache, the headache recurs weeks after operation and pus is discovered by a pneumatic speculum, this is proof positive of the presence of an extradural abscess and operation is indicated. When I say that all patients presenting cerebral symptoms should be operated on, I am fully aware that the retention of pus in the mastoid or the presence of a cholesteatomatous mass may cause the same symptoms from pressure. The operator must decide what is best to be done. When a lesion is found that may be responsible for the cerebral symptoms, further operation should be discontinued, unless there are definite symptoms of true cerebral complications. Körner and Lane advocate the exposure of the middle and posterior cranial fossæ in all cases of purulent or cholesteatomatous affections of the temporal bone which run their course without intracranial symptoms. While I think this unnecessary, I do believe that in an acute exacerbation of chronic ear suppuration accompanied by purulent or cholesteatomatous formation the dura should be uncovered in the middle and the posterior fossæ. Fistulous formations are always indications for further operative procedure.

INTRADURAL ABSCESS AND PURULENT MENINGITIS.

Intradural abscess is rarely found. The indications for operation in this particular affection are practically the same as those for purulent meningitis. The diagnosis is almost impossible. What at one stage is an intradural abscess may in a short time become a purulent meningitis.

Statistics are somewhat confusing as to the frequency of diffuse purulent meningitis. I would class it as fourth in the group of cerebral conditions due to suppuration of the middle ear. In a large majority of cases, especially when chronic, diffuse purulent meningitis is simply an extension of the pathologic process to the membranes of the brain. It will often be difficult and sometimes impossible to make a positive diagnosis.

On opening the skull and failing to find an extradural abscess, without further indications, one should proceed as for a purulent meningitis. However, when more extensive pathologic changes are found, such as caries of the labyrinth, with fistula formation, an uncovered facial nerve, ulceration of the uncovered dura, fistulous openings through the dura, perisinus abscess or sinus thrombosis, these furnish positive indications for further operative interference. They constitute a group of pathologic lesions, any one of which may be responsible for purulent meningitis. Furthermore, fever, pain, either localized or general, sleepiness, delirium, twitching of the face, hands or extremities should be considered indications for further operative interference.

The place serous meningitis occupies in relation to the other cerebral affections is hard to define. The differential diagnosis between serous and purulent meningitis is only to be made positively by lumbar puncture. Hypertension of the fluid is of little importance, as it may be present in many cerebral affections and at other times be absent. Moreover, it is difficult to measure the degree of tension with sufficient accuracy to make a diagnosis. The indications for operative interference are the same as in purulent meningitis, but in the absence of bacteria there is a much better chance for a favorable termination. My opinion is that serous meningitis is present frequently, and that all cases that develop cerebral symptoms following operation and in which the patients recover without cerebral operation should be so classed. Their gravity depends on extreme pressure and is not dependent on bacterial invasion.

BRAIN ABSCESS.

Brain abscess is third in frequency among cerebral affections due to chronic suppuration of the middle ear. The indications for operation vary according to the location of the lesion, although there may be brain abscess without any localizing manifestation. This form of brain abscess is the most frequent, and because of this fact the indications for operation are much more difficult to classify. An operator expecting to find a cerebral abscess encounters a large collection of pus between dura and bone that may account for all the symptoms on which his diagnosis of brain abscess was based, the further procedure should depend on the pathologic condition present and his surgical judgment.

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[1] Cal. State Jour. of Med., October, 1905.

Symptoms of increasing brain pressure, such as headache, dizziness, vomiting, loss of memory, delirium, disturbances of speech and vision, slow pulse, optic neuritis, change in the size of the pupil, slow cerebration, apathy or somnolence, must be carefully looked for and cautiously analyzed. Long-continued headache, localized in the parietal or occipital regions, is an indication for operative interference, as also repeated projectile vomiting with cerebral symptoms. Slow pulse is at times so characteristic a symptom that an operation may be indicated on this one manifestation (Macewen). Choked disc of itself is an indication for operation. The differential diagnosis will usually assist materially in arriving at accurate conclusions; probably 40 per cent. of brain abscesses are accompanied by this symptom. However, there is a condition of the ocular papillæ that is not choked disc, but which may easily be mistaken for it and which may become a choked disc. In these borderline cases the general condition must always be taken into consideration, because the symptoms may be produced by comparatively insignificant causes or they may be an early sign of oncoming cerebral affection. Pupils that do not respond to light and accommodation, taken in conjunction with other cerebral symptoms, should also be an indication for operation. The eye symptoms are common in many diseases of the brain. Differential diagnosis must be relied on when the visible pathologic changes are so slight that they scarcely account for the symptoms present. Tension or protrusion of the dura after the bone has been removed and the presence or absence of pulsation of the brain are all important points to bear in mind and will at times give encouragement to go ahead or justify one in closing an operation.

In Körner's 100 cases of brain abscess collected from the literature, 42 per cent. had fistulous openings connected with the diseased bone. Such openings should be sought for carefully in a suspected case, for when found they clear the field wonderfully and establish a diagnosis beyond a doubt. Partial or complete anesthesia of the opposite side, face or arms, is another indication for operative interference. When appearing on the same side they are due to one of three conditions in order of frequency, rupture of a brain abscess and pressure on the opposite hemisphere, meningitis extending to the opposite side, or low crossing of the fibers of the internal capsule. Word-deafness, word-blindness or disturbance of the speech center all call for operation, and the lesions causing them are usually found on the left side.

The indications for operative interference in cerebellar affections will depend largely on the pathologic condition present at the first operation. In cerebellar abscess the indications for operative interference are not so clear as in cerebral abscess. It usually runs its course with various symptoms of irritation and pressure. Among the latter may be included compression of the pons, the vermiform process, the medulla oblongata and the cerebral nerves arising from the posterior cranial fossa. Mechanical yawning, lockjaw (Manier), paralysis of the facial nerve on the same side (Thompson, Heman and Politzer), paralysis of the abducens (Katz), nystagmus (Oppenheim), choked disc (Hausberg and Politzer), ptosis (River, Morse and Sternberg), glycosuria (Ubuch), paresthesia of the extremities (Ceci), absence of petellar reflex (Strümpell), general hyperesthesia (Hymen, Leber), disorders of the bladder (Jansen), cerebral ataxia observed frequently, and paralysis on the same side (Macewen and Politzer). When two or more of these symptoms are present they should be considered as indicating operative interference.

SINUS THROMBOSIS.

Sinus thrombosis is second in frequency of the cerebral affections due to chronic suppuration of the middle ear, and seems to be attended with fewer difficulties of diagnosis than any of the others. At times, however, the differential diagnosis is far from easy. I had a case in which the sinus was filled with pus which communicated with pus under pressure in the mastoid. This had not given rise to the slightest suspicion of a sinus involvement, except that there was some edema just back of the mastoid; this, however, is a symptom that can not be relied on. The man had no fever, chill or sweat and had no fever following operation. I expect to make a special report of the case, as there is only one other on record.

The indications for operation on the sinus are high fever accompanied by remissions to near the normal temperature or below it and usually accompanied by chills and sweats. These are the classical symptoms, the presence of which should always call for operative interference.. When an individual case does not do well, and at the same time shows symptoms that suggest sinus involvement, I believe it is truer conservative surgery to open the sinus than to wait for the classical indications. I think the needle should not be relied on as a diagnostic aid in such cases, because the case that is difficult to diagnose is more likely a partial thrombosis and fluid blood will be found by the syringe. If an incision is made, one will have to decide the point by the volume of blood that comes forth. Jansen found optic neuritis in 50 per cent. of his cases of sinus thrombosis; in cases from the Boston Ear Infirmary 30 per cent. was reported.

Hemorrhage from the middle ear arising from an erosion and perforation of the internal carotid artery is very rare. It may be diagnosed by compression of the common carotid, which will produce momentary cessation of the bleeding. All cases reported were fatal. The carotid has been ligated in most of them; in one case on both sides. From the anatomic relations of the perforation of the internal carotid I would suggest at least that the internal carotid be tied as it leaves the petrous portion of the temporal bone and the common carotid ligated below. I believe that the small anastomotic communications can be taken care of by tampon. This operation is of necessity difficult and dangerous; however, one is justified in doing anything that offers any hope at all. I have never read of this being recommended and suggest it from an anatomic standpoint.

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DISCUSSION.

Dr. B. A. Randall, Philadelphia, said that one point in Dr. Welty's paper surprised him a little, dealing as it does with serious cerebral complications; Dr. Welty has so much to say about extradural abscess and points to Jansen's success which is largely in these cases where operation is merely prophylactic. The value of relief of extradural abscess as a matter of prophylaxis is enormous, and he is sure that many brain abscesses are due to the presence of previous extradural abscesses. When we look at this group of cases of Jansen's, 144 of them are extradural abscess. Dr. Randall said that when he put on record 50 cases of extradural abscess many years ago it was to the exclusion of at least 100 more that were of such slight degree that there was not a very distinct and positive amount of pus present, but recovery was practically invariable in all. The majority of mastoid cases followed to their full uncovering will show, he believes, that the inner table is already perforated and that there is extradural pus; but he does not think we should call it an extradural abscess. There is pachymeningitis with granulation and a certain amount of fluid between dura and bone in the majority of mastoid patients even when the disease was extremely acute and the patient early operated on. As to results, in brain abscess, for instance, who has such a record of 80 per cent. cured as Sir William Macuen? But Jansen's record is inferior to that of Dench and others in America. The importance of extradural abscess is great and Dr. Welty can not lay too much stress on its relief. It is a prophylactic means of avoiding other cerebral complications, but it rarely has distinct symptoms or is to be grouped with intradural lesions.

The differentiation between a beginning meningitis and sinus thrombosis must be sharp and well defined. If we open a suspected sinus and find a clot formation we have given the case the benefit of early removal, and prevented the septic absorption which would surely follow. If, on the other hand, that case had been one of serous meningitis, and the symptoms at times are not unlike, the formation of a thrombus, even though it be of sterile gauze, would simply cause a back-pressure on all the cerebral vessels and aggravate the very condition for which this special form of surgery had been practiced.

Dr. F. M. Cunningham, Macon, Ga., said that he does not believe lumbar puncture is of value in the differentiation of meningeal complications of otitic origin. If there are meningeal complications at all, whether positive or negative results are obtained from lumbar puncture, an exploratory operation should be done to determine what conditions exist. It is not easy to demonstrate that there is any brain abscess by the symptoms. Dr. Cunningham recalled a case in Macon, Ga., recently, in which he advised exploratory operation for brain abscess, because the patient had a pulse of 48 and showed decided lassitude and somnolence, following mastoiditis for which an operation had been performed. The family physician examined a specimen of the urine and said the low pulse was due to chronic nephritis, and in a few days the patient was much improved and showed no further symptoms simulating brain complication.

Dr. Joseph A. Stucky, Lexington, Ky., said that the lessons learned in thirteen cases of his own of cerebral complications, suggest, first, the point emphasized by Dr. Welty, by all means operate early, at the first symptoms of meningeal irritation, especially in acute exacerbations of chronic disease. Second, the difficulty in making a diagnosis of the various forms of meningeal cerebral or cerebellar disease is so great that probably more than one unsuspected abscess occurs in ten cases. Third, the complication of diffuse meningeal disease by meningeal inflammation is, comparatively speaking, rare. Fourth, even when the focalizing or localizing symptoms appear it is too late to operate with the expectation of accomplishing any good, and as Dr. Welty had emphasized, we have everything to gain and nothing to lose by early operation when the meninges are involved. Fifth, the symptoms appearing on the same side as the disease with cerebral or cerebellar lobes involved is more frequent than the books would suggest.

Dr. Cullen F. Welty, San Francisco, advised early operation in cerebral affections. Cerebral symptoms, when associated or coming alone, should be considered indications for operation. The reason our mortality table in ear surgery is higher than that of Europeans for similar operations is dependent on two factors. First, European otologists find more indications for operation in chronic discharge from the ear, that is, they cure a case by conservative means or by radical operation. Second, they operate in cerebral complications on the slightest possible cerebral symptoms. In other words, they cut short the progress of the disease. He again called attention to the ligation of the carotid artery within the skull cavity and below for the relief of hemorrhage due to erosion.

Clinical Notes

COMPLICATIONS OF ALCOHOLISM.

WITH SOME STATISTICS ON TWO THOUSAND CASES.

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Alcoholism in itself with its distinctive peculiarities and its varied forms, is an affection successfully managed. Indeed, the most alarming forms, as delirium tremens and alcoholic mania, respond surprisingly to treatment. It is in the accidental complications and the sequelæ of continued use of alcohol that we have cause for alarm.

In hastily running over some four thousand (4,000) cases of alcoholism at the Philadelphia General Hospital during the past three or four years, a great variety of affections were found recorded on the history papers as complications. A number of these affections it is true were merely accidental associated troubles from which the patient in some instances was suffering before his acute alcoholism, but there were a number of diseases running hand in hand with alcoholism in a great many of the cases.

The affections marked as complications and that seemed to be most reasonably linked with the alcoholism in two thousand cases were as follows:

Delirium tremens (7 deaths)	49 cases.
Forms of nephritis	28 cases.
Pneumonia	23 cases.
Pulmonary tuberculosis	23 cases.
Myocarditis	20 cases.
Uremia	16 cases.
Bronchitis	15 cases.
Gastroenteritis	14 cases.
Lacerations	14 cases.
Valvular heart disease	11 cases.
Contusions	10 cases.
Leg ulcers	9 cases.
Rheumatism	7 cases.
Pulmonary edema	7 cases.
Fractures	7 cases.
Typhoid	6 cases.
Confusional insanity	6 cases.
Multiple neuritis	6 cases.
Erysipelas	5 cases.
Cirrhosis of liver	5 cases.
Epilepsy	4 cases.

There were also found, as would be expected, cases of: Morphinism, jaundice, mania, diarrhea, retention of urine, gonorrhea, pediculosis, arteriosclerosis, scabies, hemiplegia, anemia, pulmonary congestion, pressure palsy, acne rosacea, pleurisy, cocainism, insomnia, ordinary infections, imbecility, sprains, malingering, hemorrhoids, constipation, orchitis, stricture of urethra, convulsions, dilated hearts, intestinal paresis, dyspepsia, burns, hepatic congestion and chilblains.

There were found to be accidentally in the same class of patients: Malaria, fistula, emphysema, dysentery, paralysis agitans, phlebitis, bulbar palsy, tender feet, contractures, goiter, asthma, saturnism, lacerated perineum, retrodisplacement, hernia, aneurism, impacted cerumen, abscesses, etc.

Head injury, hysteria, opium poisoning, epileptic convulsions, uremia and forms of insanity have to be distinguished from alcoholism; in some cases they are complications of alcoholism or alcoholism is superimposed on a previous trouble.

Mere statistics may be taken for what they are worth.

It is easily seen by those who have come in contact with this class of cases and who look over the records that through carelessness, lack of observation, mistakes, lack of time, etc., on the part of those who have given over the histories as records, the numbers are deceiving. Only four cases of arteriosclerosis and four of pediculosis are recorded in two thousand (2,000). The former must be present in from 80 to 90 per cent. of our cases and the latter in 8 to 10 per cent. Of course, the pediculi in most of these cases do not come to the notice of the physician in the ward.

Throughout it is noticed that for the most part those who drink to excess are the uncleanly, the poor, the ignorant, and especially those of bad heredity. Whatever goes with the surroundings of such classes is going to be associated with the alcoholic. The stomach of the alcoholic becomes upset; he refuses to eat; he starves; he becomes insane. The alcoholic when he does drink water will not see to the trouble of boiling it; he develops typhoid. The alcoholic does not clothe himself properly and he develops pneumonia; he sleeps in the gutter with his head on his arm for a pillow and then develops a pressure palsy—the so-called Saturday night palsy. Alcoholics seem predisposed to erysipelas, and they are liable to fractures and lacerations.

The habits alone of the alcoholic explain many of his complications; his surroundings and his pathology explain others. Filth breeds disease for which whisky and beer are no germicides. Bad morals also breed disease and the man who has contracted a specific urethritis while on a debauch will be difficult of treatment if he keeps up his debauch. Complications multiply and these complications are hardest to treat and may fail of treatment in the drunkard.

The temporary stimulation and tone given the arterioles from alcohol will later, with relaxation, give access to the approaching pneumonia. A lobar pneumonia in a fat man who is in delirium tremens, I think I have never seen cured; in the lean, several. At a glance one can see that the consequences of a spree may furnish a clinic. It is a disputed point as to whether susceptibility to tuberculosis is favored or hindered by alcohol. An authority in Italy claims that the moderate and consistent use of wine inhibits the development of the disease; others hesitate to use alcohol at all when there is any evidence of tuberculosis. Of course, as a contributing factor to disease, there is the vastest difference between the use of alcohol and alcoholism.

Suffice it to say in conclusion that the use of alcohol begets alcoholism and alcoholism begets a host of medical and surgical affections that supply hospitals with cases and bring death to homes.

A MEANS OF AVOIDING HEMORRHAGE FOLLOWING INVERSION OF THE APPENDIX STUMP.*

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Many cases of hemorrhage following the inversion method of treating the appendix stump after appendectomy have been reported since the inception of this operation. Inasmuch as the inversion method has so much to recommend it, it is not surprising that numerous modifications of the original operation have been devised for the purpose of avoiding accidents incident to its practice. But most modifications, while directed against hemorrhage, seem to ignore the anatomic points of the occasional aberrant blood supply; hence the failure to eliminate the possibility of hemorrhage of all methods thus far advanced.

The ileocecal region is supplied by branches of the right colic and ileocolic arteries, which are branches of the superior mesenteric. The ileocolic divides into the anterior and posterior ileocecal arteries. The appendicular artery may spring from either the ileocolic or the posterior ileocecal. Usually the appendicular artery passes along the free edge of the mesoappendix, in which event tying of the mesentery generally guards against hemorrhage. Occasionally the mesoappendix is absent, in which case the artery will be found passing beneath the peritoneum of the appendix on its mesenteric side. Rarely, too, there is an anastomotic branch of the posterior ileocecal in this same situation, anastomosing with branches of the appendicular artery. If either of these

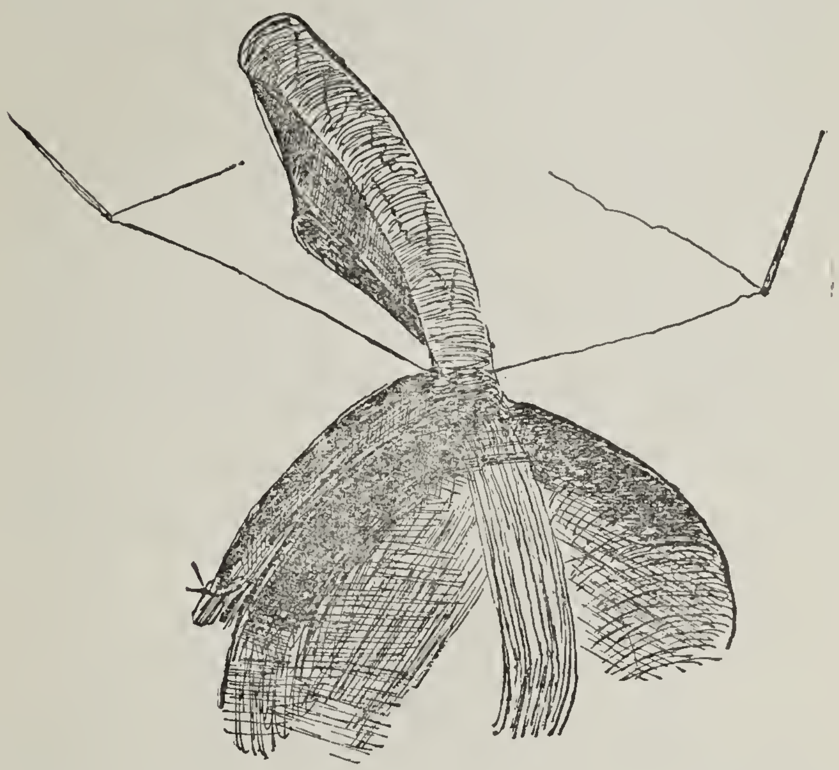

Fig. 1. Passing a double suture through mesenteric border of appendix.

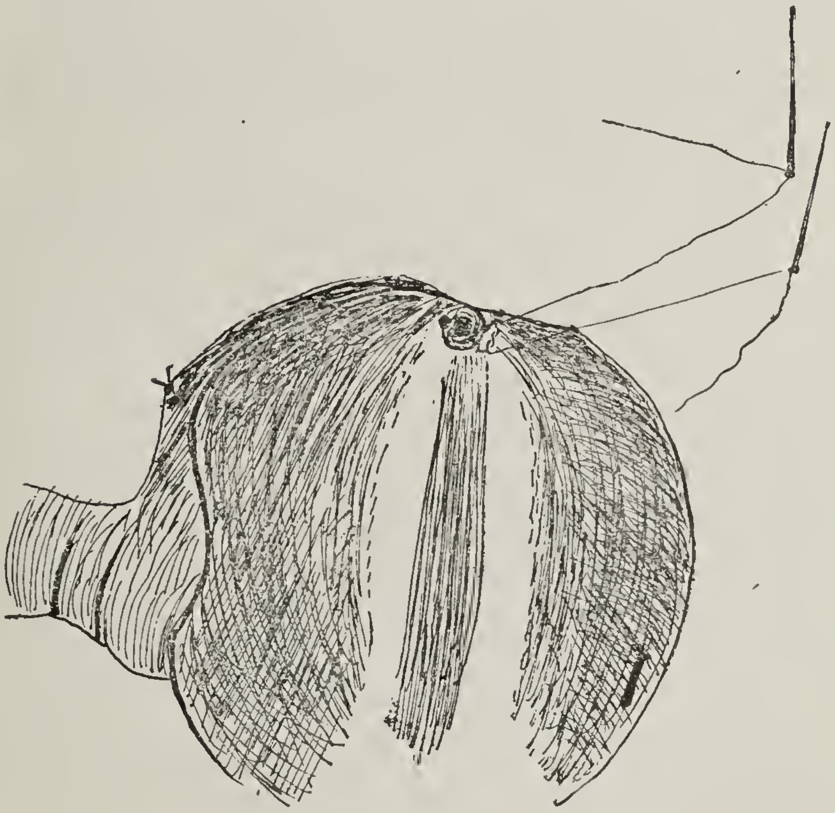

Fig. 2. The stump inverted.

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*. Read before the Lake County Medical Association, Dec. 19, 1907.

two last mentioned conditions exists, manifestly one may readily have hemorrhage following simple inversion of the appendix with the ordinary purse-string suture.

To avoid this possibility I have devised the following technic: After tying off the meso-appendix with one or two ligatures, as may be indicated, a double-needled fine chromic catgut suture is passed through the mesenteric border of the appendix at its base, taking a good bite through the muscular coat. This is tied. Then proceed with one needle to introduce the usual purse string suture to the side opposite the mesenteric attachment; or, in other words, half way around the appendix. Then do likewise with the second needle, when one is ready to invert and tie after using clamp and cautery. The second purse-string suture is inserted as usual.

I am well aware that some surgeons prefer linen or silk to catgut, but I can not feel justified in using nonabsorbable suture material for ordinary appendix work, until I shall have been convinced of a single accident occurring by reason of the inefficiency of absorable suture material. That silk or linen may cause irritation or suppuration later can be corroborated by every surgeon of experience, who can readily recall numerous fishing excursions for the recovery of infected stitches.

RUPTURE OF URINARY BLADDER FOLLOWING FORCEPS DELIVERY.

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The peculiar circumstances attending the following case make it of more than passing interest, and worthy of report.

History.—Mrs. C. R., Italian, aged 40; husband living; vi-para; no miscarriages; instrumental delivery with last child, Oct. 23, 1907. Last menstrual period about nine months ago. No definite history of previous menstruation obtainable. Family history negative.

It was very difficult to elicit a definite history of the development of the trouble. Her family physician claimed that he was called to attend the woman in labor on the afternoon of Oct. 23, 1907. Her pains continued strong up to about 4 p. m., when they suddenly ceased. As no further progress seemed to be made, he examined the woman and found the membranes ruptured, and "one of the child's arms over the head." This arm he attempted to replace, and then applied forceps. No mention was made as to the dilatation of the os uteri. After working very hard with the forceps, the doctor finally succeeded, toward morning, in extracting a large baby. He reported the child stillborn.

There was considerable bleeding after delivery. The woman passed no urine, and had no movement of the bowels afterward. Her doctor tried to pass a catheter, but claimed he could obtain only a few drops of urine. Various cathartics and enemas failed to relieve the bowels. Next day her abdomen became distended and tender. Vomiting began and was persistent. She had some chills and a rise of temperature. Her physician said he thought she had an acute obstruction of the bowels and so sent her to the hospital.

Patient was admitted to the Charity Hospital at 4 p. m. Oct. 25, 1907, complaining of generalized abdominal pain, especially tender on pressure, marked distension of abdomen; persistent vomiting (greenish-yellow, sour smelling vomitus); constipated for four days; no urine passed for over four days; chills and fever.

Examination.—When the woman arrived at the hospital, it was thought, from the history and distension of the lower abdomen, that the bladder was greatly distended with urine. The woman claimed she had passed no urine for over four days. She was very anemic; tongue dry and heavily coated; temperature 101; pulse 120. There was a general distension of the abdomen, with a trifle more fulness over the lower part and in the flanks. Abdomen throughout was extremely tender. On percussion there was a semilunar area of dulness extending about three fingers' breadth above the symphysis pubes and out toward the flanks. Relative dulness extended almost above the umbilicus. The fundus of the uterus could not be felt on account of the great distension and tenderness. The vaginal outlet was relaxed and there was a recent tear through the sphincter ani. The vulva was contused and edematous. Vagina roomy, abraided, contused and edematous. There was a laceration in the vault, extending about the base of the bladder, and the neck of the bladder felt as though it had been torn loose and retracted. There was also present a bilateral laceration of the cervix, extending on the right side up into the broad ligament and on the left to the vaginal vault.

Acting on the assumption that there was a full and distended bladder, numerous attempts were made to pass catheters of various kinds and sizes. With every attempt the catheter seemed to slip into some false passage. Finally, with a small glass catheter directed backward and upward, and a finger in the vagina as a guide, it was felt that the tip of the catheter was separated from the finger by only a very thin mucous membrane. The catheter, however, was passed in completely, but only a few drops of bloody, ammoniacal urine were withdrawn. A suprapubic puncture was then made in the median line, about one inch above the symphysis. On manipulating the trochar point it seemed to grate on a firm irregular organ. When the trochar was withdrawn a few drops of bloody, ammoniacal urine came from the cannula. Thinking that the bladder had become detached at the neck, and was pushed up by the enlarged uterus, another puncture was made about an inch and a half above the former one. The trochar felt as though it first entered a hollow viscus, and then encountered the firm body as before. On withdrawing the trochar about half an ounce of bloody ammoniacal urine flowed from the cannula. When further withdrawn, some yellowish-green fluid fecal matter came out. There was then little doubt that a loop of gut had also been punctured.

Operation.—Dr. C. A. Hamann was called in to see the case, and after careful examination, advised immediate operation. Operation at 8:30 p. m. by Dr. Hamann; ether anesthesia. Patient had a chill fifteen minutes before going under the ether. A median incision, about three inches long, was made above the symphysis. On opening into the abdomen the bladder was found to be ruptured. Difficulty was experienced in finding the posterior bladder wall. It was found to be torn off above the neck, and retracted from the urethra, with only a very thin mucous membrane between neck of bladder and vaginal vault. There was bloody, ammoniacal urine in the lower abdomen and in the flanks. An acute generalized peritonitis was evident. The uterus was firm and the fundus reached almost to the umbilicus. A loop of small intestine was found adherent to the upper anterior surface of the uterus, which showed a puncture wound of the trochar, with a small amount of fecal matter about the puncture. The puncture wound of the bowel was closed with a fine silk Lembert stitch. A soft rubber catheter, guided with two fingers in the vagina, was passed up through the urethra and brought into the lower posterior part of the ruptured bladder for drainage. No attempt was made to repair the bladder wall itself. Several iodoform gauze strips were left in the bladder and passed out through the abdominal incision. The wound was closed with through-and-through silkworm gut sutures.

Just as the operation was nearing completion, the woman collapsed on the table. The pulse became very rapid, then much slower, and finally imperceptible. Breathing ceased and cyanosis ensued. The pupils were dilated and rigid. All efforts failed to restore the patient. Operation lasted about thirty minutes, and five ounces of ether were used.

Traumatic Neurosis.—W. H. Axrell, in *Northwest Medicine*, states that the symptoms of a traumatic neurosis are usually those of neurasthenia or hysteria. There is loss of energy, with listlessness, slow mentality, simulation of the particular injury alleged to have been received, and indefinitely located pains.

AN OBSTETRIC ANOMALY: AN EXTRA FONTANELLE.

FRANK S. BULKELEY, M.D.
AYER, MASS.

As I have been unable to find any mention of this anomaly in the literature, I think that the following report may be of interest to general practitioners:

Patient.—Baby W., delivered at term by forceps applied to the head at the superior strait. Position, O. L. A.

Labor.—Examinations during labor seemed to show some failure of the flexion of the head, and as the pelvis was of normal size and shape, the child apparently not large, and the pains seemingly of sufficient strength, the failure of progress was laid to imperfect flexion. Several attempts to flex the head without anesthesia seemed ineffectual, as the anterior fontanelle apparently still persisted within easy reach of the examining hand. An attempt to flex the head under anesthesia just before applying forceps was also ineffectual. Delivery was moderately difficult, and at the expense of a perineal laceration requiring four stitches, one to occlude a large anomalous artery.

Description of Child.—The baby weighed 7¼ pounds and was normally developed except as follows: Both anterior and posterior fontanelles were in their usual position and of the usual shape. Between the two, in the course of the sagittal suture, but nearer the sinciput than the occiput was a gap between the parietal bones; of the same shape as the anterior fontanelle, and only slightly smaller. Two fairly well-marked ridges of bone ran from the lateral corners of this, feeling much as the sutures feel when the bones are overlapped. This at once explained the apparent persistence of the anterior fontanelle within easy reach of the examining hand.

Such a condition makes an exact diagnosis of presentation and degree of flexion of the head exceedingly difficult.

SUDDEN DEATH FOLLOWING USE OF DIPHTHERIA ANTITOXIN.

E. L. BOONE, M.D.
NEW MARTINSVILLE, W. VA.

After reading in The Journal Jan. 11, 1908, an account of Dr. S. N. Wiley's unfortunate experience with antitoxin, I wish to report an experience almost identical with Dr. Wiley's:

Patient.—In the evening of Aug. 29, 1907, Mrs. W. brought her son Frank, aged 10, to my office, saying she was afraid his throat was sore. I examined him and found his condition as follows:

Examination.—Temperature 102, pulse 110, respiration 18. The throat was very red and much inflamed, but there was no diptheritic membrane. There being a slight epidemic of diphtheria in the neighborhood, I did not make a positive diagnosis, but told the mother that it was a case that would bear watching and that I was afraid of diphtheria. I gave the boy 4 grains of calomel and a simple throat wash.

Course of Disease.—Next morning at 11 o'clock I was called to see the boy. The cathartic had acted, but temperature was still 102 and pulse 110; a small amount of diphtheritic membrane had made its appearance on the pharynx. I immediately made a positive diagnosis of diphtheria of a mild grade, which was confirmed at that time by another physician whom I called in as he was passing. The boy had been up all forenoon playing and was apparently very strong. He was an extremely well-developed little fellow, and had no organic heart trouble, nor did there seem to be any particular weakness of the heart. After cleansing the site of injection, with the consent of the parents and the endorsement of the other physician, I gave 4,000 units of antitoxin, which was stamped "good until February, 1908." I introduced the needle carefully below the shoulderblade, and slowly injected the entire amount into the back of the patient; he was lying on his face and did not even cry out when the needle was introduced. I had just turned away from him and laid the syringe on the table when he gave a loud cry of distress and sat up in the bed, catching at his throat with both hands, also giving a choking cough or two. I noticed a look of intense anxiety on his face with pallor around the lips. I asked his mother if she had heard him cough in that manner before and she said she had not. He cried out that his head hurt him and that he could not breathe. All this time he was clutching at his throat. I tried to get him to swallow some whisky and water, but it seemed to choke him as though the muscles were paralyzed; in a few seconds his lips, face, ears and neck were cyanosed, the pupils were dilated and eyes staring; froth was also running from the mouth, and the boy occasionally gave a harsh brassy cough, together with a peculiar cry. He had a convulsion and ceased to breathe, although, as in Dr. Wiley's case, the heart continued to beat long after voluntary respiration had ceased. I gave him stimulants hypodermatically, and also used artificial respiration until life was extinct. The time of his death was not over five or six minutes from the time of giving the antitoxin.

I have used antitoxin of different makes a number of times and have always had excellent results, excepting in this case, and do not understand this experience. I am sure I do not want any more experiences of a like nature. I have all confidence in antitoxin and have used it since with uniform good results; but I should like to know the cause of death in this case.

PHENOL (CARBOLIC ACID) GANGRENE.

GEORGE B. WORTHINGTON, M.D.
MARYSVILLE, CAL.

Fred M., aged 25, had the end of his right thumb slightly crushed in the cogs of a machine at which he was working. The accident occurred early in the morning of Dec. 28, 1907, and the injured thumb was immediately dressed by another employé, who saturated a piece of cotton with tincture of arnica, containing an unknown quantity of carbolic acid. The dressing was applied as far as the base of the thumb, and was kept moist with the solution until December 30, at 10 a. m., at which time I was called.

At this time the man said the thumb was absolutely insensitive as far as its base, and on examination it was found to present the typical picture of gangrene, with a well-defined line of demarcation. There had been considerable bleeding during the time the compress was on. The thumb was amputated about three-fourths of an inch above the metacarpophalangeal joint and the wound healed by first intention.

The solution of carbolic acid was kept on hand together with other emergency materials by the company employing the man. It would seem that where such emergency supplies are kept on hand, the dispenser should be somewhat familiar with the properties of the materials he is using, and especially with those of a dangerous substance like carbolic acid.

Cancer in Children.—P. W. Phillip publishes a monograph on this subject in the *Zeitschr. f. Krebsforschung*, v, No. 3, page 326. He has collected from the literature 390 cases of assumed cancer in children, and classifies them according to location, etc. One feature of the material is the almost complete absence of cancer of the uterus and breast among the girls affected. Epithelioma is also extremely rare. Most of the cases of cancer developed between 9 and 15, during the age of puberty, and in the digestive tract, the ovaries or skin. The cancers observed in children seem to sustain the theory of irritation as a factor in the origin of cancer, rather than the embryonal theory. The cancer was in the intestines in 29 per cent. of the cases.

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OUR FOREFATHERS' KNOWLEDGE.

A striking feature of the "History of the Medical Society of the State of New York," which has been appearing serially in the *New York State Journal of Medicine,* and is now published in book form, is the fact that a great amount of medical knowledge which we are prone to think of as originating in recent years was possessed by our forbears in medicine of the early part of the nineteenth century. In the chapter on the prize essays of the society attention is called to the fact that of the first seven essays not one is without great interest at the present time. One would be apt to think that medical matters discussed almost a century ago would have very little practical significance for the physician of the present. We are prone to assume that there has been so much development in medicine that we have been set far beyond the thoughts of that earlier time, especially in matters of treatment and knowledge of the cause of disease.

This proves not to be the case, however; on the contrary, many of the subjects discussed are now of the most intense interest, and are frequently brought up in medical society meetings of the present day. The first essay was a dissertation on the "Remote and Proximate Causes of Phthisis Pulmonalis." We might expect that at least in this the notions would be old-fashioned. The author argues, however, that consumption is not due to cold, but is due to dust-laden air of various kinds. In an editorial in The Journal[1] last year attention was directed to the high death rate from tuberculosis in the metal polishing trades. This same increased mortality was noted at the beginning of the nineteenth century. The remark is made that people who work in the needle-grinding and scythe-grinding industries scarcely ever survive their fortieth year, and that their special affection of the lungs, which is accompanied by spitting of blood, with decline in flesh and strength, was known as "grinders' rot." On the other hand, boatmen, watermen, sailors and gardeners are said to be immune to the disease, and domestic animals which live outside present the same immunity, while the cow is reported to be particularly subject to consumption. The whole tenor of this article would seem to stamp it as belonging to the beginning of the twentieth and not to the beginning of the nineteenth century.

The second essay had for its subject the "Treatment of Typhus Fever." At that time typhus and typhoid fevers had not been differentiated. In spite of this lack of knowledge, that would seem to promise such a dearth of suggestiveness for present day therapeutics, the essay is very interesting, especially in its references to cold water treatment. The writer quotes with approval Dr. Currie's experiences (in Edinburgh) with cold water and cold air. Definite rules for the use of cold water in fevers were given; it was not to be used either externally or internally in the cold phase of a paroxysm of fever. It was also never to be used when the patient was in a perspiration. When the surface of the skin was hot and dry, however, cold water was advised in any sort of fever, provided patients were not in an exhausted condition. Though it is usually said that the thermometer came into use much later than this time, this essayist discusses the Fahrenheit temperatures of the patients.

The third essay was on the "Therapeutic Uses of Iodin." We have enthusiastic advocates of the wonderful value of iodin to-day, but none of them is any more enthusiastic than was this writer of the first quarter of the nineteenth century. He recommended beginning with small doses, but considered that the dose should be increased up to physiologic tolerance. He distinguished, however, between physiologic and poisonous effects. Iodin internally and externally was recommended in all glandular affections and in most of the conditions in which we now use either iodin itself or the iodid of potassium, or sodium, for their so-called alterative effect. The essayist mentions a number of cases in which enormous doses of the tincture of iodin and of the iodid of potassium were taken daily without bad effect. He does not recommend these huge doses, however, and in general, in reading his essay, one would be much more apt to think the writer a rather conservative professor at a postgraduate school of the last decade, and not a simple physician of almost a century ago.

Probably the most interesting of the essays is the fifth. Its title is "The Influence of Trades, Professions and Occupations in the United States on the Production of Disease." The author discusses the question of overcrowding in the tenement house districts of New York City quite in the same terms as they would be discussed by a sanitarian of the present. He asks: "Can we expect men who live thus to be orderly and sober, or women to be cleanly and domestic? In such situations during the summer months diarrhea and dysentery are rife, and among children fatal. Scrofula in some of its protean forms is frequently met with, and they form the lurking places where smallpox, measles and scarlet fever lie covered under the ashes, or when circumstances are favorable blaze up into sudden fury."

Perhaps the most striking portion of this article on occupation and disease consists of a review of the manufacture and consumption of quack medicines, and it is interesting to note that the writer was evidently peruaded, as we are now, that the newspaper press of the ountry was responsible for the conditions. His exressions are worth recalling because they so completely nticipate the most modern views in this matter. He ays: "There is an evil which has of late years become f excessive magnitude, and which is daily increasing —the consumption of quack medicines. Aided by the mmense circulation of a cheap press, many of these ostrums have obtained a sale that exceeds belief. Few atients among the lower classes now apply to a physiian, who have not previously aggravated their comlaints by swallowing members of these pretended pecies, and a late resident of the city hospital has inormed me that he has met with many cases of derangenent and irritation of the mucous membrane of the tomach and bowels, caused solely by the drastic articles vhich enter into their composition. Formed in most nstances of irritating ingredients, and directed to be aken in immense doses, and as infallible remedies in ll cases, the mischief which they do is incalculable, and nless some stop be put to the evil by law or by an enightened public opinion, it will soon claim an unenviable re-eminence as a cause of public ill health." *This was vritten in 1836!*

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[1] The Journal A. M. A., Jan. 26, 1907, p. 331.

Those who are inclined to think that it is only in reent times that American medical men have made houghtful advances in science, or have endeavored to orrect professional and other medical abuses do not now that the early history of medicine in this country s full of the efforts of earnest men to bring about rogress in medicine and the uplift of professional digity. Nothing is so chastening to the self-sufficient omplacency of the present generation with regard to its nedical progress as to learn how much was done and nown in the past, and how little of real advance there s in certain phases of medicine. It is a good thing to ark back occasionally, for to do so will make us more onservative and less ready to jump to hasty conclusions regarding the knowledge of the past and the present.

GANGOSA.

In Dr. Senn's[1] interesting letter from La Paz, Bolivia, he speaks of an "unknown disease" endemic in certain arts of the country, three cases of which he saw in ne hospital. He describes the condition as "a granulomatous process which begins at the mucous or cutaeous margin of the lip—in preference the upper lip." The process spreads to the alæ of the nose and the septum, and finally spots appear on the hard and soft palates. Although Dr. Senn was probably correct in calling the condition an "unknown disease," it seems likely from the description that it is the tropical disease gangosa, to which attention has recently been directed by Leys, Mink and McLean, Stitt and other surgeons of the United States Army and Navy. The description given by Dr. Senn tallies well with their descriptions of gangosa. Fordyce[2] described the disease and demonstrated it in a native of the Isthmus of Panama, and Leys[3] has shown that it exists in various parts of the West Indies.

The disease is known to have existed in Guam, where it is very prevalent, for at least a hundred and fifty years, and was fully described, as it occurs there, by Mink and McLean[4] in 1906. These authors state that the disease is "characterized by a destructive ulceration, usually beginning on the soft palate, pillars or uvula, and extending by continuity to the hard palate and nasal cavity, larynx, and even to the face. Active ulceration is followed, after a variable period, by cicatrization or chronic ulceration. Mutilation always results. Constitutional symptoms are either slight or absent." The disease bears some resemblance to leprosy, syphilis and tuberculosis localized in these parts. It would seem, however, that the resemblances are not very close, and, as its describers show, it can be satisfactorily distinguished from these various diseases. Fordyce, who has studied the pathologic histology of his Panama case and of material from two cases in Guam, the three cases agreeing entirely in their histology, was able to differentiate the disease by the histologic findings from blastomycosis, actinomycosis, rhinoscleroma, leprosy, lupus and other granulomata. Although no microorganism has been found, there is every reason to believe that gangosa is a microbic disease. In Guam, where the disease was first studied and where syphilis is said not to exist, gangosa is exceedingly common, affecting from 1.8 to 2.2 per cent. of the population, an enormous proportion. Musgrave and Marshall have found it in the Philippines, and Leys has shown that it is highly probable the disease exists in British Guiana, Jamaica and other parts of the West Indies. It is distributed throughout the Ladrone and Caroline Islands. The disease is apparently spread by contact. It diminished in Guam under segregation by the Spaniards and has recently increased greatly there since segregation has been neglected by the United States. It occurs in the lowest classes of the native population and was thought to be confined to them. Stitt, however, found one case in a white recruit from the United States, who in Guam had associated on terms of intimacy with native families in which the disease existed.

Gangosa is an interesting and practically important addition to our list of tropical diseases and one concerning which we are likely to hear a good deal more. For our scientific knowledge of it we are indebted chiefly to the surgeons of the United States Navy mentioned above. Their careful scientific reports of the disease as it exists in Guam are illustrative of the good work which is being done by the government medical corps in our newly acquired colonies.

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[1] The Journal A. M. A., Jan. 11, 1908, p. 116.

[2] Jour. Cut. Dis., January, 1906.

[3] Jour. Trop. Med., Feb. 15, 1906.

[4] The Journal A. M. A., Oct. 13, 1906, p. 1166. Supplementary paper, Jour. Cut. Dis., November, 1907.

HYPERSUSCEPTIBILITY TO SERUM IN HUMAN BEINGS.

After the injection of diphtheria antitoxin it sometimes, although fortunately rarely, happens that sudden death occurs. Three examples have been reported recently in The Journal, one appearing in this issue.[1] Various general explanations have been advanced of such occurrences, among others the so-called status lymphaticus. If this state or constitution were present always in these cases, then we would be forced to assign to it an essential rôle in the unfortunate result, even though we would be in ignorance as to the exact mechanism whereby death was caused. The status lymphaticus occurs almost exclusively in children and young adults, while death has resulted after the injection of diphtheria antitoxin in persons over 30 and also in cases in which postmortem examination showed no hyperplasia of the lymphatic tissues. Consequently, these deaths are not explained satisfactorily on the score of the lymphatic constitution.

There may be a striking similarity between the symptoms in these cases and those presented by animals receiving alien serum while in the so-called anaphylactic state, that is to say, sensitized or rendered susceptible by a previous injection of the serum. Thus in Wiley's case the patient, soon after the injection, complained of terrible itching and burning of the face and scalp and scratched vigorously with both hands; the itching spread all over the body, respiration became labored, the lips, face, and neck became swollen and dark red in color, and paralysis seemed to have occurred. The man then had a slight convulsion, after which he ceased to breathe, the heart continuing to beat for some time. In properly sensitized guinea-pigs, injections of horse serum are followed in five or ten minutes by respiratory embarrassment, by scratching at the mouth and elsewhere, followed soon by paralysis, convulsions and death. These symptoms are said by Rosenau and Anderson[2] to be very characteristic. At this point it is well to note that in sensitized guinea-pigs profound disturbances may follow injections of normal horse serum, as well as of antidiphtheria serum—the antitoxin in no way being the responsible element.

So far as we know, healthy animals, like rabbits and guinea-pigs, may be injected with large quantities of horse serum without serious inconvenience, provided the animals have not been rendered hypersusceptible, or sensitized, by means of previous introduction of horse serum. If we assume that human beings in rare instances are hypersusceptible to horse serum, then the question arises: How is this hypersusceptibility produced? Is it the result of a previous introduction of horse proteid and if so by what route? Here are two possibilities to be considered. Repeated injections of horse serum in human beings is now not at all infrequent, and in many such cases there occurs, according to von Pirquet and Schick in their work on "Serum Disease," either a so-called "immediate" or an "accelerated" reaction, consisting of fever, urticaria, and other symptoms, but so far as we know no instance of sudden death has followed as yet on repeated injections of therapeutic serum in man. It well may be, then, that man fortunately is not sensitized in the same way as guinea-pigs are, but it is also barely possible that the amounts injected and the intervals between the injections have not been suitable to produce the maximum toxic effect.[3] The other possibility is that man, under exceptional circumstances, may be sensitized by way of the digestive tract. Guinea-pigs are readily sensitized in this way. Horse meat is sometimes used for human food, both wittingly and unwittingly, and it is thus possible that hypersusceptibility may be created in this way. The sudden and sometimes serious symptoms that occasionally follow the consumption of certain articles, e. g., sea food, nuts, strawberries, etc., may be other examples of hypersusceptibility to proteids on the part of man which we hitherto have been content to ascribe to "idiosyncrasy." Finally, it may be well merely to suggest that the sensitizing principle might come from some other source than the toxic principle, apparently a remote possibility it is true, in view of the uniformly strict specificness so far observed in the reactions of anaphylaxis.

The question of immediate concern to the physician is what can be done to avoid all the serious consequences of serum injections, even though they are exceptional indeed, without any undue curtailment of serum therapy. In the first place, we believe that it is prudent at present not to use antisera of doubtful value, e. g., antistreptococcus serum, or antipneumococcus serum, except perhaps in special and desperate cases. In the next place, special care should be exercised in the case of persons with certain asthmatic tendencies because in some of the fatal instances we read that such conditions have been noted, as, for example, in Wiley's case, in which the patient "from childhood never could be about horses without suffering from symptoms of asthma." Finally efforts should be made by investigations looking to the removal from therapeutic sera, especially antidiphtheria, of the toxic principle without any lessening of their antitoxic and therapeutic value.

THE POSSIBILITIES OF COUNTY SOCIETY WORK.

The address of Dr. Floyd Crandall in this issue[1] demonstrates, in the example of the Medical Society of the County of New York, what can be done, under the persevering efforts of a few devoted men, by the county organizations toward freeing their jurisdictions from unlicensed, irregular and disreputable practitioners of medicine; from incompetent and life-destroying midwifery; from the exploitation of the medical profession by commercial companies; from the habit induction and the disease neurosis sedulously and callously fostered by "patent medicine" mongers; and, lastly, in settling the law on a firm basis by obtaining final decisions on obscure points. St. Louis also has been following in the footsteps of New York with commendable energy and considerable success; and some efforts tending in a like direction have been made by Kansas City, Los Angeles and one or two other places.

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[1] One death reported by H. F. Gillette, Cuba, N. Y., The Journal, January 4, p. 40; one by S. N. Wiley, Norristown, Pa., The Journal, January 11, p. 137, and one by E. L. Boone, New Martinsville, W. Va., in this issue of The Journal, p. 453.

[2] Jour. Infect. Dis., 1908, v, 85.

[3] For a more elaborate discussion of the bearings of available facts see the review of anaphylaxis, by Rosenau and Anderson, Jour. Infect. Diseases, 1908, v, 85.

[1] Page 413

But these efforts and successful achievements serve only to throw into greater prominence the indifference that characterizes the medical profession in many of our large cities, where some or all of these evils are allowed to flourish without any serious attempt being made to suppress them. It is time that we arouse ourselves to a more general performance of our public duties, over and above those due from the individual physician to the individual patient. In preventive medicine we assume the protection of the public health and welfare against the onslaughts of disease, by recognizing and eliminating, or at least minimizing to the utmost extent of our power, not only the direct causative agents of disease, but those removable indirect influences that, by undermining the natural defensive agencies, contribute to successful attacks by the disease causes themselves. This protection of the public it becomes our duty to exercise in virtue of the fact that the public, from lack of knowledge, is as yet incompetent to protect itself. In like manner the evils of quackery must be combated by the profession for the same reason; and more particularly is this the case when such quackery shelters itself within our ranks, thus rendering itself doubly dangerous and bringing discredit on the profession. It is true that the most potent influence we can exercise is the enlightenment of the public; but also it is true that practical object lessons are far more effective than any amount of mere didactic lecturing.

Our efforts to enlighten the public regarding the evils of quackery in general will be more effective, and its faith in our honesty of purpose more abiding, in proportion as we cease to tolerate—whether from indifference or moral cowardice or both—a treacherous use of our flag by the most unscrupulous of enemies in disguise. What can be done in New York, St. Louis and elsewhere can be done also—in varying degree, it is true, according to local conditions—in every community throughout the land.

County societies constitute the army that must wage the warfare; but on competent leadership must depend the efficiency, skill and success with which it is waged. Let the members of those organizations that have as yet made no move in this direction study carefully Dr. Crandall's address; then, having learned the nature and position of the enemy, let them gauge his strength and under chosen leadership advance to the attack, applying, according to the local exigencies of their respective battlefields, the tactical principles so well defined by Dr. Crandall.

THE STRUGGLE TO RECLAIM STATE INSTITUTIONS FROM POLITICAL EXPLOITATION.

The malicious influence of cheap bread-and-butter politics on public institutions is illustrated by recent events in Illinois. At the beginning of his administration the present governor appointed an exceptionally strong Board of Charities and gave other unmistakable evidences of his intention to place the state hospitals for insane and similar institutions on a high plane. The functions of the Board of Charities are to investigate into the management and condition of the state charitable and reformatory institutions and to report their results with recommendations to the governor; it has no further executive powers than those necessary to do this work, and it has no punitive powers whatsoever.

As the result of a vigorous and searching investigation of the institutions under its charge, the present board made a series of radical recommendations to the governor which resulted in the appointment of several new superintendents, in the establishment of a state psychopathic institute, and in various changes for the good of the service in general. It was found best in some cases to go outside the state in order to secure strong men of adequate special training. In practically all institutions new buildings and improvements of different kinds were found necessary, an epileptic farm colony seemed especially desirable, and proper recommendations and appeals were made to the legislature for the needed appropriations. The legislature, however, failed to set aside the money required for a thorough rehabilitation, and in some of the older and overcrowded institutions great difficulties still exist in the way of satisfactory administration, as, for instance, in the Home for Feeble-Minded Children at Lincoln, on which has been superimposed the care also of many hundred adult epileptics, a burden that the home in no way is fitted to carry.

Arising out of a fatal injury to one of the inmates in this home a public legislative inquiry, in charge of a committee of legislators no one of whom has any expert knowledge of institutional management, is going on into the conditions in this institution. As a result the newspapers are full of "asylum horrors," among which are classed autopsies and museum specimens. In our characteristic fashion, every one who has anything to tell is invited to tell it in public with full details. Institution gossips are having the time of their lives and the discharged employé is getting his revenge. The committee has not yet reported, so that its findings are not available for discussion, but so far its methods of investigation surely would tend to make the conscientious search for the precise truth an exceedingly difficult one.

In the meanwhile, strong effort naturally is made, for political ends, to magnify shortcomings, real and otherwise, and to place all blame for everything wrong, inherited and acquired, on the present administration. Hence the situation has become not only discreditable but harmful. The charitable institutions of the state are made subservient to practical politics and the real problem in Illinois, as well as in many other states, is how to make their institutions safe from politicians. To this end the present Board of Charities in Illinois has contributed manifestly sincere and successful efforts to secure reforms and improvements and unquestioned active interest in the progressive development of state institutions.

THE ROLE OF BARIUM IN LOCO POISONING.

"Loco" poisoning, which has long caused such great losses among the animals on the ranges of most of our western states has hitherto baffled all attempts at explanation. Of the numerous suggestions made, the one which attributes the condition to the eating of poisonous plants (the "loco" weeds, especially *Astragalus mollissimus* and *Oxytropis lamberti*) has probably been the one most generally accepted, but attempts to isolate a poison from these plants have been uniformly unsuccessful. A. C. Crawford, a pharmacologist in the Bureau of Plant Industry, has made the most interesting and important discovery[1] that the toxic substances of these plants are inorganic salts, for the most part of barium. Only those "loco" plants containing barium produce the symptoms and Crawford has been able to produce in animals symptoms closely similar to those of "loco" by feeding barium salts. These results are of great interest to the medical profession for they afford another illustration of the evil effects which may follow the long continued use of minute quantities of a poison. It is already recognized that barium is a dangerous poison to man, and a few cases of chronic poisoning have been reported; but before the announcement of this brilliant discovery of Crawford, probably no one would have suspected that this substance could produce such fatal and serious effects. The publication of Crawford's complete paper, which promises to be one of the most important contributions made to pharmacology in the United States, will be awaited with great interest.

VITAL STATISTICS BILL MAY FAIL IN VIRGINIA.

Reports just received from Virginia indicate that the vital statistics bill, now before the legislature, will probably fail of passage. The bill is drawn along the lines recommended by the census department of the national government, and endorsed by the Conference on Medical Legislation of the American Medical Association. It is also in harmony with the recommendations of the American Public Health Association, the American Statistical Association and other competent scientific bodies, yet, according to the statement in the January *Bulletin of the Virginia Board of Health*, this bill can not become a law, on account of the opposition of the undertakers throughout the state. The *Bulletin* says: "Why the undertakers should make this attack on a bill which promises so much for preventive medicine is beyond comprehension. The answer is simply and solely because it may give then a little trouble to file the certificate of death with the registrar before burial. This bill was printed and scattered all over the state Dec. 1, 1907, and was sent to every undertaker in the state. Criticisms and suggestions were invited. None was received of any kind whatsoever save from one individual, a city undertaker, whom the bill does not affect." This incident is a fitting illustration of the way in which needed and beneficial legislation is opposed on account of business interests and for selfish reasons. The need of proper registration of vital statistics can not be denied. The government, to-day, which does not preserve records of births, deaths and disease is at least fifty years behind the times. No European nation, however small or insignificant, would think of doing without vital statistics and proper registration laws. The "Old Dominion" is one of the earliest settled and longest inhabited regions in America, and should long ago have provided for proper registration of the births and deaths of its citizens. Yet in Virginia, as in Iowa, a vital statistics bill has failed to pass because the undertakers of the state object to taking the trouble to fill out report blanks.

THE OCCURRENCE OF BROMIN IN ANIMAL TISSUES.

The halogen elements, fluorin, chlorin, bromin and iodin, are almost invariably found occurring together in Nature; where one of these elements is detected the others also may usually be found. As the classical example we have sea water, rich especially in chlorin, bromin and iodin, and the same content is common to many mineral springs. Chlorin and fluorin have long been known to be present in the animal body, but it is only twelve years since Baumann first reported the occurrence of iodin as a constant constituent of the thyroid. Justus, who has maintained that iodin is present in all tissues of the body, now makes a further report[1] to the effect that bromin is likewise constantly present throughout the animal body. The amount of this element that can be demonstrated in the various tissues is, according to Justus, much larger than is the case with iodin, being reckoned as milligrams per hundred grams of tissue where iodin occurs only in hundredth parts of milligrams. Differing from iodin, the largest amounts were found in the adrenal bodies, although the thyroid follows close, while the smallest amounts were obtained from the blood. If bromids are given to animals, the greatest amount of bromin accumulates in the adrenals and thyroid, which seem to be the natural storehouses of this element, and in the brain, where its physiologic action is chiefly observed. These observations of Justus are striking, but it is hard to understand how such an element as bromin could have been overlooked until this time, if, as he claims, it exists in all tissues in amounts ranging from eleven to forty-five milligrams in each one hundred grams of tissue; consequently we shall await with interest confirmation of this important observation.

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[1] Laboratory Work on Loco Weed Investigations, U. S. Department of Agriculture, Bureau of Plant Industry, Bull. 121, Part III, 1908.

[1] Virchow's Archiv., 1907, cxc, 524.

PELLAGRA IN SOUTH CAROLINA.

It is not a particularly welcome discovery to find a new and serious disease endemic in a region hitherto supposed to be free from it. The report of Dr. Searcy of the discovery of pellagra in the Mount Vernon Insane Asylum in Alabama[1] is now supplemented by a similar report by the medical officers of the State Hospital for the Insane at Columbia, S. C., with detailed clinical histories of a number of cases there observed. They conclude that a disease of this type occurs in that state and that the characteristic form of mental disorder it produces is also observed. Since it is estimated that in southern Europe only about 10 per cent of the victims of the disease present these mental symptoms the occurrence of a number of cases in the asylum would indicate the existence of a much larger number in the general community. It is somewhat remarkable that, considering the large part taken by maize in the diet of the inhabitants of large sections of this country, the disorder has not been recognized before. The most natural way to acount for it, perhaps, is to assume that the particular form of bacterial or fungoid infection is a comparatively recent arrival from southern Europe, Mexico or Central America. In every case in which it has been noticed, it appears to have been connected with the ingestion of damaged corn meal. The fact that hookworm disease, now known to be endemic in large sections of the Gulf states, was a comparatively recent discovery in that region, suggests an unpleasant possibility that pellagra may be found more prevalent than has yet been demonstrated. The coincidence of the two disorders in some of the South Carolina cases is of interest, and, as the report says, calls for further inquiry.

Medical News

CALIFORNIA.

Fund for Special Sanitation.—At a joint meeting of the supervisors on Finance and on Hospitals and on Health, January 16, it was decided to allow the San Francisco Board of Health $11,500 as an appropriation from the city toward the expense of the special sanitation campaign.

Assessed by Law.—In the case of Mr. and Mrs. McKinzie against Dr. J. T. Stewart, Los Angeles, in which damages of $50,000 was claimed on account of alleged malpractice, the jury is said to have found for the plaintiff and awarded damages of $5.000.——K. Tokunaga, San Jose, is said to have pleaded guilty to the charge of practicing medicine without a license, January 18, and to have been fined $100.

May Absorb Medical College.—It seems probable that the long-considered question of the consolidation of the Leland Stanford University and Cooper Medical College, San Francisco, may be accomplished. This consolidation would give the university a thoroughly equipped medical and surgery department and a hospital, and would give the college a share of the Stanford income, which would enable it to carry on a large scale the original plans of the founder, Dr. Levi Cooper Lane.

Communicable Diseases.—A new health ordinance has been prepared for Pomona, which provides that physicians, osteopaths and householders shall report all cases of smallpox, diphtheria, scarlet fever, typhoid fever, measles, tuberculosis, chickenpox, whooping cough and all other infectious diseases, and shall observe proper quarantine.——An epidemic of influenza is said to be raging in Weed.——The Board of Health of Oroville has decided to close schools and other places of public gathering on account of the prevalence of diphtheria.——A rigid quarantine is being enforced at Red Bluffs, on account of the presence of two cases of smallpox.——Several cases of smallpox are said to have developed in Butte City.——The steamer *Mongolia*, from Honolulu, arrived in San Francisco, January 18, and was held in quarantine on account of smallpox.——Smallpox is reported on the increase in San José.

Hospital Notes.—Dr. J. S. Bartlett, Pasadena, has presented the Pasadena Hospital Association with $2,000, and Mrs. William C. Baker has given $1,000 to the institution for the establishment of a chemical laboratory. Dr. Edith Claypole has offered to take charge of the laboratory without expense to the institution.——A new hospital is planned to be built just west and adjoining Gilroy. The site has been donated by Henry Miller, who will assume all expenses of the construction of the hospital.——The Rideout Memorial Hospital, Marysville, has been incorporated to receive and hold the gift of the Rideout residence in that city for hospital purposes, and to transact business in connection with the institution.——Plans are being prepared for the Pomona Valley Hospital, which is to cost from $35,000 to $50,000. The new building is to be in mission style, two stories in height. It will contain 35 private rooms, in addition to several small wards.

The Plague Situation.—The state medical society is well launched on its antituberculosis campaign, through a committee appointed for the purpose, of which the president of the society is chairman. At a meeting held January 18, 60 representatives of mercantile and civil life were present, the situation was thoroughly gone over, and the necessity for active cooperation impressed on those present. A committee, consisting of the mayor, president of the county medical society and the president of the Medical Society of the State of California has been appointed to name a larger committee to cooperate with it to carry out the work, which was begun in October, toward the extermination of rats. The following figures show the steady increase of the epidemic among rodents: In September, of 1,188 rats examined, .75 were found to be infected; In October, of 2,865 examined, .80 were infected; in November, of 3,626 examined, .94 were infected; in December, of 4,191 examined, 1.14 were infected, and for the first 18 days of January, of 3,418 examined, 1.31 were infected.——A staff correspondent, under date of February 3, telegraphs that the plague situation remains about the same, although the percentage of infected rats is slightly increasing, and is now more than 1½ per cent. The citizens' committee of twenty-five, appointed by the mayor as the result of an urgent request of the committee appointed by the Medical Society of the State of California, is taking an active interest in the entire work of the plague. Employers are calling meetings of their employés, teaching them that the plague is in San Francisco; telling them by what means to avoid it; that they should clean up their premises, trap all rats possible, and keep all food away from rats. Resolutions have been passed requesting the assistance of the press, and now all papers excepting the *Chronicle* are publishing information about the plague, and advising the citizens to aid in combating it. There has been no case of human plague for about a month, but this is probably due to the fact that the weather has been cold and rainy, and that there are very few fleas. The rats caught alive are now chloroformed and carefully combed in order to determine the number of fleas on them.

CONNECTICUT.

Annual Meeting of Hospital.—At the annual meeting of the Hartford Hospital the following were elected medical members of the board of managers and directors: Drs. Gurdon W. Russell, Harmon G. Howe, G. Pierrepont Davis, William D. Morgan and Phineas H. Ingalls.

Election.—At the annual meeting of the Hartford County Medical Society, held January 6, the following officers were elected: President, Dr. Fred S. Crossfield; vice-president, Dr. Phineas H. Ingalls; secretary, Dr. William H. Van Strander; assistant secretary, Dr. Orin R. Witter; treasurer, Dr. George K. Welch; librarian, Dr. Walter R. Steiner, and censors, Drs. Thomas F. Kane, Benjamin S. Barrows and Charles S. Stern, all of Hartford. Dr. Horace S. Fuller presented to the society, turnkeys, saddlebags and other relics of some of the early physicians of Hartford.

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[1] THE JOURNAL, July 6, 1907, p. 37.

FLORIDA.

Personal.—Dr. J. H. Willis, Quincy, has recently been appointed state prison physician.——In a fire at Lake City recently the office of Dr. George W. Abney was damaged to the extent of $400.

Pasteur Treatment.—Daytona is said to be the first city outside of Jacksonville prepared to offer the Pasteur treatment for hydrophobia. Through the efforts of the city health officer a supply of serum has been procured and is ready for immediate use. The services of the officials are to be given gratuitously and for the indigent the laboratory fees will be paid.

Society Meetings.—At the annual meeting of the Escambia County Medical Society, held Dec. 24, 1907, at Pensacola, the following officers were elected: President, Dr. William A. J. Pollock; vice-president, Dr. M. Ernest Quina; secretary, Dr. Juriah H. Pierpont, and treasurer, Dr. Clinton W. D'Alemberte, all of Pensacola.——At the annual meeting of the Ocala County Medical Society, held January 9, the following officers were elected: President, Dr. William H. Powers, Ocala; vice-president, Dr. Carl W. Linder, Anthony, and secretary-treasurer, Dr. Daniel M. Smith, Ocala.

ILLINOIS.

Cocain Bill a Law.—The governor has signed the cocain bill, passed by the legislature. The measure is intended to regulate the sale of cocain and eucain, and heavy penalties are provided for violation.

Appropriation for State Board.—A bill has been proposed for the appropriation of $3,000 to maintain a laboratory and for special research into the cause and prevention of tuberculosis, and $1,000 to furnish free treatment to indigent persons afflicted with rabies.

Contagious Diseases.—A number of cases of scarlet fever are reported from La Harpe, where it is said no quarantine is being observed.——Greer College and the high school at Hoopeston, which have been closed on account of the prevalence of diphtheria, will soon be reopened.——The public school at Roseville has been closed on account of the prevalence of measles.——Two cases of smallpox are reported from Loami.——In a boarding house in Peoria, 2 cases of smallpox have appeared.——Manchester is said to have a number of well-developed cases of smallpox; the public school has been closed and public gatherings interdicted.——A number of cases of smallpox are reported in Curran.

Chicago.

Personal.—Dr. and Mrs. Casey Wood sailed for the Orient February 6.——Dr. William L. Baum has been chosen as medical member of the retiring board for members of the fire and police departments.

Aid Hospitals.—The concert for the benefit of the Frances Willard Hospital, January 28, netted $1,000 for the institution.——At the ball February 1, at the First Regiment Armory, for the benefit of the new People's Hospital, about $2,500 was realized.

Busts Presented.—Busts of Dr. Robert L. Rea and Dr. William E. Quine were presented to the College of Physicians and Surgeons, February 1. Dr. Alexander H. Ferguson made the introductory address. The bust of Dr. Rea was presented by Dr. Frank Billings and accepted for the college by Dr. Oscar A. King. Dr. William A. Pusey presented the bust of Dr. Quine and it was accepted for the college by Dr. Daniel A. K. Steele.

January Mortality.—During January there were 3,096 deaths reported; 392 more than for the preceding month, and 30 more than for the corresponding month of 1907, the respective annual death rates per 1,000 being 16.83, 15.10 and 17.13. Of the deaths, 570 were due to pneumonia; 314 to consumption; 232 to heart diseases; 215 to violence, including suicide; 192 to influenza; 188 to nephritis; 169 to acute intestinal diseases; 129 to cancer; 121 to bronchitis and 111 to nervous diseases. Diphtheria caused 61 deaths; scarlet fever, 60; typhoid fever, 39; measles, 13, and whooping cough, 8.

Deaths of the Week.—During the week ended February 1, 711 deaths were reported; 24 more than for the preceding week and 30 less than for the corresponding week of 1907. The mortality was at the rate of 17.12 per 1,000 per annum. Pneumonia caused 139 deaths; consumption, 66; heart diseases, 55; influenza, 46; acute intestinal diseases, 43, and nephritis, 42. The most marked diminution as compared with last year was in the deaths from scarlet fever and diphtheria. In the corresponding week of 1907 there were 44 deaths from scarlet fever, and last week 15 deaths. In 1907, there were 15 deaths from diphtheria and last week 7. On the other hand, influenza showed a marked increase, as 46 deaths were reported, while in the corresponding week of last year only 12 deaths from this cause were announced.

The Fight Against Tuberculosis.—At the annual meeting of the Chicago Tuberculosis Society, held January 28, the following physicians were elected directors: Drs. George W. Webster, George F. Shears, William A. Evans, Charles L. Mix, Henry B. Favill, Frank Billings, Ethan A. Gray, Nathan S. Davis, Theodore B. Sachs, John A. Robison, Edwin W. Ryerson, Arnold C. Klebs, Ludvig Hektoen and Robert H. Babcock.——The Illinois Steel Company, South Chicago, through Dr. James Burry, surgeon-in-chief, has offered to give to the Chicago Tuberculosis Institute one of its buildings, rent free, for the use of its dispensary and local headquarters.——The Open Air Sanatorium for Jewish Consumptives has been incorporated, to establish a sanatorium near Chicago, to consist of an administration building and smaller buildings or tents for patients.

Communicable Diseases.—During the week, 386 cases of communicable diseases were reported, of which 99 were of scarlet fever; 88, diphtheria; 79, measles; 42, tuberculosis; 24, each chicken pox and typhoid fever, and 13, whooping cough. As compared with the preceding months, there were 14 fewer cases of diphtheria; 15 of scarlet fever, and 14 of whooping cough, and 10 more cases of measles; 3 of typhoid fever and 24 of tuberculosis. The contrast between the scarlet fever and diphtheria situation between this year and the last is striking, as during the week just closed there were 99 cases of scarlet fever, as against 1,686 in the corresponding week of last year. Last week, there were 88 cases of diphtheria reported and in the corresponding week of 1907, 292 cases.——During the week, 4 cases of smallpox were received at the Isolation Hospital. Of the patients, one was an unvaccinated medical student, who believed himself to be immune because he had not been successfully vaccinated; the second was a non-vaccinated man, and the third patient had an imperfect scar supposed to have been from vaccination in childhood. There are now 13 patients under treatment at the Isolation Hospital.

KENTUCKY.

Personal.—Dr. John J. Moren, Louisville, formerly president and treasurer of the Jefferson County Medical Society, is seriously ill with typhoid fever.——Dr. Vernon Blythe, Paducah, has been elected secretary of the McCracken County Medical Society, vice Dr. James T. Reddick, resigned.

Tuberculosis Exhibit.—The tuberculosis exhibition at Louisville has just closed, after a most successful two weeks, during which time it is estimated that 35,000 people visited the hall. The exhibit will be held for a week each in Frankfort and Lexington.——A bill has been introduced in the state legislature appropriating $25,000 for the fight against tuberculosis in the state, and if this bill passes each city that has a tuberculosis hospital will be aided by the fund.

Milk Decision.—An important decision has just been rendered in the Circuit Court at Louisville in regard to use of the term "certified milk." The milk dealer was first charged with having offered for sale and sold as "certified milk" milk which was not certified by the Milk Commission of the Jefferson County Medical Society. The action was brought under the general provisions of the Kentucky Pure Food Law, which prohibits the sale of any article of food "under the name of another article," and which prohibits the sale of an article of food "if it be labeled or branded so as to deceive or mislead the purchaser or consumer." Before the court evidence of the sale and the markings on the bottle were produced, followed by testimony from the milk commission, other physicians and from state and national officials that the term "certified" in connection with milk, both from its origin and its use, has come to have a distinct meaning, and that therefore the sale of milk as "certified" which is not "certified" in the manner that physicians and consumers expect is misbranding. The justice of the peace upheld these contentions and entered an appealable fine. The case was appealed to the Circuit Court. At the second trial the same evidence was given again and the finding of the lower court sustained. The circuit judge assessed a nominal fine only, but offered to make the fine large enough to allow the defendant to appeal the case to the State Court of Appeals if the defendant desired. The defendant took the smaller fine and agreed to stop the use of the term.

MARYLAND.

Tuberculosis Sanatorium Bill.—A bill has been introduced in the legislature appropriating $175,000 for the completion of the Maryland Tuberculosis Sanatorium in Frederick County. An ideal site has been purchased in the mountains of western Maryland, and the administration building is nearly completed. It will be ready for patients in April.

Food and Drug Act.—The State Board of Health has prepared a food and drug act for Maryland, and has summoned a meeting of the representatives of the Maryland Drug Exchange and other bodies supposed to be interested for its consideration on February 4. The secretary of the state board claims that it is uniform with the federal law, preserves the execution of the law by health authorities and provides for its administration by the State Board of Health, which has had eighteen years' experience in the line, and lastly, follows the example of fourteen states in placing its administration in such hands.

Baltimore.

Library Presented to University.—The library and bookcases of Dr. John R. André have been presented by his children to the University of Maryland. The library numbers about 500 volumes.

January Deaths.—During January 1,201 deaths were reported in Baltimore, which is the largest number ever reported in the city, and exceeds by 161 the deaths of the corresponding month of 1907. Influenza is said to be responsible for the excess.

Personal.—Dr. Leonard K. Hirshberg has been appointed chief visiting physician to Hanover (Pa.) General Hospital.——Dr. William Green has been elected surgeon, and Dr. Isaac R. Trimble, assistant surgeon, of the Franklin Buchanan Camp, United Confederate Veterans.——Dr. Ira Remsen, president of Johns Hopkins University, has been asked by the President to accept the chairmanship of the consulting board of scientists on the enforcement of the Pure Food and Drugs Law.

Laboratories Need More Room.—Prof. William H. Howell, dean of the Johns Hopkins Medical School, calls attention to the urgent need of enlargement and improvement of the pathologic laboratories of that institution. The present building is inadequate and a thoroughly modern and well-equipped one is needed. The present building was not specially designed for the purpose, and does not compare in construction and convenience with the other laboratories. It has also been very much overcrowded.

NEW JERSEY.

Hospital Notes.—The cornerstone of the Municipal Hospital, Atlantic City, was laid January 17. The building will cost about $100,000.——At a meeting of citizens held in Vineland, January 16, steps were taken toward the establishment of a public hospital for that place.

Personal.—Dr. Henry Chavanne, Salem, has been appointed a member of the State Pure Food Commission.——Dr. Henry B. Diverty has been made president of the Woodbury Board of Health.——An attempt was made to rob Dr. Franklin A. Gauntt, Burlington, at the door of his residence, January 11.

Diphtheria in Reformatory.—With 540 inmates in an institution, intended only for 355, an epidemic of diphtheria has appeared in the New Jersey State Reformatory, Rahway, where 23 cases of the disease have been reported The New Jersey State Board of Health has instructed its chief inspector personally to supervise the combat against the disease.

Society Meetings.—The physicians of Woodbury and vicinity have formed a protective association, with Dr. James Hunter, Westville, president, and Dr. Harry A. Stout, Wenonah, secretary-treasurer.——At the annual meeting of the Atlantic City Medical Society, held in Atlantic City, January 10, Dr. Clyde M. Fish, Pleasantville, was elected president; Dr. David A. Berner, Atlantic City, vice-president; Dr. Milton S. Ireland, Atlantic City, secretary-treasurer; Dr. Theodore Senseman, Atlantic City, reporter; Drs. Arthur E. Ewens and Edward S. Sharp, Atlantic City, delegates to the State Society, and Dr. William E. Darnall, Atlantic City, censor.——The Atlanic City Academy of Medicine, at its annual meeting, January 10, elected the following officers: President, Dr. Walter A. Hickman; vice-president, Dr. Clarence Garrabrant; secretary, Dr. Thomas S. Githens, and treasurer, Dr. Thomas G. Dunlap.

NEW YORK.

Proposed Laws.—Assemblyman Warren I. Lee has presented a bill carrying out the views of the Society for the Prevention of Cruelty to Animals. It does not prohibit vivisection, but provides that the building where the experiments are to be performed shall be licensed by the state commissioner of health. It also provides that the animal shall be anesthetized and if serious pain is anticipated after the operation, the animal shall be killed.——Senator Schmer has introduced a bill providing that all patients shall be admitted to the Bellevue and Allied Hospitals free of charge.

State Commission in Lunacy.—The annual report just submitted to the legislature shows the number of insane on Oct. 1, 1907, was 29,093, of whom 13,927 were men and 15,166 women. The number of inmates of the two criminal asylums was 1,014; the number in private licensed institutions was 977. The net increase for the year in all institutions was 791. It is estimated that with the fiscal year beginning October 1, last, there will be needed for the support and maintenance of the state hospitals, commission in lunacy, and pathologic institute, $5,305,000. This is an increase of $1,500,000. ——Requests for new buildings are to be held rigidly to actual requirements. There is at present accommodations for an increase for about 800 inmates in the different state charitable institutions.

New York City.

Harvey Lecture.—The sixth lecture in the Harvey Society course, by Prof. Joseph Jastrow, University of Wisconsin, at the New York Academy of Medicine building, Saturday, February 8, at 8:30 p. m., is on "Subconsciousness."

PENNSYLVANIA.

Personal.—Dr. Fred Rice, Sunbury, was painfully burned by an explosion of gasoline at his home, January 21.——Dr. Samuel C. Seiple and wife, Center Square, have gone to California for two months.——Dr. Claud J. B. Flowers has resigned as resident physician at the Harrisburg Hospital and will open an office at Union Deposit.——Dr. John W. Grant, Scranton, has been made deputy coroner of Lackawanna County.

Epidemic Diseases.—Measles is epidemic in Pittsburg, and the director of the health bureau has ordered the temporary closure of four schools. Thus far during the present month, 1,033 cases of measles have been reported, and since the epidemic began a few weeks ago there have been 3,033 cases recorded in the health bureau.——Scarlet fever is reported to be epidemic at Medix Run, where 18 cases in all have been reported.——Several cases of smallpox are reported from Carmichael.

Philadelphia.

Personal.—Dr. F. Mortimer Cleveland, who has been ill in the Municipal Hospital with diphtheria, has fully recovered. ——Dr. Howard F. Hansell was elected president and Dr. Edward A. Shumway clerk of the section on ophthalmology of the College of Physicians.——Drs. Samuel McClary and C. M. Desvernine have been elected trustees of the American Oncologic Hospital.——Dr. Oliver P. Rex sailed for Europe January 25.

Health Report.—The total number of deaths reported for the week ended February 1 was 542, a decrease of 78 from the previous week and a decrease of 31 from the corresponding week of 1907. The principal causes of death were: Typhoid fever, 16; diphtheria, 12; influenza, 12; consumption, 62; cancer, 26; apoplexy, 18; heart disease, 53; acute respiratory diseases, 91; enteritis, 14; cirrhosis of the liver, 11; appendicitis, 9; Bright's disease, 45; premature birth, 16; congenital debility, 14; old age, 5; suicide, 2; accidents, 11, and marasmus, 3. There were 281 cases of contagious diseases, with 31 deaths, as compared with 196 cases and 31 deaths in the preceding week.

Hospital Changes.—The following changes were made in the medical staffs of hospitals under the control of the department of health and charities by Director Neff, January 25: Bureau of Health—Municipal Hospital, Dr. Seth N. Brumm, first assistant resident physician, vice Dr. William Drayton, Jr., resigned; Dr. J. Earl Ashe, second assistant resident physician; Dr. Edward T. Clement, third assistant resident physician; Dr. John T. Adeylotte, first assistant physician on the non-salaried staff; Dr. J. Roy McKnight, second assistant physician on the non-salaried staff; Dr. Charles J. Swain, third assistant physician on the non-salaried staff; Dr. Jacob H. Haerer, assistant medical inspector, vice Dr. A. J. Muller, resigned. Philadelphia General Hospital—Drs. Charles H. Gerhard and Howard T. Karsner, appointed assistant pathologists on the visiting staff.

RHODE ISLAND.

Spinal Meningitis at Newport.—The two apprentices at the Naval Training Station, Newport, suffering from spinal meningitis, who were considered hopelessly ill and to whom the Flexner serum was administered, are reported to be convalescent.

Personal.—Dr. Charles V. Chapin, Providence, has been elected second vice-president of the Rhode Island Antituberculosis Association, and Dr. Jay Perkins, Providence, a member of the executive committee.——Dr. Montafix W. Houghton, P. H. and M.-H. Service, Providence, has been appointed surgeon of the Rhode Island naval battalion, with the rank of lieutenant.

Society Meetings.—At the annual meeting of the Washington County Medical Society, held at Westerly, January 9, the following officers were elected: President, Dr. Frank I. Payne, Westerly; vice-presidents, Drs. Michael H. Scanlon, Westerly, and Horace Wilcox, Wakefield; secretary-treasurer, Dr. J. Howard Morgan, Westerly; auditor, Dr. Phillip K. Taylor, Kingston; delegate to the state society, Dr. John Champlin, Westerly, and councilor, Dr. Alexander B. Briggs, Ashaway.——At the annual meeting of the Kent County Medical Society, held in East Greenwich, recently, the following officers were elected: President, Dr. Frank B. Smith, Washington; vice-president, Dr. Charles S. Christie, River Point, and secretary, Dr. William S. Roach, Phenix.

Fresh-Air School.—A fresh-air school, unique among educational institutions in this country, was opened in Providence, January 27. The school is conducted indoors, with great swinging windows on the three sides of each room, extending the length and width of each room, and an extensive system of ventilation affords an atmosphere of cold, pure air, free from germs. The idea of establishing the school was first suggested by the Rhode Island League for the Suppression of Tuberculosis, which had heard of the satisfactory results attained by schools of the kind in Europe. The pupils do not remove their outer wraps unless the weather requires closing the large windows. The teaching force of the institution has been selected largely from experienced instructors and is under the direction of a corps of experts who have made the subject an object of especial study.

GENERAL.

Southern College Association Meets.—The annual meeting of the Southern Medical College Association was held in New Orleans, Dec. 17, 1907, under the presidency of Dr. Christopher Tompkins, Richmond, Va. The paramount issue was the raising of the educational standard of medical students. An effort is being made to establish a high school in every city of every state of the South, which shall have a four years' course. This will enable graduates from high schools to matriculate at once in medical schools. The Atlanta College of Physicians and Surgeons, Medical Department of the University of Arkansas, Little Rock, Ark., and the College of Physicians and Surgeons, Little Rock, Ark., were admitted to the association. The following officers were elected: President, Dr. Christopher Tompkins, dean of the Medical College of Virginia, Richmond; Dr. William B. Rogers, dean of the Memphis Hospital Medical College, Memphis, Tenn., vice-president, and Dr. Lewis C. Morris, Birmingham (Ala.) Medical College, secretary-treasurer. Atlanta was selected as the next place of meeting.

State and Municipal Control of Tuberculosis.—Surgeon-General Walter Wyman of the Public Health and Marine-Hospital Service has sent the following letter to public health authorities throughout the country inviting their attention to the importance of the International Congress on Tuberculosis to be held in Washington, D. C., Sept. 12 to Oct. 21, 1908, and urging attendance at the sessions, especially of Section 6 which will be devoted to the consideration of the "State and Municipal Control of Tuberculosis:" "The prevention of tuberculosis is engaging the increasing attention of public health authorities and philanthropists throughout the world. There is certainly no more important public health question demanding the activities of sanitary officers at the present time, and it is desirable that our people generally recognize its importance and enlist in the campaign against tuberculosis. The diffusion of knowledge with respect to the disease is no doubt one of the most important measures that can be instituted by public health officials. With the view to this end, an International Congress on Tuberculosis will be held in Washington, D. C., Sept. 21 to Oct. 12, 1908. At this congress all phases of the problem will be considered, a number of eminent specialists from abroad having signified their intention to participate in the deliberations. Section 6 will be devoted to the national state and municipal control of the disease, and it is urged that all public health officials attend its sessions, participate in the benefits to be derived from discussions of the governmental responsibilities and activities, and as a result be better prepared to assist in a systematic campaign against the disease throughout the country."

SENN MEMORIAL SERVICE.

Under the auspices of Rush Medical College, Northwestern University Medical School, College of Physicians and Surgeons, Chicago Medical Society, Chicago Surgical Society and the Nicholas Senn Club, memorial services to the late Dr. Nicholas Senn were held at the Music Hall, Fine Arts Building, February 2, at 2:45 p. m.

Rev. Frank W. Gunsaulus, D.D., delivered the invocation.

Prof. Albion W. Small of the University of Chicago acted as chairman, and in opening the services said that by circumstances beyond control, the official heads of the three universities, who would naturally have taken part in the memorial services, were prevented from being present. Dr. Judson is in New York, President James is confined to his home by illness, President Harris is detained at his home by serious illness in his family. This absence of the proper official representation is therefore no index of the part which the sympathies of these universities take in the tribute of respect and admiration for Dr. Senn. Not merely the professional but the academic faculties regard his death as a loss to the educational interests of Chicago, of Illinois, of the country, and the world. The representatives of these institutions bow their heads in sorrow and join with the medical profession in celebrating the worth and notable professional achievements which are attached to the name of Dr. Senn.

Nicholas Senn as a Teacher.

Dr. Frank Billings, speaking for Rush Medical College, said a majority of those present have had the pleasure of listening to Dr. Senn and of witnessing his magnificent manner of teaching. Dr. Senn was a teacher long before he began medical college work. In his early days in Wisconsin he was a teacher. He taught those who came in contact with him as individuals, and in Milwaukee he organized a medical society which was the center of medical thought in that city. Many of his pupils are now living examples of the best medical and surgical practice as taught by Senn. Dr. Senn's first experience as a medical teacher in a college was in 1884, when he was called to the College of Physicians and Surgeons, Chicago, to the chair of the principles and practice of surgery. He continued his services in that institution for four years after which he accepted the chair of the principles of surgery and of surgical pathology in Rush Medical College, where he taught from 1888 to 1891. There his teaching was phenomenal. On a blackboard Dr. Senn would put down a synopsis of the subject of his lecture and would then follow it very closely. He knew medical literature, and hence his lectures not only contained his own opinions concerning the principles of surgery, but the opinions of others. He had a prodigious memory, and without recourse to notes gave notations from this book and that book on the subject of which he was speaking. He remained in that position but a short time. He was then called to occupy the chair of professor of the practice of surgery and of clinical surgery in Rush Medical College through the death of Prof. Charles T. Parkes. His clinics were fashioned after German surgical clinics, but modified by Senn and made better therefor. He showed at these clinics pathologic specimens which were obtained from former operations. These he described as a pathologist. He followed this with the demonstration of microscopic preparations made from some gross specimens which he had previously shown. These were passed about and explained. He exhibited and demonstrated patients who had been before the class previously, explaining what operations had been done on them, the processes of healing of wounds, etc. Immediately after this he would show new patients, operate, and then was at his best. He was a wonderful diagnostician in surgery. He remembered everything. Those who were in contact with him for many years say that in some cases he could tell the character of the disease from which a patient suffered simply by looking at him; while other physicians were at a loss to know what the disease was. Senn knew, because ten or twenty years before he had seen a like case. He knew the methods of examination and demonstrated his reasons for diagnosis before his class. As to treatment, he differed from most surgeons, in that if the case was not an operative one, he could explain as fully and clearly what the medical treatment should be as if he were an internal medical man instead of a surgeon. He was a dextrous operator and did not quail before the most formidable operations. He had a facility of expression in describing disease that few men possess. He was didactic—perhaps Socratic. He had a good voice, and was never at a loss for words. He impressed on his students, whether they were practitioners or undergraduates, the fact that he understood his subject; that he knew what should be done for every dis-case that came under his notice. He was eminently a teacher of the arena, and was never so happy as when standing in a large arena full of students to whom he could expound the principles of surgery. He was a writer, and in everything he wrote he was a teacher, and certainly no one man in the medical profession has ever written as much. Many of his books are still used as text-books. They have been translated into other tongues than English. In Japan they are used as text-books in medical schools and in the army. In Russia they have been translated and are used in the army. These books are authoritative on the subjects of which he wrote. This is particularly true of his Principles of Surgery. No other man in America has done as much as Senn did in that book for American surgery. No other man probably will ever occupy his place, nor will any other man unite in one individual his facility of expression in the teaching of a large number of students and at the same time wielding a pen with such clearness of expression in writing books that are now considered as authoritative and used the world over.

Nicholas Senn as a Surgeon.

Dr. Albert J. Ochsner, representing the Chicago Surgical Society, said that Nicholas Senn possessed the intuition of the true prophet in surgery. Thus he recognized almost at the beginning of his professional career three aids in the development of surgery which enabled him to rise from the obscure practitioner of medicine to the world-famed surgeon, namely, clinical microscopy, animal experimentation and antiseptic surgical technic. These three conditions he utilized to the utmost. His great logical mind enabled him to grasp their importance as well as their scope. His phenomenal enthusiasm carried him over every obstacle; his almost superhuman physical and intellectual strength enabled him to accomplish in a few years that for which in others a lifetime would have been too short, and his unchanging devotion and ceaseless industry enabled him to continue these labors through a period of nearly forty years. But his great scientific attainments did not in any way obstruct his practical usefulness. His early training on the Wisconsin farm had not only given him a most vigorous development of body and mind, but also a very high degree of practical skill and dexterity. In this way he became the most exalted exponent of surgical science and at the same time quite as distinguished a leader of successful surgical technic. With all of these qualities and with the power of conveying his knowledge to others as a writer and orator, he naturally became, in the eyes of the world as well as in fact, the master surgeon of the Western Continent. Looking back to tne days when Professor Senn delivered his first course of lectures in this city, Dr. Ochsner said that there never were such lectures on surgery before, and it is safe to predict that their equals will never again be produced. They were inspired; they were the words of a prophet; they made young men enthusiastic workers in this great field for the remaining years of their lives. There is no one among us who does not owe a debt of gratitude to this great man. His genius, his enthusiasm and his devotion have inspired us; his learning has elevated us; his industry and perseverance have served a notable example, and his skill has relieved our suffering. There will for all time to come be inscribed on the pages of surgical history high on the roll of honor the name of Nicholas Senn.

Nicholas Senn as a Man.

Dr. William E. Quine, representing the College of Physicians and Surgeons, said that in Senn a great body gave loyal backing to a great mind. His powers of endurance of both body and mind have rarely been equaled by any of God's creatures; and he needed them all, for his hunger for the honors of achievement was so insatiable that it would scarce brook needed rest. He worked more hours per day, per year, per decade than any man he has known; and the mountainous fruitage of his toil has been the wonder of his friends. For him recreation was merely another kind of work, and serious work at that. He forgot nothing; and everything he had ever known seemed ready for instant use. Without a minute for reflection he could bring to bear on any question within the domain of his serious study all the batteries of literature from the very inception of investigation of the subject through each successive stage of development down to that very day; quoting names and dates with unvarying accuracy, and keenly analyzing the validity of every claim; and do it as readily and confidently as he could repeat the Lord's Prayer. Such powers, supported by his own exhaustive investigation of the same subject, made him matchless in conversation and unconquerable in debate. His passion for authorship dominated every other interest he had in life. He stands sponsor for twenty-three published books, and at least two that are still in manuscript, every word of which was written by his own hand and with his own pen—to say nothing of unnumbered lectures, essays and addresses that have appeared in print under his name. Nicholas Senn was a man of heroic mold. His courage was equal to any danger. Whether assailed by the shocks of surprise incident to grave and complicated surgical operations, when hundreds of critical eyes were watching every movement and when death lurked within a hair's breadth of the edge of his scalpel, and hesitation meant tragedy; or hunted and beset by murderous Arab robbers on the desert of Syria and without the possibility of aid; or enclouded in "the pestilence that walketh in darkness and spareth not;" Senn was always undaunted, quick, sagacious, and unerring and ready to give a good account of himself every minute of the time. He could out-Luther Martin Luther. He could counterpart the sacrifice of his countryman, Arnold Winkelreid; he could denounce corruption and dishonor at the peril of his life, equal to Jerome Savonarola, and walk to the stake as sturdily as John Huss; and he could stand shoulder to shoulder with "Horatius at the Bridge," and do battle to the death and with challenge and defiance in his heart to the last throb. The pomp and formalism of military parade fascinated him, and the insignia of military rank allured, charmed and enthralled him. Senn had a world of admirers, but few intimate friends. True, there were countless thousands who were friendly and deserving of his friendship; but few of these were admitted to his confidence. He was courteous and affable to everybody, but reserved, except to the favored few. These had been weighed and measured and tested and approved; and there was not an immoral, vulgar, profane or deceitful one among them all. For them Senn's loyalty and confidence knew no limit. He was a man of refined and exalted sentiment, and his heart and mind and mouth were as clean as a little girl's. He was delightfully free-handed with his friends, but frugal in the small affairs of life; frugal, not because he cared for money, but because wastefulness was crime.

Dr. Quine referred to the Senn collection of books in the Newberry Library, representing an outlay of $50,000, and placed at the service of the medical profession for all time, as a donation; also the Senn Memorial Building erected at a cost of $50,000 for the use of science; the Senn Professorship endowed in the sum of $25,000, and the Senn Fellowship endowed in the sum of $15,000, and the Senn Rooms in the St. Joseph's Hospital endowed in the sum of $35,000, for the perpetual care of stricken members of the medical profession, leave nothing to be said but this: Nicholas Senn, as a man, has done more for the medical profession than all other physicians combined who have ever lived in this great city.

Finally, Dr. Quine said: "I can imagine him now within three degrees of the North Pole with Peary. I can imagine him left there—alone. No living thing within sight, within hearing, within reach—alone. Without the possibility of shelter or of help, and with desolation around him and death in the air—alone with God. 'And God saw everything that He had made, and behold it was very good.' A man. In God's own image and a glory to His power—Senn.

"We symbolize a life arrested in the midst of great productiveness and power by a broken column. But a broken column would not typify Senn; rather mark the spot where rests his honored clay by a granite shaft, broad-based and deep-set in Mother Earth, and hewn four-square to every wind that blows —and finished at the top."

Nicholas Senn as a Physician.

Dr. Henry B. Favill, representing the Chicago Medical Society, said that the career of Nicholas Senn illustrates that a man is not made by circumstances. Perhaps the most noteworthy fact in the professional development of Dr. Senn is that his greatest and most enthusiastic scientific achievements were during a period when his daily toil in medical practice was the most burdensome. After completing his medical schooling, and serving in the Cook County Hospital, he plunged into the thick of country practice. Promptly he was recognized as a man of strength and progress, and very early in his career attracted the attention and commanded the respect of the profession in Wisconsin. Steadily he forged ahead, not only in his private practice, but in public recognition. Interested, indefatigable and effective, it was but a question of a few years when he naturally and inevitably sought in Milwaukee a broader field for his activities. There he continued aggressive, original and inspiring. He has never known a man whose capacity for sustained labor, not for a few days, but month after month, was as great as that of Dr. Senn. In this fact, coupled with his indomitable perseverance, lies the explanation of his remarkable productions during the period from 1880 to 1895. The effect of his commanding supremacy on the profession of Wisconsin was pronounced. He never held the place of rival or competitor; he was the acknowledged leader, and young men drew from him inspiration and encouragement. Generalization and the whole morbid picture were far more satisfying than surgical technic. Not at all early in his career did he become specifically a surgeon. Never in his career did he become only a surgeon. As he reached his full maturity, the dawn of scientific medicine occurred. He was among the first to grasp the enormous significance and possibilities of the new life. Day and night he labored with the scientific problems of medicine, always with the broad relationships of the living organism as the background to his conception. At this period he acquired the deep friendship and respect of Dr. Christian Fenger, and the picture of those two masters, shoulder to shoulder, during those days of medical conflict, demonstration and revolution, is never to be forgotten. This friendship furnished him untold comforts and inspiration in his scientific pursuit, and as a result of it the medical profession in the western states has profited inexpressibly. In his early life he had an enormous experience in general practice. In his later life he unfailingly interpreted his surgical problems in the light of his broad medical experience. No man knew better than he the triumphs and possibilities of operative management. No man less than he was carried away by enticing possibilities from the sound footing of medical judgment. Surgery owes him an inexpressible debt, but those who knew him best, and particularly during the great part of his life when he was an active factor in general medical affairs, know that his greatest contribution to the interest, intensity, ideals and scientific conception of medicine, was as a physician.

Nicholas Senn as a Traveler.

Dr. D. R. Brower, representing the Nicholas Senn Club, said that Dr. Senn was probably the most traveled medical man in this or any other country. His journeyings included trips through every state and territory in the Union; the Dominion of Canada, from Labrador to British Columbia; he went as far north as Etah in Greenland, the most northern point inhabited by human beings in the world, and as far south as Punta Arenas, the most southern town in the world, and visited all the countries in between. He made two trips around the world, one by way of Siberia, the other by way of India. He visited every country in Europe; he explored Africa and all the important islands of the Pacific and Atlantic oceans. With the exception of two or three insignificant countries in Asia, he had, indeed, seen the whole world. He was a pleasant traveling companion. He knew how to travel. He never fussed about things that are often sources of discomfort to many travelers; he was so intent on studying nature and humanity that the trifles of life never long engaged his attention.

At the International Medical Congress at Moscow, in 1897, he received many honors. He delivered one of the three general addresses, selecting English as the language, thus showing his loyalty to his adopted country, and it was received with great enthusiasm. The czar had invited him to be his guest at the Kremlin, but this great honor he declined, giving as a reason that he preferred to remain with his American companions. The night of the great banquet in the Arcade, the Russian medical men bore him on their shoulders and in triumphal procession marched up and down the corridors, singing the praises of the great American surgeon.

Dr. Senn's six books of travels contain an immense fund of information gathered from many sources. They are excellent guide-books, descriptive of peoples, countries, fauna, flora, climatic conditions, and the relation of health and disease. His style was entertaining, his language choice, often dramatic, often poetic. His trained perception and his mature judgment made his conclusions always valuable.

"The master surgeon's journeys in this world have ended. A noble, generous, self-sacrificing life has begun its journey in the great beyond, and when he has reached the presence of the Great Physician, whom he loved so well, then may it be said to him: 'Well done, thou good and faithful servant. Thou hast been faithful over a few things; I will make thee ruler over many things. Enter thou into the joy of thy Lord.'"

Professor Small, in bringing the service to a close, said: "There is a meaning to this memorial service, and while it is not exhausted by speaking and the hearing of praise, the real meaning of it is in the mind and the renewal of allegiance to ideals. A man who has done something worthy of praise is a social asset, not merely as a memory, but as a mark to be reached. We have heard the character and worth of Dr. Senn praised because of his honesty as a scientist; his ingenuity as a teacher; his resourcefulness as a physician; his courage as a surgeon; his loyalty as a friend, a citizen and a man. The dignity and the worth of our tribute are in the degree in which we are saying these things of him for his own place and for his own part in life. These things we will value; these things we will emulate; these things as we have the ability, we will promote."

FOREIGN.

Death of Physician at Bedside.—Dr. Merling of Birkenfeld, Germany, was attending a child in a neighboring village who required tracheotomy. At the moment when he had completed the incision he sank dead to the floor, seized with cardiac paralysis, while the child bled to death.

Campaign Against Rabies in India.—Owing to the prevalence of rabies in Simla, the health officer of that town has started a campaign against jackals, large numbers of which exist in the vicinity. The *Lancet* states that a man has been engaged to exterminate the animals by poison and also by shooting them. Bites caused by rabid jackals are always of more severity and graver prognosis than those caused by dogs.

Personal.—Roux, director of the Pasteur Institute at Paris, has been appointed chief of the national public health service. ——The oldest member of the profession in Berlin, Dr. F. Körte, celebrated, January 16, his ninetieth birthday, and received numerous congratulations, both on his own achievements and good health and on the achievements of his sons who have all taken high rank in scientific circles, including W. Körte, the prominent surgeon.——The freedom of the city of Glasgow has been conferred on Lord Lister.

LONDON LETTER.

(From Our Regular Correspondent.)

London, Jan. 18, 1908.

The Salaries of Medical Women.

Among medical school inspectors the board of education states that many women are likely to be appointed. In view of the prospect of increased employment of medical women the Association of Registered Medical Women has passed the following resolution: "As women are equally bound with men practitioners by the ethical laws of the profession, women practitioners should under no circumstances accept a lower salary than has been agreed on by the profession as a minimum. When men and women practitioners are doing identical work, the rate of payment should be the same."

The Health of the British Navy.

The report on the health of the navy in 1906 shows a continuous improvement in the general health of the fleet as compared with that of previous years. Not only are the invaliding and death ratios for the year lower than the average for the last nine years, but the average loss of service for each person has dropped from 12.79 to 10.6 days—the lowest recorded since 1856. An addendum to the report, on diving perils, by Staff Surgeon Rees, is of considerable interest. He finds a large percentage of cases of caisson disease in men over 40, and points out the danger of employing divers of that age except in shallow water. Another point of interest is the greater liability to this disase of fat rather than of spare men. Rees suggests the elimination of the fat man as a diver and points out that his greater proclivity is in accordance with what is known of the disease; a man who carries about with him a huge reservoir for nitrogen, such as is provided by the abdominal fat, must, other things being equal, be more liable to the formation of bubbles than a spare man.

Plague in Queensland.

Dr. Burnett Ham, commissioner of public health for Queensland, has made a special report on plague in that portion of Australia. The report contains the accumulated experience of eight years, and does not accept unqualifiedly the rat-flea theory of the causation of the plague. Dr. Ham says: "It is of the greatest importance, in accepting the rat-flea hypothesis of plague, that the habits and distribution of the rat and the life history of the rat flea should be minutely investigated."

Society Formed for the Destruction of Vermin.

A new society has come into existence in England to inaugurate a crusade against rats wherever found, on the plea that these animals are dangerous to the public health, as well as injurious to many agricultural and commercial interests. The society will cooperate with one or two foreign bodies having a similar purpose in view. Sir James Crichton Browne, the orator of the British profession, delivered an eloquent address at a meeting held to inaugurate the society in which he dwelt at considerable length on the necessity for killing rats wherever found.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Cardiovascular-Renal Disease.

Prof. James Tyson of Philadelphia (*American Journal of the Medical Sciences*, January, 1908) thoroughly discusses the diagnosis and treatment of this disease. He carefully points out what is understood by Bright's disease, the character of the nephritis that is caused by cardiac defect, and the condition of the heart and kidneys caused by general arteriosclerosis.

It seems to be true that continued high blood pressure (whatever the cause of such increased tension may be) or a prolonged circulation in the blood of irritants, perhaps the products of intestinal indigestion, may cause general arterial disease. Tyson believes that when the arterial tension is high in arteriosclerosis the kidneys are insufficient, while if the arterial tension is low the kidneys are doing good work, but the left ventricle of the heart is not equal to the increased work that the hardening of the arteries puts on it. Combined vascular and renal disease will cause secondary hypertrophy of the heart, and the circulation will be pretty good so long as the heart is able to do the extra work.

Whether the arterial disease precedes the renal defect or the small contracted kidney precedes the arterial disease, is often impossible to decide. Both conditions begin insidiously; neither may show albumin in the urine; both may show a few hyaline casts; both may cause dizziness, symptoms of anemia, and some imperfect circulation; neither may show edema. Retinitis albuminurica, i. e., hemorrhages into the retinæ, would point toward serious renal defect, while considerable emaciation would point to general arteriosclerosis.

We should recognize three conditions: A general arteriosclerosis with a gradual defect of the kidney from the general arterial disease and with hypertrophy of the heart as a secondary consequence of both conditions. Second, there may be gradually contracting kidney with secondary arteriosclerosis and the surely secondary hypertrophy of the heart. Third, there may be a cardiac lesion, especially of the mitral valve, causing gradual failure of the right ventricle, passive hyperemia of the abdominal organs quickly felt by the kidneys, and with their prolonged passive congestion a secondary nephritis occurring. Toxins circulating in the blood from circulatory and renal insufficiency may cause a secondary arterial disease. In this form of cardiovascular-renal disease considerable quantities of albumin may be excreted in the urine with a great variety of casts. Dropsy, at first pendent and circulatory, is of frequent occurrence in this third type.

Without arterial disease and without valvular lesion a gradually increasing myocarditis, due to severe infection, severe physical exertions, toxins, or the continuous circulation of poison such as too much nicotin, can soon produce renal defect as well as circulatory deficiency. Albuminuria and dropsy are consequences of this condition, and may occur at any age without arterial disease.

It is often difficult to differentiate between chronic parenchymatous nephritis and chronically contracted kidney in which the hypertrophied heart has finally become dilated, adding circulatory failure to the nephritic symptoms. A distinction can perhaps be made by the presence or absence of uremic symptoms. If there is excretion of a large amount of albumin and casts and the dropsy is mostly pendent and still there are no uremic symptoms (such as headache, nausea, vomiting, sudden short attacks of eye blindness and high blood tension), the heart is probably primarily at fault. If the above uremic symptoms are present, the kidneys are badly diseased. The difference seems to be in the ability of the kidneys to produce an antitoxin or to counteract toxins. In other words, there seems to be an internal secretion of the kidneys, which secretion is lost in real renal disease. The prognosis is, then, better in primary cardiac lesions with serious kidney disturbance than when the kidney lesion is primary. As Tyson so well points out, in apparently hopeless cases the patients may occasionally improve and be able to attend to their duties if the cardiac disease is primary.

He advises the following treatment for cardiovascular-renal disease: When there is chronic interstitial nephritis with polyuria, small amount of albumin, a few hyaline and granular casts, hypertrophy of the left ventricle, sclerosed arteries and high blood pressure, without dropsy, the condition is, of course, incurable. However, the whole condition can be improved by removing all irritants from the blood, largely by modification of the diet, by the curtailing of the amount of food taken and especially the amount of proteid ingested, and the withdrawal of all alcohol, and perhaps tea and coffee, from the diet. If the condition has been caused by gout, or if gouty symptoms are present, or if there is a gouty heredity, all substances rich in purin, such as sweetbread, liver and kidney, should be avoided, and it is even often best to limit the meat to once a day. In this manner the uric-acid production is decreased.

If there is a history of syphilis, this disease should be treated, but Tyson does not say whether with iodids or with small doses of mercury. Without manifest symptoms of syphilis, iodid in small doses would seem the drug indicated. Whatever the cause of the condition may be, as much mental and physical rest as possible should be given the patient, at least until there is marked improvement. It is doubtless impossible to improve the condition of the sclerosed arteries, but the progress of the disease may certainly be retarded with iodids, which inhibit the growth of connective tissue and are vasodilators. They also doubtless diminish the viscosity of the blood, which is considered one cause of arteriosclerosis. Tyson prefers the sodium iodid for long-continued use, and certainly this salt is to be preferred, as the potassium element is more or less of a muscle depressant.

℞.	gm. or c.c.		
Sodii iodidi	10	or	ʒiiss
Aquæ	100		fl℥iv

M. et Sig.: A teaspoonful, in milk or water, three times a day, after meals.

If the iodid is to be long given for the above conditions, the dose may be reduced one-half, viz., to 0.25 gram (4 grains), three times a day, or to even less. How much of the favorable action in inhibiting connective tissue growth and reducing the blood tension is due to the iodid as such, or how much is due to the iodid stimulating the thyroid gland can not be determined, but certain it is that at the time of life when this cardiovascular-renal disease is most in evidence and abnormal connective tissue formation is on the increase, the thyroid is diminishing its secretion. It is also a fact that iodid or iodin is a stimulant to the thyroid gland. It has also been shown that for perfect action the thyroid secretion must have a certain amount of iodin. If the thyroid secretion is short on iodin, and if it can get it from a drug, its activity is increased and its secretion perfected. For this reason a small amount of iodid given two or three times a day, or a small dose of thyroid substance, as 0.10 gram (2 grains) of the dried extract once a day, given for a long period, in this disease is of marked physiologic benefit.

If there are retinal symptoms (retintitis albuminurica), instead of the iodid Tyson advises the biniodid of mercury, as:

℞.	gm.		
Hydrargyri iodidi rubri	|100	or	gr. ii
Sacchari albi	5		ʒiss

M. et fac pilulas 50.

Sig.: One pill three times a day, after meals.

Or:

℞.		
Tabletas hydrargyri iodidi rubri, āā		gr. 1/30

No. 50.

Sig.: One tablet three times a day, after meals.

Digitalis is not as a rule indicated in the above condition. The heart action is generally too powerful and the blood tension too high, hence more frequently the tincture of aconite is indicated, in doses of from three to five drops, three or four times a day, until the blood tension is lowered. Nitroglycerin is a very valuable drug to meet this indication, and can be used much longer than can aconite and does not require the continual observation of the patient as does aconite.

℞.	c.c.		
Spiritus glycerylis nitratis	25	or	fl℥i

Sig.: One drop, in water, every two hours, if needed.

Or:

℞

Tabletas glonoini, āā gr. 1/200

No. 50.

Sig.: One tablet three or four times a day.

Or:

℞.	gm. or c.c.		
Sodii nitritis	4	or	ʒi
Aquæ	100		fl℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

General daily massage is of great benefit when the circulation is weak and the heart is primarily at fault. If there is arteriosclerosis, massage is often not well tolerated.

If there is great circulatory failure, the patient must be in bed, whether he believes he can rest there or not, and after a day or two of rest he realizes that he has improved.

If there are edemas and dropsies, with kidney defect (which condition generally calls for a milk diet) it should be distinctly understood that all liquids should be given in small quantities only. It is a serious mistake to give much liquid of any kind to patients with dropsy. If the blood vessels can be made thirsty, they will take up water from the tissues or from exudates, and large amounts of water ingested when there is anasarca will not aid in causing diuresis.

If the heart is primarily at fault, digitalis may be indicated, and should be given in sufficient doses for physiologic action. The effect on the kidneys must, of course, be watched, as any great diminution of urine excretion would preclude the further use of this drug. If the kidneys are seriously in trouble digitalis should generally not be used.

Hydragogue cathartics (and the salines are the best), with hot air or vapor baths or hot packs, with the diminution of liquid ingested, and the withholding of salt from the diet, will generally cause the blood gradually to pick up the water from the tissues. The physiologic reason that sodium chlorid should be withheld seems to be that this salt enters the tissues with the exudate and then continues to demand water from the blood. If the salt is withheld, the serum soon begins by osmosis to pass into the blood vessels again and the anasarca becomes less.

Diuretics are often of value in this cardiovascular-renal disease with edema, but also often fail. The best are those of the theobromin and caffein group, as:

℞.	gm. or c.c.		
Sodii-theobromi salicylatis	10		ʒiiss
(Diuretin)		or	
Aquæ	100		fl℥iv

M. et Sig.: A teaspoonful, in water, four or five times a day.

Or:

℞.	gm. or c.c.		
Sodii-theobromi acetatis	10		ʒiiss
(Agurin)		or	
Aquæ	100		fl℥iv

M. et Sig.: A teaspoonful, in water, four or five times a day.

Or artificial theophyllin:

℞.	gm.		
Sodii-dimethylxanthin acetatis	6	or	ʒiss
(Soluble theocin)			

Fac chartulas 20.

Sig: One powder, dissolved in plenty of water, three times a day, after meals.

[Theocin is irritant to the stomach unless well diluted.]

Also very valuable as a cardiac stimulant and diuretic is caffein, as:

℞.	gm.		
Caffeinæ citratæ	3	or	gr. xlv

Fac capsulas 20 (dry).

Sig.: One capsule, with water, every eight hours.

Or:

℞	gm.		
Caffeinæ sodio-benzoatis	4	or	ʒi

Fac capsulas 20 (dry).

Sig.: One capsule, with water, every eight hours.

Also many times successful as a diuretic is spartein, and spartein has been given in too small doses.

℞.	gm.		
Sparteinæ sulphatis	|60	or	gr. x
Sacchari lactis	2		ʒss

M. et fac capsulas 20 (dry).

Sig.: One capsule four or five times a day.

As above stated, if uremic symptoms are not present and the kidneys are secreting, although the urine may be loaded with albumin, digitalis may be given, as:

℞.	gm. or c.c.		
Potassii citratis	40	or	ʒx
Infusi digitalis	200		fl℥vii

M. et Sig.: Two teaspoonfuls, in water, three times a day, after meals.

The alkaline potassium salts seem also to promote osmosis toward the blood vessels so that the edema often diminishes. When the edema is mostly cardiac, the following calomel combination is often of marked value:

℞.	gm.		
Hydrargyri chloridi mitis	|60		gr. x
Digitalis	1	or	gr. xv
Scillæ	2		gr. xxx

M. et fac capsulas 20 (dry).

Sig.: One capsule, with water, four times a day.

It is sometimes best to inhibit slightly the cathartic action of the calomel with a small dose of morphin, as 1/10 of a grain once or twice during the day. If the calomel combination has done no diuretic good in forty-eight hours, it should be stopped.

Sometimes when other medication has failed to remove water from the tissues, Canadian hemp has been of value. This may be given as:

℞.	c.c.		
Fluidextracti apocyni	25	or	fl℥i

Sig.: Fiften drops, in water, every three hours.

Or:

℞.	gm.		
Apocynin. cryst.	|60	or	gr. x
Sacchari lactis	2		gr. xxx

M. et fac capsulas 20 (dry).

Sig.: One capsule, with water, every three hours.

The frequency of administration of the Canadian hemp should be diminished as soon as diuresis occurs.

When a simple saline purgative is not satisfactory, the compound jalap is valuable, as:

℞.	gm.		
Pulveris jalapæ compositi...............	10|	or	ʒiss

Fac chartulas 5.

Sig.: One powder at once, and repeat in four hours if needed. Or a powder may be given every morning.

Elaterium should not be used if there is much cardiac weakness, and not unless there are uremic symptoms.

Pharmacology

Antikamnia; Still Further Duplicity.

Some three years ago, soon after its organization, the Council on Pharmacy and Chemistry published the results of analyses made under its direction of certain proprietary medicines whose principal ingredient, and the one on which their therapeutic action depended, was acetanilid. Among these proprietaries was Antikamnia, approximately 70 per cent. of which was shown to consist of this drug, acetanilid.

As we mentioned at the time,[1] when the Food and Drugs Act went into effect, the manufacturers of this nostrum, instead of continuing to put out the same acetanilid mixture as they had been doing, radically changed the composition by substituting acetphenetidin (phenacetin) for acetanilid. By making this change the company avoided the extremely disagreeable necessity of acknowledging on the label the truth of what had been published regarding its composition. Consequently, in complying with the Food and Drugs Act, instead of stating on the package that it contained a certain quantity of acetanilid, it could, and did, place on the label this legend: "Antikamnia tablets in this original package contain 300 grains of acetphenetidin, U. S. P., per ounce." This is all the law demands; it does not require a statement as to what a preparation does *not* contain. In this instance, however, the label announced that the tablets "contain no acetanilid, antifebrin, antipyrin, alcohol, morphin, opium, codein, heroin, cocain, alpha- or beta-eucain, arsenic, strychnin, chloroform, cannabis indica or chloral hydrate." While this imposing tabulation of the negative virtues of the mixture doubtless makes good advertising "copy," a simple statement of its actual composition would be more to the point.

What was the object of publishing this unnecessary denial on the label? Was this an attempt to question the truth of the statement that we and others had published that Antikamnia was an acetanilid mixture? Undoubtedly.

TWO KINDS OF ANTIKAMNIA ON THE MARKET.

Knowing that this nostrum is being largely advertised in Great Britain and Canada, and wishing to know whether the Antikamnia sold abroad is the same as that now on the market in this country, we, last November, obtained some Antikamnia from London. This has been analyzed in the Association's laboratory. As we suspected, the analysis[2] shows that, as sold abroad, Antikamnia is of the same composition as that sold in this country before the Food and Drugs Act went into effect, viz.: Acetanilid, 67.75 per cent.; caffein, 4.88 per cent., and citric acid and sodium bicarbonate, by difference, 25.36 per cent. This, it will be noticed, corresponds with the results of the analyses made under the direction of the Council on Pharmacy and Chemistry and published in The Journal, June 3, 1905. Our chemists also have analyzed the Antikamnia now on the market in this country. This analysis[3] gives the following results: Acetphenetidin (phenacetin), 72.05 per cent.; caffein, 13.95 per cent.; citric acid and sodium bicarbonate, 14 per cent.

Thus while the old Antikamnia contained approximately 68 per cent. of acetanilid. the new contains approximately 72 per cent. of acetphenetidin (phenacetin), the other ingredients being in about the same proportion.

ANTIKAMNIA AND QUININ.

Incidentally, attention has been called previously[4] to the fact that the preparation marketed under the name of "Antikamnia and Quinin" differs materially from what would be expected if it were, as its name denotes, a mere combination of quinin and what is sold as Antikamnia. In short, it was found that starch was substituted in the "Antikamnia and Quinin" mixtures for the bicarbonate of sodium which is found in the Antikamnia itself.

Further analyses just made[5] disclose the same condition, ex-

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[1] The Journal A. M. A., Jan. 26, 1907, p. 340.

[2] The package of Antikamnia as received in the laboratory was enclosed in a carton bearing the inscription, "Antikamnia Powdered. The Antikamnia Chemical Co., St. Louis, Mo.," and was otherwise similar to the packages formerly found on the American market. The contents of the package of Antikamnia as received were analyzed according to the method proposed by W. A. Puckner (Proceedings of the Amer. Pharmaceutical Assn., 1905, liii, 292), and found to contain: Acetanilid 67.75 per cent., and Caffein 4.88 per cent. The content of citric acid and sodium bicarbonate (by difference) was found to be 25.36 per cent. [From the chemist's report.]

[3] The Antikamnia found on the American market to-day bears labels in compliance with the Food and Drugs Act, as already commented on in The Journal (Jan. 20, 1907, 340.) This preparation was analyzed in the same manner as the preparation bought in the English market, and was found to contain: Phenacetin 72.05 per cent. and caffein 13.95 per cent. The content of citric acid and sodium bicarbonate (by difference) was found to be 14:00 per cent. In attempting to determine caffein in the presence of phenacetin it was found that variable results were obtained; that some phenacetin always accompanied the caffein after the supposed separation. This was due no doubt to the slight solubility of phenacetin, and to the fact that a compound of phenacetin is precipitated by iodin. This compound described in Beilstein's *Handbuch der Organischen Chemie*. Ergänzungsband ii, p. 401, as iodophenin has the formula: $C_{20}H_{16}O_4N_2I_2$. It is very insoluble in water, and so is obtained along with caffein periodid when that substance is isolated. As it is easily decomposed, free phenacetin is probably again liberated and goes through with the caffein when the precipitate, resulting from the addition of iodin, is treated with sodium sulphite solution. It was also noted that the more water used in dissolving the phenacetin and caffein mixture, the more phenacetin would be found along with the caffein in its final determination. The following results will show how the determination varied, due to varying concentrations of the solution, and will show that the results are always high. In each case, phenacetin was demonstrated to be present in what should have been pure caffein. The following are the results:

	Weight of Caffein used.	Weight of Caffein (and phenacetin) found.
I.	.1319	.1473
II.	.1000	.1069
III.	.1275	.1504
IV.	.1143	.1487
V.	.1119	.1382

This work is being continued with the end in view of working out a satisfactory method of separating phenacetin and caffein. The results of this endeavor to find an efficient method will be published in a future issue of The Journal. [From the chemist's report.]

[4] The Journal A. M. A., July 1, 1905, p. 55.

[5] The packages labeled "Antikamnia and Quinin Tablets," both the one purchased in England and that found on the American market give the weight of each tablet as 5 grains, and the proportion of the ingredients as "2.5 gr. Antikamnia; 2.5 gr. Quinin bisulph." The preparation on the American market, however, bears an added label to conform to the Food and Drugs Act, similar to the label found on the "Antikamnia Powdered." Qualitative analyses showed the presence of acetanilid in the "Antikamnia and Quinin Tablets" purchased in England and consequently the analysis of this preparation was carried out according to the method used in examining the "Antikamnia Powdered" obtained from England. It was found that acetanilid and caffein were present in the following proportions: Acetanilid 34.48 per cent, Caffein 2.80 per cent. In the residual solution, left after extracting acetanilid and caffein, quinin was determined as follows: The solution was made alkaline with ammonium hydroxid and then extracted with chloroform. The chloroform solution was allowed to evaporate and the resulting residue was dried at 90° and weighed. From this result the content of quinin bisulphate in the specimen was calculated and found to be 52.46 per cent. Further investigation showed that sodium bicarbonate, which would naturally be expected to be present, was absent, and in its place starch had been substituted to the extent of 10.26 per cent. (by difference).

In the "Antikamnia and Quinin Tablets" as sold in the United States, it was found by qualitative tests that acetanilid had been replaced by acetphenetidin (phenacetin). and accordingly an analysis was made to determine the phenacetin, caffein and quinin content of this preparation. For determining phenacetin and caffein the method already described (Footnote 3) was used, and for the determination of quinin the method given above for "Antikamnia and Quinin Tablets" from England was used. Again in this preparation—as in that bought in England—starch had been substituted for sodium bicarbonate. The result of this analysis showed the presence of: Phenacetin 36.46 per cent., Caffein, 4.11 per cent., Quinin bisulphate, 53.63 per cent., and 5.80 per cent starch (by difference). [From the chemist's report.]

cept that the brand found on the American market contains acetphenetidin in place of the acetanilid which still persists in the product sold in Great Britain.

While for a long time this nostrum was presumably to be advertised to physicians only, it is now openly advertised directly to the public by samples, and circulars sent broadcast through the mails.

COMMENTS.

The above are brief statements of bald facts. Two of these facts should be emphasized: (1) When the Food and Drugs Act went into force, January, 1907, the manufacturers of Antikamnia, rather than acknowledge the truth of the past—we can imagine no other reason—materially and radically changed the composition of their preparation, and did this without notifying the medical profession or intimating in any way, so far as we can learn, that such a change had been made. We have no doubt they believed they had a right to do as they pleased with their own; that it was nobody's business but theirs what they did with their own preparation, or how they changed it. As they never had told physicians what it contained, there was no reason why they should do so now. This is logical, and we can not blame the manufacturers so long as the medical profession is willing to be humbugged. (2) For the same reason, we presume, they claim that they have a right to continue to use acetanilid in the product for the foreign market. The Food and Drugs Act applies only to the United States, of course, and acetanilid being cheaper, why not use it? What is the difference if one is more dangerous than the other? The fact that the Antikamnia sold abroad differs from that sold in this country some may say is of no special interest to us. Still this fact is worth noting: The dose of acetphenetidin—phenacetin—(7½ grains) is nearly double that of acetanilid (4 grains); one becoming accustomed to a certain dosage of the nostrum as sold in this country might, while abroad, unwittingly be led to take a double dose of acetanilid.

When the Council on Pharmacy and Chemistry was first established, some proprietary manufacturers indignantly declared that there was no necessity for the investigation of their products. With one voice they insisted that "the honor and reputation of their firms was sufficient guarantee" of the integrity of their products. It is sad to relate that their position was endorsed by several of our supposedly reputable medical journals whose editors were so imposed on that they indignantly refused to believe that there could be any deception or dishonesty in the methods of the firms which had for so many years advertised in and (incidentally) supported their journals.

We leave our readers to draw further conclusions from the above facts. Possibly the opinion of the Antikamnia company is correct; possibly they have a right to misrepresent, as we have shown they have misrepresented. Can it be possible that some of our prominent medical journals, edited and supported by members of our profession, believe this and are willing to continue as co-partners and profit by fraud and deception?

Correspondence

Sudden Deaths Following the Use of Diphtheria Antitoxin.

[The attention of the Surgeon-General of the U. S. Public Health and Marine-Hospital Service was called to the three deaths* following the use of diphtheria antitoxin, and he was asked if any investigation of the antitoxin used had been made by the Service. The following is Surgeon-General Wyman's reply]:

WASHINGTON, D. C., Jan. 30, 1908.

To the Editor:—I desire to acknowledge the receipt of your letter of Jannuary 25, referring to recent reports appearing in THE JOURNAL of fatalities following the use of diphtheria antitoxin, inclosing report of another case from Dr. E. L. Boone, New Martinsville, W. Va., and requesting to be informed if the service has made any investigations in relation thereto.

In reply, I have to state that samples of serum of the same laboratory number and issued by the same manufacturer were received from Dr. Wiley of Norristown, Pa., who reported the fatal case in THE JOURNAL, Jan. 4, 1908. These samples were examined in the Hygienic Laboratory and found to be sterile, so far as bacterial contamination is concerned, and further, to contain no toxic substance for guinea-pigs or mice. Some of this serum was injected into guinea-pigs and subcutaneously into mice. Steps have also been taken to secure samples of the serum used in the cases reported from Cuba, N. Y., and New Martinsville, W. Va.

It is evident, from the examinations made thus far, that this serum was not contaminated, and this case in all probability is an example in man of hypersusceptibility to horse serum which can easily be induced in animals by spaced injections of horse serum. The phenomenon of hypersusceptibility has received very careful study in the Hygienic Laboratory during the past two years in connection with the examination of serums provided for in the law of July 1, 1902, and it can positively be stated that diphtheria antitoxin plays no part in the poisonous action of horse serum, and is itself harmless. The detailed results of these investigations have been published in Hygienic Laboratory Bulletins Nos. 29 and 36.

The symptoms following spaced injections of horse serum in animals are very characteristic, and indicate that the poisonous principle has a powerful influence on the respiratory centers. Paralysis of the respiratory centers is shown by the fact that respiration in fatal cases ceases long before the heart stops beating. Similar symptoms were reported in the human cases under consideration, and the patients were in all probability sensitized, in some as yet unknown way to horse serum. It is significant that two of the patients reported were afflicted with asthma, which disease is regarded as a neurosis. The results in these cases, and one other, of which the bureau has knowledge, may furnish important clinical information to the effect that antitoxin should not be used, or only with caution, in persons with asthma, or subject to asthmatic attacks. WALTER WYMAN, Surgeon-General.

Medical Journals and Nostrum Advertising.

WARREN, PA., Jan. 18 1908.

To the Editor:—I canceled my subscription to the *American Journal of the Medical Sciences* because of the advertisement of Antikamnia and other fraudulent preparations, and Messrs. Lea & Co. sent me the following significant reply:

LEA BROTHERS & CO.,

PHILADELPHIA, Dec. 24, 1907.

Dr. M. V. Ball, Warren, Pa.

Dear Sir:

The insertion of the advertisement to which you take exception does not, we believe, interfere in any shape, form or manner with the quality of the text pages of the *American Journal of the Medical Sciences*, and it would seem to us a pity that you should deprive yourself of the continued services of an old friend, simply because you dislike the methods of a single advertiser. It was not so long ago since the most ethical of the weekly medical journals gladly inserted this advertisement and others of its kind, and as we have had a contract with the advertiser in question for many years, we do not think ourselves more justified to-day in declining to accept the advertisement than we did when we first made a contract with our friend.

In accordance with your instructions we have stopped your subscription, but we confess that we do so with the utmost reluctance, and we venture to hope that you will regard the matter from a more philosophical light and instruct us to continue to send you a journal for which you have, no doubt, a very high esteem. Yours faithfully,

LEA BROTHERS & CO.

In other words, the publishers of this highly reputable journal have learned nothing in the last three years from all that has been done against fraud advertising and take their stand with the nostrum vendors, who have done more to cast discredit on the medical profession than all the other foes put together. Why be indignant with religious papers that proclaim the virtue of this or that remedy when the high price and high quality medical journals are filled with fraudulent advertisements? Until the leaders disassociate themselves from every journal that can see no harm or wrong in admitting nostrums to its advertising columns, we can not expcet that the great majority of physicians will be regarded with any respect by the public. The "great majority," perhaps, will have to act first and compel their leaders to follow in the campaign against sham and hypocrisy in our own ranks.

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* See also editorial on the same subject.

The proprietors of Antikamnia are now advertising extensively to the laity through the U. S. mail and in such a manner as to deceive the public. They declare Antikamnia contains no acetanilid or opium, and is harmless and produces no habit. They admit it contains phenacetin (acetphenetidin) which, according to every observer, is just as dangerous as acetanilid and has the same contraindications. They advise Antikamnia and Codein in over one-half of the diseases mentioned and yet word their advertising so as to lead the laity to believe that no opiates are in their preparations. Samples are sent through the mail. M. V. Ball.

[Comment:—The owners and publishers of the *American Journal of the Medical Sciences* are laymen. Naturally, they are not particularly interested in medical ethics; they see the question only from the layman's viewpoint. Are they, therefore, particularly to blame for admitting nostrums to their advertising pages? If the reader does not object, the publishers may feel justified in admitting such advertisements as these, which are among those to be found in the January number of the *American Journal of the Medical Sciences:* Bovinine, Seng, Chionia, Peacock's Bromids, Cactina, Antiphlogistine, Antikamnia, Listerine, Bromidia, Echthol, Iodia and Papine. If, however, a sufficient number of readers will do as our correspondent has done, or will simply write to the publishers and let them understand how the physicians look at the matter, undoubtedly there will be a change. This particular journal stands as high as any in the country; it should be and is subscribed for by the "leaders." Unfortunately, the large percentage of this class, knowing the fraudulent character of many advertisements, pass them over with contempt. They do not realize that their silence is taken by the publisher as a quasi endorsement or at least as indicating that they do not object to such advertisements. Meritorious medical publications should be liberally supported. They are well worth the subscription price asked for them, but, on the other hand, the publisher should not be allowed to deliver ripe and rotten fruit in the same basket.—Ed.]

Dangers of Local Anesthesia.

Ridgeway, Mo., Jan. 29, 1908.

To the Editor:—Within the last ten days I have had four cases of infected finger, in which the finger had been lanced under the use of some freezing agent, and desire to call attention to the facts that such agents should be used with care and that there is danger connected with their use, the claims of the promoters to the contrary notwithstanding.

There was refrigeration to actual necrosis of tissue, varying from a narrow circle to entire width of the integument over the second phalanx of the index finger; while the tissues underneath were completely necrosed to the bone, from 5 mm. to 2 cm. in diameter.

Being frozen and thus devitalized, unless removed, the tissues are in a most suitable condition for further bad results. The treatment is self-evident.

In infected fingers, as generally seen, I find it better to distract a patient's attention by the use of constriction, thereby availing myself of the natural pressure intensified, which is lost under the other method. Immediately after incision the band is removed, the attention being still farther distracted, and the rest of the treatment is easy.

James H. Morroway.

Medical Economics

Optometry Bill in Massachusetts.

A bill "regulating the practice of optometry" has been introduced into the Massachusetts legislature and strenuous efforts are being made to secure the endorsement of the medical profession. It is claimed that the object of the bill is to protect the public and to prevent ignorant and unscrupulous men from practicing "optometry." The Massachusetts Medical Society and the Boston Homeopathic Medical Society, through their legislative committees, have unanimously voted to oppose the bill. If the Massachusetts medical practice act does not sufficiently cover the point, an amendment should be introduced, authorizing the State Board of Medical Examiners to examine and license opticians. There is no justification, reason, or demand for such a separate board.

In this connection Dr. John C. Bossidy of Boston, in the *Boston Medical and Surgical Journal*, January 16, sets forth the dangers of such legislation in an article entitled, "The Optometrist. Does He Preach and Practice Medicine?" Dr. Bossidy shows from quotations from lectures, circulars and articles by members of the Massachusetts Optical Society, the New England Association of Physicians, etc., that those who call themselves "optometrists" claim to be able without the use of drugs to prescribe for the correction of defects of vision, to examine the cornea and retina with the ophthalmoscope and oblique illumination, and to diagnose disease therefrom, and that they claim knowledge in diseases of the eye superior to that possessed by the physician.

This entire movement, which has cropped out in a number of states, is simply a part of the constant effort made by unqualified and incompetent individuals to secure the same recognition and standing as that granted to the medical profession, without possessing the training required of legally qualified physicians. The solution of all of these difficulties is to be found in a single board and a single standard, fitness to be determined by a purely scientific examination divested of al suspicion of sectarianism. The bill should be defeated.

Legislation on Vital Statistics.

Reports from states in which the legislatures are now in session show that bills providing for a system of vital statistic registration have been introduced in Virginia and Ohio. These bills are in accord with the movement for uniform legislation on this subject, and have the approval of the United States Census Department. While they were drawn up before the Conference on Medical Legislation met, they are, in the main, in accord with the recommendations of the conference on this important subject.

It is hoped that these two laws will be enacted, and that the coming year will see a decided advance along the line of uniform state legislation for vital statistics. All physicians in these states, especially members of county and state societies, should aid the passage of these bills in every way.

Proposed Medical Legislation in Ohio.

Dr. R. B. Newcombe of Cleveland, in an article in the *Cleveland Medical Journal* for January, outlines the proposed legislation for the coming session of the legislature in that state and urges the cooperation of all physicians. Legislation planned includes a bill regulating the manufacture and sale of proprietary medicines within the state, securing the full benefits of the provisions of the national Food and Drugs Act; a bill creating the position of county medical officer of health; a bill amending the law regarding criminal abortion; a bill forbidding the advertisement in the public press and elsewhere of cures of venereal diseases and of flagrant medical frauds; a bill providing for the registration of vital statistics; a bill re-establishing a local board of health for cities under the merit system, and a bill providing for the appointment of all public medical officers from nominations made by the state and county medical societies.

While it is hardly to be expected that all these measures will be adopted, it is hoped that the principal ones will become laws. It is only in recent years that measures of interest to physicians have been favorably considered by the legislature. Dr. Newcombe emphasizes the value of proper legislation to the public as well as the unselfish motives of the profession in advocating it. He also points out that the proposed laws are for the public good and that opposition is to be looked for from those whose selfish interests are imperiled.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month.

Third Weekly Meeting.

Tuberculosis of Bone.

Etiology: Tubercle bacillus, culture and identification. Mode of entrance into bone.
Pathologic Anatomy: (a) Acute tuberculosis of bone, (b) limited tuberculous deposits, (c) tuberculous osteomyelitis, (d) tuberculous periostitis.
Symptoms: Clinical history of (a) tuberculous osteomyelitis, (b) tuberculous disease of epiphysis or diaphysis.
Treatment: Diagnosis and treatment of tuberculous disease (a) without abscess, (b) with abscess, (c) with sinuses.

Syphilis of Bone.

When may it occur? Probable pathology of secondary stage.
Symptoms: Clinical history and diagnosis in secondary, tertiary, inherited syphilis.

Osteomalacia.

Pathology. Clinical significance.

Rickets.

Theories of causation. Pathologic changes.
Symptoms: Clinical history. Physical signs.
Treatment: Medicinal. Surgical importance of rickets.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DURATION OF HYPODERMIC TREATMENT OF SYPHILIS.

———, Ohio, Jan. 13, 1908.

To the Editor:—How long should one persist in the hypodermic method of treating a case of lues? I am using bichlorid of mercury weekly. L.

Answer.—There is no definite period during which one should persist in the hypodermic method of treating a case of syphilis. If there is reason for the use of this method it should be kept up as long as the indications exist. Some enthusiastic supporters of the injection method of treating syphilis advocate a course of twenty to forty injections of a soluble salt—like mercury—given daily or every second day, and call this a cure for syphilis. Such a treatment is no more a cure than thirty rubs with blue ointment or thirty vigorous treatments by the mouth. As a rule, except in certain parts of continental Europe, the injection treatment of syphilis is reserved for emergencies. Under those circumstances it is continued until the desired result from its use is attained and the patients go back to the use of mercury in other forms, usually by the mouth. Undoubtedly, intermittent periods of injection treatment should not be allowed to take the place of the well-established persistent treatment.

TREATMENT OF PSORIASIS.

Cleveland, Ohio, Jan. 13, 1908.

To the Editor:—I have a case of psoriasis in a boy of 10 years. This disappears under continued use of chrysarobin and arsenic. Arsenic alone has no effect. As soon as treatment is dropped, the eruption reappears. Can you suggest in what particular I have fallen short? F. W. L.

Answer.—All that can be done by treatment in psoriasis is to clean off the eruption, and nothing is better for that purpose than chrysarobin. If arsenic is used it should not be used longer than a few weeks; and it is much more effective in the first attacks than in later outbreaks of psoriasis. Usually after the use of chrysarobin the skin remains clear for at least several weeks, although at times it returns about as quickly as the effects of chrysarobin have worn off. Possibly the reason the eruption returns so promptly in your case is that the use of chrysarobin is not continued until the disease has entirely disappeared. No better method of treatment than you indicate can be suggested in psoriasis.

FORMALIN FOR SWEATING.

Minneapolis, Jan. 21, 1908.

To the Editor:—I notice in The Journal, Dec. 28, 1907, an inquiry about formalin for sweating. The following prescription works very well, and is used by many of the best men in Vienna and Berlin:

R.	Formalin	5 to 10
	Glycerin	5
	Alcohol	100

It should be used only a few times, as it hardens the skin. It is supposed to act on the coils of the sweat-glands direct, the formalin vapor inhibiting the secretion. S. E. Sweitzer.

BOUGARD'S PASTE.

A correspondent sends us another formula for this preparation, referred to in The Journal, Feb. 1, 1908. The exact source, he says, is unknown:

Arsenic	1		gr. xv
Bichlorid of mercury		06	gr. i
Cinnabar			
Chlorid of ammonia (sal ammoniac), āā	4		ʒi
Wheat flour,			
Starch, āā	60		℥ii
Saturated solution of chlorid of zinc sufficient to make a thin paste.		.	

To make the saturated solution use: Chlorid of zinc, 3 ounces (90 c.c.): water, 1 ounce (30 c.c.).

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers for the week ending Feb. 1, 1908:

Juenemann, George F., asst.-surgeon, on arrival at San Francisco, will proceed to Fort McDowell, Cal., for duty at the depot of recruits and casuals.

Baker, Frank C., asst.-surgeon, on arrival at San Francisco, will proceed to Fort Oglethorpe, Ga., for duty.

Shortlidge, E. D., asst.-surgeon, on arrival at San Francisco, will proceed to Fort Du Pont, Del., for duty.

Hallock, H. M., surgeon, having been found incapacitated for active service, is retired to take effect March 20, 1908; granted leave of absence to that date.

Palmer, F. W., asst.-surgeon, leave of absence extended twenty days.

Richards, R. L., asst.-surgeon, granted leave of absence to Feb. 15, 1908.

Kieffer, Charles F., surgeon, relieved from further duty with the Army of Cuban Pacification.

Cole, Clarence LeR., asst.-surgeon, granted three months' leave of absence, to take effect when relieved from duty at Jefferson Barracks, Mo.

Kieffer, Charles F., surgeon, ordered to report in person to Brig.-Gen. Frederick Funston, president of an army retiring board at San Francisco, at such time as he may designate for examination by the board.

Culler, Robert M., asst.-surgeon, leave of absence extended one month.

Reynolds, F. P., surgeon, granted leave of absence for four months, with permission to go beyond the sea.

George, William R. S., contract surgeon, left Fort Greble, R. I., on leave of absence for three months, twenty-seven days.

Kierulff, H., Newton, contract surgeon, granted an extension of one month, fifteen days, to his leave of absence.

Walker, Thomas C., contract surgeon, relieved from duty at Fort Oglethorpe, Ga., ordered to Fort Leavenworth, Kans., for duty with troops to San Francisco, and to proceed thence by first available transport to Philippine service.

Bayley, Edmund W., contract surgeon, ordered from Vancouver Barracks, Wash., to Fort William H. Seward, Alaska, for temporary duty.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Feb. 1, 1908:

Russell, A. C. H., medical inspector, commissioned medical inspector from May 7, 1907.

Biddle, C., medical inspector, commissioned medical inspector from June 16, 1907.

Porter, F. E., passed asst.-surgeon, commissioned passed asst.-surgeon from June 7, 1907.

Dessez, P. T., passed asst.-surgeon, commissioned passed asst.-surgeon from June 10, 1907.

McDonell, W. L., passed asst.-surgeon, commissioned passed asst.-surgeon from Sept. 19, 1907.

Vickery, E. A., passed asst.-surgeon, commissioned passed asst.-surgeon from Oct. 11, 1907.

Mackenzie, E. G., asst.-surgeon, ordered to the naval hospital, New York.

Schmidt, L. M., asst.-surgeon, ordered to the naval hospital, Annapolis, Md.

Whiteside, L. C., acting asst.-surgeon, ordered to the naval hospital, Newport, R. I.

Brownell, C. D., surgeon, detached from the naval training station, Newport, R. I., and ordered to the *Mississippi*.

Donelson, M., asst.-surgeon, detached from the *Stringham* and ordered to the *Porter*.

Sellers, F. E., asst.-surgeon, detached from the naval hospital, Annapolis, Md., and ordered to the Naval Academy.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 22, 1908:

Brooks, S. D., surgeon, granted leave of absence for 14 days on account of sickness, from Jan. 22, 1908.

Cofer, L. E., P. A. surgeon, relieved from duty at Seattle, Wash., and directed to proceed to Honolulu, T. H., assuming the duties of chief quarantine officer at that port.

Lavinder, C. H., P. A. surgeon, leave of absence granted for one month from January 12, amended so as to be effective Jan. 14, 1908.

White, M. J., P. A. surgeon, relieved from duty at Seattle, Wash., and directed to proceed to Detroit, reporting to the medical officer in command for duty.

Glover, M. W., P. A. surgeon, relieved from special temporary duty at Seattle, Wash., and directed to assume charge of the service at that port.

de Valin, H., asst.-surgeon, leave of absence granted for 30 days from Dec. 16, 1907, amended to read for 29 days only.

Fogarty, J. N., acting asst.-surgeon, granted leave of absence for 30 days from Jan. 15, 1908.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for one day, under Paragraph 210 Service Regulations.

BOARD CONVENED.

A board of medical officers was convened to meet in Baltimore, 10 a. m., Jan. 20, 1908, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon J. T. Burkhalter, chairman, and Acting Asst.-Surgeon. J. LaB. Ward, recorder.

List of changes of stations and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 29, 1908:

Stoner, G. W., surgeon, granted leave of absence for 6 days, from Jan. 16, 1908, under paragraph 189, Service Regulations.

Young, G. B., surgeon, detailed to represent the service at the meeting of the fourth annual conference of the Council on Medical Education, American Medical Association, to be held at Chicago, April 13, 1908.

Mathewson, H. S., passed asst.-surgeon, granted leave of absence for 7 days, from Jan. 31, 1908.

Lloyd, B. J., passed asst.-surgeon, granted leave of absence for 7 days, from Dec. 21, 1907, on account of sickness.

Francis, Edward, passed asst.-surgeon, granted leave of absence for 7 days.

McCoy, G. W., passed asst.-surgeon, directed to proceed to Sussex County, Va., via Richmond, Va., for special temporary duty: on completion of which to rejoin his station at the Hygienic Laboratory.

Robertson, H. McG., passed asst.-surgeon, relieved from duty at Reedy Island Quarantine Station and directed to proceed to Tampa Bay Quarantine Station, assuming command of the service.

Manning, H. M., asst.-surgeon, relieved from duty in the Philippine Islands and directed to return to the states, reporting his arrival in San Francisco by wire.

Bryan, W. M., asst.-surgeon, granted leave of absence for 7 days, to be taken en route between Savannah, Ga., and New Orleans.

Brooks, S. P., acting asst.-surgeon, granted leave of absence for 7 days, from Jan. 25, 1908, under paragraph 210, Service Regulations.

Rodman, J. C., acting asst.-surgeon, granted leave of absence for 4 days, from Jan. 28, 1908.

Thornton, M. J., acting asst.-surgeon, granted leave of absence for 1 day, on account of sickness.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 31, 1908:

SMALLPOX—UNITED STATES.

California: Los Angeles, Jan. 4-11, 15 cases.

Illinois: Chicago, Jan. 11-18, 3 cases; Springfield, Jan. 9-16, 14 cases.

Indiana: South Bend, Jan. 11-18, 1 case.

Kansas: Kansas City, Jan. 11-18, 2 cases; Topeka, Jan. 4-11, 3 cases.

Kentucky: Covington, Jan. 11-18, 4 cases.

Louisiana: New Orleans, Jan. 11-18, 8 cases.

Massachusetts: Fall River, Jan. 11-18, 4 cases, 1 death.

Michigan: Detroit, Jan. 11-18, 1 case.

Minnesota: Winona, Jan. 4-18, 3 cases.

Missouri: St. Joseph, Dec. 7-14, 1 case; Jan. 4-11, 4 cases.

North Carolina: Greensboro, Jan. 11-18, 1 case.

Ohio: Cincinnati, Dec. 31-Jan. 7, 3 cases.

Oregon: Portland, Jan. 4-11, 5 cases.

Tennessee: Nashville, Jan. 11-18, 15 cases.

Texas: Fort Worth, Dec. 1-31, 45 cases.

Washington: Spokane, Nov. 23-Dec. 7, 5 cases, 1 death; Jan. 4-11, 6 cases.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, Dec. 16-23, 24 cases, 14 deaths.

Canada: Winnipeg, Jan. 4-11, 9 cases.

China: Hongkong, Nov. 23-30, 1 case, 1 death.

Guayaquil: Ecuador, Dec. 21-Jan. 4, 6 deaths.

France: Paris, Dec. 28-Jan. 4, 6 cases, 1 death.

Great Britain: Leith, Dec. 28-Jan. 4, 1 death.

India: Bombay, Dec. 17-24, 6 deaths; Madras, Dec. 14-20, 1 death.

Italy: General, Dec. 26-Jan. 2, 77 cases; Catania, Dec. 26-Jan. 2, 1 death.

Japan: Kobe, Dec. 14-21, 202, cases, 36 deaths.

Mexico: Aguas Calientes, Jan. 5-12, 4 deaths.

Peru: Lima, Dec. 11, 18 cases in hospital.

Spain: Barcelona, Dec. 21-31, 3 deaths; Denia, Dec. 28-Jan. 4, 2 deaths; Valencia, Dec. 29-Jan. 5, 46 cases, 3 deaths; Vigo, Dec. 28-Jan. 4, present.

CHOLERA—INSULAR.

Philippine Islands: Manila, Dec. 7-14, 4 cases, 3 deaths.

CHOLERA—FOREIGN.

India: Bombay, Dec. 17-24, 1 death; Madras, Dec. 14-20, 4 deaths; Rangoon, Dec. 7-14, 15 deaths.

Japan: Osaka, Dec. 14-21, 2 cases, 1 death.

YELLOW FEVER.

Cuba: Santa Clara Province, Cienfuegos, vicinity, Jan. 23-25, 2 cases.

Ecuador: Guayaquil, Dec. 21-Jan. 4, 1 death.

PLAGUE.

Brazil: Rio de Janeiro, Dec. 16-23, 3 cases, 4 deaths.

Great Britain: Glasgow, Aug. 17-31, 1 death.

India: Bombay, Dec. 17-24, 1 death; Rangoon, Dec. 7-14, 6 deaths.

Japan: Osaka, Dec. 14-21, 28 cases, 28 deaths.

Peru: Callao, Dec. 14-21, 1 case; Catacaos, Dec. 14-21, 3 cases; Jequetepeque, Dec. 14-21, 1 death; Lima, Dec. 14-21, 5 cases, 2 deaths; Paita, Dec. 14-21, 4 cases, 4 deaths; Piura, Dec. 2, 3 cases, 1 death; Trujillo, Dec. 2, 8 cases, 6 deaths.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of January, 1908:

ALABAMA.

Leland, Joseph, Tuscaloosa.
McDaniel, J. C., Gaston.
White, M. S., Hamilton.

ARIZONA.

Linn, W. I., Prescott.

ARKANSAS.

Bush, J. W., Hot Springs.
Connell, W. H., Hot Springs.
Meek, J. W., Camden.
Palmer, J. T., Star City.
Russwurm, S. C., La Grange.

CALIFORNIA.

Alexander, P. C., San Francisco.
Ash, Rachel L., San Francisco.
Bangs, F. H., San Jose.
Beattie, J. I., Santa Clara.
Castelhun, Paul, San Francisco.
Chapman, R. B., Los Angeles.
Clark, J. W., Santa Rosa.
Clark, V. G., San Diego.
Coleman, Chas. L., San Leandro.
Coleman, Geo. L., San Leandro.
Cosgrave, Millicent, San Francisco.
Cothran, A. L., San Jose.
Cox, H. M., San Luis Obispo.
Creamer, M. S., Los Angeles.
De Loss, Herbert, Merced.
Dempsey, R. B., Vallejo.
Doherty, S. McL., Napa.
Enloe, N. T., Chico.
Fabre-Rajotte, E. C., Lincoln.
Fairchild, C. H., Winters.
Gates, M. J., Santa Cruz.
Goodridge, Hannah, San Jose.
Haber, W. J., San Francisco.
Loos, H. C., San Diego.
McLean, D. L., Sacramento.
Millar, C. F., San Francisco.
Miller, Guy, Watsonville.
Miller, U. G., Los Angeles.
Moore, A. W., Los Angeles.
Newton, F. C., St. Helena.
Sampson, May H., South Berkeley.
Shumate, T. E., San Francisco.
Stice, T. H., Napa.
Sweeney, G. J., San Francisco.
Thompson, C. H., Santa Rosa.
Trueman, J. E., San Jose.
Turner, E. C., Sacramento.
Ugal, Kinji, Sacramento.
Wiley, E. H., Los Angeles.
Wislocki, E. J., San Jose.
Wood, F. L., Long Beach.
Zimmermann, A. F., Los Angeles.
Zumwalt, F. H., San Francisco.

COLORADO.

Acheson, George, Idaho Springs.
Burton, F. A., Denver.
Ferris, C. A., Georgetown.
Joslyn, S. A., Loveland.
Parker, H. P., Nunn.
Patterson, W. O., Pueblo.
Peters, S. W., Colorado Springs.
Sickenberger, J. U. Ouray.
Thompson, W. E., Greeley.
Whitcomb, O. J., LaJunta.

CONNECTICUT.

Bowman, J. E., Greenwich.
Ford, Alice P., New Haven.
Hayes, J. D., Torrington.
Lane, J. E., New Haven.
Staub, J. H., Stamford.

DELAWARE.

Rutherford, J. B., Wilmington.

DISTRICT OF COLUMBIA.

Battle, L. J., Washington.
Lennett, A. B., Jr., Washington.
Brecht, N. Du V., Washington.
Hilton, J. F., Washington.
Mason, W. B., Washington.
Miner, F. H., Washington.
Richards, Alfred, Washington.
Thompson, E. D., Washington.

FLORIDA.

Halton, Joseph, Sarasota.
Peabody, J. D., St. Petersburg.
Spell, J. C., Titusville.
Stewart, E. L., Daytona.

GEORGIA.

Griffin, Archie, Valdosta.
Moseley, R. C., Bolingbroke.
Whipple, R. L., Cochran.

ILLINOIS.

Ayling, E. K., Tonica.
Bauer, J. A., Germantown.
Bennett, O. P., Washington.
Blackburn, M. H., Princeton.
Bridges, W. T., Stonington.
Browning, A. L., Hermon.
Burke, C. O., Atlanta.
Burns, Howard, Carrollton.
Cleff, Oscar, Chicago.
Cline, H. X., Marion.
Cook, E. A., Upper Alton.
Cook, E. P., Mendota.
Cory, E. V., Chicago.
Coss, O. A., Saunemon.
Davidson, T. W., Springfield.
Davis, H. W., Alton.
Denney, J. A., Chicago.
Ditto, B. L., Gladstone.
Doty, C. M., Edgewood.
Downey, W. S., Chicago.
Drew, T. B., Oswego.
Enos, J. W., Jerseyville.
Ericson, C. E., Quincy.
Ewing, F. M., Lincoln.
Fahrney, B. E., La Salle.
Farthing, J. R., Marine.
Fikenscher, Otto, Sibley.
Fildes, V. S., Parkersburg.
Fleming, G. J., Chicago.
Fletcher, H. H., Winchester.
Francis, H. M., Chicago.
Garner, W. A., Clayton.
Garraghan, E. F., Chicago.
Gay, F. S., Rockport.
Goldberg, D. D., Maryville.
Gould, G. S., Lostant.
Greaves, W. W., La Salle.
Gregory, C. S., Findlay.
Groves, W. D., Ursa.
Heinen, J. H., Chicago.
Hill, E. M., Chicago.
Hill, M. M., Taylorville.
Olsen, Martin I., Chicago.

Jacobs, W. F., Chicago.
Keith, L. D., Anna.
Keller, Wm., Princeton.
Kelly, B., Ferris.
Kettlestrings, F. W., Oak Park.
Kolb, F. K., Apple River.
Lewis, G. C., Fairbury.
Libberton, R. C., Chicago.
Lindsey, L. N., Forsyth.
Marshall, J. R., Sheffield.
Marvel, W. J., Chicago.
Mercer, W. E., Mt. Carmel.
McCoy, E. E., Flanagan.
McIlvaine, T. M., Peoria.
McMackin, C. C. Roanoke.
Miller, G. W., Woodson.
Milligan, G. W., Edinburg.
Moorehead, F. B., Chicago.
Mosher, B. D., Sheridan.
Norris, F. A., Jacksonville.
Palmer, E. E., Ottawa.
Pearson, Norman, Pontiac.
Peters, D. R., Timewell.
Portis, M. M., Chicago.
Powers, G. J., Streator.
Rhodes, W. R., Toledo.
Richardson, W. D., Centralia.
Rummell, A. S., Depue.
Sadler, W. S., Chicago.
Smith, Frances A. P., Chicago Heights.
Szymanski, Julius, Chicago.
Waggoner, W. F., Carrollton.
Waters, P. S., Brookport.
Wells, R. P., Pleasant Hill.
Wickstrom, A. M., Chicago.
Winter, H. A., Saybrook.
Wyatt, J. T., Eureka.
Yeck, C. W., Avenzville.

INDIANA.

Ansley, Robt., Indiana Harbor.
Botkin, C. L., Farmland.
Bulla, M. S., Gas City.
Cameron, V. V., Marion.
Clark, S. R., Littles.
Davidson, E. C., Lafayette.
Davis, J. Q., Indianapolis.
Foremau, W. H., Indianapolis.
Funk, Austin, Jeffersonville.
Funk, C. C., New Albany.
Gillum, J. R., Terre Haute.
Henning, Carl, Hanover.
Hoover, L., Decker.
Huff, O. N., Fountain City.
Keene, T. V., Indianapolis.
Leckrone, Ira, Silver Lake.
Macer, E. C., Evansville.
Slocum, Stewart, Fortville.
Stephenson, L. E., Tell City.
Wedding, M. F., Rome.
Zaring, E. T., Reelsville.

IOWA.

Buck, E. M., Montrose.
Carpenter, O. O., Sully.
Davies, J. E., Oxford Junction.
Edgar, J. C. Holstein.
Glynn, J. M., Vail.
Harris, E. E., Tabor.
Heard, Mary K., Iowa City.
Jackson, T. R., Hocking.
Murchison, Kenneth, Hamburg.
Shahan, R. F. Eddyville.

KANSAS.

Elder, M. D., Piqua.
Gaston, P. K., Pratt.
Hawkins, G. M., Dexter.
Johnson, J. W., Formoso.
Jones, A. D., Wichita.
Kerr, C. C., Perry.
Nelson, I. D., Attica.
Phares, W. A., Wichita.
Roberts, M. C., Hutchinson.
Webber, G. E., Morland.
Wyant, O. B., Winfield.

KENTUCKY.

Arnold, A. M., Jackson.
Carman, W. L., Paint Lick.
Carter, R. L., Louisville.
Chrisman, J. H., Owenton.
Cornelison, B., Salt Lick.
Depp, C. G., Hiseville.
Early, J. L., Kuottsville.
Filiatreau, R. N., Knottsville.
Hardwick, G. A., Livia.
Hancock, C. L., Skylight.
Harned, H. S., Boston.
Jasper, H. C., Richmond.
Jones, I. W., Owingsville.
Lillard, G. D., Lawrenceburg.
Morris, H. T., Greenup.
Morris, W. E., Shelbyville.
Nisbet, W. K., Earlington.
Purcell, C. E., Paducah.
Shelley, R. A. J., Gap Creek.
Simpson, E. N., Latonia.
Southard, D. B., Mt. Vernon.
Sparks, M. L., Denton.
Strickler, E. J., Elizabethtown.
Thorpe, J. H., Bush Grove.
Wendelken, Charles, Richland.
Williams, J. M., Louisville.

LOUISIANA.

Beyer, G. E., New Orleans.
Cirino, J. W., New Orleans.
Coney, W. C., Glade.
Fisher, A. E., Doyline.
Self, C. C., Barham.
Upton, G. H., New Orleans.

MAINE.

Larochelle, J. R., Biddeford.

MARYLAND.

Bennett, R. A., Riverdale.
Bradfute, C. S., Mt. Rainier.
Homer, H. L., Rider.

MASSACHUSETTS.

Atwood, C. A., Taunton.
Belden, A. M., Northampton.
Clark, N. H., Boston.
Clark, W. I.. Jr., Worcester.
Coriat, I. H., Boston.
Dutton, J. M., Westfield.
Elder, F. O., Haverhill.
Gross, H. W., Quincy.
Houghton, R. H., East Boston.
Janes, A. P., West Stockbridge.
Kelley, S. W., Woburn.
Little, W. B., Lynn.
Lynch, P. M., Springfield.
Murphy, J. C., Norwood.
Myers, Solomon, Boston.
Potts, J. H., Holyoke.
Raymond, C. S., Northampton.
Rood, L. C., Dorchester.
Sargent, O. F. L., Lawrence.
Sparrow, E. H., Cambridge.
Spear, L. M., Boston.

MICHIGAN.

Abbott, H. V., Shepherd.
Barstow, W. E., St. Louis.
Bracey, L. E., Sheridan.
Brown, Rolph, Ottawa Lake.
Bush, S. G., Chelsea.
Colbath, W. E., Fairfield.
DeFoe, W. A., Otisville.
Dulitz, P. C., Detroit.
Hamilton, J. S. Painesdale.
Hammond, T. W., Akron.
Harris, Elizabeth K., Battle Creek.
Herdman, E. K., Ann Arbor.
High, M. L., Detroit.
Howe, L. A., Breckenridge.
Johnson, Henry, Caseville.
Laughlin, A. L., Woodbury.
Light, S. R., Kalamazoo.
Morris, H. L., Vassar.
Parker, J. W., Grand Blanc.
Schilz, E. A., Grand Ledge.
Solis, Jeanne C., Ann Arbor.
Switzer, H. C., Gaines.
Thompson, J. E., Elkton.
Wilcox, A. E., Clayton.
Williams, E. B., Galien.
Wittwer, E. A., Auburn.

MINNESOTA.

Cutts, G. A. C., Grove City.
Haessly, S. B., Cannon Falls.
Jacobs, J. C., Spicer.
Johnson, O. V., Sebeka.
Leicht, Oswald, Winona.
Maitland, D. P., Jackson.
Ogden, Emma K., Detroit.
Stolpestad, H. L., Lafayette.

MISSISSIPPI.

Boyd, R. M., Houston.
Burnham, H. M., Escatawpa.
Moore, C. C., Holcomb.
Swayze, O. H., Yazoo City.
Townsend, J. M., Harperville.

MISSOURI.

Chambers, J. Q., Kansas City.
Davis, E. T., Kansas City.
Girdner, W. M., Chillicothe.
Griffin, S. H., Humansville.
Harrison, J. F., Farmington.
Hill, I. E., Hannibal.
Howard, J. W., Kansas City.
Hull, J. R., Monroe City.
McConkey, C. M., Lathrop.
Miller, R. R., Maitland.
Oliver, E. A., Richland.
Overall, T. W., Kansas City.
Powers, Everett, Carthage.
Shelton, W. A., Kansas City.
Tainter, F. J., St. Charles.
Whaley, R. W., Browning.
Woolley, P. V., Kansas City.

MONTANA.

Mahoney, J. J., Billings.
Pease, F. D., Missoula.
Tidyman, G. F., Ennis.

NEBRASKA.

Byrnes, M. R., Crete.
Dickinson, L. E., Rockville.
Eby, C. D., Leigh.
Mackay, J. H., Norfolk.
McIntyre, B. M., Winside.
Mesropian, Messiah, Edgar.
Mills, Eliza H. B., Kearney.
Welch, Joseph, Storkham.
Wilson, W. H., Lincoln.

NEVADA.

Jennison, J. E., De Lamar.

NEW JERSEY.

Child, F. M., Hoboken.
Garr, C. C., Jersey City.
Gutmann, Benjamin, New Brunswick.
Halsey, L. W., Montclair.
Henry, George, Flemington.
Maneusi-Ungaro, L., Newark.
Newman, E. D., Newark.

NEW MEXICO.

McLandress, G. S., Albuquerque.

NEW YORK.

Alexander, W. T., New York City.
Arauow, Harry, New York City.
Archambault, La Salle, Albany.
Aronson, E. A., New York City.
Ash, R. H., Canastota.
Baker, A. H., Elmira.
Baldwin, Janette, Brooklyn.
Barrows, F. W., Buffalo.
Bentley, Inez A., Rochester.
Betowski, L. S., Waverly.
Bleil, Frederick, New York City.
Bliss, Theodore, Schenectady.
Boese, W. H., New York City.
Branch, F. D., Binghamton.
Brockway, R. O., Brooklyn.
Brodhead, G. L., New York City.
Buell, H. C., Canandaigua.
Bugbee, Alice G., White Plains.
Chilson, R. R., Elmira.
Conway, J. A., Rexville.
Cowles, H. C., Jr., New York City.
Cox, C. N. Brooklyn.
Davis, W. O., New York City.
Dew, I. H., New York City.
Dittrich, E. W., New York City.
Douglas, John, New York City.
Falkner, W. J., Youngstown.
Fassett, E. C., New York City.
Fiske, E. H., Brooklyn.
Ford, W. M., New York City.
de Forest, H. P., New York City.
Forker, F. L., Binghamton.
Fritts, A. S., Binghamton.
Ganster, W. F., Brooklyn.
Geuung, L. T., Worcester.
Gluck, Samuel, New York City.
Goodwin, C. E., Weedsport.
Graber, S. S., New York City.
Gulick, L. H., New York City.
Hibbard, J. V., Browne Station.
Howd, Emmott, Troy.
Jones, T. Z., Waterville.
Karach, M. N., New York City.
Kast, L. W., New York City.
Kerr, Le Grand, Brooklyn.
Kingsbury, B. F., Ithaca.
Kiune, William, Brooklyn.
Krueger, Max, Stapleton.
Long, J. H., Brooklyn.
Marion, G. A., Rochester.
Marsh, E. F., Brooklyn.
Moody, A. E., Dickinson Center.
Myers, Lotta W., New York City.
Oatman, L. R., Greenwich.
O'Brien, R. J., Watervliet.
Pafford, F. C., Brooklyn.
Parounagian, M. B., New York City.
Payne, Chas. R., Westport.
Post, G. M., Montour Falls.
Quintard, Edw., New York City.
Ransom, C. C., New York City.
Rayevsky, Charles, Liberty.
Rayhill, J. W., Utica.
Raynor, M. W., Poughkeepsie.
Rich, Charles, Yorktown Heights.
Richman, A. L., Morton.
Ringueberg, E. N. S., Lockport.
Robinson, Mary H., Elmira.
Rood, A. B., Minoa.
Rose, R. H., New York City.
Santoire, H. A., Brooklyn.
Scherer, E. M., Penn Yan.
Staunton, Florence I, Utica.
Steel, G. E., New York City.
Swift, G. M., New York City.
Taylor, J. C., New York City.
Thompson, S. W., Owego.
Tong, G. W., Brooklyn.
Trotter, John, Jr., Troy.
Tully, M. E., New York City.
Tupper, B. R., New York City.
Vander Veer, Albert, Jr., New York City.
Veeder, W. H., Rochester.
Vogeler, W. J., Yonkers.
Walcott, Morgan, New York City.
Walsh, S. J., New York City.
Whiting, G. L., Jasper.
Wilson, W. H., Lestershire.
Wise, Fred, New York City.
Young, G. B., Geneva.

NORTH CAROLINA.

Abernethy, E. A., Chapel Hill.
Saunders, J. H., Everetts.

NORTH DAKOTA.

Harris, C. B., Pembina.
Larson, E. M., Minot.
Mugan, J. J., Langdon.
St. John, F. A., Niagara.
Ditus, C. I., Minot.
Waugh, T. F., Park River.
Willson, H. S., Crystal.
Van Houten, Jacob, Valley City.

OHIO.

Bevington, E. E., New Paris.
Bigler, L., Gettysburg.
Bourn, E. L., Brecksville.
Budd, A. W., Perrysville.
Carsou, J. W., Bergholz.
Cherryholmes, W. K., Hamilton.
Conard, Robert, Blanchester.
Courtright, F. E., Shawtown.
Echelbarger, J. R., Fletcher.
Farber, J. H., Dayton.
Foster, I. C., Steubenville.
Garver, C. V., Lorain.
Gosling, J. A., Louisville.
Hansher, J. F., St. Paris.
Hartzell, J. D., North Star.
Hatch, C. B., Newark.
Hollingshead, Frances M., Cincinnati.
Johnston, E. S., Cincinnati.
Jones, J. C., Dillonvale.
Jones, L. M., Dayton.
Kiser, I. C., Fletcher.
Landrum, A. B., Columbus.
Laugdale, C. A., Cincinnati.
Lincoln, W. R., Cleveland.
McKinney, E. H., Doylestown.
Miller, A. C., Covington.
Mory, J. J., St. Henry.
Osborn, B. D., Waldo.
Riebel, G. P., Ashland.
Russell, A. R., Hamler.
Saunders, A. M., Shiloh.
Schirack, J. A., St. Henry.
Smith, C. D., Dayton.
Sproull, O. T., West Union.
Stafford, F. P., New Carlisle.
Taylor, L. L., Yellow Springs.
Teachnor, K. R., Leesburg.

OKLAHOMA.

Bledsoe, Martha J., Chickasha.
Cranfill, A. G., Grady.
Darling, W. A., Hewitt.
Dick, W. S., Baum.
Dunsworth, O. C., Thackerville.
Ellis, G. H., Kemp.
Fowler, Wm. Alderson.
Higgins, H. A., Glenn.
Hume, R. R., Minco.
Love, J. D., Nashville.
Mabry, E. D., Mountain View.
Reid, J. G., Hydro.
Sullivan, Ernest, Antioch.
Van Deever, J. G., Fairland.

OREGON.

Townley, J. T., Dufur.

PENNSYLVANIA.

Baer, W. K., Lancaster.
Berry, M. L., Wellsboro.
Bremer, P. F., Philadelphia.
Brewe, A. J., Philadelphia.
Burkholder, J. L., New Castle.
Dill, W. W., Pottstown.
Downs, A. W., Philadelphia.
Eft, Frederick, Philadelphia.
Eisenhart, H. P., Harrisburg.
Evans, Thomas, Jr., Pittsburg.
Farrar, J. K., Audenried.
Fox, W. G., Lancaster.
Gaskill, H. K., Philadelphia.
Gilpin, S. F., Philadelphia.
Goddard, H. M., Philadelphia.
Goodsell, J. W., New Kensington.
Gruver, C. D., Stroudsburg.
Guilfogle, W. F., Philadelphia.
Hageubuch, P. H. F., Stroudsburg.
Hall, W. D. W., Philadelphia.
Hammers, J. S., Indiana.
Harley, J. P., Williamsport.
Hartman, P. A., Harrisburg.
Hearn, Marion, Philadelphia.
Heinebery, Alfred, Philadelphia.
Hopwood, G. B., Smock.
Hattenstein, D. E., Millersburg.
Koenig, A. S., Lewistown.
Krieger, G. L., New Kensington.
Louthan, J. S., Beaver Falls.
Luther, J. W., Palmerton.
Mechline, C. C., Allegheny.
Mock, D. C., Medix Run.
Moxey, A. F., Mt. Airy.
Nason, J. B., Tyrone.
Nealon, W. A., Pittsburg.
Penrose, C. B., Devon.
Repp, J. J., Philadelphia.

Rink, C. E., Shelocta.
Robinson, George, Jr., Philadelphia.
Ross, W. F., New Kensington.
Severson, I. W., Scranton.
Sheaff, P. A., Philadelphia.
Stewart, H. M., Altoona.
Tracy, Martha, Philadelphia.
Walters, De Forest E., McKeesport.
Wenrich, J. A., Wernersville.
Wilson, W. O., Clearfield.
Wycoff, W. A., Pittsburg.

RHODE ISLAND.

Armington, H. H., Warren.

SOUTH DAKOTA.

Harvey, W. D., Clear Lake.

TENNESSEE.

Raines, N. F., Memphis.

TEXAS.

Boyd, J. L., Winfield.
Collier, J. I., Galveston.
Daly, J. M., Abilene.
King, S. F., El Paso.
McCorkle, J. H., Gordon.
Samaniego, J. A., El Paso.
Thomas, J. B., Midland.
White, H. S., El Paso.
Wilson, Pierre, Dallas.

VIRGINIA.

Bates, R. D., Newtown.
Jones, J. W. C., Newport News.
Macon, W. D., Charlottesville.
Marshall, T. R., Richmond.
Peyton, C. E. C., Pulaski City.

WASHINGTON.

Austin, O. R., Aberdeen.

WEST VIRGINIA.

Cummings, Edward, Hinton.
Fawcett, W. P., Alderson.
Harloe, W. W., Matoaka.
Miller, R. B., Hinton.

WISCONSIN.

Hilger, C. H., Dale.
James, A. W., Muscoda.
Melaas, W. G., Stoughton.
Mieding, A. E., Milwaukee.
Riordan, J. F., Mattoon.

WYOMING.

Lauzer, E. S., Rock Springs.
Pestal, Joseph, Douglas.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

KANSAS State Board of Medical Registration and Examination, February 11. Secretary, Dr. D. P. Cook, Clay Center.

WYOMING State Board of Medical Examiners, Laramie, February 12-14. Secretary, Dr. S. B. Miller, Laramie.

CONNECTICUT State Board of Medical Examiners, City Hall, New Haven, March 10. Secretary, Dr. Charles A. Tuttle, 196 York St., New Haven.

CONNECTICUT Homeopathic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

CONNECTICUT Eclectic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. T. S. Hodge, 16 Main St., Torrington.

IOWA State Board of Medical Examiners, Capitol Building, Des Moines, March 10-12. Secretary, Dr. Louis A. Thomas, Des Moines.

MASSACHUSETTS Board of Registration in Medicine, Room 15, State House, Boston, March 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

MAINE Board of Registration of Medicine, City Building, Portland, March 17-18. Secretary, Dr. William J. Maybury, Saco.

Florida Eclectic June Report.—Dr. S. F. Smith, secretary of the Florida State Board of Eclectic Medical Examiners, reports the written examination held at Leesburg, June 12-13, 1907. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 90. Only one candidate, a graduate of the Eclectic Medical Institute, Cincinnati, 1907, appeared for license and was successful.

Nebraska November Report.—Dr. E. J. C. Sward, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Nov. 5-6, 1907. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 7, of whom 4 passed and 3 failed. Eighteen reciprocal licenses were granted. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Bennett Coll. of Ecl. Med. and Surg.	(1907)*	
Keokuk Med. Coll.	(1900)	75
Medical Coll. of Ohio	(1888)	85
Omaha Med. Coll.	(1902)	88
FAILED.		
Barnes Med. Coll.	(1906)	73.8
Creighton Med. Coll.	(1907)	60.6
Lincoln Med. Coll.	(1907)	71.6

LICENSED THROUGH RECIPROCITY.

	Year Grad.	Reciprocity with.
Rush Med. Coll.	(1887) Iowa; (1906)	Utah
Northwestern Univ. Med. School	(1904); (1907)	Iowa
Bennett Coll. of Ecl. Med. and Surg.	(1907)	Illinois
University of Iowa	(1898); (1900)	Iowa
Sioux City Coll. of Med.	(1903)	Iowa
King Eclectic Med. Coll., Des Moines	(1886)	Iowa
Keokuk Med. Coll.	(1895); (1898); (1907)	Iowa
Louisville Med. Coll.	(1883), U. S. Army; (1905)	Indiana
University of Michigan	(1902)	Michigan
Lincoln Med. Coll.	(1907)	Illinois
Starling Med. Coll.	(1894)	Ohio
University of Vermont	(1887)	New Jersey

* Percentage not given.

Marriages

HOMER HARRISON GRIFFIN, M.D., to Miss Lelia Hartman, both of St. Louis, January 22.

CLARK FRANCIS BRUSO, M.D., to Miss Theresa C. Rauert, both of Buffalo, N. Y., recently.

CRAWFORD TAIT JUSTICE, M.D., to Miss Elsa M. Woodruff, both of Philadelphia, January 22.

MILTON FRASER PERCIVAL, M.D., to Miss Mary B. McBurney, both of Philadelphia, January 21.

JOSEPH F. ETZBACH, M.D., to Miss Josephine Davison, both of Utica, Ill., in Chicago, January 18.

ROBERT C. BROWN, M.D., Lancaster, S. C., to Miss Daisy McIntyre of Marion, S. C., January 22.

JOHN W. HUTCHINS, M.D., to Miss Florence Jean Shump, both of Sciotoville, Ohio, Nov. 27, 1907.

JACOB CHRIS LANGE, M.D., Pittsburg, Pa., to Mrs. Edith Rick of Williamsport, Pa., Dec. 23, 1907.

GEORGE EARLE RAIGUEL, M.D., Philadelphia, to Miss Mary Matlack of Lewisburg, Pa., January 29.

F. D. CARPENTER, M.D., Greensboro, Md., to Miss Annie Schley Haines of Macon, Ga., Dec. 25, 1907.

CHARLES B. BATEMAN, M.D., to Miss Lena Eakin, both of Vandalia, Ill., at St. Charles, Mo., January 19.

HENRY A. BARCLAY, M.D., Denver, Colo. to Miss Grace E. MacCerron of Fredericktown, Ohio, January 2.

ROBERT EMMETT LEDBETTER, passed assistant surgeon, U. S. Navy, to Miss Ethel Cowie, at Annapolis, Md., January 22.

DUDLEY M. CULVER, M.D., Indianapolis, Ind., to Miss Grace Turner of Columbus, Ind., at Louisville, Ky., January 15.

MONTGOMERY ALEXANDER STUART, M.D., Washington, D. C., to Miss Nina Pauline Stuart of Highland Park, Mich., January 28.

Deaths

John Ordronaux, M.D. National Medical College, Washington, D. C., 1859; a member of the Medical Society of the State of New York and Queens-Nassau Medical Society; a graduate in law from Harvard University in 1852; examiner of recruits in Brooklyn at the outbreak of the Civil War; author of "Hints on Health in Armies," the first American work on military hygiene, and a "Manual for Military Surgeons on the Examination of Recruits and Discharge of Soldiers;" in 1864, assistant surgeon to the Fifteenth Infantry, N. G. S. N. Y.; lecturer on medical jurisprudence in the law school of Columbia College; and professor of medical jurisprudence in Dartmouth Medical School, Hanover, N. H.; the first New York state commissioner of lunacy, from 1873 to 1882; an expert on medical jurisprudence, insanity and expert testimony; who was given the degree of LL.D. by Trinity College in 1870, and by Dartmouth College in 1895; died at his home in Glen Head, N. Y., January 20, from cerebral hemorrhage, aged 77.

Henry Lippincott, M.D. Jefferson Medical College, Philadelphia; colonel and assistant surgeon general U. S. Army, retired; who served in the Civil War as assistant surgeon of the Sixth California Volunteer Infantry; was made a lieutenant and assistant surgeon, U. S. Army, Feb. 28, 1866; captain and assistant surgeon, Nov. 11, 1868; major and surgeon, Aug. 17, 1884; lieutenant colonel and deputy surgeon general, April 10, 1898; colonel and assistant surgeon general, April 13, 1901, and was retired on account of age, Sept. 22, 1903; performed meritorious service during the cholera epidemic in the Seventh United States Cavalry in 1867; was first chief surgeon of the Department of the Pacific and the Eighth Army Corps and served under General Merritt at Manila and General Otis at the outbreak of the insurrection in the Philippine Islands in 1889; died at his home in Brooklyn, January 24, after a long illness, aged 68.

Anthony Heger, M.D., Brigadier General, U. S. Army, retired; University of Pennsylvania, Department of Medicine, Philadelphia; who was appointed assistant surgeon in the Army from Pennsylvania, Aug. 29, 1856; was made captain and assistant surgeon five years later; major and surgeon, Sept. 17, 1862; was breveted lieutenant colonel, March 13, 1865; promoted to lieutenant colonel and surgeon, Jan. 24, 1886, and to colonel and surgeon, Jan. 2, 1891; was retired Dec. 4, 1892, on account of age, and advanced to the grade of brigadier general retired, April 23, 1904, on account of Civil War service; died in New York City, January 24, aged 79.

Horatio B. Buck, M.D. Jefferson Medical College, Philadelphia, 1856; a member of the American Medical Association; once president of the Tri-State Medical Society, and vice-president of the Illinois State Medical Society; surgeon of volunteers, afterwards brigade surgeon and later surgeon-in-chief at the central rendezvous of Illinois troops in Springfield during the Civil War; a member of the local pension board since 1877, and for several years its executive officer; died at his home in Springfield, January 23, after an illness of a few days, aged 75.

William Octavius Eversfield, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1861; a member of the American Medical Association, and formerly president of the Prince George County (Md.) Medical Society; chief surgeon of the Panama Railroad before the Civil War, and surgeon of the First U. S. Cavalry during the war; surgeon in charge of the medical department of the Maryland Agricultural College; died suddenly at his home in College Park, Md., from acute gastritis, January 20, aged 67.

Robert Silvester Blakeman, M.D. University of Virginia, Department of Medicine, Charlottesville; passed assistant surgeon U. S. Navy (retired); who entered the Navy in 1896, served two years at sea and five years, two months and one day on shore duty, and was retired for incapacity resulting from incident of service, Oct. 7, 1902; one of the eight men who volunteered to capture Iloilo, after the battle of Manila Bay; died at the King's Daughters' Hospital, Norfolk, Va., January 22, after a brief illness, aged 34.

Frederick Augustus Burrall, M.D. College of Physicians and Surgeons in the City of New York, 1857; a member of the medical societies of the state and county of New York and the New York Academy of Medicine; interne in Bellevue Hospital and New York Hospital; surgeon to the Northern Dispensary; attending physician in the Presbyterian and Charity hospitals and the New York Asylum; who served for a short time in the Navy during the Civil War; died at White Plains, N. Y., January 21, aged 77.

Thomas Fillebrown, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1863; a member of the American Medical Association; lecturer on oral and dental surgery in the Portland School of Medical Instruction for three years, and later professor of operative dentistry and oral surgery in the Harvard College of Dental Surgery; one of the leading dental surgeons of Boston; died at the Boothby Hospital in that city, January 22, after an illness of one week, aged 72.

Henry D. Roehler, M.D. Rush Medical College, Chicago, 1900; of Chicago; a member of the Illinois State and Cook County medical societies; assistant obstetrician in the Chicago Lying-in Hospital; attending obstetrician at the Englewood Hospital, and demonstrator of operative obstetrics in the Northwestern University Medical School; died January 30 at the Englewood Hospital, from septicemia contracted in the course of his professional work, aged 32.

Frank Asbury Wygant, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1882; a member of the staff of the Soldiers' and Sailors' Home, Bath, N. Y., and later a member of the board of health of Cohocton, N. Y.; an expert in microscopic work; after a number of years' illness with chronic articular rheumatism and psoriasis, died at his home in Cohocton, January 26, from pneumonia, after an illness of twelve days, aged 49.

Percival E. Loder, M.D. Jefferson Medical College, Philadelphia, 1875; a member of the American Medical Association; resident physician at the Philadelphia Hospital from 1875 to 1876; for 23 years a police surgeon of Philadelphia, and for nine years professor of anatomy in the Pennsylvania College of Dental Surgery; died at his home in Philadelphia, January 19, from pneumonia, after an illness of three days, aged 54.

Adam Alexander McKittrick, M.D. University of Georgia, Medical Department, Augusta, 1860; a member of the Medical Association of the State of Alabama and Conecuh County Medical Society; for four years a surgeon in the Confederate service during the Civil War, and for a number of years health officer of Conecuh County; died at his home in Evergreen, January 18, after an illness of about ten days, aged 74.

Francis Morley Michael, M.D. Bellevue Hospital Medical College, New York City, 1891; a member of the American Medical Association; a member of the staff of Manhattan Eye and Ear Hospital, New York City, for four years; oculist to the Binghamton State Hospital, Binghamton City Hospital, St. Mary's Home and St. Joseph's Academy; died at his home in Binghamton, N. Y., January 23, aged 38.

Levy L. Rowland, M.D. Willamette University, Medical Department, Salem, Ore., 1872; first superintendent of public instruction in Oregon; later president of the Christian College, Monmouth, and from 1891 to 1895 superintendent of the Oregon State Insane Asylum, Salem; died at his home in that city, January 19, from dropsy, after an illness of several years, aged 77.

Simon P. Drayer, M.D. Cincinnati College of Medicine and Surgery, 1872; a member of the Ohio State Medical Association and Preble County Medical Society; formerly coroner of Montgomery County; a member of the city council of West Alexandria; died at his home in that city, January 19, from heart disease, after an illness of two weeks, aged 66.

Charles Buffington Fager, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1874; assistant surgeon in the federal service during the Civil War; for a number of years a member and president of the school board of Harrisburg, Pa.; died at his home in that city, January 24, from pneumonia, after an illness of one week, aged 66.

James White Thomas, M.D. California Medical College, San Francisco, 1881; a veteran of the Civil War; member of the Nebraska legislature in 1885; for more than 40 years a citizen and practitioner of Weeping Water, Neb.; died at his home, January 16, from pulmonary disease due to a bullet wound received in the battle of Shiloh, aged 65.

Finis D. Beauchamp, M.D. Medical Department of Fort Worth (Texas) University 1897; a member of the American Medical Association; of Mangum, Okla., was shot and killed while boarding a train at Lawton, Okla., January 15, by two men whose brother Dr. Beauchamp had killed in a fight at Hobart several months before, aged 39.

Joseph Anderson, M.D. New York University Medical College, New York City, 1879; a member of the medical societies of the state and county of New York, the German Medical Association and the Medical Society of Greater New York; medical inspector of the health department of New York City; died at his home January 23, aged 63.

Leslie Ernest Beaghler, M.D. Rush Medical College, Chicago, 1896; of Middlepoint, Ohio; a member of the Ohio State Medical Association and Van Wert County Medical Society; while making a professional call January 27, was struck by a passenger train of the Pennsylvania System, at a crossing near his home and instantly killed, aged 40.

Walter E. Mowen, M.D. Western Reserve University Medical College, Cleveland, 1889; a member of the Ohio State Medical Association and Columbiana County Medical Society; once city physician of East Liverpool; died at his home in East Liverpool, January 23, from typhoid fever, after an illness of one week, aged 50.

William Snyder, for several years a practitioner of Butler County, Kan.; a veteran of the Civil War; postmaster of Albion, Ind., during President Grant's administration; died at his home in Los Gatos, Cal., Dec. 8, 1907, after an illness of fifteen hours, from senile debility, aged 74.

Robert Pope Ross Gordon, M.D. University of Edinburgh, Scotland, 1886; a member of tne American Medical Association, and a pioneer practitioner of Great Falls, Mont.; died at his home in that city, January 24, from cancer of the intestines, after an illness of two months, aged 46.

Silas K. Coleman, M.D. Washington University, School of Medicine, Baltimore, 1882; a member of the Mississippi State Medical Association and Madison County Medical Society; died at his home in Canton, January 15, from heart disease, after an illness of several months, aged 58.

Ira Francis Cameron, M.D. Eclectic Medical Institute, Cincinnati, 1876; of Keswick, Iowa; a member of the Iowa State and Keokuk County medical societies; and the Iowa State Association of Railway Surgeons; died recently in Pasadena, Cal., and was buried January 14, aged 60.

John H. Tyler, M.D. Rush Medical College, Chicago, 1857; a member of the Illinois State and De Witt County medical societies; a member of the legislature and twice state senator; died at his home in Clinton, January 25, from heart disease, after an illness of eleven weeks, aged 80.

Spurgeon Cheek, M.D. Hospital College of Medicine, Medical Department Central University, Louisville, 1898; in charge of the hospital at Searchlight, Nev.; died at the California Hosital, Los Angeles, January 10, from septicemia, 15 days after surgical operation, aged 34.

Herbert M. Camp, M.D. Western Reserve University Medical ollege, Cleveland, 1882; medical examiner in the pension of- ce, Wasington, D. C., for 15 years; died at his home in 'akoma Park, D. C., January 21, from heart disease, after a iort illness, aged 47.

John C. Vanderveer, M.D. Long Island College Hospital, rooklyn, N. Y., 1885; a member of the Medical Society of the tate of New York and Queens-Nassau Medical Society; died t his home in Mineola, N. Y., January 18, after a prolonged lness, aged 46.

Eckhart L. Beaumont, M.D. Medical Department of the 'ulane University of Louisiana, New Orleans, 1848; for many ears an active practitioner of San Antonio, Texas; died at is home in that city, January 21, after an illness of several ears, aged 84.

Leavitt R. J. Varnum, M.D. Medico-Chirurgical College of hiladelphia, 1903; of Lowell, Mass.; a member of the Massa- usetts Medical and Middlesex District medical societies; died t the Lowell General Hospital, January 21, after a brief ill- es, aged 30.

David Rauh, M.D. University of Munich, Germany, 1886; 'exas Medical College and Hospital, Galveston, 1890; of ouston, Texas; a member of the South Texas Medical Soci- y; died suddenly in Houston, from heart disease, January), aged 52.

William T. Varner, M.D. Barnes Medical College, St. Louis, 396; of Evansville, Ind.; a member of the Indiana State Med- al Association and Vanderburgh County Medical Society; ied suddenly at the bedside of a patient in Evansville, Janu- ry 29.

John P. Arnold, M.D. University of Pennsylvania, Depart- ent of Medicine, Philadelphia, 1893; superintendent of the resbyterian Hospital in that city since 1900; died at his ome in Philadelphia, January 25, after an illness of one day, ged 40.

Benjamin Franklin Baird, M.D. Botanic Medical College, [emphis, Tenn., 1857; a member of the Tennessee Medical ssociation and Hardemann County Medical Society; died at s home in Vildo, Tenn., recently and was buried January 22, ged 71.

John D. Collins, M.D. Missouri Medical College, St. Louis, 345; a surgeon in the Confederate service during the Civil 'ar, and one of the oldest practitioners of Covington, Ky.; ed suddenly at his home, January 17, from angina pectoris, ged 84.

Patrick M. Kelly, M.D. University of Pennsylvania, Depart- ent of Medicine, Philadelphia, 1881; a veteran of the Civil 'ar; died at his home in Philadelphia, January 20, from rebral hemorrhage, after an invalidism of nearly three years, ged 73.

Jarrette D. Law, M.D. Louisville (Ky.) Medical College, 384; a member of the State Medical Association of Texas id Bell County Medical Society; died at his home in Belton, inuary 21, after an illness of two or three days, aged 45.

Robert A. Kerr, M.D. Western Reserve University Medical ollege, Cleveland, 1870; of Youngstown, Ohio; a veteran of e Civil War; died at the Youngstown City Hospital, Janu- y 23, from pneumonia, after an illness of ten days, aged 65.

Alfred C. Davis, M.D. Kansas Medical College of Topeka, 399; a member of the American Medical Association; local rgeon of the St. Joseph & Grand Island Railroad; died at his ome in Hamlin, Kan., January 20, from pneumonia, aged 31.

Warren H. Crain, M.D. Medical Department of Tulane Uni- rsity of Louisiana, New Orleans, 1904; a member of the uisiana State and Washington Parish medical societies; ed at his home in Vernado, Nov. 14, 1907, aged 30.

Lloyd W. Hixon, M.D. University of Pennsylvania, Depart- ent of Medicine, Philadelphia, 1862; a veteran of the Civil ar, and librarian of Nashotah House, Nashotah, Wis., for years; died at that place January 2, aged 78.

James B. Hudson, M.D. Eclectic Medical Institute, Cincin- ti, 1870; a veteran of the Civil War; formerly a practitioner Columbus, Ind.; died at the Soldiers' Home, Lafayette, Ind., nuary 20, from chronic gastritis, aged 71.

Henry Wheeler Painter, M.D. Medical Institution of Yale ollege, New Haven, Conn., 1856; of North Haven, Conn.; ed from heart disease in West Haven, Conn., January 9, ter a long period of invalidism, aged 76.

John W. Humphrey, M.D. Hygieo-Therapeutic College of New York, New York City, 1864; formerly of Shenandoah, Iowa; died from disease of the brain in Galesburg, Ill., after an illness of about six years, aged 71.

Hamilton D. Brown, M.D. Baltimore University School of Medicine, 1899; and assistant professor of surgery at his alma mater; died at his home in Waverly, Baltimore, January 26, from pneumonia, aged 29.

William May Houston, M.D. Jefferson Medical College, Philadelphia, 1844; who began practice in Missouri in 1845; died at his home in Mexico, Mo., Nov. 6, 1907, from senile debility, aged 88.

James C. Kinkle, M.D. University of Maryland School of Medicine, Baltimore, 1847; for many years a practitioner of Stillwater, Minn.; died at his home in St. Paul, January 19, aged 82.

Harvey De Ford Williams, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1880; died at his home in Kansas City, Kan., from heart disease, January 17, aged 78.

Thomas O. Clements, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1880; died at his home in Dover, Del., January 22, from appendicitis, after a short illness, aged 55.

Oliver Cromwell Comstock, M.D. College of Physicians of the Western District, Fairfield, N. Y., formerly of Marshall, Mich., died at Brookline, Mass., Aug. 10, 1907, aged 88.

Manson L. Banks, M.D. University of Louisville, Medical Department, 1856; a pioneer resident of Columbia, Miss., died at his home, January 9, after a long illness, aged 76.

William P. Conner, M.D. Medical Department, University of Nashville, Tenn., 1877; of Blythe, Miss.; died at his plantation, Lake Cormorant, Miss., January 12, aged 54.

Peter Von Lackum, M.D. Physio-Medical College, Cincinnati, 1869; af Omaha, Neb., died at St. Bernard's Hospital, Council Bluffs, Iowa, January 19, after a long illness.

J. Eugene Kelly, M.D. Albany (N. Y.) Medical College, 1891; of New London, Conn., died at the home of his sister in Pittsfield, Mass., January 17, aged 39.

R. Holding M.D., of Columbia, Tenn., who retired from practice about 40 years ago, died at his home in Columbia, Sept. 4, 1907, aged 76.

George H. Le Grand, M.D. University of Louisville, Medical Department, 1858; died at his home in Hereford, Texas, January 23, aged 76.

Deaths Abroad.

Sir Alfred Baring Garrod, M.D. London, 1843; F.R.C.P. London, 1856; F.R.S.; fellow and in 1860 president of the Medical Society of London; honorary member of the Pharmaceutical Society; some-time professor of materia medica and therapeutics, and clinical medicine, and later physician and consulting physician to the King's College Hospital; late physician extraordinary to Queen Victoria; vice-president of the Royal College of Physicians, London, and first Moxon gold medalist in 1891; an honorary member of the Berlin Society for Internal Medicine; one of the best known practitioners of Great Britain, and for many years an authority on gout and rheumatism; who received the honor of knighthood in 1887; died at his home in London, Dec. 28, 1907, aged 88. In 1847 Dr. Garrod made his famous discovery of the presence of uric acid in the blood of gouty patients, and 12 years later published his well-known work on the nature and treatment of gout.

Thomas Annandale, M.D. Edinburgh, 1860; F.R.C.S. Edinburgh, 1863; F.R.S.C. England (honorary), 1888; surgeon general to the King's Bodyguard in Scotland; surgeon to the Edinburgh Royal Infirmary; regius professor of clinical surgery in the University of Edinburgh; consulting surgeon to the Royal Sick Children's, Deaconess and Royal Maternity hospitals; gold medalist in 1860; one of the most notable surgeons associated with the Edinburgh school; an enthusiastic leader in all movements for the good of students; died suddenly at his home in Edinburgh, Dec. 20, 1907, aged 69.

J. von Mering, M.D., professor of clinical medicine at Halle, died there January 6, aged 59. His principal achievements were in the line of medical chemistry, pharmacology and toxicology, the discovery of phloridzin diabetes and the diabetes that follows removal of the pancreas. His "Manual of Internal Medicine" is his latest large work.

J. Onate, M.D., the dean of the profession in Mexico, died at Mexico City, Dec. 23, 1907, aged 89. He continued his practice to the very eve of his death from acute pneumonia.

A. Voigt, professor of hygiene at Berne until 1893, died January 4, aged 85.

Society Proceedings

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and Second Annual Meeting, held at Albany, Jan. 27-30, 1908.

The President, Dr. Frederic C. Curtis, Albany, in the Chair.

The officers elected were named in The Journal last week.

The reports of officers and committees were presented to the House of Delegates January 27. The following is a summary:

The Membership.

Dr. Wisner R. Townsend, secretary, reported that the membership, Jan. 15, 1908, was 6,154. This number exceeds that of the same date last year by nearly 300. According to Volume IX of the Medical Directory of New York, New Jersey and Connecticut, there are 12,168 physicians in New York State, and he advised a more determined effort to increase the membership of the county societies. The importance of the national organization is growing from year to year, and it is very desirable that the Medical Society of the State of New York be fully represented at the annual meeting. As the meetings are held in various parts of the country and last five days, it follows that the delegates must be absent from home a week and often longer. It therefore seems proper that the society pay the traveling expenses of its delegates.

The Legislation.

Dr. Arthur G. Root, chairman of the Committee on Legislation, said that in all 64 bills had been introduced, of which number 18 had become laws. Of the 64, 21 were general medical bills; among these were the bills on antivivisection, incorporation of the Health Defense League, osteopathy, massotherapy and antivaccination, all these died in committee. The so-called "Medical Unity Bill" or "One-Board Bill," which passed both houses and was signed by the governor, was the subject of many controversies, and was amended and reprinted several times. The optometry bill, by nefarious juggling on the part of the introducer and other members of the legislature, passed both houses with simply a nominal hearing, and reached the governor, who vetoed it.

The Expenses.

Dr. Alexander Lambert, treasurer, reported a surplus of $13,849.03 in the treasury, Dec. 31, 1907. Dr. Julius C. Bierwirth, chairman of the council, reported that the net cost of the *New York State Journal of Medicine* for 1907 was $1,851.39, in addition to $952.93 to be charged off for bad and doubtful debts. The total expenditures for the journal were $9,075.44, and there was received for advertising $7,213.77. Other receipts were $10.28, a total income of $7,224.05. Subtracting $7,224.05 from $9,075.44 leaves the $1,851.39 above referred to, the amount the journal actually cost the society, equivalent to an annual subscription of $0.30 from each member. The balance was paid by the advertisers. The cost of the directory for 1907 was $6,835.92.

The Public Health.

Dr. John L. Heffron, chairman of the Committee on Public Health, made a report. In order that any physician in the state might have prompt bacteriologic examination of secretions, etc., it was recommended last year that in each county seat there be equipped a laboratory under the charge of a skilled bacteriologist. To do this some counties found special legislation necessary. During the present session of the legislature a law will be proposed to obviate this difficulty. The state laboratory in Albany is now making antitoxin for tetanus and diphtheria, the latter at one-tenth the cost as furnished by private makers. Tuberculosis continues to lead the list of causes of death, with pneumonia second. The certainty of the intercommunicability of human and bovine tuberculosis has been again demonstrated by the experiments of Corbett of England. The governor has taken this subject up in a recent message and urged measures to clear tuberculous cattle from all herds in the state, and to procure for the people pure water, pure ice and pure food.

Dr. Henry L. Elsner, chairman of the special Committee on Annual Meetings, recommended dividing the state into four groups of district branches, and holding a semi-annual meeting annually with one of these groups.

The Correspondence Nurse School.

Dr. A. T. Bristow, chairman of the Committee on Training Schools, declared that nursing can not be taught by correspondence, and regretted that such schools as the Chautauqua School for Nursing at Jamesport exist. If women are willing to take a correspondence course in nursing, and offer themselves as nurses at $30 a week, that is a matter of individual morality and conscience. With regard to the Short Term School, the catalogue states that the school is endeavoring to supply the people of small means women less highly trained than the registered nurses. The Albany School of Nursing seems to be a reasonable attempt to furnish such women. The committee was unwilling to say that there is not place for such schools when honest and reputably conducted.

Organization Necessary to Professional Betterment.

The President, Dr. Frederic C. Curtis, Albany, called the society to order on Tuesday, January 28, in the common council chamber of the City Hall, and delivered his address. Dr. Curtis said that every page in history teaches the value of organization. Although great work was done in seclusion, by the initiated and trained, it was valueless until turned into the current of common life; it is then passed along and becomes thereby a stream of influence helpful to humanity. This society had one definite purpose for its organization, to associate all reputable physicians of the commonwealth and to ostracise the unworthy. Having always advocated a community of possession in regard to knowledge and invention, the society has little use for trades unions.

It was in good degree an altruistic spirit that prompted John Stearns, William McClelland and Nicholas Romayne to fight through the legislature in 1806 the bill which established our system of county and state organization. What would be the condition of the medical profession but for the work of this society? The history is full of the records of things accomplished for professional betterment. This very year by its almost unaided efforts there has been placed on the statute books a medical practice law which is the culmination of what it has sought for more than twenty-five years.

Its democracy has been the chief asset of this organization, obligation is the inevitable offspring of capacity. The obligation of a medical body to serve the community is imperative. The medical profession is rather inclined to forget its obligation to the public. The public is indifferent to sanitation; indeed, it seems to come into the category of moral issues generally, which need a prophet and a preacher to lead the way. The people are more apt to obstruct work for their salvation than to help it, and it is seldom that a community has any conception of the value of sanitary protection. The same failure to estimate the importance of safeguarding health is found with legislators and public custodians of affairs of state. The health department is pushed aside for others that protect wealth and bring money into the treasury, or even concern the well-being of domestic animals, unmindful that sanitation, not counting the human distress relieved by it, is the greatest conservator of material values of the world to-day. History bears witness to the material worth of sanitation.

Another subject that appeared to Dr. Curtis to be peculiarly one for the medical profession as an organized body to solve is the alcohol question. In closing he said: "But let us, as a body of a learned profession, never be unmindful of the fine old French motto, 'Rank imposes obligation.'"

Nihilism and Drugs.

Dr. Abraham Jacobi, New York, spoke of the tendency to belittle the use of drugs and took a conservative stand. It has been said by combining drugs we cloud observation, but it should be remembered that we are treating disease and it is not always well to wait for the action of a certain drug given for one symptom to wear off before giving another drug for another symptom when it is possible to combat both sympoms at the same time by combining drugs. Dr. Jacobi hought the expectant treatment had been the cause of many leaths. Often death resulted when proper treatment would ave saved the patient. Expectant treatment is a compound f ignorance and indolence. It is malpractice in cases that night have resulted in recovery by proper and timely treat-nent. He spoke of the many factors on which the administra-ion of drugs and their doses depends, and especially of the ise of opium in children. A child of one year with enteritis ould take from 1/30 to 1/40 of a grain of opium, and in such ases he had never seen a case of opium poisoning. Many rugs are of great value, as the poppy, mercury, male fern nd quinin. Our expectations have been disappointed in re-ard to sero-organotherapy. He referred to the use of meth-lene blue in inoperable cancer and said he acknowledged the riority of his South Carolina colleague's claim in regard to his remedy. He has used guaiacol in at least 5,000 cases f tuberculosis.

Diffuse Peritonitis in Women.

DR. ELLICE MCDONALD, New York, gave a report of 50 cases f diffuse peritonitis, of which 41 were studied bacteriologi-ally. He reviewed the various bacterial causes and the pecul-ar phases of diffuse peritonitis from pelvic causes and from ssociation with pregnancy. In 42 cases out of the 50, infec-ion was the result of an extension from an ulceration of the owel; from appendicitis in 4 per cent.; after gastric ulcer n 2 per cent.; after appendicitis in 16 per cent. Pelvic con-itions, apart from pregnancy, gave rise to 26 per cent. The auses associated with pregnancy caused 30 per cent. Among he infections he found the following: *Streptococcus* in 18 ases; *B. coli* in 13; *Staphylococcus aureus* in 6; *B. pyocyaneus* n 2; *Gonococcus* in 3; *Pneumococcus* in 3; *B. encapsulatus ërogenes* in 1; *B. tuberculosis* in 4 cases. Diffuse peritonitis s a result of appendicitis is thus shown to be of infrequent ccurrence in women as compared with its occurrence from his cause in men.

Bier's Stasis Hyperemia Apparatus.

DR. JAMES N. VANDER VEER demonstrated the appliances sed in this method of treatment. He also gave Dr. Rudolf lapp's orthopedic treatment for ankylosis of the extremities. Ie presented a patient with an extensive phlegmon of the eck.

The Importance of Examining Individuals Exposed to Tuberculosis.

DR. JOHN H. PRYOR, Buffalo, said that although the mortal-y from tuberculosis may be slightly diminished, the actual orbidity from this disease has decreased but slightly. Even he influence of special measures for limiting its spread is till a controverted point. He had questioned 100 patients as o what instruction had been given them in the matter of preading the disease and found that they had received none. f course, this did not apply to New York City. Registration of first importance in the campaign against this disease, ut the majority of cases reported thus far are the advanced nes that have been dangerous for a long time. Dr. Pryor rged state control and more uniformity in execution and bedience. There should be some scheme for the detection of uberculosis in its earliest stages when lives may be saved. revention is possible if early cases are detected. A bare hest examination should always be insisted on. Any one xposed to infection should be watched closely for a long time. requently the second victim in a family is not recognized as aving the disease until a year or more after the death of the rst. The evidences of disease should be sought before symp-oms appear. In children three groups should be recognized—he glandular, the tracheobronchial and the pulmonary. In-tructions should include the question as to whether others in he house in which one is infected have been examined. He xpressed the opinion that the average practitioner fails to ecognize the disease in its earliest stages. The physician is ot fulfilling his duty who neglects those who are exposed to uberculosis. He reported an endemic outbreak of tuberculosis hich showed remarkable evidences of communicability.

(*To be continued.*)

Medicolegal

Admissible Demonstrations by Physicians Before a Jury.

The Supreme Court of Montana says that in the personal injury case of Stephens vs. Elliott the physician who attended the plaintiff at the time of his injury and for some two months thereafter, was permitted by the trial court, over the objection of the defendant, to make use of the plaintiff's arm to demonstrate or explain his testimony. The reason urged for the objection was that the testimony already given by the plaintiff was to the effect that other physicians had operated on the injured arm after this one had ceased to give it his care and before the trial. But, conceding this to be true, the court wholly fails to understand how it could affect the testimony of this physician in so far as his conclusions were based on facts obtained by him at the time of the injury, or why he could not by the use of the injured arm make his testimony all the more easily understood by the jury. Such an inspection of the injured limb in the presence of the jury is usually permitted; at least, the application to make such inspection is addressed to the sound, legal discretion of the trial court, and its ruling will not be disturbed except for a manifest abuse of such discretion. The court fails to see wherein the trial court abused its discretion in this instance.

Another physician who testified on behalf of the plaintiff was also permitted to make an experiment, or rather demonstration, before the jury. He testified that the motor nerves of the plaintiff's right arm were entirely destroyed, and that in sympathy with this condition the sensory nerves, which controlled the feeling in the hand, had become so far paralyzed that the plaintiff had no feeling in his hand; and to demonstrate this he was permitted to stick a hypodermic needle into the back of the plaintiff's right hand. The Supreme Court can not see any objection to the order of the trial court in permitting this demonstration before the jury. That such demonstrations are permitted is quite generally recognized by the courts and text-writers. In Osborne vs. Detroit, 32 Fed. 36, it was held by the United States Circuit Court that, where the plaintiff claimed to be paralyzed by a fall, it was not error to permit a medical attendant, who had not been sworn, to demonstrate the loss of feeling on the part of the plaintiff by thrusting a pin into the side of the plaintiff claimed to be paralyzed. See also 2 Jones on Evidence, Section 406, 1 Wigmore on Evidence, Section 445, and 2 Wigmore on Evidence, Section 1160, where the subject is treated at length.

Practice of Midwifery the Practice of Medicine.

The Supreme Judicial Court of Massachusetts says, on the second appearance before it of the case of Commonwealth vs. Porn, that it was charged that the defendant "did practice medicine" and "hold herself out as a practitioner of medicine," contrary to Section 8 of Chapter 76 of the Revised Laws of Massachusetts. The case was tried on an agreed statement of facts, the substance of which was that at the time mentioned in the complaint, and for some years prior, the defendant held herself out as a midwife and practiced midwifery, but did not claim to be a general practitioner of medicine, nor was she lawfully authorized to practice medicine as provided by Section 3 of said Chapter 76. She delivered many women in childbirth for compensation and carried with her to her patients the usual obstetrical instruments, which she used rarely on occasions of emergency, but never if a physician could be called in time. She used six printed prescriptions or formulas in treating her patients, which contained directions for their application, and the purposes for which they were used, as follows: "For vaginal douche," "For postpartum hemorrhage," "To prevent purulent ophthalmia in the newborn," "For after pains," "For uterine inertia," and "For painful hemorrhoids or piles." She used no other prescriptions or formulas. She was a trained nurse of experience, and was a graduate of the "Chicago Midwife Institute," from which she received a diploma which stated that she had received theoretical and practical instruction in the art of midwifery for a period of six months, and was declared a graduated midwife.

On these facts the trial court ruled that the jury would be authorized to find the defendant guilty, and the defendant's first exception related to this ruling. When the facts are undisputed, the Supreme Judicial Court goes on to say, it is generally a question of law whether they constitute a violation of the statute. Both medical and popular lexicographers define midwife as a female obstetrician, and midwifery as the practice of obstetrics. Section 7 of said Chapter 76 mentions obstetrics as one of the subjects of examination for the purpose of testing an applicant's fitness to "practice medicine." This goes far toward showing that obstetrics is a branch of the practice of medicine. It requires no discussion to demonstrate that, when, in addition to ordinary assistance in the normal cases of childbirth, there is the occasional use of obstetrical instruments, and a habit of prescribing for the conditions described in the printed formulas which the defendant carried, such a course of conduct constitutes a practice of medicine in one of its branches. Although childbirth is not a disease, but a normal function of women, yet the practice of medicine does not appertain exclusively to disease, and obstetrics as a matter of common knowledge has long been treated as a highly important branch of the science of medicine. In Higgins vs. McCabe, 126 Mass. 13, it is intimated that treatment of eyes of the infant (for which one of the prescriptions of the defendant was employed), is not within the duties of midwifery. In view of all the agreed facts, there was no error in submitting the case to the jury.

The defendant also offered expert evidence to prove that the practice of the defendant, as shown in the agreed facts, was not the practice of medicine in any of its branches, and that the conduct of the defendant was not holding herself out as a practitioner of medicine. This offer of evidence was excluded against the objection and exception of the defendant. The former decision of this case said that expert medical evidence was admissible to prove "what a midwife does or is expected to do as such, so that the court may see whether her acts or any of them are regarded as the practice of medicine in any of its branches. . . . Whether on such evidence it would appear that the ministrations of a midwife are those of a physician or rather of an attendant nurse and helper would ordinarily be a question of fact, or if the facts were not in dispute a question of law." 194 Mass.—At the present trial the facts were agreed. All that the defendant sought to show was these facts in the opinion of experts did not constitute the practice of medicine. But as the facts were not in dispute, within the former decision, the question was not one for expert evidence, but for the court. Moreover, on all the facts shown as to the use of prescriptions and the pains they were stated to alleviate and the use of obstetrical instruments, as well as attendance and service at childbirth by the defendant, it would be contrary to the plain intent of the statute and flying in the face of the common use of words to permit experts to testify that the language employed in the statute did not comprehend the acts confessedly performed by the defendant. The court is far from saying that it would not be within the power of the legislature to separate by a line of statutory demarcation the work of the midwife from that of the practitioner in medicine. See Midwives Act, 1902, 2 Edw. 7, c. 14, and collection of statutes in 1 Witthaus & Becker Med. Jurispr. 137 et seq. The statute now under consideration does not make such separation. State vs. Welch, 129 N. C. 579. Whatever hardship there might be on the defendant, who was a woman of good character and reputation as shown by the agreed facts, came from the scope of the statute.

The defendant contended that the statute as thus construed is unconstitutional. Its validity can not be questioned on this ground. The maintenance of a high standard of professional qualifications for physicians is of vital concern to the public health, and reasonable regulations to this end do not contravene any provision of the state or federal Constitution, Hewitt vs. Charier, 16 Pick., 358; Brown vs. Russell, 166 Mass., 14, 23; Decie vs. Brown, 167 Mass., 290; Hawker vs. New York, 170 U. S., 189; Reetz vs. Michigan, 188 U. S., 505; Meffert vs. Packer, 195 U. S., 625.

Wherefore, the court overrules the defendant's exceptions to the judgment of conviction against her.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

January 25.

1 *Value of the Social Worker and the Visiting Nurse to the Dispensary Patient. L. R. Williams, New York.
2 Cholelithiasis. C. H. Peck, New York.
3 Postdelirious Alcoholic Stupor. C. Stillman, New York.
4 *General Paralysis in Senile Period with Report of Two Cases. M. J. Karpas, Ward's Island, N. Y.
5 Cautery Clamp for Hemorrhoids. D. H. Murray, Syracuse, N. Y.
6 *Delayed Labor. W. B. Jennings, New York.
7 Unique Case of Infectious Orchitis. J. G. Beardsley, Philadelphia.
8 Case of Hysterical Retention of Urine, Complicated by Foreign Body. F. Bierhoff, New York.

1. **Social Workers.**—Williams says that the chief difficulty in the way of effective work in large dispensaries is not so much that the number of patients has increased as that the necessary work for each patient has increased with modern methods. In the smaller dispensaries, the physician can be a social worker, taking cognizance of the patient's home surroundings, his food, his occupation, or lack of it, and all the other things that are factors in the production of the disease. This condition has been met in Boston, and later at the Vanderbilt Clinic, New York, by the use of a social worker, a trained nurse or a woman physician, whose duty it is to investigate the conditions of the patients' homes and aid in rectifying conditions of whatever kind that militate against recovery. Instances are given showing some of the things accomplished, and it is seen that the social worker is a bureau of information who not only gives information to the physician in the dispensary, but also applies that information for the benefit of the patient. At the Vanderbilt Clinic, also, there has been installed recently a complete hydrotherapeutic outfit under the care of Dr. Baruch, as well as a baking outfit for joints, massage and exercise facilities. Outdoor nursing is also provided for. No part of the outdoor nursing is so valuable as that among the children. The infantile mortality in Manhattan and the Bronx for the period July 1 to Sept. 14, 1907, as compared with the preceding year and with that of the Nineteenth Ward during the same periods, shows in the first case an increase in total deaths and deaths from diarrheal diseases, but in the latter a decrease nearly as marked as the increase shown by the former; and while it can not be claimed that the visiting nursing is the cause of this reduction, it is at least very suggestive.

4. **General Paralysis.**—Karpas discusses the statistics bearing on senile paralysis, and concludes that the mental picture of paresis in the advanced period bears a striking resemblance to senile dementia. The onset of the psychosis is marked with intellectual enfeeblement, and the delusions are relatively rare. The grandiose ideas are not prominent. Illusions and hallucinations are seldom manifest, and in the author's cases these symptoms were not observed. There are no special somatic signs which stand out prominently in the disease picture, but they may be obscured by the usual physical changes common to senility. The duration of the mental malady is relatively rapid, though in the author's first case the course was exceptionally long, viz., five years. The diagnosis of general paralysis of the senile period is very difficult.

6. **Delayed Labor.**—Jennings defines delayed labor as that in which the frequency, strength, duration and expulsive character of the uterine pains has been so changed as to prolong the second stage so that the life of either the mother or the child is endangered. He considers the causes of uterine inertia, both local and general, and in regard to treatment states his belief in the early application of the forceps in the second stage of labor in such cases. His practice is to use forceps when after two hours in the second stage no progress has been made.

Medical Record, New York.

January 25.

9 *On What Does the Cure of Tuberculosis Depend? F. M. Pottenger, Monrovia, Cal.
10 *Death Rate of the City of New York as Affected by the Cosmopolitan Character of Its Population. W. H. Guilfoy, New York.

11 Case of Acute Gastrectasis, Following Typhoid and Premature Birth. Recovery. A. E. Roussel, Philadelphia.
12 Chancroidal Bubo and Its Treatment. H. H. Morton, Brooklyn, N. Y.
13 Case of Syphilitic Fever. E. D. Newman, Newark, N. J.
14 *Surgical Value of Iodin. W. T. Dannreuther, New York.
15 Carbolic Gangrene. I. Levin, New York.
16 Case of Ectopic Gestation. Diagnosis and Operation Before Rupture. W. H. Dukeman, Los Angeles, Cal.

9. **Tuberculosis.**—Pottenger inquires on what the curability of tuberculosis depends, and goes on to state that the important factors are the virulence and numbers of the infecting micro-organisms and the resisting power of the affected individual. He discusses in detail the results of variations in these three factors, and then deals with the various measures that combat them in a curative direction. Early diagnosis is of importance because it enables us to deal with a limited focus of disease before the resisting powers are too much depressed. Fresh air gives better nerve tone, improves appetite, and aids assimilation, thus also increasing the resisting power. He deprecates forced feeding, because what is the most desirable is not the most fat, but the highest state of nutrition. For this a selected dietary, suited to the digestive, assimilative and excretory powers of the patient is required. Too much stress must not be laid on the gaining of weight. He discusses Wright's inoculation method, and concludes that when these inoculations are added to the ordinary hygienic dietetic methods, the disease shows less tendency to spread, the patients develop fewer tuberculous complications, and a greater percentage of individuals are cured, than when hygienic and dietetic measures alone are used.

10. **Racial Characteristics and the Death Rate.**—Guilfoy analyzes the statistics of the death rate from all causes and from various diseases in the city of New York generally, and also separately in various blocks or quarters mainly inhabited, respectively, by people of one nationality, particularly German, Austro-Hungarian, Russian Pole, Italian, Bohemian, Irish, Chinese, Syrian, and negro. His conclusions are that the natives of Ireland, by reason in a great measure of their living at unfavorable age groups, increase the general mortality, and this is also true to a lesser extent of the natives of France, Switzerland and Scotland; the natives of Italy, Bohemia and the United States are credited with a rate almost the same as that of the general average of the city, while the natives of Sweden, Germany, Russian-Poland, Austro-Hungary and England affect favorably the general mortality. On the other hand, the immediate descendants of the Irish, Italians and Austro-Hungarians are instrumental in increasing the general rate and also the rate from certain preventable and infectious diseases; the immediate descendants of most of the other nationalities, including Americans, serve to lower the general rate.

14. **Surgical Value of Iodin.**—Dannreuther, from his experience with iodin, is convinced that it is an agent of high germicidal potency of the utmost value and endowed with remarkable penetrating power. The tincture is the most available form. He has used it repeatedly without a single case of iodism. In minor surgery wounds he has made it a practice, after thorough toilet, to inject tincture of iodin directly into the wound with an ordinary medicine dropper. Every such wound so treated has healed by primary union. He considers this the best method of procuring sterilization of a dirty wound. In erysipelas the painting of the eruption and a generous border of healthy surrounding skin with the tincture has checked the extension of the rash. It is useful for stimulating sluggish granulations and limiting the extension of the process in gangrenous ulcer. In major surgery a 1 per cent. watery solution of iodin and potassium iodid may be used for sterilizing the hands. The tincture is an excellent agent for sterilizing the skin before an incision. He believes Goelet's method of irrigating the abdominal wound, after closing the peritoneum, with a solution of one dram of the tincture to two pints of water, a valuable measure. In gonorrhea in the female, after the patient has emptied the bladder a solution of iodin, half a dram of the ticture to two pints of water, is injected directly into the urethra and bladder, allowed to remain a minute or two, and then voided. The process is repeated daily until edema of the vulva appears, when the injections are replaced by potassium permanganate 1 to 5,000 douches. One dram of tincture of iodin to four ounces of glycerin on a tampon is a valuable method, the author asserts, of procuring pelvic counter-irritation. After curetting for endometritis or abortion the uterus may be swabbed out with full strength tincture, or an intrauterine douche may be used. He also recommends it as a prophylactic against possible infection and postpartum hemorrhage. He does not believe that the value of iodin in surgery is appreciated to the extent it deserves.

Boston Medical and Surgical Journal.

January 23.

17 *Significance of Postoperative Acetonuria. E. B. Young and J. T. Williams, Boston.
18 Extracts from Dr. Alexander Hamilton's Itinerarium of 1744. A. Jacobi, New York.
19 Case of Chyluria Due to Filariasis. R. F. O'Neil, Boston.
20 Roentgen-Ray Diagnosis of Urinary Calculi. E. W. Caldwell, New York.
21 *Trypsin in Treatment of Malignant Tumors. W. P. Graves, Boston.

17. **Postoperative Acetonuria.**—Young and Williams summarize their conclusions as follows: Acetonuria is a common accompaniment of a large number of pathologic conditions. In these conditions it is the result of disturbances of metabolism. The occurrence of acetonuria seems to bear a special relation to disturbances of the gastroenteric tract. Possibly many of the cases of reported acetonuria following operation were the result of other diseases, especially sepsis. The formation and excretion of acetone, and probably also of its supposed antecedents, diacetic acid, beta-oxybutyric acid, etc., following operation, are the result of an altered metabolism and, in the adult at least, not the cause of any constitutional disturbance.

21. **Trypsin in Malignant Tumors.**—Graves discusses the history of this treatment and reports the result of his own investigations, begun in September, 1906. In every one of his six cases there was gradual inevitable progress of the disease; four patients are dead and two, though still living, will undoubtedly die very shortly. On the other hand, he states that a few injections of trypsin into one of the circumscribed nodules that occur in recurrent breast cancer will cause the nodule either to disappear, or to shrink greatly, and that particular nodule will not grow again. A section of such a shrunken nodule after several treatments shows under the microscope the remains of destroyed cancer cells, while the somatic cells of the connective tissue remain intact and healthy. It can not be claimed that any great advance has been made in the actual cure of cancer by trypsin, but the scientifically established facts that trypsin has a specific destructive action on the cancer cell and on the deadly ferment that it secretes gives at least a gleam of hope that an effective method of applying the remedy may yet be discovered. The last word concerning the trypsin treatment and the germ cell theory of cancer has not yet been said, and he believes that embryologic and cytologic inquiry points the road for future investigations.

Lancet-Clinic, Cincinnati.

January 18.

22 *Malnutrition in Older Children. A. Friedlander, Cincinnati.
23 *Medical Inspection of Public Schools. F. W. Gavin, Canton, Ohio.
24 Cathartics Hypodermically. E. McKee, Cincinnati.
25 When is Gonorrhea Cured? E. O. Smith, Cincinnati.

22. **Malnutrition.**—Friedlander gives the etiologic factors of malnutrition as heredity, improper feeding, bad hygienic surroundings, more especially the lack of fresh air due to the fear of "catching cold," and school strain. School children should be kept in the fresh air as long as possible after school hours, open air being much more advantageous than gymnastic exercises. In addition to the ordinary symptoms, the tendency to catarrhal inflammation of the various membranes and the great liability to recurrence of attack, together with anemia and a frequently fretful, irritable, high-strung and precocious temperament, are generally prominent. The treatment, hygienic and dietetic, suggests itself. Medicinal treatment plays a subordinate rôle. Constipation should be corrected. "Hardening," when it hardens, is good and should be urged, the test

as to its value lying in the vigor of reaction. When depression in place of vigorous stimulation results, the process is of course harmful. In regard to medicine, Friedlander has found the iodids, usually given in one of the organic compounds, to be excellent alteratives, especially in recurrent bronchial attacks.

23. Abstracted in The Journal, Nov. 16, 1907, page 1708.

American Journal of Medical Sciences, Philadelphia.

January.

26 *Diagnosis and Treatment of Cardiovascular-Renal Disease. J. Tyson, Philadelphia.
27 *Treatment of Pneumonia, Especially by Outdoor Air. W. G. Thompson, New York.
28 *The Lenhartz Treatment of Gastric Ulcer. S. W. Lambert, New York.
29 *Diagnosis and Treatment of Gastric Neuroses. W. F. Cheney, San Francisco.
30 Diagnosis and Treatment of Infections of the Biliary Passages, Especially Cholelithiasis and Cholecystitis. J. B. Deaver, Philadelphia.
31 Rupture of the Kidney with Remarks on Conservative Operative Treatment. T. R. Neilson, Philadelphia.
32 Aspiration Drainage in the Treatment of Empyema. W. S. Schley, New York.
33 Roentgen-Ray Treatment of Hypertrophied Prostate. J. W. Hunter, Norfolk, Va.
34 *Treatment of Psychasthenia from Standpoint of Social Consciousness. J. J. Putnam, Boston.
35 Curability of a Rare Form of Nocturnal Petit Mal by Large Doses of Bromid. L. P. Clark, New York.
36 Action of Nitrites on the Heart. W. de B. MacNider, Chapel Hill, N. C.
37 Otitis Media and Its Treatment. E. C. Ellett, Memphis, Tenn.

26. An abstract of this article appears in the Department of Therapeutics, in this issue.

27. **Pneumonia.**—Thompson relates his experience with an open-air treatment of pneumonia in the Bellevue and Presbyterian Hospitals, New York City. The treatment is carried out by placing the patient on a balcony or at least at an open window, the air of the ward being more or less excluded by a screen. The balcony floors are of wooden slats and sometimes it was so cold that the sputum froze in the cups. In alcoholic subjects it was found that much less stimulation was required, and it was often possible to do without it altogether. The open-air treatment is to be regarded as an adjunct to the measures usually employed, and the author concludes: With this simple but effective armamentarium one may deal satisfactorily with the greatest number of the more serious cases of pneumonia; but it will be found that much of it, simple as it is, may be unnecessary if the patient has continuous access to fresh, free, flowing air.

28. **Lenhartz Treatment of Gastric Ulcer.**—Lambert gives the results of treatment of gastric ulcer according to the method of Lenhartz in eight cases, which were all of the severer type. All the patients were benefited by the treatment, and, except those with stenosis, all were cured. The routine of Lenhartz was strictly adhered to up to the tenth day, after which some latitude was allowed in the choice of articles of diet. Lambert concludes as follows: This series does warrant the conclusion that the original claims of Lenhartz are correct: First, the cure is at least equally as efficient as the older method, and that it does not deplete the patient; second, the cure is more rapid as well as more certain; third, the vomiting and bleeding stop more quickly and relapse less frequently than in the Leube cure; fourth, the pain ceases promptly and morphin is never needed; fifth, the food supply is sufficient throughout; sixth, it is possible to treat the anemia earlier with iron and arsenic than in the Leube cure; and seventh, it is possible for the patients to return to a full diet and to their usual occupation earlier than in the older cure.

29. **Gastric Neuroses.**—Cheney has classified 574 cases of "stomach trouble" as follows: Secondary to other organic disease, 39; reflex dyspeptic symptoms from other organs, 56; organic disease of the stomach, 104; gastric neuroses, 375. He defines a gastric neurosis as a purely functional disorder of the stomach without discoverable organic change, various functions being usually involved, the most predominant one being that of sensation. He expresses the conviction that over-refinement in diagnosis among these gastric neuroses is not profitable. The etiology involves middle age, in most cases the male sex, abnormalities in the quality, preparation and mastication of the food, and mental conditions unfavorable to digestion. The neuroses develop on a neurasthenic basis. No nationality is exempt, but among the foreign population Cheney found the Italians to predominate. The examination of the stomach contents showed a rather even division between hyperacidity and subacidity. The diagnosis can only be made with certainty by carefully excluding organic disease of the stomach and related organs by repeated physical and chemical examination. The possibility that a case apparently functional may terminate in ulcer or cancer emphasizes the necessity for constant vigilance and repeated investigation. The prognosis as to life is good; as to recovery, it depends on the ability of the physician to control the circumstances and habits of the patient. Treatment should be directed in the first place to the underlying neurasthenia. Freedom from worry, especially at meal times, adequate mastication and rest for a short time after meals, are important. The food should be scrutinized with a view to restriction of the amount and to prevention of habitual overindulgence in certain kinds. The best guide as to the quantity and quality of the diet to be prescribed is furnished by the analysis of the test meal. In hyperacidity, a mixed diet is most useful and three meals a day are usually sufficient. Foods which stimulate secretion, such as meat extracts, spices, coffee and alcohol, should be excluded. In subacidity the opposite course is indicated, the food should be taken in small quantities at short intervals and should consist of rare meats, bread stuffs, condiments, alcohol in moderation, animal broths and meat extracts. Fats, sweets and coarse vegetables should be omitted. Drugs are to be given symptomatically, but only as adjuncts. The following are recommended: For hyperacidity, belladonna and alkalies; for subacidity, bitter tonics, especially nux vomica, and hydrochloric acid; for faulty motility, strychnin; for hyperesthesia, sodium bromid, 20 to 30 grains (1.3 to 2 gm.), and elixir of ammonium valerinate, 1 dram (4 c.c.), given in water after each meal. The various physical methods, such as intragastric electrization, douches and sprays or the hydrotherapeutic applications, have not yielded satisfactory results. Gastric lavage should not be employed as a routine measure. All these measures do harm by keeping the patient's attention directed to the stomach and reminding him of its delinquencies, and in the neuroses this is a direct hindrance to recovery.

34. **Psychasthenia.**—Putnam emphasizes the fact that a human personality includes not only the relations of the individual with one's own body, but also the relations with his fellow-men and his environment generally. The social consciousness must be taken into account, both in the causation and cure of disease. It is important, therefore, for the physician to make use of those emotions aroused by relation to society, and especially to arouse in the patient feelings of loyalty to the social body as well as assurances of sympathy from others. The invalid should be made to feel himself a part of society, to which he still owes the duty of subordinating his own feelings, and, so far as possible, of using his illness in the interests of society at large. Many individuals, by thus becoming useful, lose their obsessions and, to a great extent at least, conquer their disease. The highest discipline of the individual as well as the greatest interest of society may be secured when the patient feels that he is obligated to make his affliction the means of serving his fellow-men. In many cases, these results are obtained under the influence of religious motives, and the physician should be prepared to avail himself of the help of these most powerful agents—religious emotions. Physicians are bound to keep themselves ready to understand the points of view even of those with whom they are not in intellectual sympathy.

Annals of Surgery, Philadelphia.

December.

38 *Carcinoma of the Esophagus. M. G. Seelig, St. Louis.
39 Tonsillar Hemorrhage and Its Surgical Treatment. C. Jackson, Pittsburg, Pa.
40 Lingual Goiter. R. A. Sterling, Melbourne, Australia.
41 Case of Sarcoma of the Thyroid. E. A. Vanderveer, Albany, N. Y.
42 *Narath's Modification of Talma's Operation for Hepatic Cirrhosis. E. R. Corson, Savannah, Ga.

43 *Acute Pancreatitis. W. A. Jayne, Denver, Colo.
44 Primary Fibromyomata of the Broad Ligaments. J. Vance, El Paso, Texas.
45 Renal Catheter as Aid in the Diagnosis of Valve-Like Obstruction of the Ureter. J. A. Sampson, Albany, N. Y.
46 *Conservative Surgical Treatment of Hypertrophy of the Prostate in the Very Feeble and Aged. J. E. Summers, Omaha, Neb.
47 *Epithelioma of the Penis, an Analysis of One Hundred Cases. J. D. Barney. Boston.
48 The Bottle Operation Method for the Radical Cure of Hydrocele. E. W. Audrews, Chicago.
49 Bilateral Tuberculous Bursitis of the Hips. E. O. Thurston, Calcutta, India.
50 The Suspender Abdominal Bandage. The Four-Tailed Genital Bandage. G. S. Peterkin, Seattle, Wash.

38. **Cancer of Esophagus.**—Seelig reports a case in which a double epithelioma of the esophagus was discovered at autopsy, the second growth having been unsuspected during life. The study of this case demonstrates the difficulty of differentiating aneurism of the aorta from carcinoma of the esophagus by means of clinical data; illustrates the formation of multiple metastases in the esophagus; and suggests that these multiple metastases may occur (a) by implantation, (b) through the lymph spaces in the submucosa, (c) by extension into the esophagus from a mediastinal metastasis, (d) by continuous growth above the lymph spaces of the mucosa, and (e) through the lymph spaces of the muscularis.

42. **Operation for Hepatic Cirrhosis.**—Corson considers the question of operation in hepatic cirrhosis, particularly with reference to the respective merits of Talma's operation and Narath's modification thereof. The mortality of Talma's operation is no less than 10 per cent., that of Narath's little or nothing. Corson considers it a mistake to leave any open drainage for the ascitic fluid, as infection is bound to occur sooner or later. As most cases are advanced when the surgeon sees them, Narath's simpler operation offers the best change, even though with a possible, but slight, chance of complication by epiplocele hernia.

43. **Acute Pancreatitis.**—Jayne reports two cases and discusses the anatomy and physiology of the pancreas and the etiology, clinical course, diagnosis and treatment of pancreatitis. He points out that these cases represent the milder form of acute pancreatitis, rather than the hemorrhagic, gangrenous and suppurative forms. This gland is doubtless pathologically subject to the same varying grades of inflammation as other tissues of the body, from simple congestion to the ulminating, often fatal, types. The slighter pathologic hanges in an organ so deeply and obscurely placed must ever be difficult, if not impossible, of detection without other aids han we now have. However, the knowledge that these milder nflammatory processes do occur, and the fact that a correct pinion can be arrived at in the severer cases, will keep us lert for its occurrence, so that we shall undoubtedly become ble to recognize it earlier than is the case at present.

46.—This article was published in the *Iowa Medical Journal*, September 1907.

47. **Epithelioma of the Penis.**—The following are some of Barney's conclusions drawn from an analysis of 100 cases: Epithelioma is practically the only kind of cancer that attacks he penis. It occurs most frequently during the fifth, sixth nd seventh decades. Phimosis is pre-eminently the most exiting cause, so that circumcision can not be too strongly adised. Syphilis and trauma follow next as causes. Relief is sually sought during the first and second year of the disease, ut cases of from five to fifteen years' duration are occasionlly seen. Pain is present in 43.5 per cent., is rarely severe nd occurs late. Enlargement of the inguinal glands occurs n over 75 per cent.; in 60 per cent. it is cancerous; in the emainder it is simple hyperplasia. Glandular involvement may occur early, but the cases studied suggested its late occurrence. nguinal metastases caused death sooner or later; if well adanced, attempts at removal are to be considered only as surical vandalism. Invasion of vital organs occurs in over 15 er cent. of cases. Early amputation of the penis at the ubes, with thorough dissection of the groin, is the operation f choice. In the early stages, amputation alone may effect cure. Splitting the scrotum and transplanting the urethra nto the perineum, or total emasculation, offer no greater hope of cure. Sexual power is not necessarily destroyed by amputation of the penis. Melancholia rarely if ever follows the loss of the organ.

Interstate Medical Journal, St. Louis.

December.

51 *Present Clinical Aspect of Stomach Surgery. A. J. Ochsner, Chicago.
52 *Stasis Hyperemia (Bier). M. G. Seelig, St. Louis.
53 Brief Report of First Year's Work at the Clinic for Communicable Lung Diseases of the St. Louis City Dispensary. L. M. Warfield, St. Louis.

51. **Stomach Surgery.**—Ochsner does not claim to bring forth any new or original facts in this paper, but asserts that all methods commented on have been personally tried. He balances with fairness the difference of opinion between physician and surgeon on the vexed question, and gives several reasons showing that neither is likely to be able alone to form a just opinion, because each naturally sees principally the failures and not the successes of the other. In order that this difference may be eliminated as speedily as possible, it seems most important that internists should make a regular practice of witnessing operations on the stomach. Stomach surgery is limited at present to: 1, Closure of defect due to perforation by ulcer, wound or to rupture; 2, the establishment of drainage in obstruction of the pylorus due to neoplasms, cicatricial contraction, indurated ulcer or hour-glass stomach in the adult, and congenital stenosis in children; 3, the removal of neoplasms; and 4, (possibly) the correction of gastroptosis. He goes in detail into each of these groups. It may be stated as an axiom: 1, That certain conditions, like gastric perforation and gastric neoplasms, should receive surgical attention as soon as a diagnosis has been made; and 2, that other diseases of the stomach, like gastric ulcer and its sequelæ, should receive surgical attention whenever it becomes apparent that the condition can not be relieved by dietetic, hygienic and medicinal treatment. In regard to technic, he lays down the following general principles:

> The amount of traumatism must be reduced to a minimum. The intra-abdominal organs must be exposed as little as possible to cold air or cool pads. The patient must be placed in a sitting posture as soon as possible after the operation. In case of closure of perforation, the direction of the wound must be chosen so as not to result in obstruction later as a result of cicatricial contraction. In case of excision of a neoplasm, all the tissue closely connected must be removed with the growth to the greatest extent possible in the presence of existing anatomic relations. In gastroenterostomy the lowest portion of the stomach must be chosen, no matter whether anterior or posterior gastroenterostomy be performed, the latter, however, being preferable. There must be no tension on any sutures in any gastric operation. Except in complete gastrectomy, the coronary artery must always be preserved. In patients with an unusually fat transverse mesocolon, in whom posterior gastroenterostomy is performed, the opening should be torn very large and the edge should be sutured to the stomach in order to prevent obstruction. In case of acute gastric dilatation following any stomach operation, a stomach tube should at once be introduced and gastric lavage be employed, care being taken not to introduce more than one-fourth liter of water at a time. The simplest possible technic should be employed, preferably without the use of mechanical apparatus.

52. **Stasis Hyperemia.**—Seelig traces the origin of the idea developed by Bier, describes the types of hyperemia, outlines its physiologic action, and comments on the clinical results secured. The lessening of pain is based on the same mechanism as is the case in infiltration anesthesia, viz., diminution of irritability of the sensory nerve endings by pressure. The bactericidal action may be due to local accumulation of antibodies, increased phagocytosis, increased alexin power of the blood, increase therein of carbon dioxid, or to increased opsonic index. Whichever one or ones be true, the bactericidal action of hyperemia is demonstrated to be in line with modern teachings on immunity and infection. Increase in absorptive power, the solution of the débris, and the increase of nutrition are dealt with. Seelig has used the method in over 150 cases during the past two years at the Jewish Dispensary, St. Louis, and it has never failed him when properly applied. He has shortened the duration of treatment from 50 to 75 per cent., sparing the patients the pain and discomfort attendant on large granulating wounds and packed sinuses.

Chicago Medical Recorder.

January.

54 *Diagnosis of Cardiac Insufficiency. G. W. Webster, Chicago.
55 *Modern Surgical Treatment of Exophthalmic Goiter. A. P. Heineck, Chicago.

56 *Clinical Results and Conclusions. J. C. Hollister, Chicago.
57 Certified Milk. I. A. Abt, Chicago.
58 *Virulent Pneumococci Opsonin and Phagocytosis. E. C. Rosenow, Chicago.

54. **Cardiac Inefficiency.**—Webster says that the work of the heart is expended in producing that difference in pressure between the arterial system on the one hand, and the venous system on the other, which is the cause of the circulation of the blood. A high arterial pressure means a low venous pressure, and *vice versa*, other things being equal. The genealogy of weak heart he charts in the accompanying table:

- Weak heart.
  - Overwork...
    - Intrinsic...
      - Right...
        - Pulmonary...... Stenosis. Regurgitation.
        - Tricuspid....... Stenosis. Regurgitation.
      - Left...
        - Aortic.......... Stenosis.
        - Mitral.......... Regurgitation. Stenosis. Regurgitation.
    - Extrinsic...
      - Right..
        - Chronic emphysema.
        - Chronic bronchitis.
        - Adherent pericardium.
        - Acute inflammation... Pneumonia. Pleurisy.
        - Chronic inflammation.
        - Pleurisy, thickened pleura.
      - Left. ..
        - Arteriosclerosis, general.
        - Chronic contracting nephritis.
        - Toxemia.
        - Strain.
        - Adherent pericardium
        - Pregnancy.....
          - Especially, mitral obstruction.
          - Aortic stenosis.
  - Toxemia ..
    - Alcohol.
    - Tobacco.
    - Gout.
    - Lead.
    - Syphilis.
    - Nephritis.
    - High living.
    - Acute infectious diseases.
      - Influenza.
      - Pneumonia.
      - Diphtheria.
      - Scarlet fever.
      - Typhoid fever.
      - Smallpox.
      - Rheumatism.
    - Diabetes.
    - Tea.
    - Coffee.
  - Failure of nutrition.
    - Anemias.
    - Diseases of coronary arteries. Primary. Secondary.
  - Myocarditis.
    - Acute......... Acute infections.
    - Chronic.......
      - Syphilitic. Arteritis.
      - Unknown. Gumma.
      - Diabetes. Diffuse myocarditis.
  - Degeneration.
    - Fatty degeneration.
    - Fatty infiltration.
      - Gout.
      - Syphilis.
      - Diabetes.
      - Alcohol.
      - Phosphorus.
      - Anemia.
  - Loss of muscle tone from shock, grief, worry, etc.

The nervous system, while it neither initiates nor maintains the rhythmic movements of the heart, does control and influence and regulate them, and through it the heart's movement may be modified or even arrested. The symptoms of weak heart may be summarized as all those manifestations that grow out of venous engorgement, sleeplessness, dyspnea, cough, precordial anxiety, indigestion, diarrhea and the condition of the urine. Cheyne-Stokes respiration, the Stokes-Adams syndrome, and true angina pectoris, though often due to other causes, may suggest myocarditis. The value and significance of any signs or symptoms taken alone are very slight, their associations give them importance. Pigmentation of the skin, venous turgescence, arcus senilis, cyanosis or pigmentation of the hands or clubbing of the fingers, disproportionate frequency of the pulse or a slow infrequent pulse, all are of import in the picture. Auscultation should be the last and not the first resort in such cases. The most important questions concerning the work of the heart can be answered without the use of the stethoscope; it should be used to clear up difficulties and to clinch the examination.

55. This article appeared in *Surgery, Gynecology and Obstetrics*, December, 1907, and was abstracted in The Journal, Feb. 1, 1908, page 401.

56 and 58.—Abstracted in The Journal, Nov. 23, 1907, pages 1799 and 1800.

Northwestern Lancet, Minneapolis.

December.

59 *Certain Features of the Modern Diagnostic and Therapeutic Aspect of Gastric Ailments. C. L. Greene, St. Paul.
60 Compulsory Education of Tuberculous School Children in State Institutions Combining Educational and Sanatorial Features. F. M. Crain, Redfield, S. D.
61 Accessory Sinuses of the Nose. H. H. Frudenfeld, Madison, S. D.
62 Control of Smallpox. H. M. Bracken, St. Paul.

59. **Gastric Ailments.**—Greene reviews the history of gastrology, which is covered by four decades, and indicates the great advances in the resources of the internalist for diagnosis and treatment. Notwithstanding the great number of ingenious and complicated methods devised, the diagnosis of disease by the examination of the stomach contents is extremely simple in the majority of cases. Töpfer's method may be relied on for the quantitative estimation of acidity, and the nose will suffice for the identification of the organic acids, with the exception of lactic. The microscopic diagnosis is also simple, and the old test with egg digestion is enough for the discovery of pepsin and propepsin. Gastric motility is best determined by the food remnants obtained after a definite time by the stomach tube; and inflation through the tube, replacing the uncertain and unsafe generation of gas by soda and tartaric acid, should be habitually used to determine the position and size of the stomach. The composition and value of foods is much better understood than formerly. The slight nutritive value of beef tea, the proper use of milk, the indications for sugar, and the uselessness of many of the patent breakfast foods are noted. Most important are the studies covering the effects of various foods on gastric and intestinal secretion and motility. The internalist needs to keep clearly in mind the gastric symptoms associated with disease of organs other than the stomach, and to seek for discriminating points to aid him in tracing the symptoms to their proper source. Arteriosclerotic abdominal crises may usually be recognized by tenderness over the abdominal aorta, negative gastric findings, arteriosclerosis elsewhere, and the relief obtained by theobromin, sodium salicylate or strophanthus. Tabes should always be excluded by the examination of the reflexes. Dietl's crises are not of renal causation, save in the rarest instances, but must be referred to gallstones, appendicitis or pyloric spasm associated with the accompanying gastroptosis. The relations of gastric symptoms with gallstones and with appendicitis and the methods of distinguishing the true seat of the lesions have received insufficient attention in the literature. Greene believes that too many patients have been operated on for an appendix, not wholly normal, in which the greater part of the symptoms were due to overlooked disease of other organs. Nervous spasm of the pylorus may simulate ulcer and lead to needless operation. The secondary nature of the gastric disease depending on organic disease of the heart should be recognized, as well as that of most cases of gastritis. Gastroptosis may give rise to error and gastric syphilis is more frequent than is usually supposed. Greene has seen three cases in which the symptoms were suggestive of carcinoma. In carcinoma he is a firm believer in surgical exploration and appropriate operation. The recognition of early cases is facilitated by the observation of a steadily waning degree of acidity with progressive dyspeptic symptoms in connection with progressive loss of weight, increasing weakness, and an extraordinary resistance to all forms of treatment. Gastric ulcer is undoubtedly far more often a relatively symptomless condition than is generally understood, and its symptoms are most marked the nearer it approaches the pylorus. Gastric neuroses should be carefully investigated, and it should be remembered that neurasthenic symptoms may accompany gastric ulcer or even carcinoma. The stomach tube is here the means of avoiding useless operation on the one hand and harmful conservatism on the other. Greene has been impressed by three therapeutic facts, namely, that rest, hospital care, and rational diet are the best therapeutic agents in nearly all gastric ailments, and that without these the treatment of many gastric lesions of the nervous type and gastric ulcers must yield indifferent or deplorable results; and, further, that three-fourths of the functional cases encountered are due to poor nutrition and are usually kept active or smouldering by chronic starvation. The

ases suitable to surgical treatment are more limited in num-er than surgeons in general would believe. They comprise arcinoma in the early stage and ulcer cases complicated by bstructions or adhesions, and cases of organic stenosis in hich medical means have failed. Greene believes that sur-eons should require more exact diagnoses and that statistical iformation as to the final outcome of cases in which patients ave been operated on is urgently required. "The present status f gastroenterostomy leaves little to be desired on the side f technic and immediate mortality, but lacks everything in he line of statistics of the sort that test the value and de-ermine the worth and permanence of a radical procedure." The element of mere suspicion has been too large a factor in he surgery of the stomach."

Vermont Medical Monthly, Burlington.

January.

63 *Causes of Death. C. F. Dalton, Burlington.
64 *Cystoscopy and Catheterism of Ureters as Valuable Aids in Diagnosis and Treatment. A. L. Miner, Bellows Falls.
65 Flatfoot. J. C. Wilson, Hartford, Conn.

63. **Causes of Death.**—Dalton discusses the sources of error n the nomenclature of disease and finds them to be twofold: he creeping in of localisms, and the temptation to be specific, ven though inaccurate. On the other hand, there is a lack of pecific statement as to contributing causes whereby one might rasp the pathologic situation, even though the chief cause iven be indefinite or unsatisfactory. He cites as instances of ndefinite terms, septicemia, anemia, marasmus athrepsia, in-nition, asphyxia, debility, catarrh, dropsy, heart failure. He raws the following conclusions: In those diseases due to in-oxication death is nearly always determined by some form of egeneration of the heart muscle, and thus affected, the cardiac ction grows weaker and weaker until it finally ceases. In a ss number of cases, the same result is attained by local death f the nerve centers through degeneration or imperfect circu-tion, or by excitation of the inhibitory nerves. Death may lso be caused by failure on the part of the blood to furnish he needed supplies of oxygen and food. This may be due ther to diminished volume of blood following hemorrhage or fusion, or because the blood is filled with other products, hemically or physically combined, as in uremia, and can not arry the normal constituents. The lungs may become filled ith inflammatory or edematous products to such an extent hat the air is entirely eliminated. Internal respiration then eases, and we call the condition asphyxia. Effusions or reign growths may interfere mechanically with the action both heart and lungs and prevent circulation and respira-on. Suffocation or mutilation of vital organs may also echanically cause death.

64. Abstracted in The Journal, Dec. 7, 1907, page 1949.

Buffalo Medical Journal.

January.

6 Treatment of Cancer. W. B. Jones, Rochester, N. Y.
7 *Danger of Pregnancy Following Operation for Cancer of the Breast. W. S. Cheesman, Auburn, N. Y.
8 Relation of Hyperchlorhydria to Motor Function of the Stomach. A. A. Jones, Buffalo.
9 Ophthalmia Neonatorum: A Pathologic Anachronism. F. P. Lewis, Buffalo.

67. **Pregnancy and Cancer of the Breast.**—Cheesman points it that whatever be the nature of cancer when situated in e female breast, it is influenced by sympathetic correlation the pelvic organs. The most important function of these gans is gestation. Cancer may attack the breast during station, or pregnancy may occur as a complication of an ready existing cancer. In either case, there is apt to be a imulation of the disease to great malignancy and rapidity growth. Cheesman reports two cases respectively illustrat-g these two conditions. In the second case, in which preg-ncy occurred after an operation for removal of cancer of e breast, the patient asked why, if pregnancy was likely to termine a recurrence, she had not been warned. The author ks why physicians have not warned such patients of the dan-r of pregnancy, and remarks that a search through the lit-ature has failed to indicate a recognition of the fact.

Journal of the Missouri State Medical Association, St. Louis.

January.

70 *Stricture of the Rectum. W. J. McGill, St. Joseph.
71 *Malignant Disease of the Rectum. F. Reder, St. Louis.
72 Law Governing the Practice of Medicine. C. B. Hardin, Kansas City.
73 Attitude of the Public Toward the Doctor. H. S. Crawford, Harrisonville.
74 The Eye and the Nervous System. A. E. Derwent, Clinton.

70. **Stricture of the Rectum.**—McGill discusses congenital stricture, neoplastic stricture, spasmodic, and inflammatory stricture. The inflammatory strictures comprise simple (which are divided into diffuse inflammatory, cicatricial and perirectal strictures), tuberculous, dysenteric, and syphilitic inflammation. Treatment is usually surgical, though antisyphilitics are to be used in the syphilitic form. The surgical means at command are dilatation, internal and external proctotomy, excision, colostomy, and anastomosis around the stricture. He discusses these individually and describes their special applications.

71. **Malignant Disease of Rectum.**—Reder says that it is his practice now to establish an inguinal anus in all cases in which the involvement is so extensive as to necessitate the resection of the coccyx, or still more, a resection of a portion of the sacrum, for the removal of the cancerous bowel. His reasons are three-fold, (1) avoidance of septic trouble by direct contact of the wound with fecal matter; (2) the diversion of the fecal current from the diseased portion of the bowel; (3) the obviation of the necessity of locking the bowels for from ten to fourteen days after operation. The chief objection to this operation seems to come from the patient, but Reder holds that when it comes to dealing with cancer and the question of life prolongation the surgeon on whom the responsibility rests should be the one to decide what is best for the patient. An intelligent patient will ordinarily abide by the surgeon's suggestion. In the other event, it is safer for the surgeon not to operate at all. He considers the objections that have been urged, and states that much of the success of rectal incision in the advanced stage of cancer depends on the effectiveness of the measure embodied in the technic to prevent sepsis, and he believes that the interest of the patient will be best served by establishing a permanent inguinal anus in connection with excision of the rectum.

Pennsylvania Medical Journal, Athens.

December.

75 Address on Twenty-Fifth Anniversary of St. Luke's Hospital, South Bethlehem, Pa. W. L. Estes, South Bethlehem.
76 *Relation of Headache to Affections of Eye. S. D. Risley, Philadelphia.
77 *Neurologic Conception of Headache. E. E. Mayer, Pittsburg.
78 Headache Due to General Diseases. J. C. Wilson, Philadelphia.
79 Headaches Due to Nasal and Accessory Cavity Disease. B. A. Randall, Philadelphia.
80 Radical Cure of Vernal Conjunctivitis. L. W. Fox, Philadelphia.
81 The Eye and the Pelvis. C. P. Franklin, Philadelphia.
82 *Easy Method of Making Osteoplastic Flaps in Cranial Surgery. J. B. Roberts, Philadelphia.
83 *Repairing of Clefts of Palate and Lip. A. R. Craig, Philadelphia.

76. **Headache.**—Risley discusses the relations of diseases or anomalies of the ocular apparatus to headache, of which such disease or anomalies are often the sole and sufficient as well as the unsuspected cause. Even when other conditions capable of inducing headache are present, they do not necessarily exclude the eye from being also a factor in the production of headache. Whether or not it is a factor can be settled only by demonstration of the absence of abnormal ocular conditions or in their presence by the skilful correction of errors of refraction or binocular balance without relief to the headache. Moreover, prolonged eyestrain sets up pathologic states in the fundus which require time for subsidence after removal of the cause, so that immediate relief can not always be expected. Risley considers the location of the pain, the various manifestations, the relation to acute illness, the development of headache in men of affairs between the ages of 40 and 50, and the neurotic element dependent largely on environment.

77. **Id.**—Mayer says that in considering organic headache the neurologist asks that disease of the special sense organs be

eliminated, as manifestly such conditions must not be in question when valuing headache as a symptom in nervous diseases. On the other hand, the neurologist's services are often requisite to appraise headache as a symptom in diseases not of nervous origin. He considers in detail the neurologic relations of headache in regard to eyestrain, oral disease, nasal disease, and exophthalmic goiter, and discusses its importance also in relation to neurasthenia and hysteria, tuberculous meningitis, anemia and epilepsy. Even in headache due to disturbances of the nervous system, the physician can not ignore body chemistry and must treat general conditions which, if present, may in themselves cause headache.

82. Abstracted in The Journal, Nov. 2, 1907, page 1549.

83. Abstracted in The Journal, Oct. 26, 1907, page 1464.

Archives of Pediatrics, New York.

December.

84 Bacteriology of Meningitis. F. S. Churchill, Chicago.
85 *Proteid in Infant Feeding; Necessity of a Standard. T. G. Allen, Chicago.
86 Variation in Fat-Content of Cow's Milk. E. H Bartley, Brooklyn, N. Y.
87 Case of Vomiting with Acetonuria and Fatty Metamorphosis of the Liver. A. W. Myers, Chicago.
88 Estivoautumnal Fever in a Child of Two and a Half. R. O. Clock, Philadelphia.
89 Sarcoma in Kidney in Children, with Report of Case. W. Shannon, New York.
90 The Exudative Diathesis of Czerny. A. Hymanson, New York.
91 Case of Retropharyngeal Abscess in Girl of 11. H. B. Carpenter, Philadelphia.

85. **Proteid in Infant Feeding.**—Allen considers that there is nothing more important for the physician than to rid his mind of the fear of proteid in infant feeding, and to ask daily how much proteid, not what percentage, the baby gets daily, and how much he should get. He establishes a standard daily minimum and maximum proteid as 0.65 ounces proteid to repair waste, and 0.20 ounces for growth, making 0.85 ounces the minimum daily proteid. This he applies as follows: One ounce of good milk contains 4 per cent. of proteid, or 0.04 of an ounce. Therefore, the standard minimum daily proteid will be supplied by 1 ounce of good milk for each pound of the baby's weight, and the maximum daily proteid quotient, which was placed at 6, is supplied by 1.5 ounces of milk. This application holds good whether the milk used be whole milk, skim milk, buttermilk, top milk, or a mixture of cream with either whole milk or skim milk—in fact for any undiluted milk.

West Virginia Medical Journal, Wheeling.

January.

92 Atropin Poisoning. S. L. Jepson, Wheeling.
93 The Medical Department of the West Virginia University. J. W. Simpson, Morgantown.
94 Extraperitoneal Rupture of the Bladder with Report of Cases. J. E. Cannaday, Hansford.
95 Compulsory Vaccination vs. State Aid for Smallpox. S. S. Staunton, Villa.
96 Alleged Malpractice Defense. H. V. Varner, Clarksburg.
97 Freyer's Operation After Suprapubic Cystotomy. E. A. Hildreth, Wheeling.

Louisville Monthly Journal of Medicine and Surgery.

January.

98 The Contagiousness of Cancer. T. L. Butler, Louisville.
99 Influenza and Some of Its Complications. F. C. Simpson, Louisville.
100 Erythema Nodosum. J. E. Hays, Louisville.
101 Case of Veronal Poisoning. T. H. Stucky, Louisville.
102 Complications of Influenza as We See Them in the Treatment of Diseases of the Eye, Ear, Nose and Throat. A. O. Pfingst, Louisville.

Indiana Medical Journal, Indianapolis.

January.

103 President's Address Before Indianapolis Medical Society. O. G. Pfaff, Indianapolis.
104 Prevention and Treatment of Ophthalmia Neonatorum. H. C. Parker, Indianapolis.
105 Case of Diffuse Sarcoma of Intestines and Kidneys. C. Sudranski, Greencastle.
106 Case of Spina Bifida—Operation and Recovery. E. E. Padgett, Indianapolis.

Bulletin of Johns Hopkins Hospital, Baltimore.

January.

107 Major James Carroll. H. A. Kelly, W. H. Welch, W. S. Thayer, Baltimore, and G. M. Sternberg, H. H. Donnally, A. F. A. King, S. Ruffin, C. E. Munroe and J. O. Skinner, Washington, D. C.
108 *Maternal Mortality in the First Five Thousand Obstetric Cases at the Johns Hopkins Hospital. F. C. Goldsborough, Baltimore.

108. **Maternal Mortality at Johns Hopkins Hospital.**—Goldsborough states that in the 5,000 cases there were 55 maternal deaths, representing a gross mortality of 1.1 per cent. The fatalities were divided into the following groups:

Etiology.	Number of Deaths.	Percentage. of Gross. Mortality.	Percentage. Proportion of all Deaths.
1. Infections	21	0.42	38.18
2. Toxemias	16	0.32	29.09
3. Hemorrhages	8	0.16	14.54
4. Miscellaneous.	10	0.20	18.18

In Group 1, 12 patients were infected before admission to the department. One patient had coitus during labor and was not examined by vagina. In two others, midwives had made repeated vaginal examinations. Thus, 6 cases remain in which the department was responsible for the fatal infection, representing a mortality of ⅛ of 1 per cent. In Group 2 there were 16 deaths, divided as follows: Eclampsia, 12; nephritis, 2; toxemic vomiting of pregnancy, 2. The mortality from eclampsia was 25 per cent., which should be considered favorable in view of the fact that the majority of the patients were admitted in coma. In Group 3 there were 8 deaths. Four of these were due to placenta prævia, and in 3 of them the patient was moribund on admission. In the fourth case, death resulted from incomplete rupture of the uterus due to manual dilatation of the cervix. The dangers incident to accouchement forcé in this condition make it less preferable than the employment of a slower method of cervical dilatation such as the inflated rubber bag. The remaining 4 deaths from hemorrhage were associated with rupture of the uterus in 3 cases and with Porro Cesarean section once. In Group 4 there were 10 deaths, distributed as follows: Intestinal obstruction, 3; typhoid, 1; pneumonia, 1; amebic dysentery, 1; thrombosis, 1; embolism, 1; exophthalmic goiter, 1; anesthesia, 1.

International Clinics, Philadelphia.

Vol. IV, Seventeenth Series.

109 Treatment of Tetanus by Intraspinal Injections of Magnesium Sulphate, with Report of Four Cases. J. N. Henry, Philadelphia.
110 Comparison of Value of Roentgen Irradiation and Administration of Arsenic in Treatment of Leukemia. A. S. Warthin Ann Arbor, Mich.
111 Etiology and Treatment of Hemoptysis in Pulmonary Tuberculosis. A. P. Francine, Philadelphia.
112 Action of Injections of Fresh Blood Serum in Blood States that Give Rise to Hemorrhage. P. E. Weil, Paris, France.
113 Five Years' Experience with an Antityphoid Serum. A. Chantemesse, Paris, France.
114 Common Cardiac Arrhythmias and Their Clinical Significance A. W. Hewlett, San Francisco.
115 Urgency of Early Diagnosis of Cancer of the Stomach. A McPhedran, Toronto, Canada.
116 Study of Gastroptosis from the Radiographic Standpoint H. K. Pancoast, Philadelphia.
117 Tuberculous Meningitis with Special Reference to the Spinal Fluid. G. C. Robinson, Philadelphia.
118 Infantal Pseudoleukemic Anemia, Splenic anemia, Polycythemia with Splenomegaly and Chronic Cyanosis, Leukanemia, Aplastic Anemia. J. M. Swan, Philadelphia.
119 Ocular Reaction to Tuberculin. A New Means of Diagnosing Tuberculosis in Man. G. Calmette, Lille, France.
120 Case of Sarcoma of a Retroperitoneal Undescended Testicle Strangulated by a Twist. R. G. Le Conte, Philadelphia.
121 Fractures of the Femur. H. P. Sights, Paducah, Ky.
122 Surgical Syphilis. C. G. Cumston, Boston.
123 Peritoneal Pseudomyxoma in a Man, Secondary to Cystic Disease of the Appendix. G. McConnell, St. Louis.
124 Cases of Perforation in Typhoid Operated on at the Pennsylvania Hospital. C. F. Mitchell, Philadelphia.
125 Tuberculosis of Lymph Glands in Children. J. H. Jopson Philadelphia.
126 Treatment of Dysmenorrhea by Forcible Dilatation of Cervical Canal and Application of the Wylie Drain. H. D. Beyea Philadelphia.
127 Pathogenesis of Syncytioma Malignum. F. K. Green and Q. W. Hunter, Louisville, Ky.
128 Management of Pregnancy. J. W. Wainwright, New York.
129 Immunity and Vulnerability. C. D. Palmer, Cincinnati, Ohio
130 Torsion of the Testicle. E. M. Corner, London, Eng.
131 Improvement in the Method of Determining Presence or Absence of Gonorrheal Infection in an Inflamed Prostate or Seminal Vesicle. E. Ballenger, Atlanta, Ga.
132 Chronic Joint Disease in Children. W. B. Johnston.
133 Right-Angled Contraction of the Tendo Achillis as a Cause of Stumbling and Halting in Children. A. H. Tubby, London.
134 Case of Torticollis, Probably Congenital. A. Newlin, Philadelphia.
135 Occupation Neuroses: Pain, Rather than Cramp, the Prominent Symptom of this Disorder. G. L. Walton, Boston.
136 Disorders of Sleep. P. Stewart. London. Eng.
137 Unilateral Hemorrhage in the Medulla, Followed by Syringomyelic Sensory Disturbances—Syringobulbia. A. Gordon Philadelphia.
138 Thiosinamin in the Treatment of Deafness. M. Lermoyez Paris.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical ctures, single case reports and trials of new drugs and artificial ods are omitted unless of exceptional general interest.

Lancet, London.

January 11.

1 *Bacterial Infections of the Urinary Tract in Childhood. C. R. **Box.**
2 *The Infectivity of Cancer. A. T. Brand.
3 Anomalous Reactions Obtained in Testing Urine for Sugar with Fehling's Solution. H. MacLean.
4 Ferments and Their Mode of Action. A. Ransome.
5 Case of Paraplegia Due to an Intramedullary Lesion and Treated by Removal of a Local Accumulation of Fluid. W. B. Warrington and K. W. Monsarrat.
6 Salts of Alkaline Earths which Affect the Coagulability of the Blood. J. B. Nias.
7 Case of Echinococcus Disease. A. M. Sorabji.
8 *Sudden and Complete Inversion of the Uterus; Its Probable Causation. A. Maude.
9 Blood Coagulability in the Puerperal State. R. H. Fox.

1. **Urinary Bacterial Infections in Childhood.**—Box discusses scending and ascending urinary affections in childhood. He nsiders that the common cause of bacilluria is due to an cending infection, a view which is corroborated by the sex cidence of the disease. It is twice as common in females as males. The commonest infection is that of the colon bacil- s. This bacillus is frequently present in the urine of chil- en suffering from thread worms, which suggests that scratch- g may be in part the medium of infection. The clinical mani- stations of infection of the urinary passages in childhood ay be pyelitis, cystitis or incontinence of urine without ob- usive evidence of local inflammation. The possibility of the esence of pyelitis should always be borne in mind when deal- g with cases of obscure fever in childhood, whether of a sus- ined, remittent, or of a relapsing character. Cystitis of a ore or less acute character is not at all uncommon in child- od. In incontinence the course of the disease appears to be t altogether afebrile. Slight elevation of temperature at ght, rarely over 100 F., may occur for weeks at a time. The stitis of childhood, when caused by the colon bacillus, calls r a guarded prognosis. Some cases, especially those with ute onset and marked bladder symptoms, clear up under the nplest medicinal and dietetic treatment. Others, however, ag on sometimes for months. If, as the author believes, cending infection is the cause of these conditions, the im- rtance of frequent bathing and of the avoidance of urethral ntamination from the anus as preventive measures can not overrated. Vulvitis should be promptly treated. The milder ses of cystitis, pyelitis, and incontinence of urine do well th the ordinary treatment by full doses of potassium citrate, mbined with sedatives of the belladonna group. The first re should be to determine the absence or presence of thread rms. The time to give injections for them, if found, is just ter the bowels have acted. Drug treatment seems to be dis- pointing. Box does not appear to have had much success th serum therapy.

2. **Cancer.**—Brand discusses the various cancer hypotheses: Intrinsic origin, of which the number is legion; and 2, ex- nsic origin, in which the question is: autogenesis or exo- nesis? Brand believes cancer to be transmissible from one lividual to another, either directly or indirectly by the ency of a specific micro-organism, either a bacterium or a otozoon. He considers the instances of so-called transplanta- n in animals, and holds them to be true infection, since not ly does the transplanted material grow, but the characteris- evolution of malignant disease follows. The strongest ar- ment in favor of the exogenesis of cancer lies in its undevi- ing method of growth and dissemination by proliferation and tastasis and autoinoculation. Brand holds that the auto- culation of cancer requires no proof, being an indisputable f-evident characteristic of the malady; for every metastasis a true autoinoculation, as well as every so-called recurrence. at which has been removed can not recur; that which was t behind continues to grow. He examines the question as whether the carcinoma cell can be the true parasite, and cludes that that is impossible. He considers the investiga- ns that have been made with reference to the parasite of ncer, and thinks that the analogy of the *Spirochæta pallida* and syphilis certainly suggests the spirochetan causation of cancer. He suggests that the examination of fresh living carcinoma cells on the warm stage of the microscope would result in much additional and valuable information, as would also the employment of high-power microscopy. He discusses the channels and mode of infection, and in point of prophylaxis urges, among other things, the supersession of earth burial by cremation. He considers that, sooner or later, we may expect to find that a carcinoma of epithelial origin has been observed to give rise to a sarcoma in adjacent connective tissue; thus confirming the dictum that cancer is a specific infectious disease and that one specific micro-organism is capable of originating every variety of malignant neoplasm, the variety depending on, and only limited by, the anatomic diversity of the structure and the situation of the tissues invaded.

8. **Inversion of the Uterus.**—Maude reports the case of a young woman in her third labor in whom the uterus was found completely inverted, lying outside the vulva. The thinness and frailty of the cord suggested that it would probably have been broken had much traction been exercised by the midwife in charge of the case, which fact supported her statement that she had not employed such traction. The polar position of the placenta was absolute, thus confirming Hennig's view that the active cause of this disaster is an absolutely polar attachment of the placenta.

British Medical Journal, London.

January 11.

10 *Hospital Treatment of Morbid Pregnancies. J. W. Ballantyne.
11 *Bacteriologic Aspects of Neuropathic Keratitis. H. M. Davis and G. Hall.
12 Plea for Improvement in the Teaching and Encouragement in the Study of Legal Medicine. J. J. Buist.
13 *Cancer, Its Etiology and Treatment by Trypsin. J. Alcindor.
14 *Use of the Seton in Certain Intractable Nervous Conditions. T. W. Parry.
15 Pathology of Diabetes. H. J. McNabb.
16 The Source of Ova. L. Appel.
17 Cancer of Pylorus and Liver: Fatal Hemorrhage. A. C. Lambert.
18 Depression of Skull During Delivery. H. South.
19 Birth in a Caul. C. R. A. Sutton.

10. **Prematernity Hospitals.**—Ballantyne narrates the history of the idea of a hospital devoted to the care of pregnant women in reference to the diseases to which they are liable in that state. This led to the establishment of the Hamilton bed at the Edinburgh Royal Maternity and subsequently of others elsewhere. He details the cases treated in the Hamilton bed: hydramnios with vomiting, hyperemesis gravidarum, epilepsy (?) in pregnancy, three cases of eclampsia, albuminuria in pregnancy, etc. From his experience he suggests, with regard to prematernity beds in maternity hospitals, that the beds should be reserved for cases of morbid pregnancy; that the supervention of labor within forty-eight hours of reception should exclude the cases from the category of prematernity cases; that the beds should be placed in a ward by themselves, under the supervision of a nurse with surgical training. Different food is required by prematernity and maternity patients. In these cases special attention should be paid to the urine, blood, nervous, and ophthalmoscopic examinations. Suitable cases are pregnant patients suffering from albuminuria, heart disease, intractable vomiting, pulmonary disease, hepatic disease, anemia and blood disorders, epilepsy, hysteria, chorea gravidarum and paralysis, disease of the reproductive organs themselves, hydramnios and other diseases, suspected ectopic gestation, hydatid mole, etc. Also suitable are patients who have suffered in the past from habitual abortion, fetal death or disease, or eclampsia. Unsuitable cases are those with infectious fevers, and perhaps syphilis, though Ballantyne thinks that gonorrheal vaginitis and vulvitis might be taken and treated during pregnancy.

11. **Neuropathic Keratitis.**—Davies and Hall conclude from their investigations that for the production of neuropathic keratitis three factors must be present: 1, Removal of the Gasserian ganglion; 2, the presence of the bacillus; 3, a factor of undefined nature dependent on the eyelids and removed by closing them. The first factors are not adequate alone, as suture of the lids prevents or cures neuropathic keratitis. The first and third are not adequate alone, because keratitis only

occurs after destructive lesions of the Gasserian ganglion when the organism is present and in the same proportion of patients as that in which the organism occurs in normal persons.

13. **Trypsin in Cancer.**—Alcindor reports two cases of cancer treated with trypsin by Beard's method. He concludes that lowered vitality from any cause is the predisposing factor in malignant disease and chronic irritation the determining factor; and further, that trypsin is of considerable value. He claims also that gout, rheumatoid arthritis, and chronic rheumatism ought to be treated by injections of trypsin when other better-known methods have failed. Amylopsin, whether used alone or with trypsin he has found of no value.

14. **The Seton.**—Parry refers to the benefit of the seton in certain obscure nervous affections, e. g., migraine, Ménière's disease, and also to a case of Dr. Pratt's of a child suffering from symptoms of a cerebellar tumor in which a remarkable recovery for nearly two years has ensued on the use of the seton. This instrument, he believes, under aseptic conditions and management, is now going to play an important rôle in the treatment of obstinate conditions of nervous origin, hitherto regarded as incurable and which help to swell the ranks of christian science and other similar devotees. He describes a new seton knife needle intended to lessen the friction in the passing of the seton.

Medical Press and Circular, London.

January 8.

20 Psoriasis: Its Clinical and Microscopic Characters, Diagnosis and Treatment. A. Whitfield.
21 Teaching of Practical Midwifery. W. Smyly.
22 *Diagnosis of Chest Disease. J. Hay.
23 Acute Pancreatitis and Multiple Fat Necrosis. F. G. Bushnell.

22. **Chest Disease.**—Hay, in illustration of the difficulties encountered in the diagnosis of chest disease, reports four cases: 1, Actinomycosis of the lung simulating pulmonary tuberculosis; 2, sarcoma originating in the root of the lung and involving the left bronchus, encircling the aorta, paralyzing the left vocal cord and infiltrating the left auricle; 3, a small centrally placed empyema, not discovered by frequent exploratory aspirations, the diaphragm being perforated by the pus which pointed below the costal margin; and 4, pulmonary syphilis, with fibrosis about the roots of the lung, marked dyspnea, cough, recurring hemoptysis, few physical signs and cardio-pulmonary murmur audible at the open mouth.

Clinical Journal, London.

January 1.

24 Surgical Diseases of Children. A. H. Tubby.
25 Pneumonia and Its Complications. (To be continued.) H. Mackenzie.

January 8.

26 Empyema in Children. A. E. Garrod.
27 *Practical Value of Blood Pressure Estimation. L. Williams.
28 Pneumonia and Its Complications. (Concluded.) H. Mackenzie.

27. **Blood Pressure.**—Williams' article is intended to demonstrate that the manometer is not merely a pretty toy with which the *dilettanti* may suitably amuse themselves, as has been wickedly suggested, but that it is a true workman's instrument of immense practical utility, on whose verdict the most momentous issues may often depend. He discusses the various methods of estimating blood pressure: 1, By the manometer—mercurial (Riva Rocci or modification) or alcoholic (Oliver); 2, by pulse stability; 3, by the tactile estimation of blood pressure by compressing a single artery. In point of trustworthiness there is little to choose between the mercurial and the alcoholic manometer, though as to portability and durability the latter has the preference. The second method named depends on the fact that in the normal individual the pulse rate while standing is from six to ten beats faster than while recumbent. Increase of this difference means loss of tone in peripheral arteries, undue vasodilatation, low blood pressure; abolition or serious diminution means excessive tone of peripheral arteries undue vasoconstriction, high blood pressure. A reversal of the difference (slower rate standing than recumbent) indicates definite organic disease in the arteries over a considerable area, with permanently high blood pressure. The method of estimation by palpitation of the radial or other artery is altogether bad, because the tactile sense is capable of estimating total force only; no education can render it capable of estimating total force per unit of surface. As instances of the practical value of blood pressure estimation, Williams points out that gout is always associated with high blood pressure, tuberculosis with low blood pressure. In certain dermatologic states and in certain subacute arthritides the manometer will distinguish for us between gout and tuberculosis. While the manometer is absolute, however, in high blood presure, it is not so positive in the case of low blood pressure, because in self-preservation the medulla, when the heart is at fault, will order a vasoconstriction, and when the arteries are at fault will increase the number of systoles, to keep the blood pressure above the level essential for life. In low pressure, therefore, it is desirable to investigate the stability of the pulse. Other symptoms in which absolute differentiation as to causation may be made by the blood pressure are dyspnea, epistaxis and hemoptysis. Albuminuria again is a condition in which the testimony of the blood pressure is essential to sound judgment. Albumin appears in the urine whenever the kidneys are passively congested; its importance is usually grossly exaggerated, because it is commonly associated almost entirely with organic kidney trouble. Albuminuria due to kidney disease is usually accompanied by high pressure, while that due to other causes is commonly not so accompanied. The two conditions demand diametrically opposite treatment, so that the diagnosis is a matter of the utmost importance. Similarly, accuracy of diagnosis is of the highest importance between true neurasthenia, from real exhaustion of the nervous centers, in which blood pressure is low, and the exactly corresponding symptom-complex, due to absorption of toxins from the gastrointestinal canal, in which blood pressure is high. Post-influenzal conditions also require the same discrimination. In all these classes of cases to apply the stimulant, tonic, hypernutrient treatment in the high-tension form, or the relaxing, underfeeding, sedative, vicariously eliminant method in the low tension form will be fraught with disaster.

Journal of Tropical Medicine and Hygiene, London.

December 16.

29 *Preliminary Report on Calcium Chlorid in Treatment of Hemoglobinuric Fever. W. H. Deaderick.
30 *Lactic Acid Ferments in Treatment of Tropical Diseases. A. S. Gubb.
31 Case of Blackwater Fever on Board a British India Ship. H. Emlyn-Jones.
32 Visit to the Tropical School at Hamburg. F. M. Sandwith.

29. **Calcium Chlorid in Hemoglobinuric Fever.**—Deaderick reports four cases of blackwater fever treated by him by Vincent's method, viz., with calcium chlorid. But little can be concluded from a report of only four cases, but as there were two deaths and two recoveries, he failed to derive the benefits claimed by Vincent. The patients who died were persons not more undermined by malaria than is ordinarily the case in those attacked with blackwater fever. Death moreover in each case was not due to syncope, but to the hemolysis which calcium chlorid is used to combat. He nevertheless recommends more extended trial.

30. **Lactic Acid Ferments in Tropical Diseases.**—Gubb eulogizes the lactic acid ferment treatment by means of sour milk or the various well-known fermented milks, in infantile diarrhea, intestinal fermentation, tropical diarrhea, dysentery, and the various forms of gastric and enteric disease common in hot countries. He cites a few cases of Brochet's showing the promptness of the antiferment action to be not less remarkable than its completeness. The curdled milk may be prepared by mixing a specified quantity of boiled milk (even condensed milk will answer) with the powdered ferment or a suitable quantity of the bouillon culture in a suitable warm chamber for from eight to ten hours, by which time the milk will be curdled. Any supernatant liquid is decanted off and the product put into a cool place. It keeps good about two days. The organisms being robust and quite innocuous to the human being, oust the butyric and other irregular organisms and inhibit every form of fermentation except their own. This treatment is useful also in furunculosis and recurrent abscess. It is recommended as a prophylactic, since intestinal fermentation paves the way to all the infective intestinal conditions

hat prove so fatal in hot countries. If the milk is too acid little sodium citrate or bicarbonate or magnesium carbonate nay be added.

Intercolonial Medical Journal of Australasia, Melbourne.

November.

33 Exophthalmic Goiter—Partial Thyroidectomy Under Local Anesthesia. T. P. Dunhill.
34 *Pneumococcal Infections in Children. A. J. Wood.
35 Acidosis and Acute Fatty Degeneration After Laparotomy. G. A. Syme.
36 Six Cases of Stovain Spinal Anesthesia. H. R. Duncan.
37 Ludwig's Angina—Tracheotomy. W. H. Tregear.
38 Acute Lymphatic Leukemia. E. H. Spowers.
39 Simple Method for Quantitative Determination of Proteids in Milk. A. J. Wood.

34. **Pneumococcal Infections in Children.**—Since pneumococci n pneumonia are found circulating in the blood stream, a neumococcal invasion of the blood must be regarded as a form f septicemia, usually manifesting itself doubtless in croupous neumonia, but able to manifest itself in other ways. Wood eports cases to illustrate the septic power of the pneumo-occus.

ournal of Obstetrics and Gynecology of the British Empire, London.

January.

40 *Pathologic Changes Affecting the Endometrium: a Contribution Toward Their Classification. E. H. B. Macdonald.
41 *Supports of the Pelvic Viscera. W. E. Fothergill.
42 Case of Cerebral Hemorrhage During Pregnancy. R. Jardine.
43 Case of Osteomalacia Treated by Cesarean Section at Full Term, with Removal of Uterus and Ovaries. Id.
44 Case of Prolonged High Temperature During Pregnancy, with Other Symptoms of Toxemia. Id.
45 Recent Developments in Gynecologic Surgery. E. H. Tweedy.

40. **The Pathology of Endometrium.**—Macdonald, from her nvestigations, concludes that the endometrium is to be re-arded as an unstable tissue, subject to great physiologic vari-tion, readily affected by disorders of neighboring tissues, read-ly responsive to stimulation, but only rarely the seat of rimary disease. Malignant disease of the body of the uterus comparatively rare; simple tumor formation is uncommon; hronic infective endometritis is commoner than these, but till not common by comparison with the number of other onditions for which curetting is practiced. In the great ma-ority of cases in which the uterus is scraped, the endometrium as played a merely passive part in the pathologic changes, lthough its removal may be a justifiable and even necessary art of the treatment. She presents the following clasification f certain broad groups of endometrial change, avoiding merely ymptomatic or histologic subdivisions and disregarding histo-gic changes presumably devoid so far as is known of signifi-ance:

I. Conditions arising from decidual and fetal retention.

SIMPLE.	MALIGNANT.
Simple inflammatory reaction.	Chorioepithelioma.

II. Endometritis of infective origin.
    Acute.
    Chronic. 1. Puerperal.
        2. Gonorrheal (syphilitic).
        3. Tuberculosis.
        4. Septic (from operative procedures, etc.)

II. Secondary changes.
    1. Chronic edema. Mucous polypus.
        General hyperplasia.
    2. Chronic venous congestion.
    3. Increased vascularity.

V. New growth.

SIMPLE.		MALIGNANT.
. Simple adenoma.		1. Malignant adenoma.
Papilloma.	Glandular overgrowth.	
. Papillary glandular hyperplasia.		2. Adenocarcinoma.
. Stroma overgrowth.		3. Sarcoma.

41. **Pelvic Floor.**—Fothergill summarizes his conclusions as llows: 1. The so-called ligaments of the uterus lie loosely n the subjacent structures, and have no supporting action. he broad ligament is simply a mesovarium and mesosalpinx. he uterosacral and uterovesical folds are incapable of resist-g downward pressure, as is the round ligament, which more-ver is a vestigial structure (*gubernaculum ovarii et uteri*). The external muscular layer of the pelvic floor has a sphinc-eric rather than a supporting action. 3. The internal muscu-r layer of the pelvic floor being the degenerated representative of the tail muscles of lower animals, has largely lost its muscular action, and the lower part of the levator ani merely acts as an adjuvant to the sphincters of the rectum and the sphincter vaginæ. 4. The classical descriptions of the pelvic fascia should be given up, and the fascia should be regarded as the sheaths of the muscles, the vessels, and the viscera. 5. The internal muscular layer, with its fascial investment, forms the funnel-shaped pelvic diaphragm. 6. The pelvic diaphragm does not support the pelvic organs by its muscular action. 7. The pelvic diaphragm could not support the pelvic organs in virtue of its shape, were they not firmly attached to its sloping lateral walls. 8. This attachment is accomplished by the fibrous sheaths of the blood vessels and accompanying structures which supply the pelvic viscera. The one constant essential cause of prolapse is relaxation of the perivascular sheaths. 9. The rectum has attachments to the back of the pelvis quite distinct from those of the urogenital organs to its sides. It does not descend with them in prolapsus. When the anterior rectal wall descends in rectocele it is united with the posterior vaginal wall by cicatricial tissue, the result of infection during the healing of perineal tears.

Presse Médicale, Paris.

January 1, XVI, No. 1, pp. 1-8.

46 Reflex Pulse Disturbances in Appendicitis. (Ralentissement, Arythmie, Accélération.) A. Broca.
47 Exercises of the Neck. (Gymnastique de la région cervicale.) P. Desfosses.
48 Automatic Gag and Tongue Depressor. (Ouvrebouche. Abaisse-langue.) G. Mahu.

January 2, No. 2, pp. 9-16.

49 Bacteriologic Examinations in Surgery. F. Daels.
50 Evacuation of the Stomach According to Cannon's Works. J. P. Langlois.

Revue de Chirurgie, Paris.

December, 1907, XXVII, No. 12, pp. 669-808.

51 *Hyperostosis Following Ablation of Periosteum. (Ostéomes musculaires.) V. Cornil and P. Coudray.
52 *Simple Inflammatory Affections in and Around the Sigmoid. (Sigmoidites et périsigmoidites.) M. Patel. Commenced in No. 10.
53 Histologic Structure and Embryonal Origin of Mixed Tumors of the Salivary Glands. G. Massabuau. Commenced in No. 10.

51. **Hyperostosis Following Ablation of Periosteum.**—Cornil and Coudray discuss the question whether experimental osteomas and traumatic myosteomas in man are the result of new growth of connective tissue or of muscle tissue. They cut a flap of periosteum from the tibia of dogs and implanted it in the muscles in the front of the leg, utilizing the same incision for the two procedures. The results of these and other experiments and clinical experience confirm the fact that the connective tissue of the muscles under the influence of trauma is capable of producing bone tissue. The "periosteum theory" explains the formation of muscular osteomas when they develop after a trauma in connection with the bones of the region. But it does not explain the myosteomas that develop in the muscles apart from all connection with the bones.

52. **Inflammatory Processes in and Around the Sigmoid.**—Patel treats acute nonsuppurative sigmoiditis with ice and opium to immobilize the intestines and soothe the pain, as in acute appendicitis, not allowing any food during this time. An oil purgative may be given the third or fourth day, in small, repeated doses. This is the best means of emptying the intestine with the least risk for the intestinal walls. The pulse, temperature, meteorism and intestinal functions should be investigated every day. After the acute phase is past the patient should be treated as for colitis, with topical applications. Tincture of iodin may hasten the disappearance of the local process. Suppuration demands surgical intervention, and he discusses the best technic for the various locations of the abscess. In case of subacute perisigmoiditis failure of medical measures imposes the necessity for operative treatment. Chronic inflammation in and around the sigmoid requires the same treatment as mucomembranous enterocolitis, except when signs of obstruction compel operative measures. He summarizes sixty-eight cases from the literature and two from his own experience, classifying them under various headings and appends a bibliography of 128 articles, including some published in The Journal.

Semaine Médicale, Paris.

January 1, XXVIII, No. 1, pp. 1-12.

54 Abnormal Multiplicity of the Heart Sounds. (Bruits du coeur.) L. Bard.
55 Family Syndrome of Multiple Telangiectases with Recurring Hemorrhages.

Archiv für Verdauungs-Krankheiten, Berlin.

XIII, No. 6, pp. 577-671.

56 *Pathology and Treatment of Gastric Ulcer. Diagnostic Significance of Hyperacid Stomach Content. (Magengeschwür.) V. Rubow.
57 Physiologic and Pathologic Smallness of the Stomach and the Radiologic Determination of Shriveling. (Kleinheit des Magens.) S. Jonas.
58 *Benefits of Oil Treatment of Ulcers and Stenosis of the Pylorus. W. Bloch.
59 Lack of Gastric Mucus. Its Pathologic Importance and Relations to Hyperacidity and Gastric Ulcer. (Mangel an Magenschleim-Amyxorrhœa gastrica.) J. Kaufmann.
60 *Nervous Hyperacidity and Hypersecretion of the Stomach and Their Relations to Congenital Atony. (Nervöse Superacidität und Supersekretion des Magens.) G. Graul.

56. **Hyperacidity of Stomach Contents in Relation to Ulcer.**—Rubow describes a number of typical examples of apparent hyperacidity when in reality the collection of acid was partially the result of impaired evacuating power. There was generally hypersecretion also, as was shown by the finding of a copious secretion of gastric juice in the fasting stomach, in the morning. It is probable that the limit between normal and morbid secretion in these cases lies somewhere near the finding of 120 c.c. of stomach content or more—with an acidity of 80, an hour after an Ewald test breakfast. In another form of assumed hyperacidity the amount of stomach content is very much less; instead of 120 or 300 c.c. we find only from 10 to 60 c.c. of stomach content. In five cases of this kind reported in detail there were no symptoms to attract attention to the stomach; one patient had a wandering kidney, another neurasthenia with obstipation, another periostitis of the tibia, and two had chronic enteritis with diarrhea, but all had a very small amount of highly acid stomach content an hour after the Ewald test breakfast. Such cases show that hyperacidity does not necessarily entail symptoms, and that other factors must cooperate to produce the so-called hyperacidity disturbances. Examination of the stomach content before the close of the hour revealed that the trouble in these cases was merely exaggerated motor functioning of the stomach; the chyme was passed along so fast that the gastric juice secreted toward the last had only a small amount of stomach content to act on, and it thus appeared extraordinarily acid although no more than the normal proportion of gastric juice had been secreted during the hour. These findings explain the cases of nervous dyspepsia with hyperacidity. As Faber pointed out six years ago, the real trouble calling for treatment is an often overlooked intestinal affection, instead of the assumed gastric dyspepsia. It is probable that the excessive motor functioning of the stomach, passing along partly digested food into the intestines, may finally have an injurious influence on the intestines, as the work normally done in the stomach has to be done in the intestines, if done at all. In the diagnosis of a chronic gastric ulcer, it is important, therefore, to determine the form of the hyperacidity. A very small, highly acid gastric content should not be included in the chain of symptoms testifying to the probability of an ulcer. Hypersecretion can be assumed only when the stomach content is large and acid.

58. **Oil in Treatment of Ulcer and Stenosis of the Pylorus.**—Bloch relates his experience with nineteen cases of gastric ulcer or pyloric stenosis in which great benefit was derived from small amounts of oil, taken three times a day. It was remarkable, he states, how rapidly the pain was relieved and the debilitated patients recovered strength. This was most evident in the cases of enlargement of the stomach from spasm of the pylorus. Almost complete cure was realized in a few cases of severe stenosis, as this treatment restored the working capacity of the patients. All were outpatients, and some continued at work throughout the treatment. In private practice he prefers oil of sweet almonds, changing after two weeks, if the patients desire, to "almond milk," that is, an emulsion of a tablespoon of pulverized sweet almonds in a glass of hot water, ingested warm, with peppermint drops afterward if desired. In winter he prefers an emulsion, made with or without belladonna, according to the following formula:

℞.	gm.		
Tincturæ belladonnæ	5		ʒi
Olei amygdalæ dulc	30	or	℥i
Vitelli ovi uni			
Aquæ destillatæ ad	200		℥vi

M. f. emulsio. Sig.: A tablespoonful three times a day.

The proportion of oil can be increased or reduced according to the severity of the case. In some cases he gives pure olive oil or linseed oil. He reviews the history of oil treatment of gastric affections, and states that it should be given a thorough trial in all cases before deciding on operative measures.

60. **Nervous Hyperacidity and Its Relation to Congenital Atony.**—Graul regards a stomach content of from 75 to 100 c.c., an hour after an Ewald test breakfast, as indicative of abnormal conditions, and that hypersecretion may be accepted when the amount ranges from 100 to 200 c.c. Hyperacidity alone, he declares, does not cause subjective disturbances. For this there must be some inflammatory affection of the mucosa, exposure of nerve fibers, as in an ulcer, or enhanced irritability of the stomach from any cause. In these conditions the hyperacidity disturbances may appear although the acidity remains within normal limits. Atony of the stomach is merely an expression for the condition in which it stretches unduly easily, and constitutional atony seems to be generally accompanied by hyperacidity. In these conditions the size of the meals must be reduced and only extremely digestible food allowed, anything that tends to overload or stretch the stomach being avoided. The diet must be regulated according to the laws of mechanics and hydrostatic pressure, with protracted rest in bed, and repose in every case after eating.

Beiträge zur Klinik der Tuberkulose, Würzburg.

VIII, No. 4, pp. 309-371.

61 Carcinoma of Mamma Complicated with Tuberculosis. A. Fricke.
62 *Ocular Reaction to Tuberculin. P. Eisen.
63 *Tuberculin Treatment of Pulmonary Tuberculosis. O. Amrein.
64 *Artificial Pneumothorax and the Opsonic Index. H. Pigger.
65 The Non-acid-proof Forms of Koch's Tubercle Bacillus. (Die nicht säurefesten Formen des Kochschen Tuberkelbazillus.) H. Much.
66 Psychophysical Disturbance of Balance. (Psychophysische Gleichgewichtsstörung.) Kraemer.

62. **Ocular Reaction to Tuberculin.**—Eisen reports that a positive reaction was obtained in 66.6 per cent. of 45 patients with certain tuberculosis, the proportion being 78.9 per cent. in the early stages and declining to 50 per cent. in the most advanced cases. In 11 entirely healthy persons the response was invariably negative, but it was positive in 31.1 per cent. of 17 patients with various non-tuberculous affections. The reaction in the eye subsided harmlessly in all but 2 cases, and in these the patients had suffered from conjunctivitis in youth. The reaction in these cases was so severe that the aid of an ophthalmologist had to be sought.

63. **Tuberculin Treatment of Tuberculosis.**—Amrein reviews his experience with 11 patients treated with Deny's tuberculin, 10 with Koch's old tuberculin and a few with tuberculin of another make. He followed the Goetsch cautious technic and was much pleased with the results. With cautious dosage and properly selected cases, he states, tuberculin is proving an essential aid in treatment of tuberculosis, especially as an adjuvant to physical, dietetic and climatic measures. He found that after a change from one make of tuberculin to another improvement sometimes made rapid strides. The tuberculin treatment sometimes started the patient again on the road to health after the measures previously applied seemed to have reached the limits of their efficacy.

64. **Artificial Pneumothorax and the Opsonic Index.**—Pigger reports the particulars of five cases of pulmonary tuberculosis in which the diseased lung was completely immobilized by compression from a pneumothorax artificially induced by injection of nitrogen. The opsonic index became permanently higher in the cases in which the lung was successfully compressed and no tuberculous complications developed. After wavering a little, the opsonic index presented the features characteristic of a healing lesion. The immobilization and compression of the diseased lung evidently alter the circulation of blood and lymph, at first promoting absorption from the foci, but later reducing

it. Thus autoinoculation in its best form follows complete compression, the positive opsonic phase becoming permanent. His experience teaches further that the artificial pneumothorax should not be restricted to severe cases of unilateral phthisis, but should be applied even in mild cases, when other measures fail to induce appreciable benefit. A permanently low or wavering opsonic index is a valuable aid in determining the indications for this form of intervention. The other lung must be sound or only slightly affected, with an inactive focus, to realize any benefit from the compression.

Berliner klinische Wochenschrift.

January 6, XLV, No. 1, pp. 1-44.

67 *Management of Childbirth with Contracted Pelvis. (Geburt bei engen Becken.) R. Olshausen.
68 *Method for Hastening Normal Delivery. (Methode zur Abkürzung normaler Entbindungen.) T. Landau.
69 Abnormally Large Brains. (Echte Megalencephalie.) D. v. Hansemann.
70 *Case of Stone Formation in the Lungs. (Fall von Steinhusten.) A. Bickel and E. Grunmach.
71 Negatlve Influence of Baths Containing Radium Emanations on the Gas Interchanges in Man. H. Silbergleit.
72 *Clinical Importance of Serum Diagnosis of Syphilis. (Klinische Leistungsfähigkeit der Serodiagnostik bei Lues.) H. Mühsam. Id. F. Karewski.
73 Congenital Fistulas of Lower Lip. F. Unterberger.
74 *Differential Diagnosis of Torsion of Cystic Tumors of Female Genital Organs from Appendicitis. E. Ranzi.
75 The Latest Methods of Pharmacologic Research. (Neuere pharmakologische Forschungsmethoden.) T. A. Maass.

67. **Management of Childbirth with Contracted Pelves.**—Olshausen reviews the management of delivery with various forms of contracted pelvis, and emphasizes the fact that ergot should never be given until the head or breech has reached the floor of the pelvis and the birth is thus under control. Even then, great caution and diligent auscultation are necessary to recognize injury to the fetus and to act accordingly. Quinin is liable to improve the uterine contractions or start them if they have become arrested, and this action suggests the necessity for being very cautious in regard to administration of quinin during a pregnancy. A hot bath is sometimes advised to promote labor, but he has not beheld much benefit from it, and thinks that there is grave danger of infection from the water when the os is dilated. In case of pendulous abdomen or when the uterus is abnormally long, good effects are sometimes realized from bandaging up the abdomen or making the patient lean far back. The forceps can be used without great risks only when the head stands in the superior strait with its largest periphery. If it has been impelled thus far there is reason to hope that the forceps can aid in its onward passage. This is allowable in case there is instant danger for mother or child, or when labor has entirely ceased and further delay seems inadvisable on account of the mother's rising temperature or similar grounds. The danger of crushing of the soft parts, with subsequent gangrene and vesical fistula, can not be estimated beforehand. In case of non-descent of the head, the forceps should never be applied for more than six or eight tractions. If there is no appreciable progress in delivery after this, the forceps should be discarded and perforation or a pelvis-enlarging operation be done. The child, after these attempts at forceps extraction, is probably either dead or dying, and the mother is in grave danger if not delivered at once. In conclusion, he comments on the various operations to enlarge the pelvis, adding that pubiotomy has won a place for itself beyond question, but that until the indications and technic are better understood it should never be attempted outside of a hospital.

68. **To Hasten Normal Deliveries.**—Landau thinks that there is no reason why an ordinary childbirth should not be hastened, and suggests instead of immediate resort to surgery that the obstetrician should aid in the natural dilatation of the cervix, by helping to stretch it and striving to push it back over the protruding head. This attempt should be made only when labor pain is in progress. This mild and harmless intervention will materially hasten the expulsion of the fetus, but delivery must be already well under way and the head fixed in the pelvis. The latter condition is indispensable, as otherwise the skull might be deflected and the presentation take an unfavorable turn. The maneuver must be done with gloved hands and absolute asepsis be otherwise observed. Danger of laceration is averted by gentleness and working along the lines of least resistance. Instrumental dilatation works with blind force and is liable thus to injure the parts. He calls attention to the fact that the procedure acts not only by mechanically stretching the cervix, but also by so irritating the nerves that the labor pains are stimulated.

70. **Calculi in the Lungs.**—The patient in the case illustrated was a woman of 35 who for the last five years had occasionally coughed up "stones," from the size of a large pinhead to that of a pea.

72. **Serum Diagnosis of Syphilis.**—Mühsam states that not an instance is known to date of a positive reaction to the serum diagnosis in the entire absence of a history of syphilis. It is undoubtedly a specific reaction, but it does not invariably occur even when syphilis is known to exist. Negative results may be obtained when the syphilis is completely cured or when no complement-binding substances have been formed, and, possibly, also refractory cases may be encountered or there may be a negative phase in respect to the reaction. Karewski remarks that the serum diagnosis may not be found very valuable in general practice, but that it may be of fundamental importance in certain cases, especially in those of medicolegal import and for differentiation of inherited syphilis, but most of all, perhaps, from the standpoint of the surgeon confronted with lesions apparently demanding intervention but which the serum reaction differentiates as syphilitic. Negative findings are not conclusive.

74. **Differentiation of Torsion of Ovarian Cyst from Appendicitis.**—Ranzi reports four cases of small ovarian tumors with symptoms suggesting appendicitis as the pedicle became twisted. Palpation findings were dubious and the symptoms of irritation of the peritoneum might have been referable to the appendix as well as to the torsion of the pedicle. The cause of the trouble was differentiated before operation only in one case, and then by pains in urinating. The sudden onset of the pain might have served as a differentiating sign, if heeded. In three of the cases the torsion had evidently occurred a few times before, but had spontaneously subsided; the symptoms at these times had been accepted as indicative of mild attacks of appendicitis. In one case appendicitis coexisted with the ovarian tumor. It is important, Ranzi says, in operating for appendicitis to examine the genital organs and to have the patient understand beforehand that it may prove necessary to remove some of them.

Centralblatt für Chirurgie, Leipsic.

January 4, XXXV, No. 1, pp. 1-32.

76 *Superheated Air in After-Treatment of Abdominal Operations. (Heissluftbehandlung nach Bauchoperationen.) Gelinsky.
77 *Improved Technic for Transplantation of Skin Flaps. (Die Transplantation betreffend.) Lanz.
78 Osteoplastic Resection of Ankle. (Osteoplastische Fussgelenkresektion.) A. Tietze.

76. **Superheated Air in After-Treatment of Laparotomies.**—Gelinsky applies superheated air to the abdomen for twenty minutes, once or twice a day, after a laparotomy. Among its advantages are the prevention of adhesions, the promotion of absorption and, especially, the stimulation of peristalsis. Both the clinical course and the subjective findings were improved by this systematic heating of the region. One patient, a man with pleurisy and ascites, was treated with the superheated air for two months after tapping, and recovered his health completely with no signs of recurrence during the five months since. In 13 aseptic laparotomies one application of the superheated air was followed by normal bowel functioning. In 2 out of 11 cases of gangrenous appendicitis with perforation, chronic peritonitis with adhesions developed, with persisting high fever, but with from two to four applications a day of the superheated air, the patients all left in good health in about a month. In 4 cases of soiling of the abdominal cavity with fecal matter during resection of the intestine or matter from an abscess, the patients recovered without the slightest reaction on the part of the peritoneum after rinsing with salt solution and application of superheated air. This experience has convinced Gelinsky that the superheated air certainly aids the peritoneum in its struggle against invading infection.

77. **Improved Technic for Skin Transplantation.**—Lanz cuts a long Thiersch skin flap and divides it into two long pieces. Each piece is then stamped with a stamp which cuts a row of transverse incisions down the center of the flap, with at the same time a parallel row of incisions on each side, extending from the edge about a third of the way across, between the central incisions. By taking hold of the ends of the flap it can be pulled out to two or three times its former length, like the paper accordeons cut by kindergarten children. One of the flaps thus pulled out is applied to the defect to be covered, while the other piece is applied in the same way to the space left bare by cutting the flap. In this way both wounds soon heal and they heal simultaneously; the small open spaces all through the flaps rapidly skin over.

Centralblatt für Gynäkologie, Leipsic.

January 4, XXXII, No. 1, pp. 1-32.

79 Etiology of Puerperal Retroflexion of the Uterus. R. Olshausen.
80 Technic of Abdominal Total Hysterectomy for Cancerous Uterus. L. Seeligmann.
81 Light as a Disinfectant. (Licht als Desinfiziens.) K. Franz.
82 *Surgical Treatment of Contracted Pelvis for Permanent Enlargement of the Pelvis. (Chirurgische Behandlung der Beckenstenosen durch ständige Erweiterung des Beckens.) G. Lerda.

82. **Permanent Enlargement of the Pelvis.**—Lerda proposes an osteoplastic operation which he has found simple and practical in experiments on the cadaver, and which he advocates as a systematic measure, without waiting for term, for all pelves too small to allow normal delivery. A rectangular incision through the body of the pubis allows the lower part to slip toward one side while the upper and median part of the bone remains undisturbed in its connection with the symphysis. He adds that if this simple operation is repeated on both sides the pelvis can be enlarged to an astonishing extent without impairment of its solidity. The article is illustrated.

Deutsche medizinische Wochenschrift, Berlin.

January 2, XXXIV, No. 1, pp. 1-48.

83 Functional Solidarity of Both Halves of the Heart. (Funktionelle Solidarität der beiden Herzhälften.) F. Kraus and G. Nicolai.
84 *Cure of Experimental Tsetse-Fly Disease—Nagana. F. Loeffler and K. Rühs.
85 *Operations for Cancer in Stomach or Intestines in the Light of Internal Medicine. (Krebs des Magendarmkanals.) I. Boas.
86 Indications for Administration of Yoghurt—Bulgarian Clotted Milk. (Wirkungsweise von Yoghurtkuren und ihre Indikationen.) C. Wegele.
87 *Recent Progress in Diagnosis of Heart Affections. (Diagnostik der Herzkrankheiten.) A. Hoffmann.
88 *Operative Treatment of Hyperacidity. (Zur Lehre von der Hyperazidität.) D. Balas.
89 *Treatment of Ulcus Molle and Buboes. C. Kreibich.
90 Antitoxin for Treatment of Circulatory Disturbances in Diphtheria Intoxication. (Kreislaufstörung bei Diphtherievergiftung.) A. Iwanowa.
91 *Dangers of Pasteur Treatment. (Kann die antirabische Pasteursche Impfmethode gesunde Tiere durch Lyssa töten?) C. Fermi.
92 *Leucocyte Count in Differentiation of Extravasation of Blood and Suppuration. Wieting.
93 The Apparent Death of Louis XI. (Scheintod Ludwig IX d. H.) W. Ebstein.
94 Development of a Sarcoma After Transplantation of a Carcinoma. L. Loeb.
95 Cosmetic Treatment of Nevi and Telangiectases. K. Ogata.

84. **Cure of Experimental Trypanosomiasis.**—Loeffler and Rühs announce that experimental nagana can be positively cured by the simultaneous administration of a single adequate dose of arsenic acid by the mouth plus atoxyl subcutaneously. The toxic action of the two does not have a cumulative action. Favorable results can also be attained by administering the arsenic acid by the mouth and rubbing the atoxyl into the skin in a salve. There seems to be a prospect that administration of the arsenic acid by the mouth and also in inunctions plus atoxyl subcutaneously is destined to prove the most effectual means of combating trypanosomiasis, and that arsenic acid by the mouth may prove an effectual means of prophylaxis. Experiences with arsenic eaters and with animals seem to demonstrate that the system can be thus safely impregnated with arsenic.

85. **Treatment of Cancer of Stomach or Intestines.**—Boas reviews his own experience and that of the Mikulicz clinic, which show that the best results of operative treatment were not obtained in the cases in which the shortest interval had elapsed between the first symptoms and the operation, but in the cases with the longer intervals. This surprising fact, he says, is due to the superior malignancy of the cancers which cause such convincing symptoms so early that the necessity for operative treatment is recognized at once. He does not believe that we shall ever be able to recognize cancer of the digestive tract in its incipiency. An exploratory laparotomy in dubious cases has too many objections for it to be generally applied. The task of the internist, aside from the perfecting of his diagnostic measures, is to select more wisely the cases to be referred to the surgeon. When the surgeons obtain more carefully selected cases, then the results of operative treatment, both immediate and remote, will become very much better. Better results on the part of the surgeon will in turn influence patients and their families to accept operative measures more readily. When physicians refer to the surgeons all their available cancer patients, regardless of the malignancy of the growth, the surgeon's statistics make a bad showing in comparison with what they might be if the internist weeded out the cases in which operative treatment has no chance of permanent success. Boas comments on the improvement in the results at the Mikulicz clinic in late years; 30 per cent. of the patients with cancer of the stomach survived for more than three years, and 10 of the patients are living still, five years after the operation. With carcinoma of the colon the proportion of survivors was 34 per cent., and Kocher reports a mortality of only 17.7 per cent. in 122 cases of carcinoma of the stomach, and no mortality in a series of 19 cases of uncomplicated resection of the stomach.

87. **Progress in Diagnosis of Heart Affections.**—Hoffmann reviews the various diagnostic measures that have been introduced or perfected during the last few years. Among them he mentions with approval Goldscheider's suggestion to have the patient lie on the side for palpation of the apex of the heart. The findings are especially instructive in case of a hypertrophied or dilated heart, as the apex changes its consistency. He ascribes marked movability of the heart to incipient arteriosclerosis. The "threshold" percussion method, with which the names of Goldscheider and Ewald are connected, shows strikingly the point where the dulness begins or stops. The finger is bent at a right angle and the stroke is made on the epiphysis of the distal phalanx. the aim being to make the stroke as light as can be heard, just at the threshold of audibility. Study of the heart sounds and murmurs by auscultation of the esophagus has shown that the symptom of gallop rhythm is not so ominous as heretofore supposed. Both transient and permanent gallop rhythm have been observed when the heart was otherwise perfectly competent. Orthodiagraphy of the heart has given instructive findings. Telephotography is a still simpler method of obtaining the correct outline of the heart. Rosenthal has succeeded in inducing rays of great penetrating power which cast the shadow of the heart on the plate from a distance of six or more feet. This technic excludes all subjective errors. The von Recklinghausen technic is commended as the most reliable for determination of the blood pressure. The diastolic blood pressure is demonstrated by the oscillations of the manometer, while the systolic is determined by the partial or complete vanishing of the pulse under the palpating finger. Israel has pointed out that both the systolic and diastolic blood pressures are almost constantly permanently increased in chronic interstitial nephritis. The Katzenstein technic of compression of the femoral arteries may prove valuable when more thoroughly studied. The "string galvanometer" is proving a useful method of studying the behavior of the cardiovascular system. The right arm and left foot are connected with the poles of the string galvanometer, that is, with the ends of a thick platinum wire or silvered quartz string, and the string is carried into the field of a powerful magnet and arranged so that the string is drawn out of the field of the magnet when it receives the electric impulse. Typical curves are thus obtained from the electrocardiograms produced by the vacillations of the string, synchronously with the pulse, as registered on a photographic registering apparatus. Cremer was able to obtain instructive findings in this way by way of the esophagus,

ıd he was able to register the fetal heart action. Variations om the normal curve seem to be typical of certain heart sturbances. The diagnostic measures mentioned above have en duly chronicled in The Journal as published.

88. **Hyperacidity.**—Balas reports three cases of persistent, ncomplicated hyperacidity of the stomach cured by gastro-nterostomy. There were no indications of stenosis of the ylorus or of ulcer. The findings in these cases confirm atzenstein's assertions in regard to the favorable influence f the operation in that the bile and pancreatic juice regurgi-ate into the stomach and neutralize the acidity, besides re-ucing the secretion of gastric juice by reflex action.

89. **Treatment of Ulcus Molle and Bubo.**—Kreibich states is preference for copper sulphate for cauterization of venereal lcers, the main point being to induce with a single applica-ion the sloughing off of all the morbid tissue, leaving a clean urface. This can be hastened by dressings moistened with to 1,000 copper sulphate. Every effort must be made to pre-ent the spreading of the sore to the lymphatics, enforcing ygienic measures, avoidance of straining, violent movements, tc. If the regional lymph glands become involved, bed rest s unconditionally indicated and antiphlogistic measures. The pplication of a cupping glass, according to Bier's technic, elieves the pain to a remarkable extent, after a small inci-ion has been made at the most painful point. The glass must e large enough to rest on sound tissue all around, and should e applied for an hour daily. Patients can go around without ain after one such application, even in case of a large bubo, nd this technic shortens the period of disability. In case the ubo has involved several glands, operative treatment is gen-rally required and the interval before intervention can gen-rally be hastened by moist heat, or, better still, by njection of a 1 per cent. solution of benzoate of mercury. eneral anesthesia is required for extensive lesions, but the neasures should be as conservative as is compatible with com-lete removal of all morbid substance. The tampon must not e too tight.

91. **Dangers of Experimental Pasteur Treatment of Rabies.**—Fermi relates experiments which showed that mice and rats re liable to develop rabies after Pasteur treatment, and that reventive treatment does not always ward off infection when he animals were inoculated later with the virus. He ascribes hese results to varying virulence of the material used in asteur treatment, and thinks that this treatment is liable to e fraught with danger for man. To avert these dangers he as given up the Pasteur technic, and now uses only a 5 per ent. emulsion of fresh fixed virus, sterilized with carbolic cid. He adds that the superiority of vaccine thus made has een demonstrated by long parallel series of experimental re-earches with this and the Pasteur technic, and by a year's ex-erience in the clinic.

92. **Leucocyte Count for Differentiation of Suppuration.**—Wieting reports five cases in which the leucocyte count en-bled an aseptic internal hemorrhage to be differentiated from a suppurative process or infected hematoma. In one case the symptoms indicated suppuration after a laparotomy for a stab wound, but the leucocytes numbered only 7,500, and the pa-tient recovered under expectant treatment, as in the second ase, after abdominal trauma. In the third case there were indications of a suppurating hemothorax after a bullet wound of the lung. The leucocytes numbered 7,800 on the fourth day, rose to 11,000 on the sixth, but then dropped with the temperature, the dulness gradually subsided, and the patient was discharged in good health by the third week. In another case of bullet wound of the lung the leucocytes numbered 25,000 and an abscess was found in the lung. In a case of traumatic hernia of the diaphragm the leucocytes rose to 11,250 the twelfth day after the operation and operation revealed infected blood clots in the thorax.

Medizinische Klinik, Berlin.

January 5, IV, No. 1, pp. 1-38.

96 Arteriosclerosis. C. von Noorden.
97 Precocious Menstruation. W. Stoeltzner.
98 *Pathology and Treatment of Bronchial Asthma. A. Strümpell.
99 Poisoning from Inhalation of Fumes of Anilin Oil. (Anilinölvergiftung.) P. Krause.
100 Intravenous Injection of Drugs in General Practice. (Einspritzung von Heilmitteln in die Blutbahn.) E. Franck.
101 *Treatment of Exophthalmic Goiter by Erb, by Bier, and by Kocher. (Umfrage über die Behandlung des Morbus Basedowii.)
102 Catalysis in Its Relation to Medicine. H. Schade.

98. **Bronchial Asthma and Its Treatment.**—Prof. A. Strümpell of Breslau explains bronchial asthma as the result of a peculiar phase of secretion and exudation in the mucosa of the bronchioles. It is evidently a vasomotor and secretory process, due to some morbid predisposition on the part of the secreting cells in the mucosa, which allows them to get suddenly into this morbid condition from some comparatively insignificant cause. The morbid vasomotor and exudative conditions are revealed by the peculiar characteristics of the sputum expelled after an attack, although in some cases the process may not progress far enough to be followed by much expectoration. The conditions in the bronchioles seem to be similar to those of urticaria, which has many features in common with bronchial asthma. He thinks it probable also that similar conditions are liable to prevail in the mucosa of the digestive tract, and suggests that the condition known as "colica mucosa" may be of this nature. He relates excellent results in treatment of bronchial asthma with measures to induce sweating. He has completely cured by this means eleven patients with bronchial asthma of many years' standing, but adds that another patient did not seem to be benefited. Ordinary measures to induce sweating are useful, but the best results were obtained with local or general incandescent electric light baths. He generally begins with five-minute local exposures, with 8 or 10 lights, applying the bath daily and increasing to a maximum of fifteen or twenty minutes, or he begins at once with the general bath with 40 lights. After the bath, the patient steps at once into a hot-water bath, to clean the skin of sweat, and then goes to bed for two hours to cool off gradually. The course usually requires from four to six weeks, but some patients considered themselves cured in two weeks. None of his patients has returned with recurrence during the several years since he has been applying this treatment.

101. **Treatment of Exophthalmic Goiter.**—Erb treats exophthalmic goiter along the same lines as neurasthenia. In one of the severest cases in his experience the patient was cured by several winters spent in the Engadine. He regards a sanatorium environment at an altitude of from 2,400 to 5,400 feet as by far the most effectual measure in the majority of cases. Among drugs he places most reliance on arsenic, long continued and repeated, with "tonic pills" (iron, quinin and nux vomica), to alternate with the arsenic. Bromids are indispensable, but he warns against iodids and digitalis, preferring strophanthus in case of heart neuroses. He does not accept a scientific basis as proved yet for thyroid or surgical treatment, and avoids them unless the condition becomes unbearable without operative intervention. Bier, on the other hand, operates in every case of exophthalmic goiter in which the affection is not so far advanced that improvement is improbable. The immediate and ultimate results have been excellent, even in cases in which the changes in the heart were so severe that the patient was extremely emaciated, with frequent syncopes. He agrees with Kocher that the physician makes a great mistake in not referring to the surgeon the mild and incipient cases of exophthalmic goiter, as these show such great benefit from operative measures. The postponement of intervention, Kocher states, not only makes the operation more dangerous, but it allows the system to become saturated with the toxins elaborated. He asserts that the danger of the operation has been exaggerated, as surgeons have allowed themselves to be persuaded into operating in advanced stages of the affection, and have not always borne in mind the fact that certain special simple precautions are required in these cases.

Münchener medizinische Wochenschrift.

January 7, LV, No. 1, pp. 1-56.

103 *Relations Between Typhoid and Paratyphoid Infection and the Biliary Passages. (Beziehungen des Typhus und Paratyphus zu den Gallewegen.) J. Forster.
104 *Cutaneous Tuberculin Test in Children. (Kutane Tuberkulinprobe im Kindesalter.) E. Feer.
105 Orthodiagraphic Study of Position of Heart in Pathologic Conditions. (Herzlagerung.) H. Deitlen.
106 Etiology of Orthostatic Albuminuria in Children. L. Jehle.

107 Specific Hemolysis by Isotonic Salt Solutions. von Dungern and Coca.
108 Case of Paratyphoid Cholecystitis. A. Lorey.
109 *Typhoid Bacilli Carriers in Insane Asylums. Grimme.
110 The Question of Typhoid at Munich. (Zur Typhusfrage.) Mandelbaum.
111 Experiences at Bumm's Clinic with Constriction Hyperemia, "Weighting," Superheated Air, and Vibratory Massage in Gynecology. (Neuere Behandlungsmethoden auf dem Gebiete der Gynäkologie.) E. Runge.
112 Treatment of Lysol Poisoning. H. Feldmann.

103. **Relations Between Typhoid and Paratyphoid Infection and the Biliary Passages.**—Forster reviews the recent literature on the subject of the constant passage of typhoid bacilli into the biliary passages and the possibility that they may settle there permanently. He thinks that these newly learned facts compel the physician to direct his efforts in treatment of typhoid and paratyphoid infection so that no persisting biliary affection will develop. The future will teach how this can best be done, but such measures must certainly be instituted early in the disease. In respect to typhoid bacilli carriers, he deems it probable that the disappearance of the bacilli from the stools accompanies the spontaneous healing of the gall-bladder lesion. Gallstones may be voided, and conditions thus realized which favor spontaneous cure of the biliary affection. In one case in his experience a gallstone attack—the first—was followed by the disappearance of the typhoid bacilli from the stools. No measure has proved effectual in treatment of bacilli carriers except operative measures or means to increase the flow of bile. For this purpose the best agent, he says, is bile itself or some preparation of bile. He has administered dried bile or salts of the acids of the bile, and has thus caused increased production of bile with the washing out of typhoid bacilli and long intervals of bacilli-free stools, but even this, kept up for months, was not always successful. Every effort should be made, he says, to introduce substances into the gall bladder that will inhibit the growth of typhoid bacilli. His patients were all insane or imbecile and better results might be obtained with more intelligent individuals.

104. **Cutaneous and Ocular Reaction to Tuberculin.**—Feer's experience with these tests in children impels him to warn that the ocular test should never be applied to scrofulous children, as it is liable to set up rebellious conjunctivitis, etc. The cutaneous reaction is much safer and fully as reliable, he thinks.

109. **Typhoid Bacilli Carriers.**—Grimme favors an operation on the gall bladder as the only certain means of banishing the typhoid bacilli from the stools of confirmed bacilli carriers. He reports a case in which the patient had to be kept isolated in the asylum on account of typhoid bacilli in the stools, and, in order to put an end to this isolation, with its depressing influence, the gall bladder was removed. It contained about thirty-five small gallstones. After an interval typhoid bacilli could no longer be detected in the stools. He advises this operation, or cholecystotomy alone, as a routine procedure for typhoid bacilli carriers in insane asylums, to put an end to the isolation otherwise imperative.

Policlinico, Rome.

January 5, XV, Practical Section, No. 1, pp. 1-36.

113 Modern Conceptions of the Corpus Callosum. V. Forli.
114 *Ocular Reaction to Tuberculin. B. Zaniboni.

114. **Ocular Reaction to Tuberculin.**—Zaniboni reports that the reaction was positive in 23 patients who presented clinical signs of pulmonary tuberculosis, while it was constantly negative in 17 cases in which there was clinically no suspicion of tuberculosis. [G. Serafini states in the *Gior. d. R. Accad. di Med.*, Turin, November, 1907, that the ocular test is not conclusive in cases of tuberculous processes of the bones or joints. He relates the particulars of 63 such cases in which it was applied. The reaction was positive in certain gonorrheal articular processes in which there was nothing to suggest tuberculosis, as also in several cases of senile and other non-tuberculous bone affections. He does not attempt to decide whether the positive findings represent a latent tuberculous focus or merely an accidental non-specific reaction. The reaction is less pronounced the older the tuberculous lesion and the severer the anemia. He adds that the instillation of the tuberculin is by no means so harmless as has been asserted. The inflammatory reaction lasted for a week or so and was liable to reappear later if the eyes were exposed to any source of irritation. One patient with a gonorrheal wrist affection developed an intense catarrhal process in the conjunctiva with blisters and keratitis. The conjunctivitis has recurred in this case, as also in a woman of 62 with arthritis without effusion; an intense catarrhal conjunctivitis followed the instillation, with an abscess formation. In a man of 28 with a mild tuberculous pulmonary process the instillation produced a reaction not only in the eyes but in the lungs and glands, with general phenomena. In a few cases, the negative response to the instillation differentiated a gumma or other dubious non-tuberculous affection. There was no reaction in 3 cases of certain but mild tuberculosis.—Ed.]

Books Received

APPLIED PHYSIOLOGY. By Frederick A. Rhodes, M.D., Professor of Physiology and Embryology, Medical and Dental Departments of the Western University of Pennsylvania. Pp. 206. Cloth. Price $1.50. Pittsburg: Medical Press, 1907.

ESSENTIALS OF MODERN ELECTROTHERAPEUTICS. By Frederick Finch Strong, M.D., Instructor in Electrotherapeutics at Tufts College Medical School, Boston. Cloth. Pp. 112. Price $1.00. New York: Rebman Co., 1908.

PRIMITIVE SECRET SOCIETIES. By Hutton Webster, Ph.D., Professor of Sociology and Anthropology in the University of Nebraska. Cloth. Pp. 227. Price $2.00. New York: MacMillan Co., 1908.

ANNUAL REPORT of the Asylum for the Chronic Insane of Milwaukee County, Wis. Paper. Pp. 57. Milwaukee: Krueger & Domann, 1907.

REPORT of the Seventh Annual Conference of Sanitary Officers of the State of New York. Paper. Pp. 216. Albany: J. B. Lyon Co., 1908.

PROCEEDINGS of the Royal Society of Medicine. Vol. I. Paper. Pp. 222. Price $2.00. New York: Longmans, Green & Co., 1908.

FORMULAIRE SYNTHETIQUE DE MÉDECINE. By Dr. L. Pron. Flexible Leather. Pp. 601. Paris: Jules Rousset, 1908.

FOURTEENTH Annual Report of the Craig Colony for Epileptics at Sonyea, New York. Paper. Pp. 103.

NEW PATENTS.

Recent patents of interest to physicians:

874393. Indicator for bottles. Joseph Collins, New York.
874495. Surgical instrument. Wm. Gaterman, Manitowoc, Wis.
874596. Producing oxygen. Armand Janet, Paris, France.
874598. Pasteurizer. Aage Jensen, Eureka, Cal.
874446. Surgical splint. Stanley C. Slater, Bolton, England.
874810. Cystoscope. Reinhold H. Wappler, New York.
874555. Invalid's bed. Olive K. Woollen, Franklin, Ind.
874933. Medicine case. Joseph Bristow, Jr., Oak Park, Ill.
875046. Gynecological sling. Madison C. Burrus, New Franklin, Mo.
874942. Nursing bottles. Theodore H. Cook, Minneapolis.
875415. Generating formaldehyde. Arthur Eichengrun, Dusseldorf, Germany.
875062. Producing camphor from camphene, isoborneol, or other camphor-producing substances. Charles Glaser, Baltimore.
875665. Emulsion of oil or the like. Oscar A. H. H. Kosters, Hemelingen, near Bremen, Germany.
875666. Holder for soda-water glasses. Wm. Livingstone, New York.
875278. Ophthalmometer. Emil B. Meyrowitz, New York.
875380. Composition for disinfecting, antiseptic, and other purposes. Ludwig H. Reuter, Hoboken, N. J.
875122. Truss. Benson S. Sills, Belleville, Ont., Canada.
875558. Purifying hydrochloric acid. Lewis B. Skinner, Denver.
875482. Artificial limb. Wm. G. Wyatt, Boreing. Ky.
876044. Operating table. J. H. Downey, Gainesville, Ga.
875795. Stethoscope. D. O. Fosgate, Chicago.
876173. Catamenial drawers. F. Guttman, New York.
876311. Manufacturing condensation products from formaldehyde, tannin, and aromatic monhydroxyl compounds. H. Hildebrandt, Halle-on-the-Saale, Germany.
876002. Water-bottle stopper. H. P. Kraft, New York, and M. C. Schweinert, West Hoboken, N. J.
875845. Sexual armor. E. L. Perkins, Beaver Bay, Minn.
876237. Chest protector. G. H. Ridlon, Revere, Mass.
876017. Artificial limb. G. X. Roberts, Brattleboro, Vt.
876238. Bed for the sick. R. Rode, Kragero, Norway.
876022. Shield for enlarged joints. J. H. Schiffhauer, Pittsburg, Pa.
875742. Clinical-thermometer attachment. R. F. Schneider, New York.
876101. Water-bottle stopper. M. C. Schweinert, West Hoboken, N. J., and H. P. Kraft, New York.
876103. Massage apparatus. H. W. Smith, Boston.
875764. Composition for production of aromatic baths. A. Zucker, Dresden, Germany.
876676. Eye shade. J. W. Alderson, San Francisco.
876796. Nozzle. E. Gerlach, New York.
876491. Antisnoring device. C. F. Rohwer, Hot Springs, Ark.
876851. Preparing pure lithium compounds. W. E. Wadman, Bayonne, N. J.
876671. Bed-pan. G. M. White, Pittsburg, Pa.

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Address

THE PROBLEMS OF SANITATION.*

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CHICAGO.

Twenty-five years ago Mr. Frederic Harrison, writing of the nineteenth century, gave us this picture of London, the largest city of the modern world, and, indeed, of all time.

> To bury Middlesex and Surrey under miles of flimsy houses, crowd into them millions and millions of over-worked, underfed, half-taught, and often squalid men and women, to turn the silver Thames into the biggest sewer recorded in history; to leave us all to drink the sewerage water, to breathe the carbonized air, to be closed up in a labyrinth of dull, sooty, unwholesome streets; to leave hundreds and thousands confined there, with gin, and bad air, and hard work, and low wages, breeding contagious diseases, and sinking into despair of soul and feebler conditions of body; and then to sing pæans and shout, because the ground shakes and the air is shrill with the roar of infinite engines and machines, because the blank streets are lit up with garish gas-lamps, and more garish electric lamps, and the postoffice carries billions of letters, and the railways every day carry 100,000 persons in and out of the huge factory we call the greatest metropolis of the civilized world—this is surely not the last word in civilization.

We need not pause now to inquire whether this characterization of the London of the nineteenth century was correct, or, admitting that it was, whether it is now true of London or any other city, whether the human race at the beginning of the twentieth century is still dazzled and bewildered by its sudden material acquisitions, whether we are even now rushing violently down a steep place into the sea, I would simply ask you to remark the large part that faults and defects of sanitation play in Mr. Harrison's eloquent indictment. Some of the hardest things said about the nineteenth century by its critics refer to the neglect of public hygiene. Again and again the luxury of a few and the comfort of more are contrasted with the unhygienic conditions under which many others are forced to live and work. Unhygienic conditions in themselves are nothing new. In medieval London, and indeed throughout Europe, the dwelling places and mode of living of the majority of the citizens were far more unwholesome, far more conducive to the spread of infectious disease than in the London of 1882 or 1907. Mr. Harrison himself in another connection thus pictures the life of the Middle Ages:

> The old Greek and Roman religion of external cleanness was turned into a sin. The outward and visible sign of sanctity now was to be unclean. No one was clean, but the devout Christian was unutterably foul. The tone of the Middle Ages in the matter of dirt was a form of mental disease. Cooped up in castles and walled cities, with narrow courts and sunless alleys, they would pass day and night in the same clothes, within the same airless, gloomy, windowless, and pestiferous chambers; they would go to bed without night clothes and sleep under uncleansed sheepskins and frieze rugs; they would wear the same leather, fur and woolen garments for a lifetime, and even for successive generations; they ate their meals without forks, and covered up the orts with rushes; they flung their refuse out of the window into the street or piled it up in the backyard; the streets were narrow, unpaved, crooked lanes through which, under the very palace turrets, men and beasts tramped knee-deep in noisome mire. This was at intervals varied with fetid rivulets and open cesspools; every church was crammed with rotting corpses and surrounded with graveyards, sodden with cadaveric liquids, and strewn with disinterred bones. Round these charnel houses and pestiferous churches were piled old decaying wooden houses, their sole air being these deadly exhalations, and their sole water supply being these polluted streams or wells dug in this reeking soil. Even in the palaces and castles of the rich the same bestial habits prevailed. Prisoners rotted in noisome dungeons under the banqueting hall; corpses were buried under the floor of the private chapel; scores of soldiers and attendants slept in gangs for months together in the same hall or guardroom, where they ate and drank, played and fought.

At all events the city slum is not a modern institution. The main difference between the medieval and the modern attitude towards unhygienic conditions lies in our having now become awake to the sources of disease and death and to the knowledge that much disease is preventable. The public conscience to-day winces and rebels at the sight of evils once regarded with indifference or helplessness. So long as mankind supposed that in the language of Cruden's "Concordance," "diseases and death are the consequences and effects of sin," so long did a bewildered resignation accompany the mysterious visitations of Providence. For many this was radically and permanently changed when the germ-theory gave to the human race for the first time in its history a rational theory of disease susceptible of experimental verification. When that fact was established that much disease could be prevented, an enduring foundation was laid for works of sanitation.

The campaign against disease can be carried on in various ways. Individual cases of disease can be nursed with all the care that experience has shown to conduce to recovery, suitable drugs may be administered, surgical interference resorted to, individual peculiarities studied and taken advantage of; in fact, all the resources of modern medicine focused on the state of disturbance or abnormality in the individual patient. Such treatment has saved in the past, and will save in the future, many lives dear to friends and family and of incalculable value to country and race.

As a mass-method of attacking disease, however, it is distinctly palliative and not remedial. There is no man in his right mind who would not rather avoid disease altogether than be healed of a malady even by the most skilful physician. For many and evident reasons prevention must in the long run take precedence over cure.

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*Lecture delivered before the Harvey Society, New York, Oct. 26, 1907.

Preventive measures fall conveniently into two classes—those dealing with the physical well-being and resistance of the individual, such as diet, muscular exercise, sleep, fatigue, the use of stimulants and narcotics, and the general efficiency of the bodily functions, and, secondly, those having special reference to environmental conditions or affecting many persons or communities. The methods that the individual may adopt to ward off disease and enhance resistance lie within the scope of personal hygiene, those that involve larger or smaller groups of individuals, constitute the province of public hygiene or sanitation.

THE ROLE OF PERSONAL HYGIENE.

The methods for the furtherance of personal hygiene must be largely educative in character, and it must be recognized that the progress possible in this direction is distinctly limited by inherited constitutional factors. The prevention of disease and premature death is in many cases impossible even if the strictest and most efficacious regimen be maintained and if the hostile action of outside agencies be successfully avoided. In other words, some organisms carry within themselves the seeds of decay which germinate early and come to fruition in spite of all individual endeavors. A congenitally feeble or defective mechanism may be strengthened, but can not be remade. In most instances, however, measures of personal hygiene avail powerfully in promoting normal life and happiness and in some degree in preventing premature death. I need only mention the high resistance to many infectious diseases possessed by the well-nourished, properly exercised, undrugged individual. Improvement in personal hygiene must depend to a great extent on education, must necessarily be slow, and its success in preventing disease be conditioned in large part by the inherited constitution.

PUBLIC HYGIENE.

Any distinction between personal hygiene and public hygiene can not in the nature of things be an absolute one. The stream can not rise higher than its source, the welfare of the group is determined by that of the individuals composing it. More and more, too, the concerns of personal hygiene are tending to become problems of public hygiene. Bodily cleanliness is essentially a personal matter; it would be an absurdity in the present state of public opinion to legislate for compulsory bathing, and yet the establishment of free public baths is everywhere recognized as an important measure of public sanitation. The same thing applies to exercise and the establishment of municipal playgrounds and gymnasia. The principle is perfectly sound. Primarily the function of public hygiene is both to avert from the community as a whole the consequences of misdoing, neglect or ignorance on the part of any one, or any number, of its members, and to provide for groups of individuals, conditions as favorable for health and happiness as the most intelligent and far-seeing could demand for themselves. Such conditions may not always be those that the least intelligent or most greedy members of the community desire, but from the point of view of public hygiene they are none the less inevitable.

Up to the present, measures of sanitation have affected chiefly the infectious diseases. This is shown, for example, by the list of the ten leading causes of death in Massachusetts in 1856 and in 1904 (Table 1).

TABLE 1.—The Ten Leading Reported Causes of Death in Massachusetts in Order of Frequency.

1856.	1904.
Consumption.	Heart Disease.
Scarlet Fever.	Consumption.
Brain Disease.	Pneumonia.
Old Age.	Diseases of Brain and Cord.
Pneumonia.	Diseases of Kidneys.
Typhoid Fever.	Cancer.
Dysentery.	Cholera Infantum.
Heart Disease.	Accidents.
Cholera Infantum.	Bronchitis.
Diphtheria and Croup.	Diarrhea and Cholera Morbus.

In 1904 typhoid fever had dropped to thirteenth, dysentery to seventeenth and scarlet fever to twenty-first place.

It is here seen that the diseases that have been displaced are largely the infectious diseases. It is not possible in all cases to determine the factors that have been operative in the decline, and in some cases causes beyond our control have perhaps been at work, but undoubtedly measures of quarantine, isolation, school hygiene and other protective devices adopted by the community have played a part in the shrinking of once prevalent infections. In some instances the effect of methods of sanitation is not to be mistaken. One of the most remarkable, as indeed one of the best understood examples of the efficacy of sanitary features, is afforded in the influence of improved public water supply on typhoid fever.

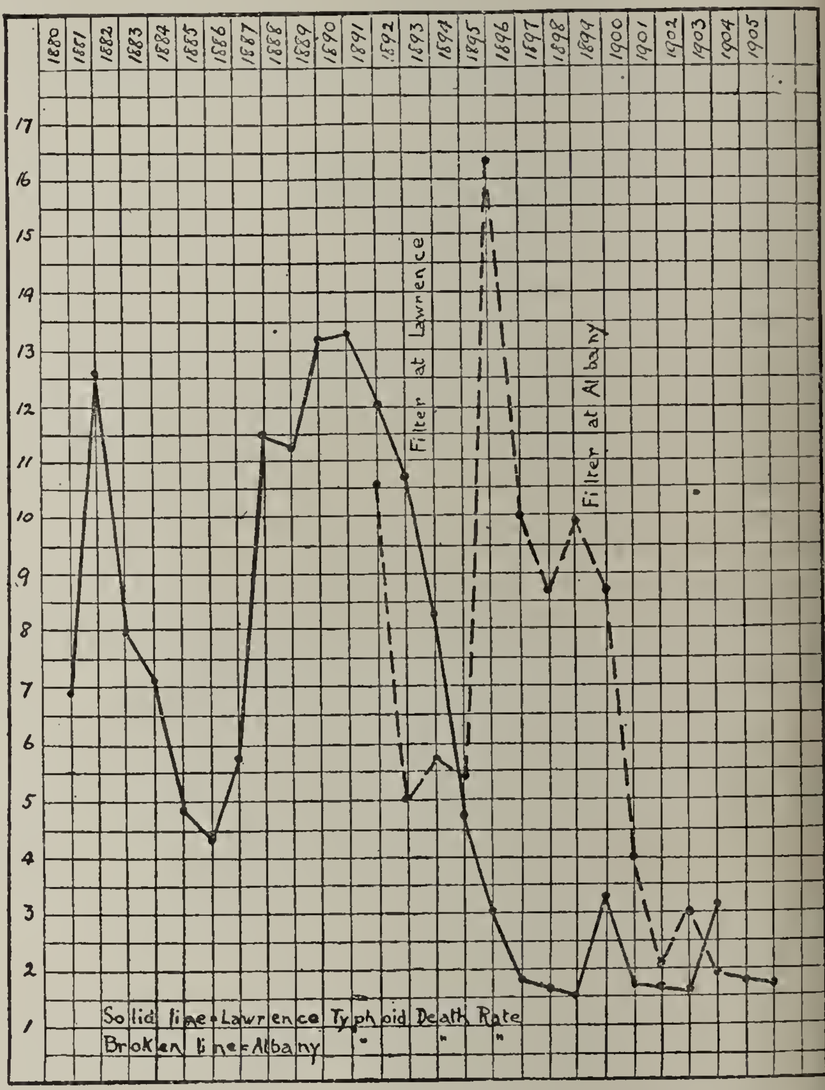

Chart 1.—Typhoid death rates in Albany, N. Y., and Lawrence, Mass., before and after installation of filters.

The improvement that has followed the substitution of a pure water supply for a polluted one in cities like Lawrence and Albany is unmistakable.

It is not my purpose, however, to rehearse the triumphs of sanitation. There is much to be accomplished before we can legitimately give ourselves the gratification of dwelling on past achievements. It seems to me desirable to keep before our minds the present outlook for applying scientific knowledge to the prevention of disease rather than the historical development of, or even the recent advances in, sanitation. In many directions it is evident that we need further information before we can plan an intelligent campaign. As regards typhoid fever, for example, it is true that even after a pure public water supply has been secured the typhoid death rate remains excessively high in most American cities as compared with European cities somewhat similarly conditioned.

The relative proportions of this residual typhoid derived from direct contact, from milk, oysters and other articles of food, from the agency of flies, from shallow wells[1] and other sources are not known. Owing to the great prevalence of typhoid fever in this country, cases contracted outside pure-water districts are probably imported into them more frequently here than abroad. Typhoid bacillus carriers, like the cook discovered by Soper,[2] who was responsible for 32 cases of typhoid fever in seven families, are also, for the same reason, probably more numerous here than in Germany, but we have no precise information on these points.

INFANT MORTALITY.

Again, how much do we really know about the best methods of preventing summer mortality among infants in large cities? We have accumulated a considerable body of data about infant feeding, the advantages of fresh air and pure milk, but do we yet know to what extent our initial preventive measures have affected infant mortality or is there general agreement as to what the next step should be? Is there any likelihood that either "certified milk" or "pasteurized milk" will prove the final solution? Do we know in what proportion of cases domestic infection is the cause of infant diarrhea, and whether such domestic infection in the tenement-house districts can be prevented in any other way than by the slow and wasteful process of individual education? Is there adequate provision for a statistical basis for determining the effect of such preventive measures as may be instituted? It is well known to statisticians that, unless the number of births is ascertained, deductions as to infant mortality can not be well founded. In this country the record of births is in most places so defective that I may be pardoned perhaps for illustrating the errors into which we may fall in estimating infant mortality without knowledge of this factor.

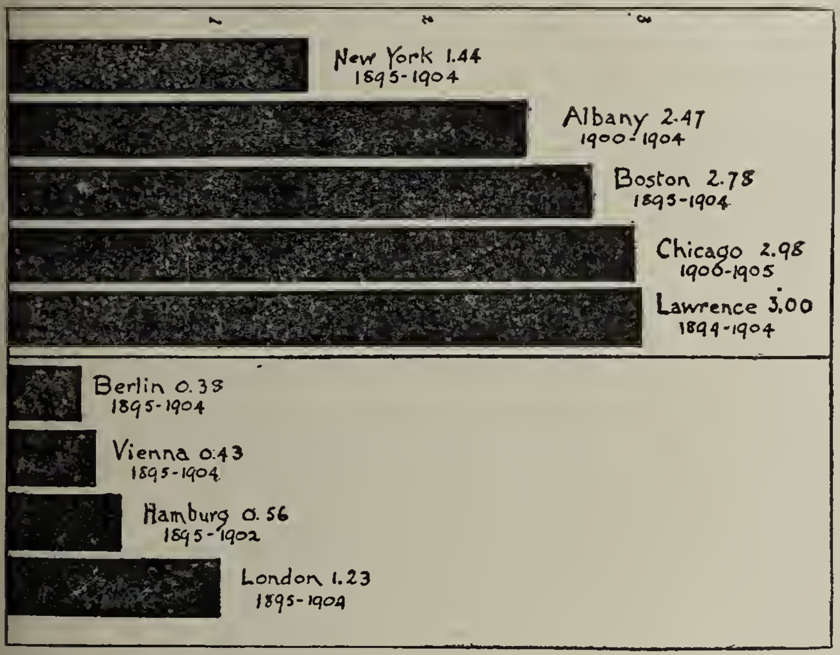

Chart 2.—Typhoid death rates in American and European cities, Albany, Lawrence and Hamburg, after installation of filters; Chicago, after opening of the sanitary drainage canal. The remarkable case of the City of Washington, D. C., is purposely left out. There the installation of a modern sand filtration plant (November, 1905), was followed in the next year (1906) by a higher typhoid death rate (4.93) than had been recorded for either of the three preceding years (1903, 4.50; 1904, 4.38; 1905, 4.39).

TABLE 2.—INFANT MORTALITY.

Pop'n of about 150,000.	Deaths under 1 year.	Infant deaths per 10,000 population.	Total deaths.	Per cent. inf. d'ths of total deaths.	Births.	Inf. deaths per 100 b'ths; true inf. death rate.
Town A....	650	43.3	2181	29.8	4555	14.2
Town B....	498	33.2	3780	13.2	2879	17.2

In some cases, therefore, we are compelled to ask ourselves whether an apparent decline in infant mortality is due simply to a decline in birth rate or to a genuine amelioration in sanitary conditions. Since seasonal fluctuations and variations render short-time statistics of little value, it is evident that the answer to the question can hardly be an immediate one.

In England, it is stated, the infant mortality has not materially decreased during the last 25 years, although the general death rate has fallen considerably.[3] Newman, in his recent book on Infant Mortality, regards it as demonstrated that the infant mortality rate is not declining, and bases far-reaching conclusions on this assumption. Germany, however, shows a steadily lowering mortality rate since 1885, the quinquennial averages for the large towns showing successive diminution.[4] In the United States the available data are very meager owing to the incomplete record of births. According to the records, however, the infant mortality in Boston and New York has steadily fallen by quinquennial periods since 1886.

TABLE 3.—DEATHS OF CHILDREN UNDER 1 YEAR PER 1,000 LIVING BIRTHS. AVERAGE OF 5 YEAR PERIODS.

England and Wales. 1885-1904.	Large towns in Germany. (Over 15,000 pop.) 1885-1904.	Boston. 1886-1905.	New York. 1886-1905.
142	244	181	288
148	231	170	218
158	220	151	185
142	208	141	158

PUBLIC HYGIENE A SOCIAL QUESTION.

At the present time the scope of public hygiene is widening. It is becoming more plainly seen that the public health is intimately and unavoidably connected with a thousand phases of the social order. To strike at the roots of disease it is often necessary to get under the surface of modern life and acquaint ourselves with deep-seated human instincts. The mere formulation of the problem is, however, something, and will serve to arouse the interest of different groups of individuals whose cooperation is essential to success. That in this country we are entering on this initial phase, which must be largely educational and exploratory, is shown by the number of strong national societies that have been formed to study and advise concerning special problems, such as tuberculosis, school hygiene, the alcohol problem, the venereal diseases, and the stunting and disastrous effects of excessive child labor.

It is surely no small matter that we have come to the point where considerable groups of influential men and women are willing to undertake the task of making plain to the general public the momentous character of these questions. A concerted and persistent campaign of education backed by scientific investigation is likely to have greater weight in molding public opinion than the isolated appeals of reformers and philanthropists, however timely and well directed. The great measure of success already achieved by the crusade against tuberculosis at least serves to encourage this belief.

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[1] In 1899 from 3,500 to 4,000 such wells were in use in the city of St. Louis.

[2] THE JOURNAL A. M. A., June 16, 1907, 2019.

[3] Report of the Committee on Physical Deterioration.

[4] Rahts, med. stat. Mitt. a. d. k. Ges., 1906, x, p. 79.

It is evident, I think, that with the increasing complexity of the social structure, the field of public hygiene will continue for some time to broaden. Many matters affecting the physical well-being of society which are now overlooked, ignored or regarded as a necessary part of keeping the pace, will come to be seen in their true light. I do not refer now to the improvement of the human race by selection and controlled mating, although the physical possibility of strengthening the human mechanism must be recognized and may one day be a subject for state interference, but to measures more susceptible of immediate application. We are still treating, for example, in an amateurish, desultory fashion such important questions as the influence of city dust and smoke on the respiratory tract, the effect on the nervous system of the pounding it receives from city noises and the consequences of racial mingling and amalgamation. The waste of life and the maiming of bodies by violence, which has reached so gruesome a pass, especially in this country, is distinctly a preventable evil calling for preventive measures.

TABLE 4.—AVERAGE ANNUAL DEATH RATE PER 100,000 POPULATION.

City.	Period.	Homicide.	Suicide.	Accident.	Total.
London	1903-4	1.1	11.2	54.2	66.5
Berlin	1900-5	0.96	29.1	59.4	89.5
New York....	1900-5	4.2	22.3	108.	134.5
Chicago	1900-5	6.7	22.9	76.2	105.8
Boston	1900-4	3.5	13.7	84.9	102.1

INDUSTRIAL HYGIENE.

The time is now ripe for a fuller consideration of the interest that the whole community has in dangerous trades and hazardous occupations. The extent to which industrial injuries can be prevented by slight changes in materials and machinery is hardly realized by the general public. Strong arguments can be brought to bear in favor of industrial insurance against death and disability from accident, in favor of charging up to an industry the depreciation in men as is the custom with the depreciation in buildings and in machinery. The extra cost of a hazardous industry ought, as a business procedure, to be laid on that industry, and manufacturers will unquestionably find the public willing to assent to this view.

There are still stronger arguments, economic as well as humanitarian, for preventing or minimizing injury and disease in dangerous trades and occupations. It needs no dissertation to prove that it is less expensive as well as more humane for the community to take measures to safeguard machinery rather than to allow accidents to happen and pay the cost, whether legitimately in the form of industrial insurance or, as now, in the support of hospitals and poorhouses and in diminished industrial efficiency. The factory inspector of the state of Illinois in a plea for better protection before the state legislature last winter brought out the facts that:

> It costs 35 cents to take out the raised set screw, bore a hole into the line shaft and set in the sunken set screw. And yet we had in Illinois almost 100 deaths last year in factories from the raised set screw. We know that it costs $15 to guard a woodshaper. The average life of the machine is ten years, and woodworkers will tell you their average loss is a hand for each machine every year.

In the same connection it was shown that Illinois, the third greatest industrial state in the Union, has no law protecting workers in factories, in workshops or in the building trades. At this session a bill was passed for the protection of structural iron workers on bridges and buildings,[5] but similar bills for the protection of other occupations were defeated. There is in Illinois no law providing for ventilation in shops or safeguarding machinery, hatchways and elevator shafts. Here is a pretty definite opening for preventive and protective measures which are reasonably certain to save life, prevent disabling injuries and diseases and promote the efficiency and well-being of the body politic.

THE "POISON WORKERS."

The same thing is true of the trades and manufacturers involving more or less direct contact with poisonous substances, like mercury, lead, arsenic and phosphorus. Such dangerous industries are controlled in most European countries by elaborate regulations designed to protect the workmen against the peculiar dangers to which they are exposed. Twenty-four such industries for which special rules are in force are enumerated in England and fifteen in Germany. In the United States legal protection is almost lacking, although a great improvement in conditions has been accomplished through the voluntary action of some philanthropic and far-seeing manufacturers. In certain industries, notably those involving work with lead and phosphorus, the preventive and protective influence of simple hygienic measures is so marked that the duty of society to itself would seem to require that such measures be made obligatory. Investigation of the whole question of occupational diseases under American conditions is much needed.

EDUCATION IN PUBLIC HYGIENE.

If we grant that the collective health and physical soundness of a nation or people are at least as worthy of public concern as the conservation of other national resources, then the road is clear before us. In the present apathetic state of public opinion, as attested not only by the imperfect legal crystallization of our knowledge, but by the inadequate material and moral support given by most American communities to public health officials, one of the first steps must be educational. The clamor of modern life does not make it an easy task to shape intelligent public opinion. Many voices are crying aloud in the market place insistently and with great fervor. And yet there are indications that the preliminary work of education in public hygiene is taking effect.

The influence attained and the work already accomplished by the national societies before referred to, and especially the wide interest evoked by the Committee of One Hundred of the American Association for the Advancement of Science, to consider methods of establishing a national department or bureau of health, are signs not to be mistaken. The rapid growth of the Public Health Defense League, organized to combat all forms of quackery, charlatanism and fraud, is another instance of increasing public interest. Especially timely is the action of the American Medical Association in recommending the establishment of a Board of Public Instruction empowered to disseminate through the medium of the public press and in other channels authoritative information regarding the causes and prevention of disease. In the significant language of the report of the committee on the establishment of such a board,[6] the reading public would then come to understand "that the chief aim of the medical profession is to prevent rather than cure disease." The awakening of interest must be accompanied by and is, indeed, in large part conditioned by the investigation of public health problems. As already pointed out, our knowledge of the causation and prevention of disease is in many directions far too imperfect to enable us to formulate a rational program. We can not go to the public, except with a well-considered plan of action based on irrefragable scientific data. The outlook for advance in sanitation depends, then, on several factors: More intensive investigation of the causes of disease, especially viewing disease as a folk phenomenon, affecting large bodies of people; the effective marshalling of existing knowledge and the exposition of its bearing on the collective physical welfare; the crystallization in legal form of well-established principles and information in order to prevent as far as possible injury to some through the avarice, ignorance or neglect of others; and, finally, the realization by the general public of the fact that the public health service is second to none in its economic value to the community. What would be thought of the individual experimenter who conducted experiments unsystematically and without reference to their significance, who employed untrained and poorly paid assistants, who neglected to keep a record of his experiments and observations, who paid little or no attention to the similar experiments of others and omitted to interpret his results? This is the sort of experimenting modern society carries on in matters of life and death.

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[5] Last year in the City of Chicago, out of a total membership of 1,358 in the Bridge and Structural Iron Workers' Union, 156 either lost their lives or were totally or partially disabled.

THE PLACE OF THE MEDICAL PROFESSION.

Where is the place of the medical profession? What part ought it to take in forwarding the aims of sanitation? Selfishly, the interest of individual physicians is hardly promoted by a diminution in the amount of disease.[7] To the eternal honor of the body of medical practitioners be it said that this view has never been entertained; that, on the contrary, physicians have been foremost in the work of preventing disease, of drying it up at the fountain head.

Some of you may remember in the antivivisection literature the grotesque libel on Pasteur, one of the gentlest and most humane men that ever lived, to the effect that he used to capture stray dogs, carry them to his laboratory, inoculate them with rabic virus and turn them loose again in the streets of Paris in order to swell his revenues by providing a supply of patients. What sound-minded, educated person does not recognize in the stupidly extravagant falsity of such a statement an utter perversion of the attitude of the whole medical profession toward the causation and prevention of disease? So far from diabolically trying to increase opportunities for medical practice, the constant effort of physicians as a whole has long been directed toward detecting threatened or incipient disease and checking or cutting it off at its source, thus undermining their own livelihood.

But is this all? While the first concern of practical medicine must long continue to be for the individual, are not the conditions of modern life forcing new responsibilities on the medical profession? There are signs that the community is ready to welcome a fuller participation in the work of sanitation. I remember some years ago expressing my interest in the problems of water purification to a distinguished medical friend. I was met by the remark, "O, why not leave all that to the engineers?" One difficulty in the existing situation is that too much has been left to the engineers, that the working out of many problems of sanitation has fallen into the hands of men without a comprehensive understanding of the problems of disease and disease prevention. I would not be thought to underestimate in any way the splendid achievements of engineers and especially American engineers in the field of sanitation when I express my belief that the promotion of the public health is primarily a medical, not an engineering, undertaking.

TEACHING HYGIENE IN MEDICAL COLLEGES.

And this brings up the question whether a somewhat radical adjustment in the work of the medical schools will not soon be warranted, if not indeed demanded. The fact that disease may be combated not only by the cure of affected individuals, but by individual prophylaxis and by general sanitary measures, calls for a more formal and effective recognition than it has yet received. The three medical specialties of the future are curative medicine, the supervision of personal hygiene and the direction of public hygiene; and progressive medical schools must soon begin to make provision for symmetrical development along these lines. Differentiation within the medical profession is, to be sure, already taking place, but is still in an early embryonic stage. Men trained in the methods of curative medicine drift into public health work without adequate equipment for the special tasks before them, and, while the results accomplished, thanks to the adaptability of the American character, are often surprisingly satisfactory, it can hardly be doubted that a still higher level of attainment would be reached if facilities for acquiring a suitable training were more easily come at and if more men prepared themselves with malice aforethought for the public health service.

One great obstacle to the adoption of public hygiene as a career is undoubtedly the low value heretofore set by society on proficiency and knowledge in matters pertaining to the public health. There is at present little to tempt an ambitious young man to fit himself as an expert in any phase of community medicine, since the hope of the social and financial recognition that reward the eminently successful practitioner and the assurance of a modest competence for a moderate success are alike lacking. This discouraging outlook for a livelihood and a career is the rock that has wrecked the few sporadic courses that have been launched by American universities and professional schools with the purpose of providing trained men for the public health service.

> No birds were flying in the air,
> There were no birds to fly.

The remedy for this unfortunate condition is plainly to make the public health service a career worthy of the best efforts and the highest aspirations. The problems of sanitation are essentially as attractive as those of curative medicine, and effective public recognition seems the one thing withheld. In the long run the standing of men that specialize in public hygiene must be determined by the community at large, but the medical profession can do much by its own position to bring about a proper evaluation of the work done in this field. As one important step better opportunities should be provided in medical schools for the training of men in public hygiene. In connection with the engineering schools of large universities or in cooperation with technical schools, courses of study leading to a special degree ought now to be planned by all progressive medical schools. Investigation of the broader aspects of disease and disease-prevention should be encouraged, not merely as affecting individuals, but as affecting the masses of mankind. Specialists in public hygiene should be supported by a united and organized medical profession and the value of such special service as they can render made unmistakably and authoritatively evident. Public opinion is now sensitive on matters affecting the public health and will lend a ready ear to professional advice. Now is the time to turn our faces to the investigation of disease on the large scale, to make clear that the prevention of disease is more worthy of consideration than the cure and, foreseeing the inevitable decline of curative medicine, to foster and develop the newer art of sanitation as an integral part of the work of the medical profession.

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[6] The Journal A. M. A., June 15, 1907, 2047.

[7] A recent president of the British Medical Association, Dr. Henry Davy, has stated that fifty years ago his immediate predecessor in practice frequently received as much as $1,500 a year for attending typhoid fever cases, but that during the past few years his own income from typhoid patients has hardly averaged $25.—Brit. Med. Jour., Aug. 3, 1907.

Original Articles

PREGNANCY AS AN ETIOLOGIC FACTOR IN DENTAL DISEASE.*

JAMES E. POWER, D.M.D.
PROVIDENCE, R. I.

In dealing with this most important phase of the pathology of pregnancy, I wish to state that I understand but little of the causes producing the destructive processes which involve the organs of mastication during this period. On the other hand, I believe that possibly it may be of interest to record my experiences and observation of certain conditions existing during the period of gestation, with the hope that they may serve as stimuli to other minds.

It is a well recognized fact that the child-bearing process is a natural and physiologic episode in the life of the female. It is equally well recognized that in the life of the pregnant woman every day brings forth numerous conditions which have the power of converting physiologic into pathologic conditions, embracing every form of disease from interference with the function of a special organ to the cessation of all function. In the former instance, we have disease; in the latter, death either of the embryo or of the mother.

Nature does much to fortify herself against all of these dangers; the heart, for example, is said[1] to become hypertrophied to such a degree that its weight is increased about one-fifth, the ventricle or propelling portion being the part affected. This expansion of the heart is very probably for the purpose of meeting the extra work required of it during the advancing months of pregnancy. Provisions are made, likewise, for the spleen, the liver, the kidneys, and in fact for all the organs, in order that they may perform the duties required of them while further changes occur in the respiratory, circulatory, nervous, and digestive systems. In view of the fact that these changes take place within a very short period of time, we can understand how easily the resistant capacity of the system may be decreased. During the metamorphoses just described, the pregnant woman must digest more food in order to supply the growing organs, the embryo and herself, with nourishment; hence a greater supply of blood and an increased activity of the excretory and secretory organs result from these physiologic changes.

All of these changes have their relative effect on the conditions of the oral cavity and its appendages. To note these, therefore, is one of the obligations which both the dentist and the physician are bound to respect. These changes influence the nervous system, and, therefore, render the individual peevish, fretful, and careless. A form of neurasthenia perhaps causes the individual to become depressed. I have repeatedly observed that even women of refinement grow careless, neglectful of their personal appearance, and in some cases, almost entirely disregardful of the laws of hygiene during this period when so many changes are taking place, tending naturally to lessen their resistent capacity, and to increase the tendency to disease.

Perhaps no part of the body is neglected more than the oral cavity, and in many instances, no part of the body manifests more strikingly the result of this neglect.

Since the physician is responsible directly, and the dentist, indirectly, for the salvation of the teeth during the time the pregnant woman is in their charge, their first duty is to impress on the mind of the patient how dependent is the entire system on the cleanliness of the oral cavity. It is reasonable to suppose that all persons of average minds, now realize that the conditions necessary for the growth of micro-organisms are heat, moisture and the presence of oxygen. A moment's reflection causes us to realize that the blood, the saliva, and the air we breathe, furnish these requisites, and therefore, predispose to a rapid development of micro-organic life, having the power not only of causing disease in other organs, but also of producing death. Scientific investigators have proved this beyond any reasonable doubt, and so it devolves on us as professional men not only to advise and instruct the pregnant woman, but more particularly to insist on a proper recognition of this most important law of nature, namely, that she should have a specially careful regard for the hygiene of her mouth. In seems to me that there is no domain in medicine wherein the physician and dentist can cooperate to such mutual advantage as in the treatment of the oral conditions arising during pregnancy.

The physician is usually acquainted with the fact that a most important physiologic phenomenon has taken place in the life of the woman at a time when a little advice to the patient is often invaluable. Generally, or at least in many cases, the physician is consulted before the patient has formed any of the habits which are characteristic of the later stages of pregnancy. He should prepare her, therefore, for the unpleasant conditions which are to follow, should teach her the dangers associated with unclean mouths. He should also inform her that the natural degenerative process resulting from her condition, together with her lessened resistent capacity, may cause complete destruction of the teeth, which will have not only a dangerous effect on herself but on the condition and health of her offspring.

In this instance, if in no other, the special knowledge and skill of the dentist should be solicited, and the patient placed in his charge. The dentist should make a thorough examination, and should restore all the diseased teeth to a normal condition, so far as this is possible. The condition of the patient will regulate to a large degree the kind of material to be used in restoring the teeth. It is my custom to consider very carefully the physical state of the patient, whether she is irritable or not, how many months she has been pregnant, etc. I give appointments to such patients about noon, as I find their condition is best at that time. The reservation of time is always short, never longer than one hour, and many times less, and I rely on my personal judgment, rather than that of the patient, as to her capacity for enduring the strain which is, to some degree at least, associated with dental operations, especially at this time.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

[1] American Text-Book of Obstetrics, p. 154.

I extract all broken down roots, after first subjecting parts to a local anesthetic. It is my custom to extract all broken down roots, even if the patient tells me that such roots have been in their respective positions for years without having caused any trouble. While the statements of the patient may be true, it is certain as a matter of pathology that all the conditions necessary for the formation of an abscess are present, and that the physical changes which are taking place may be sufficient to start the inflammatory process. The next important step is to clean the mouth thoroughly, and then arrange for the patient to make a monthly visit to the office, or for the dentist to make one to her home. This accomplishes two important objects: First, it causes the patient to take good care of the mouth, because she knows it is going to be inspected, and second, one can observe any unlooked for conditions, and correct them immediately, as well as assist the patient in keeping the mouth clean.

Vomiting, or morning sickness, which may be caused by a displacement of the viscera during the development of the embryo, or by a condition of the genital or digestive tract, or by a direct effect on the nervous system, superinduced by a displacement of the uterus, causing irritation of certain nerves, is one of the etiologic factors in dental disease. In my opinion, the destructive, degenerative processes which take place in the teeth during pregnancy can be traced directly to the periodic vomiting which is associated with this condition of life. In my own observation, the degree of morning sickness and the degree of dental caries are very closely related. For instance, in a few cases of disease of the stomach where there was an unusual amount of vomiting, there was also a very marked destruction of the organs of mastication.

Whether or not vomiting is caused by autotoxic or uropathic influences the conditions found in the oral cavity are the same. We are familiar with the fact that the contents of the stomach, under normal conditions, are highly acid, otherwise this organ could not perform its digestive functions properly. Clinical experience has demonstrated that pathologic conditions, such as dyspepsia, gastritis, ulcer, intestinal stricture and numerous other diseases which occur during pregnancy, increase the acidity of this organ and its contents.

During the process of vomiting, the contents of the stomach are thrown into the mouth. The result is that the surfaces of the teeth, the contents of the cavities in the teeth and the particles of food lodged between the teeth, are saturated with a strong solution of hydrochloric acid. The contents of the cavities, the accumulations between the teeth, together with the mucilaginous acid with which the teeth, during the act of vomiting, become enveloped will have the same effect on the enamel walls as a poultice would whose chief ingredient was acid. Even with a very limited knowledge of chemistry, we can appreciate the fact, that if a tooth was placed in a solution whose elements were chiefly predigested food and hydrochloric acid, the enamel walls of the tooth would be destroyed in a very short time, and that if we were desirous of preserving it we should apply some substance which would neutralize the solution. In the oral cavity during the process which I am describing we have almost such a condition. Therefore, we should follow the same chemical principles, and apply substances to neutralize the acidity of the oral cavity.

It seems consistent, on the whole, to remove all broken down roots, in order to minimize the danger of future trouble, as well as to repair or completely remove any badly fitting crowns or bridges, to prevent inflammation of the lining walls or the appendages of the oral cavity. After doing this the teeth should be thoroughly cleansed, and the patient instructed to use floss silk (which contains nitrate of silver), to remove all particles of food from between the teeth after each meal. If these instructions are respected by the patients cleanliness, one of the most important steps in the prevention of disease, is accomplished.

This in itself, is not sufficient, however, but it puts the mouth in a condition wherein the final treatment will be more effective than it otherwise would be. My next step is to treat the acid conditions before described. I accomplish this by requesting the patient to cleanse the teeth thoroughly (with a powder which contains tooth powder and bicarbonate of soda in equal proportion) at least four times a day, directly after each meal, and just before retiring. After each vomiting I advise her to rinse the mouth carefully with a saturated solution of bicarbonate of soda, then to use the floss silk to remove any particles of vomit from between the teeth, and to cleanse the teeth thoroughly with the tooth powder of the formula given above.

During the day I advise the rinsing of the mouth with a solution of bicarbonate of soda or milk of magnesia every four hours, each mouthful of the solution to be held one full minute by the watch. In some severe cases I prescribe the use of tablets whose formula is sodium bicarbonate, with directions to allow it to dissolve after having placed it between the cheeks and the first and second molar teeth, in the region of Steno's duct. If the rules or suggestions which have been prescribed above are followed there is but a remote possibility of any trouble of a dental nature occurring during the most critical period of pregnancy.

There are also some cases concerning which the dentist is requested to give advice. The treatment of toothache is one of the conditions which the dentist must consider. We may be called to see a patient in the later stages of pregnancy who is suffering from an abscessed tooth. What is the best possible advice to give in such a case? In order to determine that question we must reflect as to which would entail the greater amount of pain; first, to allow the tooth to remain in the mouth until the abscess may be incised, or second, to drill into the diseased tooth, remove the putrescent pulp, and treat the pulp canals, or third, to extract the tooth.

I believe most firmly that on the physical condition of the mother depends the physical condition of the offspring, and also that there is a direct relation between pain which we may term foreign and the normality of the child. Basing my mode of procedure upon these principles, many times I extract the diseased tooth without any fear of causing an abortion. A local anesthetic is almost always used to destroy the action of the sensory nerve in the region of the diseased tooth. The cavity is washed with warm water, and a pellet of cotton saturated with a paste composed of camphor, phenol and orthoform is placed in the socket of the extracted tooth. If this method is followed all danger is reduced to a minimum. In my opinion the cases where an anesthetic (local preferred) is administered, together with the improved technic of modern extraction, the conditions which are conducive to abortion, namely, pain and shock, are so reduced that the element of danger is but a remote possibility.

Of course, I do not advise the extraction of all diseased or aching teeth at this time, but only of those diseased teeth whose treatment would entail so much suffering that the life of the embryo and possibly that of the mother would be sacrificed. While I regard a tooth as a very important organ I also feel that its value deteriorates in proportion to the degree in which it affects the health or life of the individual. On account of the physiologic changes which are taking place during the time corresponding to the menstrual period, it is considered safer to avoid the extraction of the teeth then, as there is a greater liability of causing abortion during this period.

Great care should be exercised by the diagnostician in determining the origin of any dental pain from which the patient may be suffering. The nervous phenomenon, known as reflex action, may be instrumental in confusing our diagnosis and likewise our treatment. Since pain is something which cannot be seen we are obliged to rely on the manifestations of the sometimes capricious nervous system. Many times a diseased condition will manifest itself by pain in parts remote from the seat of lesion. Therefore, disease in any organ may make itself manifest by pain in a tooth, whose treatment or extraction at this time will complicate rather than simplify the treatment. Garretson reports a case wherein a carious, aching tooth was extracted for the relief of pain. The desired result was not accomplished until an ulceration on the cervix of the uterus was treated and cured.

There is no doubt in my mind that the work which is now going on in the study of the chemistry of the saliva, will facilitate the solution of this problem later; but if this treatment which is within the reach of all, both rich and poor, and which has been so instrumental in the salvation of many teeth in my practice, may be suggested to pregnant women, with possibly a saving of their teeth, and an improving of the health of their offspring, the object of this brief record of experience will have found its attainment.

DISCUSSION.

Dr. V. A. Latham, Chicago, looked on Dr. Power's paper as a further argument in favor of a broader education of the dentist. What, she asked, is the use of the dentist studying obstetrics? There is, perhaps, no use of the dentist studying the manipulative or operative part of obstetrics, but the elementary course should be studied. The peculiar reflexes which come into the histology and pathology of pregnancy ought to be taught in every dental school. Dr. Latham agreed with Dr. Power that there is no subject so difficult to handle as the obstetric part of dental practice. She believes that the women are to blame in many instances because they are careless or neglectful, or, perhaps, diffident or shy. It is only when necessity compels the average woman to go to a dentist that she will do so, and then comes the difficulty. A little surgical operation such as the killing of a pulp or opening an abscessed tooth must be done, and that is an operation that the average woman dreads so much in her daily life, and how much more must she dread it when she is so much more hypersensitive. Dr. Latham asked Dr. Power whether he preferred local anesthesia to the use of nitrous oxid gas. Dr. Latham considers the use of gas preferable, because if the patient has been trained to know that it is not dangerous she would, perhaps, be less worried. The mental effect would be better than if a local anesthetic is used unless the patient has had it before. Dr. Latham's experience is that sometimes there is a little more danger of sloughing, in spite of every precaution, and intense hyperemia and pain. Dr. Latham asked Dr. Power whether he finds that there is more caries present in cases where there is profuse salivation. Dr. Latham recently had one such case where everything failed to relieve the woman of most profuse salivation during her pregnancies until her diet was regulated.

Dr. S. G. Jackson, Vineland, N. J., referred to the belief held by many that the teeth should not receive operative treatment during pregnancy. This she considers a great mistake. At this period of a woman's life the teeth are, in many cases, especially susceptible to the ravages of decay, neuralgia, odontalgia and alveolar abscess. Any one of these conditions would be a greater tax on the nervous system than a judicious treatment which would relieve the patient without hazard, and would prevent the loss of one or more teeth for every child. Dr. Jackson emphasized the importance of careful attention to the oral cavity from the very beginning of pregnancy.

Dr. M. I. Schamberg, New York City, thought that the trouble has been that the medical man and the dentist have been too willing to view pregnancy as an absolutely physiologic process instead of keeping in mind that it becomes, in a measure, a pathologic process when the system of the mother is unable to keep up with the extra work that is put on it. The old saying "a tooth for a child" has been the accepted theory on which physicians have worked, and they have been willing to sacrifice the tooth for the child. They viewed it as a condition of affairs that could not readily be overcome. Dr. Schamberg felt that many of these troubles could be averted if on the first evidence of the cessation of menstruation the prospective mother were sent to the dentist for a preliminary examination of the mouth, so as to render the environment of that mouth absolutely clean and healthy. He views the destruction of the teeth as not alone caused by the mouth environment, but also as being due to a sort of dentomalacia, similar to osteomalacia, which would not be the case in a normal pregnancy, but which becomes an abnormal condition owing to the fact that the mother is unable to supply a sufficient quantity of lime salts for the nutrition of the child. If it were possible, in a scientific manner, to reach some conclusion as to what is essential in the building up of a mother during this period, Dr. Schamberg believes that many of the dental troubles which now manifest themselves could be overcome. Dr. Schamberg has noticed in the mouths of many women during the period of pregnancy the peculiar spontaneous appearance of white spots, a tooth deterioration that has been so much of a bother in the past that it has been ignored. It is not alone one tooth, he said, that the pregnant woman complains of as paining her during her pregnancy, and that drives her at the last critical moment to seek to have it extracted; it is not a mere cavity at the apex, but there is a destruction of the tooth structure that causes the eventual loss, not of one tooth for the child, but very often a set of teeth is absolutely destroyed during this period. A mother, during her child-bearing period, has reached the critical period of her life, and from that time on there will be tooth deterioration unless the greatest effort is made, not at the time when the pain exists, but immediately prior to it, by anticipation of the child-bearing period at the first disappearance of menstruation, to see that the mouth is in proper condition and is kept so.

Dr. Alice M. Steeves, Boston, Mass., said that in a paper read in this Section seven years ago, dwelling on the reasons why a dentist should receive a medical education, one of the practical things she mentioned that a dentist should understand was the obstetric side of the profession. Physicians would then also have an opportunity to understand the pathologic changes in the mouth coincident with pregnancy. There is a way, she said, to educate people to appreciate the importance of the care of their teeth. The way to educate the mothers is to begin at the mothers' meetings and teach them the whys and wherefores of these things. They must be shown that these reflex pains and the constant nagging and irritation is hurting the nervous system of the mother as well as that of the child.

Dr. Wilber M. Dailey, New York City, inquired whether any careful observation has been made of the mouth previous to pregnancy. He has noticed in many cases where the mouth has been well cared for, and looked after in a scientific and prophylactic manner, that there has been little or no distintegration of tooth structure during pregnancy. Of course, he said, where there is caries and considerable calcareous deposit present, the teeth are more or less affected. Dr. Dailey questioned the correctness of the statement that there is a certain amount of breaking down of lime salts in different parts of the body, and a rebuilding, a chemical and pathologic change. He pointed out, in the nature of prophylaxis, that if physicians would examine the secretions as well as the excretions of their patients, annually or semi-annually, or even monthly, any pathologic change could be discovered and treated. And, likewise, if this practice were followed with relation to conditions in the buccal cavity, the exact changes taking place during pregnancy could be determined.

Dr. S. B. Luckie, Chester, Pa., spoke of the value of such papers as that of Dr. Power in affording physicians an opportunity to become familiar with what dentists think of such cases. He agreed with what the essayist said in regard to the treatment of the mouth during pregnancy. He has never hesitated to perform any necessary dental operation during that period, provided he had the full confidence of the patient. The extraction of teeth or the treatment of pulpitis can be undertaken. The treatment of pulpitis and the percementation of the teeth can very often be attended to in a temporary way for a few months until the time arrives when permanent work can be done. Pulpitis can often be controlled for several months by the use of iodoform or formaldehyd or thymol and, possibly, iodin. These agents can be sealed in the cavity and absorbed by the dentine, setting up an antiseptic condition that will often keep the tooth comfortable for some time.

Dr. James E. Power, Providence, R. I., said that the principal reason for presenting his paper was the fact that it may be read by physicians, and in that way reach hundreds of thousands of people whom dentists would otherwise be unable to reach. The mental condition of the pregnant woman should receive a greater consideration. It should be viewed just as carefully as are the physiologic conditions which are superinduced by pregnancy. In this way the confidence of the patient is secured and treatment will be much more effective. Dr. Power stated that he always found the acidity more marked where there was a profuse salivation, but added that he took more tests in cases of profuse salivation than where the salivation was apparently normal. He confines himself to the use of local anesthesia almost entirely. There is, he said, always a variation in the manner in which gas is absorbed by different people. In pregnancy there is danger of producing convulsions and abortion. By using the local anesthetic this danger is eliminated, and all other dangers are reduced to a minimum. The first step in the injection of a local anesthetic is to wash the surface through which the needle is to be introduced, in the same manner as one would treat the surface of the abdomen if he were going to perform a laparotomy. The syringe is sterilized and filled, and the needle is inserted into the gum tissue. By withdrawing the needle just a little a space is made between the end of the needle and the tissue; then the anesthetic is forced gradually into the tissue, the needle being reintroduced within the whitened area. The tooth should not be extracted until anesthesia is complete, so as not to produce mental shock. Dr. Power emphasized the value of the frequent ingestion of small amounts of food, because a greater amount of food can be taken in a given time if divided in small doses than can be taken in a few large meals. Dr. Power has observed that the previous care that has been taken of the patient's teeth makes little difference in the condition of the teeth in the pregnant woman. He believes that the physiologic process changes to a pathologic one, regardless of the previous condition or habits of the individual as far as the teeth are concerned.

PHYSICAL DIAGNOSIS: URGENT NEED OF REVISION.

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The collective title of "physical diagnosis" is applied in its narrowest sense to ascertaining the condition of the lungs, heart and large blood vessels—the contents of the thoracic cavity.

For the past two decades simplification of methods employed in physical diagnosis has been advocated by leading specialists in pulmonary diseases, Dr. Charles E. Quimby of New York City, being the foremost champion of the reform.

It is a common complaint on the part of advanced students that old legends which were taught as truths a generation or more ago still survive in the text-books and are still accepted by a great majority of the profession. It ought not be necessary to reconcile ourselves to the idea that still another generation will pass before the truth will filter down from specialists in lung diseases into the text-books.

He is a benefactor to the people who eradicates weeds from the farm and errors from the mind—in this instance the medical mind. By this token, if those of us who stand for revision can demonstrate to and convince the profession that we not only simplify methods and cut off more than two-thirds of useless terms, but arrive at a more sharply defined diagnosis than by the old methods, it stands to reason that revision is urgently needed.

To the insistent and somewhat inconsistent therapeutical cry of "back to nature" we insist on the amendment "back to physical diagnosis." And why? For the following sound and solid reasons:

1. In lung destruction the tubercle bacillus is a guest invited by the undernutrition of the host and marking an advanced stage of disease.

2. The tuberculin reaction is, at the present day, scarcely considered available for the diagnosis of human tuberculosis.

3. Thus far the Roentgen-rays have added nothing of any special value to older methods of physical exploration, save under the heading of "confirmatory."

4. Râles, rhonchi, with their countless adjectives pointing to their composition and locality, should be relegated to the background as concomitant features, not an underlying condition.

In the main, then, diagnosis of tuberculous invasion of the lung is as much dependent on skill in auscultation as it has ever been.

How early can we recognize the first beginnings of tuberculous invasion of the pulmonary apparatus? Can any additional signs be elicited by auscultation to fix the locality of the tuberculous invasion indicated by slowly progressive anemia or emaciation or persistent lassitude? The answer to the first question is: Just as early as the patient complains of anything, even if it be only getting tired easily. To the second: Quite as early as in advanced cases.

A verdict in diagnosis will not stand unless it is based on the combined values of general and local features.

In order of importance the general features rank as follows:

1. Persistent lassitude, attributed by the patient to his legs, but in truth based on accelerated tempo of the heart's action, with or without excess of central propulsion over arterial tension.

2. Progressive and persistent anemia, unaccounted for by other invasions of infection, inflammatory processes, central or peripheral nervous disturbances or, last but not least, stubborn stomachic or intestinal indigestion. This latter element should always be removed before a diagnosis is ventured on.

3. Progressive and persistent emaciation demands the same exclusions as recorded above. Frequent weighings alone are to be relied on, not the opinion of the patient nor that of his friends. The accepted general division of tuberculous and other forms of pulmonary consumption is into "open" and "closed" cases. An open case is one in which the products are open to and communicate with the atmosphere. Here evacuation and not "walling in" is imperatively indicated, as will be shown presently.

A closed case is one not accessible to the atmospheric air. Tuberculous pleurisy and enlarged glands may serve as examples.

For prognostic and therapeutic purposes, both open and closed cases will be found in the organism to exist as two very distinct and separate pathologic conditions, namely:

(*a*) Conditions inherent in the lymphatic channels. As a distributing center of tuberculous infection the bunches of tracheobronchial glands rank first. Richest in lymph vessels of all serous membranes is the pleura —"the dumping ground of the lymphatic system."

(*b*) Tuberculous or streptococcic infection engrafted on unresolved remnants of previous acute disease—croupous and catarrhal pneumonia, pleurisy, etc.

The products of both pathologic conditions are pus or connective tissue or both.

The difference between ancient methods and the modern scheme of simplification is best shown by placing them in sharp contrast. But I find that enumeration of old terms would fill a moderately sized monthly magazine (take the twenty kinds of râles as an instance) and hence proceed to present the modern method in the order practiced in making a diagnosis.

AUSCULTATION.

Auscultation recognizes only "tonality" and "pitch" as representing the sounds (or melody, if you prefer) heard in inspiration and expiration. The mechanical movements—the technical execution — are represented by "rhythm" and "tempo."

Tonality or the Keynotes.—Of these there are only two in the lung—pulmonary and bronchial, or, in other words, vesicular and tubular. These are the fundamental tones.

Pitch.—This differs from musical pitch by being relative. Tracheal breathing is our standard, as being the only fixed standard—inspiration and expiration as nearly as possible of the same pitch. In auscultation it represents the highest type of pitch, and all others are gauged by it as being "lowered" or "raised" in the locality heard. Three degrees of either are sufficient for correct diagnosis, as, for example: Pitch lowered in first, second or third degree. Pitch is never an adjunct of vesicular or tubular breathing. Brought about by the sum total of respiration, it is an entirely independent factor.

Rhythm.—Rhythm is the regular recurrence of accents, the characteristic of regular succession. It is punctuation. The rhythm of breathing in the normal condition of the lung is a regular succession of marked accents. It consists, as we all know, of inspiration, pause and expiration—what in music would be called a three-part rhythm. The rhythm of respiration is a continuous movement (legato), while that of the heart is interrupted (staccato). A change from the continued to an interrupted rhythm marks one of the earliest beginnings of a pathologic condition in the lung, both in infections and inflammations.

Tempo.—Tempo is nothing more or less than the speed of the rhythm. The normal tempo of breathing is from sixteen to eighteen respirations to the minute—about one to every four seconds.

RALES.

The importance attached to râles or rhonchi is another sacred tradition. Transudations and secretions accompanying functional or organic disease of the lung—whether serum, mucus, pus or blood— are not the pathologic condition itself, nor do they give us any definite clue to the same. Their expectoration or absorption still leaves the condition to be ascertained by tone, pitch, rhythm and tempo — four designations, as against twenty-seven of the old nomenclature.

PERCUSSION.

Percussion recognizes resonance only. Four degrees of resonance—excessive resonance or reduced (deficient) resonance—are ample to describe existing conditions. There is no such thing as pitch in percussion, other than applies to the chest walls.

INSPECTION.

Inspect for nothing but the anatomic sufficiency of the thorax, which sufficiency should bear some relation to the height of the patient, but not very much. Judge only by an abnormally narrow thorax or an equally abnormally wide one. The next step suggests itself. By a few deep inspirations (never mind the tape line and the number of inches) ascertain the physiologic sufficiency. Remember these facts: A narrow thorax may be capable of unlooked-for expansion, while a large barrel-shaped one may scarcely move at all—the so-called fixed thorax. What we are concerned with is the elasticity of the costal cartilages.

PALPATION.

Palpation is only useful for ascertaining the amplitude of the diaphragmatic excursions—the phrenic wave so-called. Remember that lateral, not anteroposterior expansion, is the gauge of sufficient respiration.

MAXIMS TO BE BORNE IN MIND.

Five general maxims are to be kept in mind. They are:

1. Raised pitch in auscultation, coupled to reduced resonance, denotes condensation.

2. Lowered pitch, coupled to exaggerated resonance, denotes expansion.

3. Both condensation and expansion of lung tissue lead up to the loss of elasticity. Temporary loss is a phase of healing processes. Permanent loss is one of the terminal phases of disease.

4. The degree of percussion resonance establishes the exact value of the respiratory pitch obtained by auscul-

ation. Percussion either confirms or negatives the ausultation find—the keynote of differential diagnosis beween active and ended processes.

5. Areas or foci of infection or inflammation or both, emonstrated by auscultation and confirmed or not by ercussion, exist either beneath the locality examined r are the result of mechanical hindrance to respiration.

How many practitioners ever discover and take cogniznce of diaphragmatic pleural adhesions? Is it not true hat diminished respiration in the upper lobes of the ung is invariably placed to the credit of an infiltraion when, as a matter of fact, in the great majority of hose cases full respiration is made impossible by traction of pleuritic adhesions in the axillary region?

Pleuritic adhesions have two attributes. They are ermanent and progressive. Thickenings already on and are there to stay and gradual encroachment from heir periphery to uninvolved tissue is the rule.

For convenience sake, let me speak of pleuritic adesions as linear and flat. The former occur along the nner edges of the sternum, the inner edge of the scapula nd, last but of the utmost importance, on the upper urface of the diaphragm. The flat variety occurs in the nfra-axillary region and is the most aggressive as to upard progression.

I am well within the truth in saying that the most eglected field in medicine and the one in which most lipshod diagnoses are made comprises the existence, ffects and treatment of pleuritic adhesions and their echanical effects. Of equal importance as a mechanal hindrance is the "albuminous agglutination" (Dr. brams, San Francisco) of the peripheral pleural suraee to the chest walls with its accompanying anemia rom continued traction and possible gangrene of parts volved—a frequent phase of consumption.

"Nature's barriers" is the term applied to the above rocesses, as well as the encapsulation of tuberculous oci. Adhesions may be a defense, but not a curative efense. On the contrary, they are part and parcel of e invasion—extension of the inflammatory process, inparable from tuberculous infection. In other words, dhesions, tuberculous or rheumatic, are not construcve but destructive and call for removal wherever found. iberating the imprisoned lung (by hypodermic injecon of sodium cinnamate) should always precede the ow firmly established vaccine therapy by immunization ith watery extract of tubercle bacilli.

Modern methods seek to inculcate that from the earlst beginnings of pulmonary consumption to the most bvious and readily ascertainable manifestations this is e sequence:

1. Permanently accelerated tempo of the heart's acon, not due to peripheral resistance in the liver or idneys or demonstrable in the lung, associated with one, vo or all three of the general features, lassitude, nemia, emaciation; temperature or no temperature; icrobes or no microbes. This is the true skirmish line f pulmonary consumption. Presence or absence of high mperature and of tubercle bacilli, even when sputum abundant, likewise holds good in the more advanced rms of pulmonary consumption. I note this to avoid epetition.

2. Permanent change of rhythm associated with lasude, anemia or emaciation, singly or combined. The ncient method names these changes: Cogwheel respiration, prolonged pause, audible and prolonged expiation. Modern dictum: Inspiration, pause, and expiation may singly or in unison be involved. The pathologic changes of rhythm are simply the reverse of the physiologic, i. e., smoothly flowing audible inspiration converted into an interrupted (staccato) one, a prolonged pause where previously inspiration glided directly over into expiration, now displaced by a prolonged and audible one. Cogwheel respiration and cracked-pot sound are illustrations of the truism: "Comparisons are odious."

3. Changes in pitch, heard permanently over a given area. At this stage of disease development a diagnosis is complete even without the general features of lassitude, anemia or emaciation. On the other hand, percussion must confirm the find by deficient resonance (the old impaired resonance or dullness). Normal or excessive resonance denotes an emphysematous (dilated) patch overlying a healed or healing area.

Note this law: Pitch is always "raised" in progressive disease until it merges into a change of tonality (tubular breathing). This pitch raise is always relat ve—namely, gauged by the tracheal pitch. Pitch in health is "lowered" from the standard and "raised" in disease.

Diagnosis by pitch relation includes all processes in the pleura, be the contents solid, liquid or air. The folly of percussing first and auscultating afterward is markedly illustrated by contents of the pleura. In either case we have the highest degree of pitch (silence), requiring a differential diagnosis by percussion. Excessive resonance for air, dulness for solid contents, flatness for fluid. Percussion first is putting the cart before the horse.

4. Permanent change of tonality from the pulmonary to the bronchial, from diffused to concentrated tubular breathing. Complete solidification or excavation (cavity), deep seated or near the surface; single or multiple; or advanced shrinkage, overlaid or not by an emphysematous patch, call for no particularly fine adjustment in auscultation. The changes in tonality—the "quality" of ancient writings—can be heard by any one with an untrained ear. Incidentally, it is always well to remember that bronchial or tubular breathing is present not only in pathologic but in physiologic conditions as well. In the latter it is drowned by the low-pitched pulmonary breathing. As with pitch, a diagnosis is here complete in the absence of general features.

There is no need of such terms as "cavernous" or "amphoric" breathing or of the terms named above.

Note the presence of râles only as an incident and as indicative of furnishing sputum. Drop the terms sibilant, sonorous, gurgling, bubbling, coarse, mucous, fine, crepitant or subcrepitant. Every instructor in physical diagnosis knows full well that this multiplicity of terms only confuses and disheartens the students. And what is more to the purpose, these terms are of no earthly value in arriving at a clean cut diagnosis.

"Let the dead past bury its dead."

The Bad Habit of Using Purgatives.—The *Indiana Medical Journal* agrees with Dr. Edwin Walker of Evansville, who teaches that purgatives are responsible for most of the constipation of the people who use them. They have the pill-purgative propensity, and are educated to the practice and fortified in their use by the physician. The present purgative habit of American people is the natural outcome of intemperance in diet, of the use of concentrated food and too much of it, of physical laziness and mental apathy. It is far better to teach people to abandon purgatives than to use new ones. Modern pharmacy has done much for medicine, but too much in the way of purgatives.

SIMULTANEOUS SPHYGMOMANOMETRIC PRESSURES AS MODIFIED BY POSTURES.*

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The study of the circulation of the blood has ever been one of the most interesting subjects of investigation since laboratory methods have been instituted in physiologic work. More recently the importance of studying the pressure of the blood in the human subjects has been appreciated by both physiologists and clinicians. It is hardly to be expected, however, that anything like a complete review of the literature of this important subject can be presented here, since, as Dr. Erlanger[1] says: "It would be impossible to read merely the titles of the important contributions within the time allotted."

Stephen Hales is credited with having made the first study of blood pressure in 1733. His experiments, performed on a mare, were crude and would scarcely meet the approval of the "antivivisectionists." The essential principles of his work, however, are still utilized in our experiments in the physiologic laboratory, with the addition of the mercury manometer and solutions that prevent the clotting of the blood. The names of Poisseuille, Ludwig and others are associated with the mercury manometer and its improvements, though these gentlemen did their work nearly one hundred years later than Hales.[2]

The vast volume of work has been done and reported within the last fifteen years. The names of von Frey, von Recklinghausen, Potain, Marey, Oliver, Hill, Riva-Rocci and many others need only to be mentioned to recall their instruments and their work. Besides these, every year adds scores of names of those who report some further study. So, after all this vast amount of work, comes the question: "What has been accomplished and what is yet to be done?"

Some writers have concluded[3] that: "On the whole, the fruits are scanty in comparison with the time spent." The Committee on Research for the Division of Surgery, Harvard Medical School,[4] did not arrive at any very encouraging conclusions as regards the utility of the Riva-Rocci apparatus in surgical patients. However, it can not be denied that a considerable amount of accurate information has been derived from recent researches. The work of Cushing, Crile, Erlanger and Janeway surely will not yield "scanty fruits." The excellent volume on the subject by Janeway[5] is doubtless in the hands of every physiologist and clinician who contemplates investigation along this line.

The arteries of the upper extremity are generally selected for the measurement of blood pressure, more especially the brachial, with palpation of the radial. Convenience and uniformity evidently account for the present criterion, that the brachial should be used for mea urement, and the compression applied at the level of th heart. But we find frequent queries in the literatu concerning the pressure in other parts of the arteri tree. Kellner[6] cites von Frey to the effect that if th study of the pulse is to be more than a mere pastime should be applied to several parts at once, investigatin the pulse in various regions, if possible, with differen apparatus and simultaneously.

In a review of the subject of blood pressure, Cowan brings out some interesting points. He cites Potain' statement that results vary in the different arteries i the same individual, and that a slight difference ma often be found even in symmetrically corresponding ve sels, as the two brachials of the same person. Cowa states further that "pressure in the radial artery can n be considered to represent blood pressure throughout th whole body." On the other hand, "Oliver has foun that blood pressure does not appreciably vary if influenc of gravity is excluded, and v. Recklinghausen states tha pressure estimated simultaneously in upper arm an thigh by modified Riva-Rocci apparatus gives approx mately the same figures."

Gravity, which Oliver is represented as assigning a the cause for differences in pressure, of course, is onl partially responsible. Goldwater[8] says: "Gravity is no the sole factor to be here considered. The cardiovascu lar system is more than a series of inert containers hav ing unchangeable dimensions. A change in positio whether from lying to standing, from sitting to stand ing or from lying to sitting, is associated with varia tions in muscular and mental tone which produce refle alterations in tension through the great nerve centers. And many others could be quoted to the same effect; i fact, it is accepted now as a very apparent fact.

It was, then, the suggestion made by so many tha there is a difference in the different arteries, that led t the present investigation. v. Recklinghausen,[9] who ha done so much of real worth, reports a comparison be tween the pressure in the thigh and in the arm. Ap parently he has made these determinations on only on individual and in only one position, the supine. Hi results for this position are characteristic, and I give hi table as reported.

TABLE 1.

Simultaneous measurement of pressure on the upper arm an thigh. Subject of Experiment H., aged 60, height 167 cm. (5 f 6 in.), weight 62 kg. (126.4 pounds). Measurements taken i the forenoon, recumbent. Pressure expressed in cm. of water.

No.	Pulse.	Radial Artery.	Artery of of Foot.	Differ ence.
1.	Returns	138	138	
2.	Returns	132	132	
3.	Disappears	148	147	—
4.	Disappears	142	142	
5.	Returns	131	135	
6.	Returns	130	129	—
7.	Returns	144	144	
8.	Returns	142	145	

The relation of posture to blood pressure was also re ported by the same experimenter:

TABLE 2 (125).

Influence of the position of the body on the blood pressure. Th blood pressure in cm. of water. Subjects of Experiment H. and W

Position.	H.	W.
Standing	116	13
Sitting	123	14
Lying	125	14
Lying without a pillow	110	

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

* From the Department of Physiology, Northwestern University Medical School.

[1] Recent Contributions to the Physiology of the Circulation, The Journal A. M. A., xlvii, 1343.

[2] Blood Pressure and Pulse Rate, The Journal A. M. A., Oct. 1, 1904.

[3] Ueber Blutdruck u. Blutdruckmessung. Correspondenz-Blatt f. Sweitzer Aerzte, 1905; abst, The Journal A. M. A., June 3, 1905, 1810.

[4] Report of the Committee: Blood Pressure Observations in Surgical Cases, Boston Med. and Surg. Jour., 1904, cf, 255. Also article in footnote 1, p. 1343.

[5] The Clinical Study of Blood Pressure, 1904. D. Appleton & Co.

[6] Klin. Beabt. über Blutdruck, pulsatorische Druckzunahme s wie ihre Beziehungen zur Pulskurve. Deutsche Archiv f. klin. Med Leipsic, lxxxiv, Nos. 5-6.

[7] A Review of Recent Work on Blood Pressure, Practitione August, 1904.

[8] Med. News, May 24, 1903, 967.

[9] Arch. f. Exp. Path. u. Pharm. Leipsig, xlvi, 78-132.

It should be noted that these readings are in centimeters of water; in mercury pressure their range would e from 82.5 mm. to 110 mm. The reading made on H. Table 2) without a pillow is interesting, but, I believe, as no significance, as I can not find that raising and owering the head while the body is in the supine posiion has much effect. My readings for the supine were nade without a pillow.

The influence of posture on blood pressure has been horoughly worked out, especially with reference to a omparison with the pulse rate, by Dr. Stephens.[2] His eadings correspond to v. Recklinghausen's, with a derease in rate when there is an increase in pressure. He xplains the changes lucidly by the formula for blood ressure, P varies as Hr x Hs x R. (Where P equals ressure, Hr equals heart rate, Hs equals heart strength nd R equals peripheral resistance.) He shows that the actors involved in increasing P in changing from the tanding to the supine posture are Hs and R, since Hr s diminished; and further explains changes in R on ydrostatic grounds chiefly, but acknowledges other facors. We find in Stephens' work a query as to the actual elation of the pressure in the upper to the lower portion f the arterial tree, and in the researches of v. Recklingausen another query as to what the relation of the ressure in arm and thigh would be were the individual o assume different postures. It is on these grounds hat my work was undertaken.

THE INSTRUMENTS.

Ever since the significance of the circulating blood tream has been realized there has been a study of the ulsating artery in the wrist. To-day we are taught to bserve not only the rate, but also the size, the quality nd the rhythm. The clinician demonstrates to us the *pulsus celer et altus,"* which, in combination with the ecords of pulse and temperature on the history sheet, onfirms his diagnosis. But it is safe to say that the ovice, be he "recent graduate" or interne, is often in oubt concerning a *"pulsus tardus et parvus"* or a *"puls dicrotus."*

There should be, then, a demand on the part of the inician, as well as the physiologist, for an instrument iat will measure accurately the pressure of the circuting blood stream; an instrument so simple in conruction that its adjustments are readily understood, id yet so accurate that its records are significant. We ive had many sphygmomanometers since Stephen ales[10] measured the height of the column of blood in a ass tube connected with the crural artery of the mare, id a few of these, undoubtedly, very nearly approach ie ideal. A very complete description of the different rms of instruments is given by Dr. Janeway,[11] with a assification based somewhat on the historical essays of aschide and Lahy.[10] Accordingly, it is necessary erely to mention the instruments of v. Basch, Potain, aertner, Hill and Barnard, etc., and to say that, while iese instruments are still used somewhat extensively Europe, they are far from perfect and are not prented as practical instruments for a clinician to conder.

Probably the most accurate instrument is that of rlanger.[12] It does not seem likely, however, that this strument will ever gain any very general use, as it is expensive and cumbersome. For clinical use it is, therefore, impracticable, but for laboratory use it is unexcelled. Two other instruments have recently been put on the market, Stanton's[13] and Janeway's. The first is not so readily portable and is costly. Dr. Janeway's instrument is well made, is easily carried, and, while it is not perfect, it is, undoubtedly, a most satisfactory, handy sphygmomanometer for clinical purposes.

One of the older instruments is the Riva-Rocci sphygmomanometer.[14] This instrument did much to establish the idea of applying compression to one of the larger arteries by a circular pneumatic band. It has been used universally and undoubtedly is the best understood apparatus in use in the laboratory or hospital. Cook's[15] modification is used extensively in America. There are two forms, one portable, with a jointed manometer, and one with a one-piece manometer for hospital use. The manometer is easily broken and the mercury easily spilled.

The instrument that I have used is Hall's adaptation of Cook's Riva-Rocci sphygmomanometer for use in the physiologic laboratories of Northwestern University Medical School. Its simplicity in construction should recommend it to practitioners and students, who can readily manufacture such an instrument for their own use, without much expenditure of time or money. I shall, therefore, attempt a brief description of its parts.

AN EASILY MADE SPHYGMOMANOMETER.

1. *The Manometer.*—The ordinary mercury manometer is all that is necessary. Use a piece of glass tubing about a meter in length, thus making each arm of the U tube nearly 50 cm. long. The tubing should not have a greater caliber than 3 mm., nor should tubing with a caliber less than 1 mm. be used. The tubing is heated in the Bunsen flame, and bent in the center to form a U. The two arms should be parallel, and not more than 1½ or 2 inches apart. One of the arms is bent to a right angle 2 inches from the end. It is to this short curve that the rubber tubing from the pressure apparatus is attached. The straight arm is left open. The U must be attached to a support. Take a piece of pine 18 inches long by ¾ inch, and just wide enough to slide between the arms of the U tube; groove the sides so that it will slip readily. Specially constructed brass clamps or strong rubber bands, or strips of adhesive tape can be used to hold the U to the support. A short arm of iron projects at the back of the wooden support, and by means of this the manometer is clamped to an iron stand. A centimeter, rule, held to the support, between the arms of the U, by means of two rubber bands, makes an admirable adjustable scale. The mercury is run into the manometer slowly from a medicine dropper, or through a twisted paper cone. If the mercury does not run down readily, shake the manometer with a swing, as in shaking down a clinical thermometer. It is essential that there be no bubbles of air breaking the mercury column. There should be a "stand" of about 20 cm. in each arm of the manometer.

2. *The Pneumatic Arm Band.*—The ordinary Riva-Rocci girdle is 5 cm. wide. To make these the inner tubes of bicycle tires were used; a piece of this tubing about 18 inches in length is cemented at both ends, a valve stem is cemented in the center, and a piece of strong webbing is cemented on the outside to prevent ballooning of the band outward. These bands are not long enough to reach around the adult thigh, so I made one 6 inches longer for this purpose. A 5 cm. band is all right for comparative readings, but registers too high for accurate determinations. This point was demonstrated by v. Recklinghausen[9] in the following readings:

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10. Vaschide and Lahy: La technique de la mesure de la pression nguine. Arch. Gen. de Med., 1902, 350.

11. Clinical Study of Blood Pressure, pp. 43-104.

12. Amer. Jour. of Phys., 1904, x; Proceedings of Amer. Phys. c., xiv.

13. Univ. of Penn. Med. Bull., 1903, xv, 466.

14. Un nuovo sfigmomanometro, Gazz. Med. di Torino, 1896, Nos. 50, 51.

15. The Journal A. M. A., 1903, xl, 1199.

TABLE 3.

	12 cm. Broad Cuff.		5 cm. Riva-Rocci Cuff.
Right upper arm	90- 96	Left	116
Right upper arm	92-100	Left	114
Right upper arm	90- 98	Left	112
Right upper arm	92- 98	Left	114
Left upper arm	96-104	Right	118
Left upper arm	94-104	Right	120
Left upper arm	104-108	Right	120
Totals	94-101		116

As I found some difficulty in securing obliteration of the pulse in the lower extremity, in my early trials, I experimented with wider girdles and found them more satisfactory. Janeway insists that the arm band should be 12 cm. Erlanger uses a 12 cm. band. The Stanton girdle is but 8 cm. Dr. G. L. Walton,[16] after examining 108 male patients, using three widths of bands, 5 cm., 9 cm. and 12 cm., says on this subject: "My observations would not quite justify the conclusion that a width of at least 12 cm. is necessary, for I have found the registration of the 9 cm. cuff quite constant, and varying so little from that of Janeway that for clinical purposes the former seems to answer every requirement."

The bands were, therefore, made 9 cm. wide, being constructed from a piece of inner tubing of an automobile tire. Use a good carbon disulphid and chloroform cement, and the ends can be closed as if vulcanized. A piece of leather was cemented on the outside, to prevent loss of pressure outward. The band is applied tightly to the limb, the ends lapped over and clamped firmly by means of two small screw clamps.

3. *The Pressure.*—Janeway and Erlanger use a valved Politzer bag. Any form of bulb that gives pressure enough and that will hold the pressure answers. The Paquelin cautery bulb is hardly powerful enough. A double atomizer bulb, made of heavy rubber, is especially suitable, the bulb in the net being as heavy as the pressure bulb. The latter is double-valved.

A glass Y divides the pressure as it comes from the bulb. Heavy, non-distensible rubber tubing connects each arm of the Y to the manometer and band, respectively. A T tube is placed between the Y and the manometer, and a short piece of rubber tubing, closed by a pinch-cock, is placed on the open end of the T. This device permits the escape of the air from the apparatus, after a reading has been made.

4. *General Observations.*—It is seen, then, that in this instrument we have merely Cook's modified Riva-Rocci sphygmomanometer adapted to laboratory use, simple and inexpensive. It has not the accurate empirically graduated scale of a Janeway instrument, nor the fine mechanism of an Erlanger, but, with a broad band, I feel that it can be recommended for practical work, especially when comparative results are sought. It is not readily portable, yet the manometer is not very cumbersome, and the tubing and bulbs are easily stowed away. The sphygmomanometer, of any type, is destined probably to be more practical for office and hospital use, than as an adjunct to the visiting bag. In reading the mercury manometer it must be remembered that pressure forces the mercury in the proximal arm down and in the distal arm up, and that the difference in the stand is the amount of pressure. Since the change in level up in one arm equals that down in the other the change in level is read in the open arm and multiplied by two to obtain the total pressure.

EXPERIMENTS.

Method of Procedure.—The short girdle is applied to the arm nearer the elbow than the shoulder. The pinch-cock is removed from the rubber attached to the open arm of the T tube while adjusting the arm band, and the residual air is forced out. The ends of the band are lapped, pulling it tight, and the clamps are firmly placed. The scale is set so that the mercury reads 1 mm. below the zero mark, as it takes about 2 mm. pressure in the system to fill the arm band so that any appreciable pressure is exerted on the underlying tissues.

In like manner, the apparatus for the thigh is adjusted. Here, however, the band is placed about th limb as close to the body as possible. The thigh has fairly uniform circumference in its upper third, an by applying compression in this manner one does not la himself open to the criticism made of Mummery b Erlanger:[1] "It is impossible to apply circular pressur to the thigh of a dog without having a large componen of pressure lost in dragging the cuff toward the apex o the cone."

The radial artery is readily palpated, and the change in the pulse while the brachial is being compressed ar noted in the usual manner. The arm is held so that th band is at the level of the heart and the forearm is flexe perpendicularly to the arm. This position of the arm i maintained for the different postures of the body. Th vessel that is palpated in the lower extremity is generally the dorsalis pedis artery. This vessel varies in different individuals. In some the doralis pedis was foun more readily palpable than the radialis, while in a fe it was next to impossible to find the faintest pulsation In one case (No. 1, First Series of Readings) a stron pulse was found in the internal malleolar branch of th anterior tibial artery, and no sign whatever could b found of the dorsalis pedis.[17] In another case, it seeme very difficult to find any trace of the dorsalis pedis unti a cutaneous branch, or perhaps the artery itself, wa found pulsating at the inner side of the tendon runnin to the great toe.

With the palpating fingers on these terminal arteries the pressure is slowly applied, constricting the limb an forcing together the walls of the larger, deeply-lyin vessel by compressing it against the underlying bone The Riva-Rocci instrument measures the systolic pressure; i. e., a reading is made of the stand of mercury a exactly the time that the pulse is obliterated, and als when the pulse first returns as the pressure is diminished. An average of these two readings, which shoul be approximately the same, is recorded. This point o maximum blood pressure is taken as the systolic pressure. It was noticed in using the 5 cm. band on th thigh that it was somewhat difficult to secure obliteration of the pulse, but that as pressure was applied th pulse became stronger, and then at the point where th pulsations were the strongest there was a sudden diminution in their strength. The pulse was thready from here on to final obliteration. The significance of this was not entirely understood when it was first noticed but there are many references to this phenomenon in the literature and more than one opinion as to its value. Dr. Cook[15] calls attention to a maximum and a minimum pressure. He furthermore suggests that the maximum pressure, which is most readily determined with his instrument, be accepted as a criterion. Dr. Erlanger's sphygmomanometer measures accurately these maximum and minimum pressures which he calls systolic and diastolic, and he maintains that both pressures should be reported to make further work in blood pressure of any avail. There has been much controversy as to whether the diminution in amplitude of the pulse occurs when the pressure equals the minimum (diastolic) or the mean pressure. Brush,[18] in his investigation of this point, found that the diminution, as determined by palpation of the radial, occurred at the point of diastolic pressure as measured with Erlanger's instrument, but its inventor,[1] in his recent paper, laments the fact that a more objective method had not been employed. Sahli[19] uses a Jaquet sphygmochronograph to note changes in the amplitude of the radial, as does also Hensen.[19] Strassburger[20] palpates the pulse with the finger and has no doubt that the diminution in amplitude measures the diastolic pressure. He quotes Gumprecht[21] in his description of the action of the pulse, but adds[22] that the change in amplitude comes suddenly after the maximum pulsation, thus making it easy to determine the point exactly.

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[16] Blood Pressure in Paresis, THE JOURNAL A. M. A., xlvii, 1341.

[17] In the dissecting room I have seen a similar anomaly in which the external malleolar branch was a large artery, and the dorsalis pedis was a mere terminal arteriole.

[18] Amer. Med., July 15, 1905, p. 97.

With opinions such as these, none of them exactly concurring, I noticed carefully, in my second series of experiments, the character of the pulse and the action of the manometer during the entire time that compression was being applied.

In all my experiments I have followed consistently the work of Stephens in the matter of posture. Therefore, my readings are recorded for the erect, sitting, supine and head-down, or Trendelenburg positions of the body. The readings for both arm and thigh were made practically simultaneously, and the time was alowed in each position for the adjustment of the circuation to the new conditions. Of course, care was taken hat there was no pressure on the band around the thigh when the individual was sitting on the chair or lying on the table. The hips raise the body sufficiently in the upine position to prevent pressure of the band against he table. In the Trendelenburg posture, the bend of he knee was held away from the edge of the table. At all times it was insisted that the body should be kept elaxed.

TABLE 4.—First Series of Experiments.

Made with 5 cm. cuffs; readings are the averages between the oint of obliteration and of the return of the pulse of radial nd dorsalis pedis arteries; mm. of Hg.

	Erect.	Sitting.	Supine.	Trendelenburg.
ase 1.—B.				
Arm	110	115	115	130
Thigh ...	180	133	114	115
ase 2.—S.				
Arm	130	150	135	138
Thigh ...	191	165	145	113
ase 3.—T.				
Arm	132	136	140	152
Thigh ...	160	158	142	138
ase 4.—G.				
Arm	105	108	110	110
Thigh ...	140	136	130	120
ase 5.—S.				
Arm	82	82	92	94
Thigh ...	110	105	94	90
ase 6.—L.				
Arm	120	133	152	158
Thigh ...	160	154	150	154
ase 7.—W.				
Arm	80	84	102	112
Thigh ...	140	108	108	94
ase 8.—W.				
Arm	80	88	99	109
Thigh ...	148	120	102	90
ase 9.—W.				
Arm	74	74	90	94
Thigh ...	126	106	92	88
ase 10.—W				
Arm	71	76	88	98
Thigh ...	128	106	92	88

The last four readings were made on the same individual at fferent times.

Considerable difficulty was found in these early experiments in obtaining obliteration of the pulse of the dorsalis pedis. I noticed plainly, though, the increase in amplitude of the pulse, its sudden diminution and its thready character until obliteration. It was my experience that in an easily palpated dorsalis pedis these changes were sometimes more readily apparent than in the radial. To study further the significance of the character of the pulse, and to have records that would be more clearly accurate according to the criteria of Janeway, I constructed my 9 cm. cuffs, and found that the ease with which an accurate determination could be made was greatly increased. I then conducted my second series of experiments, noting not only the systolic pressure, but also the point at which the diminution of the amplitude in the pulse occurred after the method of Strassburger. In my records I followed his example and arbitrarily called the two readings the systolic and the diastolic pressure.

TABLE 5.—Second Series.[23]
LABORATORY PROTOCOL.

Cuff used, 9 cm. wide; subjects were members of the freshman class at Northwestern University Medical School. Pressure, mm. Hg.

	Erect.	Sitting.	Supine.	Trendelenburg.
1.				
Arm.				
Systolic	84	90	94	100
Diastolic	70	70	76	80
Thigh.				
Systolic	104	94	94	80
Diastolic	80	76	76	70
2.				
Arm.				
Systolic	126	124	132	134
Diastolic	110	110	112	115
Thigh.				
Systolic	164	150	128	110
Diastolic	120	120	110	80

By using the Hall-Quetelet[24] method of summarizing anthropometric data, the results of the data of the second series may be observed in the following table, showing the readings of the "median value:"

TABLE 6.—Median Values.

	Erect.	Sitting.	Supine.	Trendelenburg.
Arm.				
Systolic	115.8	120.3	132	136
Diastolic	96	100	108	112
Thigh.				
Systolic	176.25	166.6	140	125
Diastolic	150	144	117.6	103

Gumprecht, in his description of the changes in the pulse during compression of the limb, would lead one to conclude that the pulse gradually increases to its maximum amplitude, then gradually diminishes to its obliteration. On this point, however, Strassburger is unquestionably right when he says that the diminution comes suddenly. Furthermore, I believe, as he does, that at this point we measure the diastolic pressure, though I have not had the opportunity to follow the example of Brush and compare this method with an absolute instrument, such as Erlanger's. Nevertheless, our manometers show one characteristic that is a further check on our readings, that is the marked oscillation of

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[19] Deutsch. Archiv. f. klin. Med., 1900, lxvii, 437.

[20] Ein Verfahren zur Messung des diastolischen Blutdrucks und ine Bedeutung für klin. Medicin. Ztschr. f. klin. Med., 1904, liv.373. *"Der systolische Druck wird in der üblichen Weise bestimmt, urch Messung der Drückhöhe, bei der vorher maximale Radialpuls en diastolischen Druck giebt das Manometer an, wenn bei zunehender Compression der Brachialis der vorher maximale Radialpus ür den palpirenden Finger eben anfängt kleiner zu werden."*

[21] Gumprecht: Ztschr. f. klin Med., 1900, xxxix, 380: *"Der Puls verändert sich während dieser Compression sehr charteristisch. Er wird zuerst deutlich voller, bei Circulationshwäche weit deutlicher zählbar und erreicht das Maximum seines olumens gegen 100 mm. Hg. Dann verkleinert er sich etwas. icht vor dem Zeitpunkt des Verschwindens wird er plötzlich sehr ein, etc."*

[22] Strassburger says, however: *"Das Kleiner werden des Pulses nach dem Maximum verhaltssigmässig rasch erfolgt und dadurch eine deutliche Grenze zu finden erlaubt."*

[23] Protocols of 92 subjects are here omitted to save space. The median values are given in Table 6.

[24] The Journal A. M. A., Dec. 21, 1901; also Experimental Physiology, 115.

Formula:

Let

n = total number of observations.

m = number of observations in median group (group in which n/2 is found is median group).

l = sum of groups to left of median groups.

a = minimum value of median group.

d = arithmetical difference between minimum values of groups.

M = median value, to be determined."

Then

$$M = a + \frac{d(n/2 - l)}{m}$$

the mercury. Janeway[25] depends on "the lowest point of maximum oscillation" for his determination of the diastolic pressure. His manometers perhaps are more sensitive to slight pulsation than ours. However, it is noticeable in a mercury column that is not oscillating whatever as it rises, that at a certain point it suddenly pulsates with every systole of the heart, or that in a slowly sinking column these pulsations suddenly cease. It is also noticeable that at the point of marked oscillation in a slowly rising column there comes suddenly a diminution of the pulse. In every case we could not secure well-marked oscillation, but if the band is adjusted tightly and pressure not increased nor diminished too rapidly the mercury column generally indicates the change that is palpable in the pulse. Furthermore, a marked oscillation was noticed in a majority of the cases just before reaching the point of obliteration of the pulse. Between the points of maximum and minimum pressure the column of mercury did not show in many instances any pulsation.

Therefore, as I believe that the pulse is obliterated when a pressure is exerted equal to the systolic pressure in the vessel, I also believe that the palpable diminution of the amplitude of the pulse occurs when a pressure is exerted equal to the diastolic pressure, and that in most cases we have a check for our observations in the oscillations of the mercury column.

I have found it much easier to take my first readings as the pressure rises, and thus follow a thready pulse to obliteration, rather than to notice the point of return. After having experimented with over ninety subjects in taking the blood pressure, I feel that I must insist on taking the readings in the manner described. If the pulse is watched closely and the pressure applied slowly, the diminution in the pulse is very apparent and can be read. It is often so marked that in illustrating this point to students who were assisting me they invariably said: "There, it is gone," and I have no doubt that this point has been recorded by observers as being the systolic pressure. It is in covering this point that I have found the double atomizer bulb to be very valuable. After the point of diastolic pressure had been approximately determined the compression was removed and then again slowly raised to within 5 mm. of the former reading; the second bulb (the one in net) was then used to raise the pressure to the exact point of diastolic pressure. This could be determined most accurately, as the second bulb is not valved and compression is controlled for 10 mm. to 15 mm. entirely by pressure of the hand on the bulb; thus by raising the pressure a few millimeters above and then allowing it to sink slowly below, the change in the character of the pulse is easily noticeable. We have also the check, before mentioned, of the oscillations of the mercury. The exact point of obliteration of the pulse is determined in like manner.

It is evident, I think, that, in making a reading in this fashion, we have the arteries in their natural state of distensibility and contractility. On the other hand, when pressure is applied considerably in excess of the point of obliteration, and readings are made depending on the changes apparent while the pulse is slowly returning, the diastolic pressure, or point where the artery has just recovered its normal state, will be read too low. An inert, elastic rubber tubing, compressed to obliteration of its lumen, would be somewhat sluggish in regaining its elasticity as pressure was removed. How much more sluggish, then, would be the action of an artery having not only elastic walls but also contracting muscles that must be fatigued by this unusual pressure on them?

DISCUSSION OF FINDINGS.

Factors of Blood Pressure.—The formula employed by Stephens in his study of the changes of blood pressure due to posture is simple and comprehensive: P varies as Hs x Hr x R. Janeway,[26] in his discussion of the factors of blood pressure, names: "(a) The energy of the heart; (b) the peripheral resistance; (c) the elasticity of artery walls; (d) the volume of the circulating blood." It will be readily seen that the first three factors named can be classed either under "heart strength" (Hs) or "resistance" (R). The last-named factor, "the volume of the circulating blood" throughout the entire body is believed by Janeway to be of less importance physiologically than clinically. However, the rush of blood to any one region is a most important factor. Janeway's classification of the factors for blood pressure of an individual is for "any given moment," and so does not include "heart rate" (Hr). This important factor bears a definite relation to the other two. However, let us consider this point later. The most important factor, R, is in itself somewhat complex. It covers both "the peripheral resistance" and "the elasticity of the artery walls."

What, then, would be the value of this factor in two different vessels, such as the brachial and the femoral, compared simultaneously? In quadrupeds the arterial supply of the anterior limb is about the same as that of the posterior, so far as the character of the vessels is concerned. In man, however, there surely is an appreciable difference. The brachial is a moderate-sized vessel, given off near the heart, while the larger femoral artery and its terminations is the farthest from the heart. The smaller vessel in a smaller limb would have a less amount of muscle fiber and connective tissue in its walls and less capacity in its lumen and, therefore, should be somewhat more readily compressed than the vessel which must carry more blood. Then, in the lower extremity, there is a proportionately greater venous back pressure to overcome. In the larger limb there must also be a much larger capillary area, an additional factor in resistance. All these factors have their influence without reference to posture, but if, from the spine, where the circulating stream is all practically on a level, the position be changed to the erect, then the hydrostatic pressure becomes an important factor. It acts most at the lowest level below the heart. The back pressure in the veins is increased from valve to valve and makes the resistance back through the capillaries greater, while at the same time gravity assists the contracting vessel wall, and the ventricle itself, in forcing the stream through the arteries. Another factor that is undoubtedly of much importance in regulating resistance, and in that way the blood pressure of the entire body, is the circulatory system of the splanchnic area. Probably the heart rate itself is controlled through the stimulation of the sympathetic nervous system in this exceedingly vascular area. We might naturally suppose that any local change of this sort would be more manifest in the pressure in the thigh than in the arm.

The Influence of Posture: Standing.—By referring to the table of median values, it is seen that in this posture the lowest pressure is in the arm and the highest in ıe lower extremity, both systolic and diastolic. In ımparing the maximum and minimum pressures, we e that there is a difference of over 60 mm. between the stolic pressure in the arm and the thigh and a dif-rence of 54 mm. in the diastolic pressures; also, that ıe diastolic pressure in the arm is about 20 mm. lower ıan the systolic, while in the thigh there is a difference over 26 mm. The weight of the column of blood om the thigh to the heart level would equal about 45 m. of Hg. The force of gravity acting in the direction the circulating stream would augment the heart rce. But there are still other factors acting in the wer extremity to account for an additional 15 mm. essure, making the total difference of 60 mm. between e arm and thigh. The increase in volume of the blood answered by an increase in the peripheral resistance, rough a contraction of the vessels and capillaries, in ı attempt to control the rush of blood. That the ıality of elasticity and contractility in the vessel wall being taxed in the lower portion of the body accounts r a difference of 26.25 mm. between systolic and dias-lic pressures and only 19.8 mm. difference in the arm. hat the vessels act greatly in the circulation is notice-le in diseases affecting them, and in the use of drugs, sodilators and vasoconstrictors. The factors, then, ısing the difference in the blood pressure in the arm d the thigh are gravity, increasing the volume of the culating blood below the heart level, and the increased istance through actual action on the part of the ves-s themselves. Stephens further points out that ough the conditions in the splanchnic area affecting nervous system the heart rate is increased in this sition. Thus we see, on the part of Nature, the effort adjust the intricate circulatory system to every change condition, and to return the blood as rapidly as pos-le from the lower portion of the body, threatened h engorgement, to the upper levels, threatened with letion.

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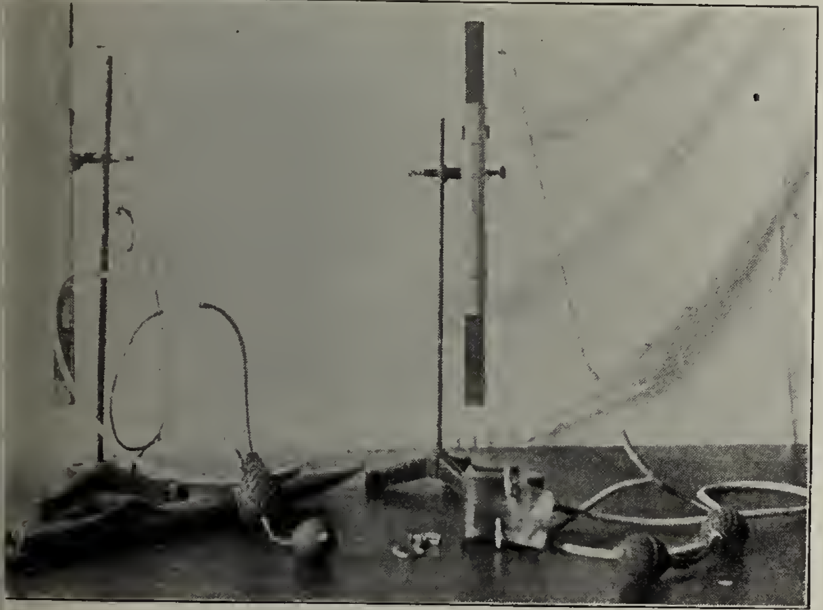
[25] Clinical Study of Blood Pressure, page 92.

[26] Clinical Study of Blood Pressure pp. 11, 28.



ig. 1.—Two sphygmomanometers showing: Manometers attached iron stands with 30 cm. sliding scale; pneumatic girdles with ew clamps; pressure apparatus, double atomizer bulbs, rubber ing, Y tube, T tube, and pinchcock.

Sitting.—Here the factors are changed by the decrease hydrostatic resistance, due to flexion of the thighs, the horizontal direction of a column of blood 40 . in length. We notice that the systolic pressure in thigh has fallen nearly 10 mm. The diastolic pres-e has fallen but only 6 mm. The fall can be at-outed to decrease in hydrostatic resistance; on the er hand, because there is a slight decrease in the vol-e of blood, the action of vessel wall is of more avail, and we see that the diastolic pressure in the thigh is really over 2 mm. nearer the systolic pressure when the individual is sitting than when erect.

In the arm we find a slight rise in pressure. There is an increase in the flow of blood to the part; the vessel walls are acting under a slightly greater strain, and while we find an increase in diastolic pressure it is .5 mm. lower in comparison to the systolic pressure than it was in the erect posture. The heart rate is slightly lower. A decrease in the amount of blood below the heart calls for a slower return of the blood to the heart levels.

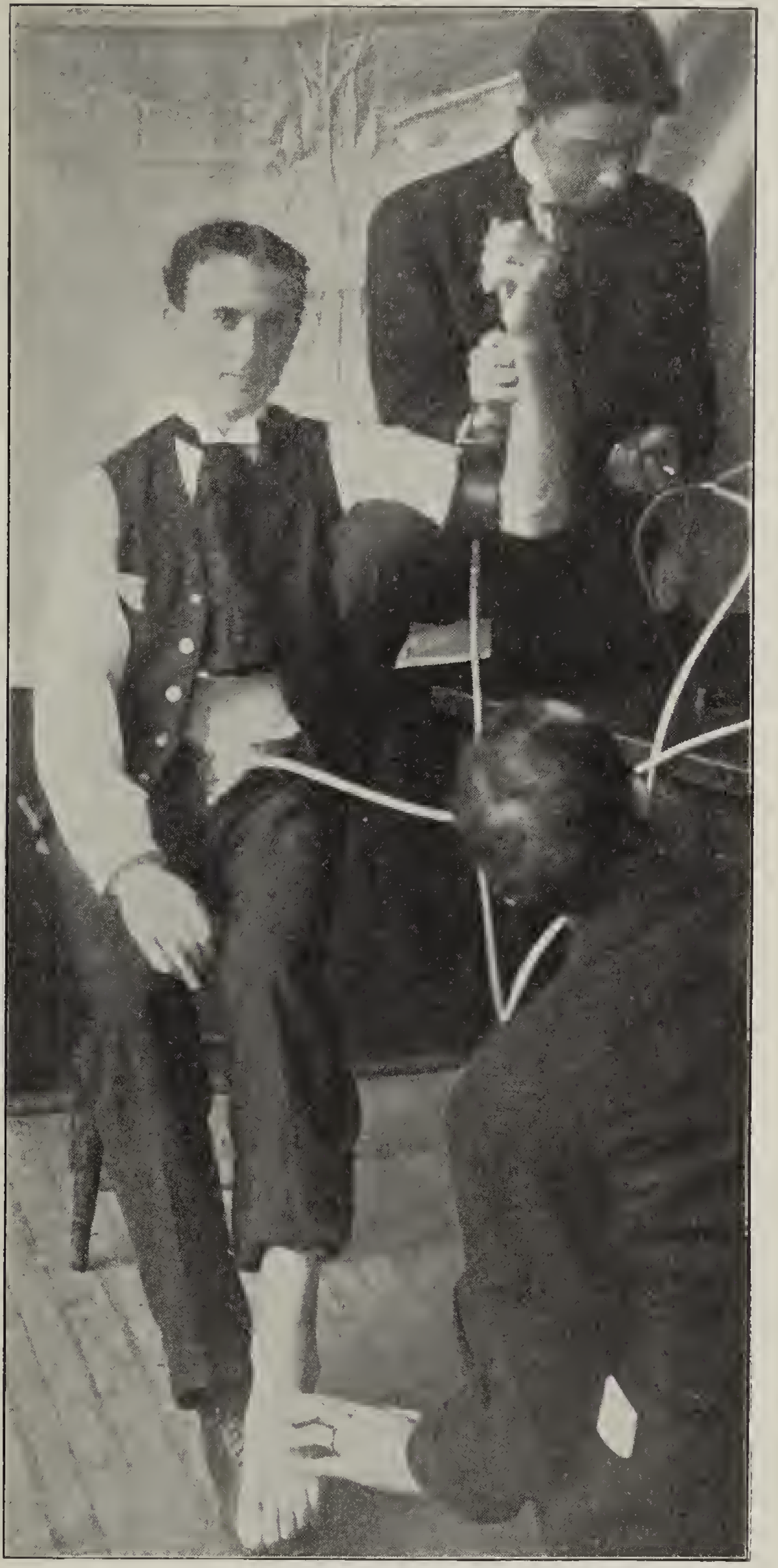


Fig. 2.—The sitting posture.

Supine.—The pressure is markedly increased in the arm with a still greater difference between the systolic and diastolic pressure than in the former postures. In the thigh there is a marked decrease in the pressure, with very little change in the difference between the systolic and diastolic pressure. But the pressure in the thigh is still 8 mm. higher than in the arm. This seems logical, inasmuch as the peripheral resistance is still greater in the thigh than in the arm. This is not in accordance with von Recklinghausen's statement that the pressure is the same. A consultation of the table of data will show that had I taken the readings of one person only, as did v. Recklinghausen, I might have reported that the pressure was the same in the arm and the thigh, in the supine; or that it was 20 mm. higher in the thigh, or even that it was lower. In other words, in attempting to reconcile the conditions found in an individual to the standard set by the average, individuality must be considered as a factor. I have found in comparing the pressures in the arm and in the thigh that the height of the individual and the size of limbs are two ever-present factors.

Stephens gives 68.7 as the pulse rate for this posture in comparison with 86 for the erect and 82 for the sitting postures. The heart is not called on to work so fast in this position in an effort to maintain a balance of the flow of blood to the extremities.

Trendelenburg.—In this posture, the balance is tipping in the opposite direction from the first one recorded, and the records show opposite conditions. There is a slight increase in pressure in the arm and a decrease in the thigh. The tendency is for the blood to gravitate to the upper part of the body. The average heart rate, according to Stephens, is 65.8, a trifle slower than for the supine.

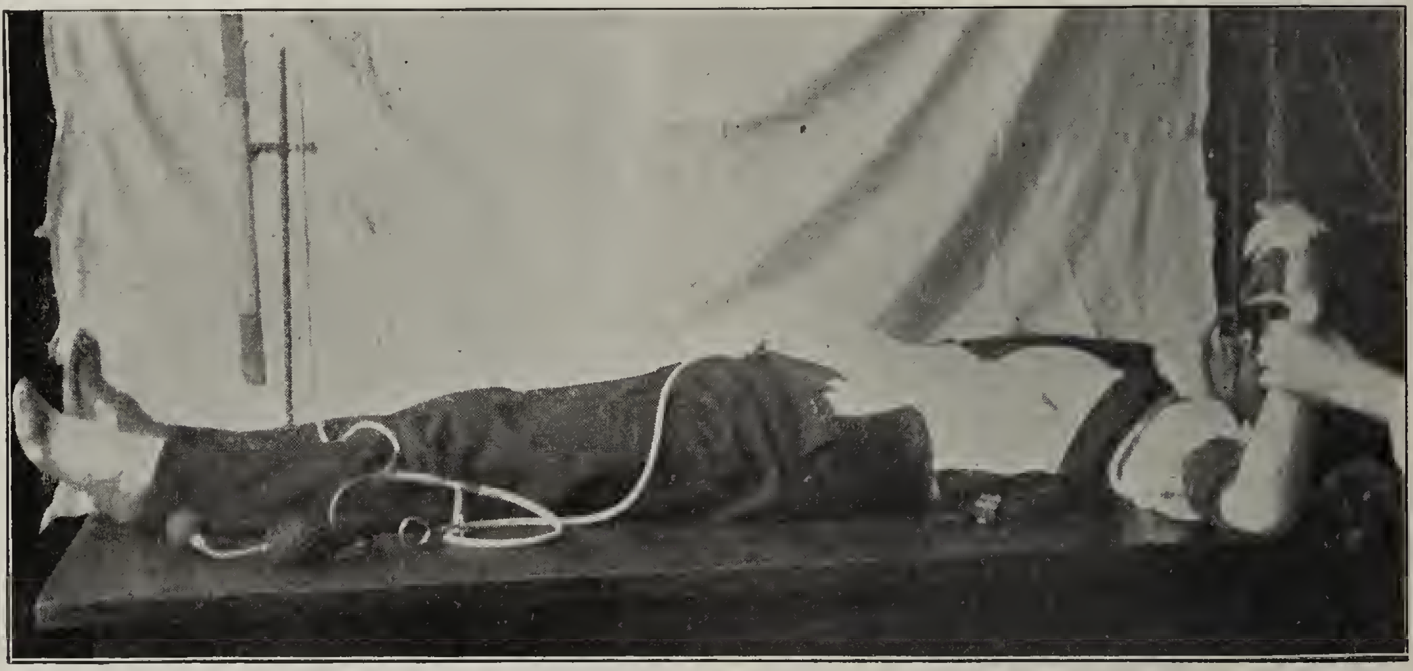


Fig. 3.—The supine posture.

From these data we are able to formulate rules regarding the effect of posture on the pressure in the upper and lower extremities. It is evident that in the arm or at the level of the heart the pressure increases, as it decreases in the lower limb, from the erect to the head-down posture; also that the increase in the arm and the decrease in the thigh are slightly more for the systolic than for the diastolic pressure. Thus the difference between the systolic and the diastolic pressure gradually increases for the different positions, from the erect to the Trendelenburg in the arm, and at the same time the difference decreases in the lower limb.

This difference between systolic and diastolic pressure is called by Erlanger and others the "pulse pressure." Strassburger[27] divides this difference, between the maximum and minimum pressure, by the maximum to obtain his *"Blutdruckquotient."* This somewhat arbitrary method of procedure does not seem to be used extensively. I am not able to formulate any law concerning the effect of posture on the pressure quotient that will apply for the individual case.

Erlanger,[1] however, asserts that the product of "pulse pressure" by pulse rate remains approximately the same in different postures. This I have found to be true using Stephens' average pulse rate and multiplying them by the pulse pressures of the upper extremity. It is obvious that this rule holds only for the arm or at the level of the heart. Apply this fact to the formula for blood pressure, assuming the pulse pressure to be heart strength, we have Hs x Hr = a constant. Then, since P equals (Hs x Hr) x R, and the product of the first two factors is a constant, P varies as R. The periphera resistance, with its elements of vessel wall action, hydrostatic pressure and volume of blood, is the most important factor in determining blood pressure.

DISCUSSION OF INDIVIDUAL CASES.

In studying the blood pressure of each individual many interesting features were noticed. I can not mention more than a few of them, as each reading shows peculiar to the individual. I have mentioned the effect of height and the size of the limbs. The thirty-fourth subject (second series) was the tallest man in the class, but not the largest limbed. He is a habitual tobacco user and has a rather low pressure. The change in pulse pressure in the arm is typical. His pulse was especially noteworthy. While the systolic pressure in the arm changed from 102 mm. in the erect to 120 mm. in the head-down, the pulse was 112 for the erect, 82 for the sitting, 68 for the supine and 68 for the Trendelenburg postures. Surely, this is example enough of the futility of recording the pulse rate without also noting the posture. Many of the men used tobacco more or less, and in some the blood pressure was found to be low, with marked changes in pulse, as in the one just mentioned.

The former "high school athletes" furnished interesting material. No. 9 had been a bicycle racer from 15 years of age until he went "stale," and we found a hypertrophied heart, completely compensated, and a high blood pressure, affected greatly by posture. Note the pulse pressure in the arm, 36 mm., 50 mm., 54 mm., 60 mm. Could one ask for a clearer picture of a hypertrophied left ventricle pouring a large quantity of blood into the aorta? A strange difficulty presented itself in reading the pressure in the thigh in this case, and also in No. 45, who is a wrestler. This was a very active clonic spasm of the muscles of the thigh when compression was applied.

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[27] Ztschr. f. klin. Med., 1904, liv, 387-394.

One other noticeable phenomenon occurred in all the cases, but very markedly in a few—hyperemia of the distal portion of the limb. This maximum coloration was apparent when pressure about equal to the diastolic pressure was applied. Mention of such an apparently trivial point would not be made, except that it has occurred to me that this is a condition aimed at in the Bier treatment. Why not, then, it seems pertinent to ask, employ sphygmomanometers to secure this passive congestion? Thus we may know exactly the degree of compression being applied, may apply the same pressure each day, and may compare exactly the amount of compression with the blood pressure? This method, it seems, might be preferable to the simply tying of a rubber tube about the limb. It may appear to be far-fetched, but is it not possible that this laboratory instrument might be used conveniently and effectively as a therapeutic measure in the passive hyperemia treatment?

I might discuss at length many other interesting features that occur in studying the individual, such as the effect of suddenly chilling the body, the blood pressure in neurasthenics and in students under unusual nervous and mental strain.

I would also suggest that a careful study be made of the pressure after the ingestion of a full meal or the drinking of a large quantity of water, or the use of a definite amount of alcohol. In one individual I noted the effect of a hypodermatic injection of 1/50 of a grain of nitroglycerin and found a fall of 32 mm. in the blood pressure in less than six minutes and a slight increase in the pulse rate. Would this not be an interesting and scientific method of studying the effect of physiologic doses of the cardiac stimulants and vasomotor drugs in our laboratories of experimental pharmacology?

CONCLUSIONS.

1. By carefully noting the changes in the pulse as compression is being slowly applied, not only is the point of obliteration noticeable, measuring the systolic pressure in the vessel, but also the point of diminution in the amplitude of the pulse, or the diastolic pressure is to be observed, and, furthermore, in many instances, a marked oscillation occurs in the mercury column at and above the point of diastolic pressure.

2. Posture affects both systolic and diastolic pressure. There is an increase of pressure in the arm in changing from the erect to the sitting, supine and the head-down positions and at the same time a corresponding marked decrease in the pressure in the lower extremity. These changes of blood pressure are attended with a marked decrease in pulse rate.

3. The pulse pressure, or difference between diastolic and systolic pressures, increases in the arm and decreases in the thigh as the body changes from the erect to the sitting, supine and Trendelenburg postures.

4. At the heart level, Hs x Hr = a constant in all postures. Therefore, the pressure changes directly as the peripheral resistance.

5. In the sphygmomanometer we have a convenient method of applying a known amount of compression to a limb, and thus may make of it a therapeutic instrument in methods of passive hyperemia treatment.

6. For accurate results the pneumatic arm band should be at least 9 cm. wide. Readings are from 15 mm. to 30 mm. lower than with the ordinary Riva-Rocci 5 cm. girdle. The width of the band should always be recorded.

DISCUSSION.

Dr. Walter L. Bierring, Iowa City, said that these investigations into the great variability in the blood pressure in normal individuals will have a great influence in the conclusions we come on to in case of diseased individuals.

Dr. John C. Hemmeter, Baltimore, declared that the paper has a very important bearing on the pathology of the living tissues, but still more on the dynamics of growth, of development, even on the embryo. He asked Dr. Hall whether or not the pulse pressure difference between the systolic and diastolic pressure is as constant in the thigh and arm as was shown on the blackboard. The difference between the thigh and the arm is very marked in the Trendelenburg position, but it was not at all marked in the figures given on the board for the thigh. He also asked Dr. Hall whether or not he had any laboratory experience with the Erlanger apparatus for measuring blood pressure in the human subject.

Dr. Joseph Sailer, Philadelphia, stated that many years ago, when he was a medical student, he was working in the pharmacologic laboratory preparing his thesis, and Dr. H. C. Wood was doing some experiments on anesthesia. Dr. Wood had a dog in a balanced trough with a manometer in the carotid and one in the femoral artery. When the dog was put in the erect posture the blood pressure in the carotid sank very distinctly, and when inverted, head down and tail up, the blood pressure in the femoral artery sank distinctly. Dr. Wood's results were published in 1890. Dr. Sailer said that he has done a good deal of work with Stanton's modification of the Riva-Rocci apparatus, and confessed that he feels a little bit doubtful of diastolic pressures. They are more difficult to read than the systolic. Such a difficulty might explain these results. It seems to him, however, that the figures given in the paper are pretty satisfactory. The only thing he wonders about is whether or not even 9 cm. is broad enough for the thigh cuff. In a stout individual he should have thought it was not.

Dr. John C. Hemmeter, Baltimore, said that the manometer obviates that difficulty with the diastolic pressure.

Dr. Winfield S. Hall, Chicago, said that they have not used the Erlanger apparatus and that he is not able to say whether or not Erlanger says much about this pulse pressure, as it is called by some of the German observers, and by pulse pressure they mean the difference between the diastolic and systolic pressure. The reason why more individuals were not observed than the 94 is because that comprised almost the whole freshman class in the school. The students were brought in four at a time, and the whole forenoon was devoted to taking the observations. Dr. Sanford was exceedingly careful in his observations and did not begin his work on these 94 men until he had worked a number of months on the technic—testing cuffs of various widths, and single and double atomizer bulbs. He finally chose the wide cuff and the double bulb as being most trustworthy. The second bulb has a net not readily distensible. By manipulating the bulbs he held the pressure so there would be no regurgitation, and then putting one hand on the bulb within the net and the other on the pulse and watching the mercury meniscus he was able to bring the pressure up. He made the reading on a rising pressure. Many observers make it on a falling pressure. After observation of these two ways he settled on the use of the reading on a rising pressure as being the safer and more satisfactory. When he reached the point where the pulse began to get noticeably weaker then he varied the pressure by pressing his hand on the second bulb. The pressure could be raised a millimeter at a time and maintained absolutely as he wished to hold it, and in the meantime the pulse was observed very closely on the mercury meniscus, and when he had it where the lowest pressure was observed that gave the oscillation of the mercury, just at that moment there would be a drop in the force of the pulse, and that is the point where he made his observations of the diastolic pressure. Then raising the pressure until the pulse was obliterated, he made the second reading.

A CASE OF HAIR BALL IN THE STOMACH.*

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The following case is interesting on account of its comparative rarity and on account of the fact that a mass completely filling the entire stomach, and causing distension much beyond its normal capacity, could exist for years, creating no gastric disturbances.

Patient.—M. H., female under 10 years of age, of North Adams, Mass., was sent by Dr. E. E. Russel. She was a seven months infant and weighed 3 pounds at birth. The child was removed instrumentally on account of puerperal convulsions in mother and was breast fed.

History.—Whooping cough and measles, at eighth year; both light attacks. Always a moderately nervous child. A squint of left eye was corrected by glasses. No convulsions. Always a good sleeper. Appetite good; food well digested and patient well nourished. School attendance began between six and seven years of age, was bright in her studies, active on her feet, always ready for her meals and never complained of any discomfort in the abdomen. She began picking at carpets and woolly materials and swallowing the pieces when she was a very young child—before she commenced to walk. She developed an early desire to pick her hair and swallow it; she was almost completely bald from this habit, and her mother noticed small masses of hair in her stools at odd times for many years. The history of the case during her entire life time until the illness immediately preceding operation was absolutely uneventful.

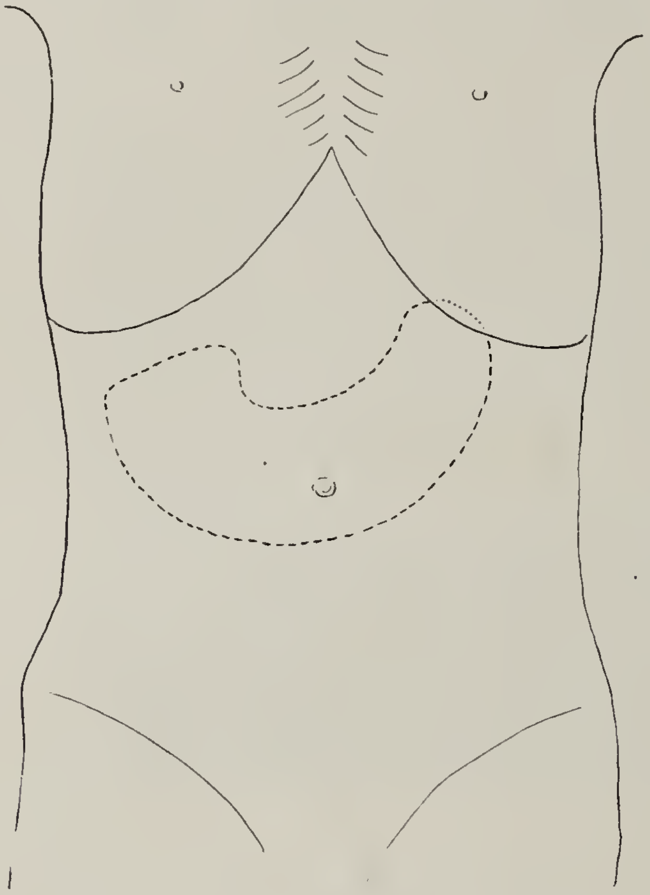

Fig. 1.—Diagram showing relative position of stomach.

Present Illness.—She was taken ill May 14, 1907, with nausea and more or less vomiting. Pain in the epigastrium followed the vomiting which was so severe that Dr. E. E. Russel, the family physician, was sent for. He found a mass in the upper abdomen, sausage shaped, which he thought might be impacted feces. A brisk cathartic and high enema was followed by a copious purge which contained a small bundle of hair. At his next visit the mass was even more distinct and answered in every detail the outline of the stomach. This, taken with the past habits of the child, and the fact that masses of hair had appeared in the movements from time to time, led him to make a diagnosis of a probable hair ball in the stomach.

Examination.—Examination at Troy Hospital, May 20, 1907, showed a well nourished child of good musculature; well developed and full blooded. The heart and lungs were both normal. Pulse rate was not accelerated and there was no increased temperature. On inspection a well defined mass was seen in the epigastrium, corresponding to the outline of the stomach, somewhat movable on inspiration and expiration. On palpation the mass had rather a doughy feel and an indistinct fine crackling was elicited. There was moderate gastroptosis. The stomach extended in its long axis from the outer border of the left rectus muscle at its costal attachment to well beyond the outer side of the right rectus, with its most dependent part somewhat below the level of the umbilicus (Fig. 1). The shape and outline approached very nearly a semi-circle. The introduction of a stomach tube was accomplished without difficulty until it was blocked by the tumor, at the cardiac end of the stomach. With some coaxing it passed along sufficiently to introduce a few ounces of fluid, and by continued repeating and syphoning off, sixteen ounces were introduced at one time. The fluid returned clear but contained a moderate amount of mucus. This was repeated several times before operation. With the introduction of the fluid the stomach became more prominent. Under anesthesia the tumor was easily movable and its entire outline readily demonstrated. The fine crackling (similar to rolling a bundle of hair between the fingers) was evident and strongly corroborative of the composition of the mass.

Operation.—An incision was made through the right rectus muscle, splitting its sheath anteriorly and posteriorly. The cardiac end of the tumor was presented in the line of incision and after walling off the cavity thoroughly an incision in the anterior wall of the stomach sufficient to permit of the engagement of the masss its delivery was readily affected. It proved to be a bundle of hair as diagnosticated, was a perfect mold of the stomach—extending in its long axis from the cardiac orifice through the pylorus into the upper part of the duodenum. The pyloric end was conical and projected into the duodenum about 1¼ inches. The hair ball, from its peculiar shape, (its great curvature measuring 13 inches and its circumference 7 inches) caused more elongation than dilatation of the stomach. It was made up of hair of varying lengths, absolutely black, and densely packed (Fig. 2).

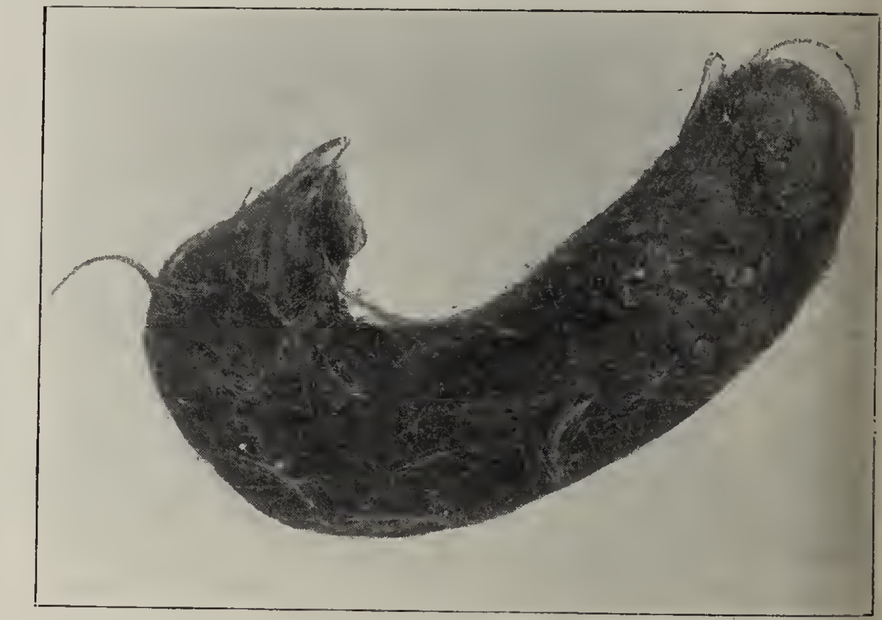

Fig. 2.—The hair tumor removed from stomach; 1/3 size.

The gastric mucosa was highly irritated, but there were no definite areas of ulceration. The incision was closed by means of mattress sutures of fine silk, and the abdomen closed without drainage.

The patient was discharged from this hospital on the twelfth day after operation completely recovered.

It has been known for a long time that concretions may develop within the stomach, giving rise to an abdominal tumor. These concretions are made up of rticles swallowed, either intentionally or otherwise, from orce of habit, hysterical individuals or those who are nentally disturbed. Those masses are usually made up f hair, woolly materials or vegetable fiber, string, and ometimes resinous material. The hair ball, on account f the habit of swallowing the hair in small amounts, ogether with the continuation of the habit, eventuates n the formation of a well-defined tumor. Before the all attains any considerable size it is usually oval in hape and will be found located near the pyloric orifice. Vith increase in volume the movements of the stomach vill gradually alter the outline until it assumes a conour corresponding exactly to the outline of the stomach tself, or, in other words, constituting a true mold of he stomach.

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* Read before the Third District Branch, New York State Medical Society, Albany, N. Y.

Where a large accumulation is found it may extend, as n this case, from the cardiac orifice through the pylorus ell into the duodenum. From the constant action of he gastric walls the bundle of hair becomes rolled into n exceedingly solid mass and may possess enormous roportions, if made up purely of hair or vegetable ber, before giving rise to disturbances of a serious kind. hose accumulations are found in the lower animals. hey are exceedingly common in horses, cattle, dogs and ngora cats principally, and are said to cause death ccasionally. The reported cases have occurred almost ntirely in females. Of the twenty cases of hair ball in ie stomach which have been reported, all but one ocurred in females.

The[1] first case reported in the literature, by M. Baudaiant. in 1779, was a male, who died at the age of 16 ears. At the autopsy a hair tumor was found in the omach 17 cm. in length, and one 12 cm. in length in ie duodenum.

The cases reported would seem to substantiate the ict that the habit of hair swallowing is acquired at an irly age, and although the tendency to engage in such ractice is greater when the hair is long, and worn ose, hanging about the shoulders, nevertheless, the ıbit has been noted in some instances in creeping chilren.

Russel's Case.[2]—*History.*—Woman, aged 31, had a large mor in the abdomen, which was supposed to be an enlargeent of the spleen. It occupied the left side of the abdomen ıd extended into the pelvis. It presented a concavity on its ner side and passed beneath the false ribs. The entire splenic gion was dull on percussion. Its great length in proportion its breadth caused some doubt as to its being splenic. It d been increasing in size for 17 years. It was first observed ıen the patient was 14. The patient's health had been good d she suffered little from indigestion. She had vomited od however. Death in this case followed a miscarriage.

Autopsy.—The autopsy was made by Dr. Prusser. The mor consisted of a mass of hair molded to the shape of the mach and was presented *in situ.* It had drawn down the mach in a vertical line, so that the pylorus lay in the pelvis. ıe mass was divided into two unequal parts fitted to one anher, constituting a hard and solid mass of hair. It weighed pounds and 7 ounces. In this case the patient was not emonal nor hysterical and the habit of hair swallowing was not spected. This woman had no difficulty in swallowing her od.

Inman's Case.—T. Inman[3] reports a case occurring in the actice of Dr. Dickinson of Liverpool.

History.—Woman, aged 34, died with obscure symptoms. The mach was found full of hair matted into a mass of the shape d size of the viscus when distended by a full meal. Specimen in the Museum of Royal Infirmary Medical School. The patient had been in the habit of swallowing hair.

Best's[4] **Case.**—*History.*—Female, aged 30, began to have pain in her stomach when she was 15 years old, with vomiting and diarrhea. She was constantly under the care of a physician. A tumor was discovered in January, 1863, and was supposed to be a scirrhus cancer of the stomach. Best was much puzzled at the case and treated it as one of fecal impaction. In September, 1869, while the patient was working in the field, she had a violent pain in the abdomen, followed by peritonitis, with renewed attacks, when death occurred in October of that year.

Autopsy.—This disclosed a general peritonitis. The peritoneal cavity contained 10 ounces of dark fluid. The stomach was completely filled with a hair ball, which weighed 35 ounces. The stomach was perforated. There was a single round ulcer at the seat of perforation on the posterior gastric wall. In this case the patient's relatives bore witness to the fact that this woman had made a practice of eating her hair for 15 years.

Berg's[5] **Case.**—*History.*—Female, aged 26, had been suffering with dyspepsia and vomiting for 3 years. A tumor had been noticed in the epigastrium for 2 years, with very rapid growth in the last six months. Entered hospital (Stockholm) May 31, 1887.

Operation.—The stomach was opened by incision 8 cm. in length, parallel to the greater curvature. A tumor of hair was found which weighed 900 gm. The patient made an excellent recovery. The mother said that when the child was 3 years old she had the habit of chewing her hair.

Boellinger's[6] **Case.**—*History.*—Girl, aged 16, had been complaining for 2½ years with symptoms of gastrointestinal catarrh, loss of appetite, vomiting, abdominal pain, liquid movements, insomnia, and finally no nourishment except liquid could be taken. A tumor was detected in the epigastrium. Death resulted from exhaustion.

Autopsy.—Stomach and duodenum distended with a great amount of hair. As a child she had been in the habit of pulling out hair putting it in her mouth, which she must have swallowed.

Jacobson's Case.[7]—*History.*—Child aged 11, complained for 2 years and 6 months of gastric disturbance; vomited a great deal of frothy mucus but never any food or blood. There was a swelling noticed in her abdomen one year prior to the operation. She suffered with colicky pains, particularly at night. She was compelled to live on milk, solid food causing severe distress. The child was poorly developed. A successful gastrostomy was done.

Charles Stover, Amsterdam, N. Y., reported at Amsterdam City Medical Society, 1895, the following case:

History.—Girl, aged 11, presented symptoms of incomplete obstruction for a period of ten days, with rectal tenesmus. It was said she had suffered with colicky pains in the upper abdomen for two years. She was in the habit of eating her hair, the temporal regions being bald. Examination of the anus showed a projecting tuft of hair like a camel's hair brush. An enema was followed by the discharge of a ball of hair and relief of all the symptoms. The mass measured two inches in length and three inches in circumference.

The first successful case was reported by Schoenborn[8] in 1883. J. Knowsley Thornton,[9] Jan. 9, 1886, reports a case in which a hair ball weighing 2 lb. was successfully removed in 1884. In Thornton's case the diagnosis of hair ball in the stomach was made prior to operation. The diagnosis based on the fact that the patient had passed small quantities of hair in the movements. This is the first authentic case in which the character of the mass was diagnosticated prior to exploration.

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[1] Jour. de Méd., 1779.
[2] Med. Times and Gaz., June 26, 1869.
[3] Med. Times and Gaz., July 3, 1869.
[4] British Med. Jour., Dec. 11, 1869.
[5] Sajous' Ann. Universal Med. Sciences, 1889, i.
[6] Münch. med. Wochschr., June 2, 1891.
[7] Med. News, 1901.
[8] Langenbuch's Arch. f. klin. Chir., 1883.
[9] Lancet, Jan. 9, 1886, also Trans. Path. Soc., London, 1886.

William Finder[10] reported a case occurring in the practice of the late William S. Cooper.

History.—The patient was suffering great pain, intensified on the slightest movement. She was much emaciated; abdominal walls exceedingly thin. A tumor was distinctly seen and felt in the upper adomen. On palpation the mass was hard. Was unable to take nourishment, and there were constant unsuccessful efforts at vomiting. The diagnosis of probable cancer was made and she died 10 or 12 days after this examination from exhaustion.

Autopsy.—An autopsy was made 40 hours after death and two masses of hair were found in the stomach, the combined weight being 16 ounces. There were two deep ulcers in the stomach which were nearly perforated. The specimens are now in the Pathologic Museum of the College of Physicians and Surgeons, New York.

It would seem, so far as I can learn, that in only two of the cases was the identity of the tumor properly recognized before operation: 1, J. Knowsley Thornton's, in whose patient hair was found in the evacuations, and together with the previous habits of the patient, led up to a correct diagnosis: 2, Stelzner[11] gives the credit for a correct diagnosis to his knowledge of Schöenborn's case In the other cases the diagnosis was cleared up on the operating table or postmortem.

The differentiation between a foreign body of this nature in the stomach and malignant disease should not be particularly difficult if one would take the trouble to ascertain a careful history. The early age at which this occurs; the slow growth of the tumor; the good health of the patient, independent of a mass which can be seen and felt; the absence of pain in manipulation and its physical characteristics are usually sufficient to settle the question. Femick of London reports a case in which very obstinate dyspepsia occurred in a young lady who was bald on both sides of her head from constant pulling and swallowing of her hair. Cessation of the practice was followed by gradual improvement. He suggests the importance of careful inquiry regarding the habits and occupation of young adults whenever a painless tumor is found in the stomach or intestines, and to bear in mind the possibility of a concretion. The tendency to evade questions and throw one off the track regarding the vicious habits must be carefully borne in mind.[12]

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[10] Trans. New York State Med. Assn., 1886.

[11] Centrbl. f. Chir., 1896, xxxi.

[12] The following are additional references to hair tumors:
d'Hautville (M.): Jour. Méd. Chir., Paris, 1813. Hair tumor found at autopsy.
Ritchie: Edin. Monthly Jour., 1849, ix. Female, aged 21; hair tumor found at autopsy; weight, 21 oz.
Pollock: Proc. Path. Soc., London, 1852. Girl died at 18; hair mass found in stomach and duodenum.
May, Jr., (G.): Trans. Chir. Soc., London, 1855. Hair tumor found at autopsy.
Gull (W.): Trans. Chir. Soc., London, 1871.
Swain: Lancet, April, 1895. Successful gastrostomy· diagnosis cleared up at operation.
Schulten: Centrbl. f. Chir., 1896, lii. Successful gastrostomy; diagnosis made at operation.
Allen (W. L.): The Journal A. M. A., Feb. 15, 1896. Exploratory laparotomy; hair ball successfully removed.
Schopf: Wien. med. Bl., 1900, also Med. Record, April 21, 1900. Successful operation, at which time diagnosis was made.

Scrofulodermata.—N. E. Aronstam, in *Central States Medical Monitor*, states that scrofulodermata are very difficult to cure. It would seem that at times a cure may be apparently effected, when it breaks out again in renewed vehemence. Especially is this the case in scrofulous or tuberculous glands of the neck. If external applications and the internal administration of cod-liver oil and iron iodid does not avail, we must have recourse to curettement of the glands with subsequent cauterization. Their total extirpation should not be attempted, for fear of dissemination of the tuberculous process constitutionally and the subsequent infection of more vital organs.

POLIOENCEPHALITIS SUPERIOR;

ITS CAUSATION, CLINICAL COURSE AND TERMINATION, WITH A REPORT OF SIX CASES.*

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NEW YORK.

Inflammation of the gray matter, the parenchyma, as it were, of the central nervous system constitutes the anatomical basis of some of the most sharply defined clinical pictures that physicians encounter. For instance, when it involves the anterior horns of the spinal cord the symptoms that result are few and are very easily interpreted. The same may be said of the symptoms that follow involvement of the gray matter of the oblongata, although the clinical picture may not be so simple because of the great variety of functional endowment which this small part of the central nervous system has.

Many of the diseases dependent on inflammation or other acute pathologic process in the gray matter of the central nervous system have had a suitable place in medical literature for a very long time. Others, such as acute hemorrhagic encephalitis, are recent additions, and much still remains to be learned concerning their causation, course and termination. The disease to which we desire to make a contribution, viz., that known as polioencephalitis superior (inferior ophthalmoplegia, or superior bulbar paralysis,) has been recognized only during the past twenty-five years, having been first described by Wernicke in 1881. He based the description and the successful endeavor to establish the disease as a clinical entity on three cases in which, after death, a termination quickly reached, acute hemorrhagic and inflammatory destruction was found in the gray matter around the third ventricle. The symptoms which these patients presented were chiefly ocular palsies, staggering gait, optic neuritis and an associated delirium, with agitation resembling that of delirium tremens. As each one of the patients was alcoholic, Wernicke stated that alcoholism was the most potent factor in the cause of the disease, but he did not attempt to maintain that it was the only cause. He was also impressed with the rapidity with which the disease pursued its course and reached a fatal termination.

In consequence of Wernicke's teaching the dependence of the disease on alcoholic intoxication and its fatal termination were generally accepted by the profession. That the disease might occur in two or three stages was demonstrated by the cases recorded by Uhthoff, Salomonsohn, Wolfe and others, while the cases reported by Thompson, Werner, Boedecker and Herrnheiser showed that it is not necessarily fatal.

It is now generally believed that the morbid condition constituting the anatomic basis of the disease is not unlike that constituting the pathologic process in various other inflammations of the gray matter throughout the central nervous system. In other words, the anatomic basis of acute, hemorrhagic, non-purulent encephalitis may be practically similar to that of acute superior polioencephalitis, and that the different course and termination of the latter is conditioned particularly by the location of the disease and by the proximity of important structures which may become secondarily disordered, as well as by structural changes in remote parts of the body, brought about by the protracted indulgence in the use of the substance which was the most potent etiologic factor, viz., alcohol. The picture of the pathologic process that one has in mind when the diagnosis of acute hemorrhagic encephalitis or acute bulbar or spinal poliomyelitis is made will adequately suffice for the pathologic process in acute polioencephalitis superior

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* A preliminary report on some of these cases was read before the American Ophthalmological Society, June, 1906.

This is an important point to keep in mind, because it simplifies the recognition of the disease and it facilitates a grasp of its symptoms and of its course. When the inflammation consisting of superior polioencephalitis confines itself narrowly to the gray matter of the third ventricle the symptoms are few and distinctive, as they are in anterior poliomyelitis, and they can scarcely be mistaken from those dependent upon any other disease. It is only when the inflammatory process extends beyond the aqueduct of Sylvius to the fourth ventricle, as it sometimes does, that the clinical picture becomes more complicated. In some instances it extends through the pons, the cerebellar peduncles and the basal ganglia in a most irregular way, and in such cases the resulting symptoms are so disparate that a satisfactory diagnosis can scarcely be made.

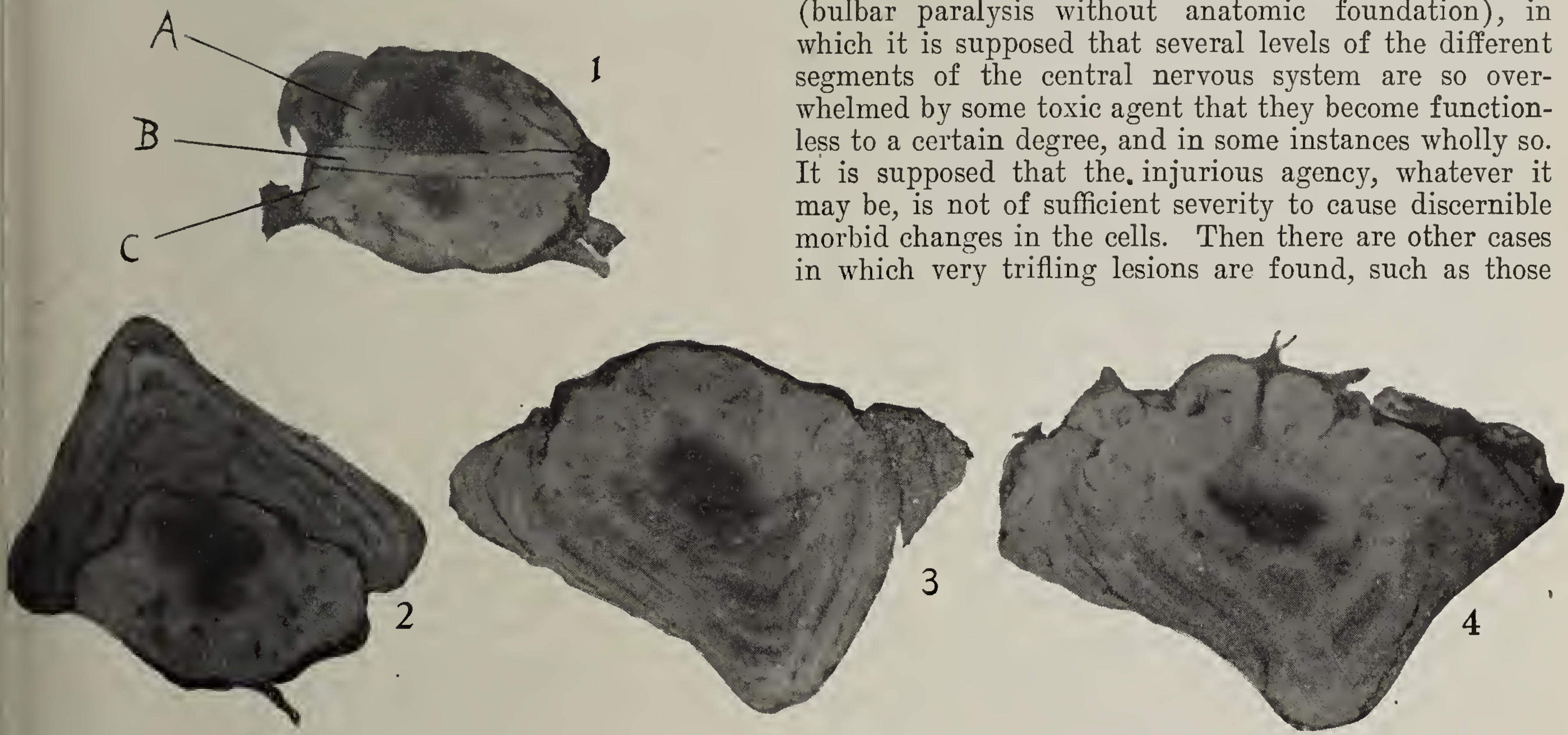

Fig. 1.—Photographs (by Dr. C. B. Dunlap), representing vertical sections through the midbrain and further back. 1. Midbrain cut 4 mm. posterior to the exit of the fourth nerves, seen from behind, 2, 3, and 4. Sections further back, all four showing large hemorrhages. The midbrain shown in 1 was divided by horizontal sections into three blocks, A, B, and C, which are represented as seen from above in the diagram below.

Polioencephalitis superior has been studied very carefully both from a clinical and from a pathologic point of view. The most important contributions that have been made to the clinical side of the disease are, first, that the levator palpebræ superioris is frequently affected to cause partial or complete ptosis (in Wernicke's case ptosis was absent), and that mild forms of the disease, lasting but a brief time and terminating in partial or complete recovery, are not at all rare events. We will be able to show in this communication that it is probable that such occurrences are much commoner than is suspected. Physicians often encounter such cases without satisfactorily interpreting them, and although they suspect them to be cases of superior polioencephalitis, when complete recovery results they doubt their diagnosis and the cases go unrecorded.

In regard to the etiologic and pathologic contributions to our knowledge of the disease, the most important are, first, that the same causes that are responsible for inflammation of the gray matter in other parts of the central nervous system are responsible for this disease. Acute infections, such as influenza, pneumonia and diphtheria, have all been accused of being the cause of the disease and a very strong case made out against them. It is not only infections, however, in whose wake it follows, for cases have been reported which seemed to show that lead, oxid of carbon, sulphuric acid, etc., were responsible factors.

Study of the central nervous system of many of these cases in which a postmortem was held has shown that in a number of them the structural changes are slight and entirely out of proportion to the severity of the symptoms that existed. Indeed, in some instances no lesion adequate to account for the symptoms or the fatal termination of the disease was found. These cases are looked on as analogues of asthenic bulbar paralysis (bulbar paralysis without anatomic foundation), in which it is supposed that several levels of the different segments of the central nervous system are so overwhelmed by some toxic agent that they become functionless to a certain degree, and in some instances wholly so. It is supposed that the injurious agency, whatever it may be, is not of sufficient severity to cause discernible morbid changes in the cells. Then there are other cases in which very trifling lesions are found, such as those reported by Patrick,[1] which he interprets as conditions midway between inflammatory infections of the central gray matter and asthenic bulbar paralysis.

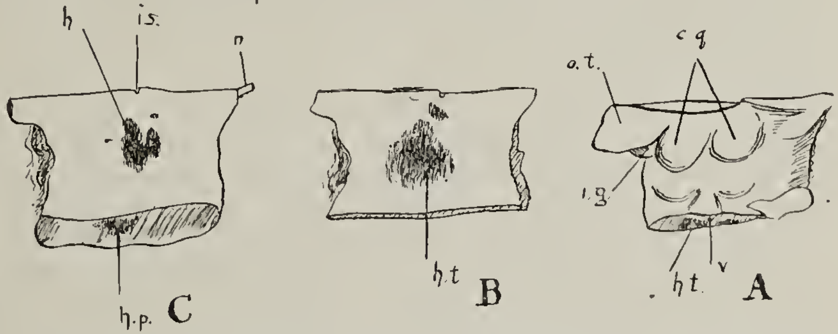

Fig. 2.—Diagrams of the three blocks into which the midbrain was divided, seen from above. A. Upper block: c. q., anterior corpora quadrigemina; v., fourth ventricle; o. t., left optic thalamus; i. g., left internal corpus geniculatum; h. t., hemorrhage in the tegmentum (appearing also in block B). C, lower block; i. s., interpeduncular space; n., right third nerve; b., hemorrhages continuous with those shown in block B, but 3 mm. deeper; h. p., hemorrhage in the pons.

The typical clinical manifestations of acute polioencephalitis superior fall into three distinct groups: those referable to the eyes, the mental disturbances, and the ataxia of gait and speech. The symptoms usually develop slowly, preceded by vertigo, headache, diplopia and sleeplessness, although they may come most abruptly, the eye-muscle paralysis being very sudden. The ophthalmoplegia, usually spoken of as exterior because it affects only the extrinsic muscles of the eye, may, however, exceptionally be manifest by paralysis of the ciliary muscle and the sphincter of the iris. In the severe cases ophthalmoscopic examination reveals an optic neuritis, the paralysis of the external eye muscles, the frequent partial ptosis, and the peculiar whimpering, pathetic facial expression which the patient develops, constituting a very typical clinical picture. The mental symptoms are usually those of an active delirium, resembling that of alcoholism, and likewise the ataxia of speech and of gait is not unlike that of the acute inebriation. Occasionally the mental symptoms are quite like those of Korsakow's syndrome, with disorientation, spurious reminiscence, active fabrication, particularly following suggestion, and easily provoked mental confusion. This feature of these cases has recently been commented on by a number of writers.[2]

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[1] Jour. of Nerv. and Ment. Dis., 1897.

The cases that we report herewith are illustrative both in their clinical histories and in the findings of the necropsy of one of them of the various points that we have mentioned regarding the etiology and clinical manifestations of the disease. Our cases show that the disease terminates in recovery much more frequently than is generally taught. Spiehlmeyer[3] says that only those cases which have shown three cardinal symptoms, including grave affection of the sensorium, delirium or somnolence, should be included, and our cases show these symptoms. He maintains that the majority of patients that are classified as recovered keep certain mental symptoms, which he calls chronic delirium, and this should make us hesitate to classify them as cured. But our negro woman, for instance, did not have any chronic delirium during the months she was in the hospital under the constant observation of one of us. Her case we regard as an important contribution to the literature, because it shows that cases of polioencephalitis developing from alcohol may recover. In this respect it corroborates Boedeker,[4] who reports the case of a university professor who had a typical attack of polioencephalitis superior due to the intemperate use of alcohol, who made a complete recovery and resumed his professional duties.

Case 1.—In the winter of 1904 one of us (W. A. H.) saw, with Dr. Alexander Lambert, a man of 28, weakened by alcoholic excesses, who was attacked suddenly by great ataxia of the legs, a low, muttering delirium, squint, and a gradual increasing ptosis on each side. Ten days after the onset of the attack there was incomplete ptosis on each side and an inability to turn the eyes more than 1 cm. in any direction. The pupils, however, were of medium size and responsive, and accommodation was preserved. The optic discs were slightly blurred. Three days later he died. This fatal case of bilateral ophthalmoplegia externa, with ataxia of the legs and delirium, seemed to be a typical case of acute alcoholic polioencephalitis superior, as described by Wernicke, which oculists recognize as the condition described by von Graefe in 1856, of complete paralysis of all the extrinsic muscles of each eye, with preserved function of the intrinsic muscles—a condition whose cause always remained inexplicable to von Graefe, for at the autopsy made on one of his patients the expected basal tumor was not found.

Case 2.—M. J., a negress, aged 45, with evidence of late syphilis and a record of wood-alcohol coma four years before, with a transitory left paralytic squint, was admitted to the New York Hospital, Sept. 25, 1905, in the service of Dr. Lewis A. Conner. Two days before she felt queer, and her legs became so weak that she could not stand. She had diplopia, and she talked in an excited and rambling manner. There was no vertigo or headache. The vascular tension was high and the arteries were hard. Ten days after the onset of the attack one of us (W. A. H.) found that she had complete loss of mobility inward in each eye, slight limitation of mobility outward in each eye, and excessive vertical nystagmus-like twitching whenever the eyes were directed up or down. There was no ptosis and the pupils were responsive to light, though slightly narrow. Accommodation, interior of the eyes and field were normal. There was no disturbance of sensation, no facial paralysis, no bulbar symptoms, such as difficulty in speech or deglutition. The knee-jerks were exaggerated and there was a continued evening temperature of about 100 degrees F.

Two weeks after the first examination and twenty-four days after the onset of the attack, the condition had improved so that each eye could be turned in half-way to the caruncle, mobility outward was still slightly limited, and there was still pronounced nystagmus in looking up or down. The fever and delirium continued. The ocular conditions improved slowly, and two months after the onset the mobility of the eyes was normal again. The gait gradually lost its ataxic character and the mental condition steadily improved. She was transferred to the service of one of us at the City Hospital, where she remained upward of six months that her recovery might be attested. Repeated examination failed to show any physical or mental symptoms. She worked about the ward until April 10, 1906, when she had what was apparently an apoplectic attack. The necropsy showed a hemorrhage from rupture of an aneurism of one anterior cerebral artery. The aneurism, which probably existed a considerable length of time, produced no symptoms so far as we were able to make out. The examination of the brain was made under the direction of Dr. C. B. Dunlap at the Pathological Institute of the New York State Hospitals.

Gross Examination.—On both frontal poles the pia is hemorrhagic, and at the left tip the cortex also over a small area is dark gray and specked with fine hemorrhages. The pia of the convexity is not otherwise remarkable, except for slight milkiness. The surface vessels are filled with blood without marked injection of the finer branches. An occasional atheromatous spot is visible. No gross lesions are seen on the convexity, except those mentioned on the frontal poles. The basal vessels are very much thickened and show decided atheromatous changes. A small ruptured aneurismal dilatation is found at the junction of the anterior cerebral and the anterior communicating arteries.

The pons is moderately widened and somewhat flattened. The third nerves are fairly preserved. The second nerves are of fair size, and nothing unusual was noticed in any of the others that were present.

The brain was cut by dividing the stem just in front of the pons, by a cut which passed through both pulvinars. Nothing remarkable was seen on this cut. The midbrain was then removed for imbedding by a second cut about 4 mm. behind the exit of the fourth nerves. This showed three small hemorrhages in the tegmentum, and one in the pons (Fig. 1, 1). The midbrain was then split horizontally for imbedding, as shown in the illustration, and the horizontal sections presented extensive tegmental hemorrhages at the sites indicated in the diagrams. Blocks A and B were imbedded for general histologic stains. Block C was put into Müller's fluid for study of the nerve roots. Slices at intervals of 4 mm. were made backward from the second cut shown in the illustrations, and the first two showed hemorrhages in the tegmentum or pons similar to those described. The last cut (through the auditory facial abducens segment) passed behind the hemorrhagic area (Fig. 1, 4).

Microscopic Examination.—All the hemorrhages appear slightly larger in the photographs than in the actual specimens owing to discoloration of tissues about them. They are firm, dark, do not crumble when cut, and are manifestly recent.

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[2] Raimann: Neurolog. Centrlbl., 1902, p. 976, and Boedeker, Arch. f. Psychol., vol. xl.

[3] Centrlbl. f. Nervenheilk. u. Psychiatrie, November, 1904.

[4] Arch. f. Psychiatrie, vol. xl.

Block C was cut from below up in serial sections 35-45 mi- ons thick, which were stained by the Weigert-Pal method. The wer sections contain both third nerves cut transversely. re and there one or two bundles are seen to have taken the dullary stain imperfectly in one nerve or the other, while eceding and following sections are seen to be stained per- tly. Further up the third nerve fibers are followed in their urse through the midbrain. Here the bundles are uniformly ined and are alike on the two sides. There is no evidence medullary degeneration. Among these intracerebral bundles each side are some overfilled veins, and posterior to the oups of bundles are scattered fresh hemorrhages, the cor- scles of which have not yet broken down.

Block B was cut from above down. A large and a small hem- rhage are seen on its upper surface. In sections near the sur- e, stained by Van Gieson's method, hemorrhages are seen rresponding to the gross hemorrhages shown in the diagram. e smaller hemorrhage above lies between the two third rves, pushing them apart and compressing them laterally. e arteries in and about the nerves have greatly thickened lls, as, in fact, have all the arteries throughout the midbrain. the nerves and near the nuclear region of the third nerves areas of softening are found, though some areas of soften- with many fat-carrying cells, apparently old, are found ttered sparsely through the midbrain.

Block A was cut from above. Following the nerve fibers ward to the nuclei of the third nerves, small fresh hemor- ges, chiefly near the median line, lie scattered among the ups of ganglion cells. The cells themselves have central clei and appear normal, except for considerable pigmenta- n. No evidences of disseminate sclerosis were found. Dr. nlap has seen a number of times fresh midbrain hemorrhages cases of brain tumor, and it is possible that the hemorrhage the base in this case by compression of the midbrain against tentorium produced the fresh hemorrhages in the midbrain.

The clinical symptoms of polioencephalitis superior ared up completely in this case and, correspondingly, found no evidences of old degenerative change in the ird nerves or in their nuclei of origin. There was covery both in a clinical and in an anatomic sense, d the hemorrhages found in the midbrain that oc- rred just before death suggest the lesion of eight nths before, which produced the paralysis of the anches of the third nerves supplying the extrinsic iscles of the eyes.

ase 3.—M. H., an unmarried woman, aged 28, servant, of h birth, was first seen Dec. 15, 1905. She was one of ive children; otherwise healthy; her mother had had no scarriages, and she had been well except for an attack of asles, up to the time when menstruation began. Since then has been weak. At that time, about the age of 15, her er lids began to droop and the eyeballs became immobile. about the age of 25 she began to experience difficulty in llowing and in talking. She now speaks in a whisper, is remely diffident, unresponsive and avoids people. Her re- s are contradictory, and there is such mental confusion t a clear account of her illness can not be obtained.

here is almost complete bilateral ptosis and almost com- te immobility of each eye, but no anesthesia of the face. pupils are of medium size, slightly unequal and irregular, the light and convergence reflexes are very sluggish. The knee-jerk is diminished. The fields and the optic discs normal, and there is sufficient astigmatism to account for a on of 20/50 and Jaeger 2 each.

This, then, is a case of polioencephalitis superior sta- nary for thirteen years, to which was added three rs ago a polioencephalitis inferior, causing difficulty speech and deglutition. There is almost complete alysis of all the extrinsic muscles of the eye and sso-pharyngeal disturbances, while the fifth and sev- h nerves are not involved. No etiologic factor could discovered.

Case 4.—M. A., Hebrew, tailor, aged 27, was referred to the Vanderbilt Clinic March 15, 1906, by Dr. Arnold Knapp. He was not an alcoholic; he had healthy children and bore no signs of syphilis, but he was emaciated and anemic, and his circulation was poor. He had previously been well, except for headaches coming on toward evening, from which he had suffered for ten years—a condition frequent enough among persons of his occupation with refractive errors. His memory is poor, his mind confused and sluggish. He had seen double for about a week. Mobility inward is wanting in each eye; mobility outward is wanting in the right and limited in the left eye, being accomplished here with nystagmus-like twitching. On the right side there is also slight limitation of mobility upward. There is no ptosis. The pupils are of medium size, round and promptly responsive. Corrected vision is: R. 20/20; L. 20/30; accommodation good. The optic discs are normal. Shortly after the onset of the diplopia he experienced difficulty in talking and in swallowing. On the right side there is a trace of facial paralysis. There is no disturbance of sensation. The knee-jerks are exaggerated and there is some weakness of the legs, but no Romberg. He was placed on mixed treatment. The condition changed slightly from time to time, without any particular improvement. After a month he was put on tonic treatment.

May 10, 1906, his mental condition was much improved. There was no facial paralysis, no difficulty in swallowing, and the knee-jerks were normal. In the right eye there was normal mobility inward and slightly reduced mobility upward, downward and outward. Feb. 27, 1907: After his visit of May 10, 1906, he went to the country for a month and recovered completely and continued at his work in good health. March 28, 1907: He says that four days ago he felt dizzy and fell to the floor. Since then there has been staggering gait. Arterial tension is increased. Hemoglobin, 85 per cent.; urine normal; eyes normal. June 20, 1907: He went to the country and the vertigo and ataxia soon passed off. Eyes were normal; no tremor; reflexes not increased; arterial tension high; no symptoms of disseminated sclerosis.

This, then, was a case of subacute polioencephalitis superior and inferior, with normal pupils and without ptosis, in which recovery was complete. Seven months later there was a transient attack of vertigo and ataxia. The only discoverable etiologic factor was arterial sclerosis and increased arterial tension.

Case 5.—L. McC., woman, aged 36, machine operator, was referred to the Vanderbilt Clinic by Dr. Arnold Knapp, Dec. 14, 1905. She denied syphilis and alcoholism, had no arterial sclerosis, and appeared well nourished. She had previously been healthy, and recalled only a left facial paralysis twelve years before, from which she recovered in a week with electric treatment. Four weeks ago the upper lids began to droop and she saw double. Soon after there was difficulty in swallowing and in talking. From the beginning she had been on mixed treatment, but there had been no improvement. When examined there was incomplete ptosis on each side and loss of mobility in each eye inward, upward and downward, with slight limitation of mobility outward, and marked nystagmus-like twitchings with efforts to turn either eye outward. There was no wheel rotation when an effort was made to look down, showing that the fourth nerves were affected. The pupils were medium size, slightly irregular and unequal. Light reaction was sluggish, and convergence reaction wanting. Fields and fundi were normal; vision for distance and near practically so.

There was no disturbance of sensibility; no tremor. The knee-jerks were exaggerated and there was some difficulty in walking, but no Romberg or Babinski symptoms. The patient talked in a rambling and silly manner, had no headache, and was singularly cheerful in regard to her condition. She was kept on mixed treatment for two weeks without any improvement and then passed from observation.

This, then, was a case of subacute polioencephalitis superior and inferior in which there were ptosis and diminished pupillary reaction, although there was no paralysis of the sphincter or ciliary muscle.

Oct. 2, 1906: Marked improvement. Had been treated with electricity. Slight nystagmus in all extreme directions of gaze. Left eye, slight limitation of mobility inward; no ptosis. Pupils 3.5 mm., round, responsive. No facial paralysis. Corrected vision normal. Knee-jerks exaggerated. Fields and fundi normal. No Romberg symptom; gait good. No symptoms of disseminated sclerosis.

Case 6.—S. S., Hebrew, hat-frame maker, was referred from the nervous department of the Vanderbilt Clinic to the eye department, June 19, 1907. His father and mother were living and healthy, and he had four brothers and two sisters, all in good health. He had never had syphilis, was not alcoholic, and had had no recent illness.

The onset of the present attack was about May 25, 1907, when he vomited four or five times a day without preceding nausea and without reference to taking food. This vomiting ceased after a week. About that time, he says, although his memory is poor and his speech is somewhat rambling, he became dizzy when he walked, but was not conscious of seeing double. He found, then, that he could not turn the eyes to the right and that he had partially lost control of the muscles of the right half of the face.

When the eyes were examined the acuteness of vision, accommodation, pupillary reaction, fields, and interior were found to be normal. The right eye had lost its mobility inward and outward and could be moved upward and downward only with excessive nystagmoid twitchings. The left eye could not be turned inward, and its rotation outward, upward and downward was accomplished only with marked nystagmoid twitchings. There was no ptosis. The pupils were 4 mm. each in diameter, round, and promptly responsive to light and in convergence.

General physical examination revealed increased arterial tension with hardening of the vessels and accentuated second sound of the heart. There was marked ataxia of the legs causing great difficulty in walking, but there was no muscular weakness. The knee-jerks were increased, as were all the reflexes of the upper extremities and the abdominal and cremasteric reflexes. There was no ankle clonus or Babinski's symptom. The afternoon temperature was 99.2 F. There was paralysis of the right half of the face, all branches of the seventh nerve being involved. There was no difficulty with speech or deglutition. There were no anesthesias. The mental state was confused.

Sept. 17, 1907: The patient, who had not returned for treatment and had continued his work without interruption with one eye covered, came to the clinic for examination in response to a note. He stated that all of his symptoms had passed off within two weeks after the first examination made three months before. At present all the cranial nerves are normal. No reflexes are increased. There is no ataxia or diplopia, and he feels well. There is marked arterial sclerosis. There are no evidences of disseminated sclerosis.

This, then, was a case of acute polioencephalitis with mental confusion, ataxia, increased temperature and paresis of all the muscles supplied by the third nerves, except the levators of the upper lids, the sphincters of the irides and the muscles of accommodation. With this there was paresis of the external rectus on one side, and complete paralysis of the external rectus and all the muscles supplied by the facial nerve on the other side. The symptoms passed off entirely in five weeks without treatment.

These cases show the great variability of the clinical course of the disease, the first case ending fatally in a few days; the second case, a very typical example of the disease due to wood alcohol ending in recovery; the third, a most chronic one, having existed for at least seventeen years; the fifth and sixth cases ending in recovery, and the fourth case, one of subacute variety, ending in partial recovery. Case 2, the negress, had no symptoms of the aneurism until a few days before her death, when she complained of vertigo and fell. She had had syphilis, the common antecedent of intracrani aneurism, and to this the disease of the blood vessels wa due.

The advisability of reporting the histories of patient who have external ophthalmoplegia, more or less transitory, terminating in recovery, in order that we ma gain a wider knowledge of superior polioencephaliti and its clinical course, is obvious.

A REPORT OF ONE HUNDRED CONSECUTIV PERINEAL PROSTATECTOMIES WITHOUT A DEATH.

WITH REMARKS ON THE GENERAL DECREASE IN TH MORTALITY OF PROSTATIC OPERATIONS IN RECENT YEARS.

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It was only a few years ago that prostatectomy wa considered one of the dangerous operations in surger but in recent years remarkable advances have been mad in the treatment of cases of prostatic hypertrophy.

Writing in 1900 Fuller said: "The mortality attached to prostatectomy at the hands of surgeons skille in that particular is at the present time in the neighbor hood of 15 per cent. to 18 per cent." Within four years however, the mortality rate had been decidedly lessene and Watson[1] was able to collect from the literature 24 cases of suprapubic prostatectomy with 11.3 per cent mortality; 530 cases of perineal prostatectomy with 6. per cent. mortality, and 1,086 cases treated by the Bottini operation with 6.3 per cent. mortality.

Escat[2] in 1904 collected 382 cases of perineal prostatectomy with a mortality of 11 per cent. and 164 case of suprapubic prostatectomy with a mortality of 18 pe cent., but in the same year Proust's[3] figures were practically the same as Watson's; 813 cases of perineal prostatectomy with a mortality of 7 per cent. and 244 case of suprapubic prostatectomy with a mortality of 12 pe cent.

Last year Tenney and Chase[4] were able to collect 71 cases of perineal prostatectomy with a mortality of 7. per cent. and 396 cases of suprapubic prostatectom with a mortality of 9.8 per cent.

During 1906 there appeared an extensive report b Tuffier,[5] showing 1,192 cases of perineal prostatectom with a mortality of 6.6 per cent.

The statistics of the Bottini operation and its improvement in recent years are best shown by the worl of Freudenberg,[6] who, in 1907, reported 152 cases, wit a mortality of 7 per cent., divided as follows:

Cases.	Good results.	Failure.	Deaths.	Per Cen
1 to 50	38 (76 %)	6 = 12 %	6	12
51 to 100	44 (88 %)	3 = 6 %	3	6
101 to 152	47 (90.4 %)	3 = 5.8 %	2	3.8

The statistics of the mortality of the cases treated b systematic catheterization is given as follows:

	Cases.	Deaths	Per Cent. Mortality.
Rovsing	126	10	7.1
Casper	51	3	5.8
Watson	30	3	10

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1. Annals of Surgery, 1904.
2. Annales des Malad. des Org. Genitourin., 1904, p. 1635.
3. Annales des Malad. des Org. Genitourin., 1904, p. 1697.
4. Journal A. M. A., May 12, 1906.
5. Fifteenth International Congress of Medicine, 1906.
6. Freudenberg, Wiener Klinik, 1907

Watson collected 146 cases treated in a palliative way by incision and drainage, with 49 deaths, a mortality of 33 per cent.

In order to determine the progressive improvement of the mortality rate of suprapubic prostatectomy we can not do better than to quote from Freyer, whose excellent work and numerous contributions to the literature have brought him great renown and by far the greatest number of cases of prostatic hypertrophy for operation that any surgeon has ever had. Freyer's first report[7] was made in 1901, when he published a description of his first four cases of suprapubic prostatectomy. Since then numerous consecutive reports have been made by him, the last in the *British Medical Journal,* being March 9, 1907. During this period of six years Freyer has been able to improve his technic and simplify greatly the postoperative treatment, and it is interesting to see how his statistics have improved. With the exception of a few reports by operators with an experience of but a few cases, they represent the best that have been obtained by suprapubic prostatectomy, being much better than the mortality collected from the literature last year by Tenney and Chase, which showed a mortality of 9.8 per cent. Freyer's consecutive reports showed as follows:

n the first 45 cases there were 5 deaths, a mortality of 11 %.
n the first 110 cases there were 10 deaths, a mortality of 10 %.
n the first 170 cases there were 16 deaths, a mortality of 9.4 %.
n the first 203 cases there were 15 deaths, a mortality of 8 %.
n the first 322 cases there were 25 deaths, a mortality of 7.8 %.
n the last 119 cases there were 29 deaths, a mortality of 7.5 %.

The last report of 119 cases was made in the *British Medical Journal,* March 9, 1907. In one of his recent papers, in speaking of the fatal cases, Freyer gave the auses of death as follows:

Seven deaths from uremia, three to thirty-nine days after he operation.

Three from heart failure, six hours, three days and twelve ays after operation.

One from shock, seven hours after operation.

Two from septicemia, thirteen and thirty-five days after he operation.

One from acute bronchitis, thirty hours after operation.

One from pulmonary embolism on the fifth day.

One from pneumonia on the seventh day.

One from heat stroke on the tenth day.

Two from liver disease, fifteen and nineteen days after operation.

Two from mania after the wounds had healed.

One from exhaustion thirty-three days after operation.

In discussing these cases Freyer said as follows: "It will be observed that in *not more than one-half* of the umber can the fatal result be attributed directly to the peration, the remaining deaths being due to diseases ncident to old age. This operation is comparable to one other in surgery owing to the advanced age to hich it is necessarily confined, and the broken down onstitutions of the patients from long suffering, and e must not lose sight of the fact that during the period f after-treatment and convalescence men of this age re peculiarly liable to be carried off suddenly by disease ntirely unconnected with the operation."

If we analyze further these 22 cases we find that two eaths occurred within the first twenty-four hours, one n the second day, two on the third day, two on the fth and seventh days respectively, or seven in all durng the first week. Three occurred during the second, wo during the third, and two during the fifth week. he exact time of death was not noted in eight cases.

There is no question that Freyer is correct in saying that many of the deaths which occur after prostatectomy are not due to the operation itself. This is borne out by my experience with perineal prostatectomy.

I have now had in all seven deaths after the operation of perineal prostatectomy as follows:

1. On the eighth day from severe secondary hemorrhage from the bladder, for which a suprapubic operation was done and an extensive ulcer of the bladder discovered. The bladder was packed, but the patient died of shock immediately after.

2. One on the fourteenth day from uremia, autopsy showing double pyonephrosis.

3. One on the thirteenth day from pulmonary embolism while patient was at stool, during which he strained very severely. Autopsy.

4. One on the twenty-first day from hypostatic congestion of the lungs and possibly uremia. No autopsy.

5. One on the twenty-fourth day from pneumonia, a man aged 87, who had convalesced well for three weeks after the operation. Pneumonia came on during the twenty-first day when patient was almost ready to go home.

6. One on the twenty-seventh day from pyonephrosis and uremia, patient having been septic and very uremic before operation, which was done to supply drainage as a last resort.

7. One on the thirty-first day from hypostatic congestion of the lungs. A very weak man, 81 years of age.

In reviewing these cases it will be noted that there was not a death during the first week after the operation; in fact, there were only three cases of shock after the operation, and in all of these spinal anesthesia had been used. Three patients died during the second week (two during the latter part), one during the third week, two during the fourth week and one during the fifth week.

In figuring my mortality rate I have included every death which occurred during the stay of the patients in the hospital, and none were permitted to go home who were not in good condition. No patients were sent home to die. But no sane man can hold that all of these seven deaths above were directly due to the operation, and I believe that in not more than two of the cases can the operation be considered responsible for the death of the patient.

It has been my practice to operate on almost every case regardless of the gravity of the complications, renal or otherwise, which were present, if the patient did not improve on preliminary treatment, catheter drainage, etc. On this account my list of fatalities was increased by three cases in three months, these patients being in desperate condition before the operation. Since then none of the patients have been in quite so bad a shape and there have been no deaths following the operation in 102 cases, now covering a period of almost two and one-half years. I believe, however, that the improvement in the mortality rate has been largely due to simplification of the technic and the postoperative treatment.

My first report[8] on the operation, which I called "conservative perineal prostatectomy," was made in April, 1903. The following table will show the mortality rate up to the present time:

In the first 20 cases there were 0 deaths, a mortality of 0 %.
In the first 50 cases there were 2 deaths, a mortality of 4 %.
In the first 185 cases there were 7 deaths, a mortality of 3.7 %.
In the first 229 cases there were 7 deaths, a mortality of 3 %.
In the last 103 cases there were 0 deaths, a mortality of 0 %.

A short review of the last 103 consecutive cases in which there have been no fatalities may be of interest in studying the gravity of the operation of perineal prostatectomy. The ages were as follows:

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[7] British Med. Jour., March 20, 1901.

[8] Young: The Journal A. M. A., Oct. 4, 1903.

Under 50 years of age	6
Between 50 and 59	20
Between 60 and 69	40
Between 70 and 74	18
Between 75 and 79	17
Over 80	2
Total	103

In ten of these cases vesical calculi were present and at least in 75 per cent. a severe vesical infection. Three had pyonephrosis. Eight patients were very sick when the operation was performed, and two had apoplexy. In six cases the bladder was greatly distended, showing over 1,000 c.c. residual urine. Many had slight symptoms of poor renal function, and six were markedly uremic. Arteriosclerosis was common, but in five cases it was severe. In nine cases cardiac murmurs of marked degree were present, and in eight cases the heart was enlarged. Severe pulmonary emphysema was present in two cases. In one case pulmonary tuberculosis was present, both lungs being markedly involved. A vesical calculus was present in this case and caused so much pain that operative relief was necessary. The prostate was removed and then the stone was extracted. The convalescence was extremely satisfactory, the patient leaving the hospital in less than three weeks.

The operation was performed within a few days after seeing the patient in nearly all cases, and I have now come to the conclusion that preliminary treatment is rarely helpful. Renal infection is best treated by good vesical drainage (besides the usual internal remedies), and this is best obtained after removal of the prostate through the perineum. Even cases in which the bladder is greatly distended by chronic residual urine of large amount—1,000 c.c. or more—do not usually require a protracted period of preliminary catheterization, but do well after immediate operation. In such cases every care should be taken to prevent renal suppression by the administration of large amounts of water by mouth before the operation, and by infusion, and enemata afterward if necessary.

In several cases the patient was so sick that physicians assured the family that death would surely result if operation were undertaken. I mention these facts to show that there has been no selection of cases. No patient has been sent away because he was too weak, and I do not remember having relegated a single patient to the habitual use of a catheter during the past two years.

Since the list of cases without a fatality has approached the hundred mark, several very decrepit old men, varying between 75 and 82 years of age, and with alarming cardiac and renal complications, have applied for treatment, and it was difficult indeed not to decide that prostatectomy was contraindicated. Among the last ten patients in this list of 103 cases there were several in whom my associates (who had become interested in the outcome of the 100 cases) predicted that they could not stand the operation, but I am glad to report that all of these 103 patients have gone home.

Among these 103 cases there has not been a single recto-urethral fistula, and only seven cases of epididymitis, all of which resolved without operative treatment. The perineal fistulas have healed generally within two weeks and several as early as seven or eight days, and I know of but three which still persist. All of these are minute, pin-point openings, through which a drop or two of urine escapes during urination; at other times they are perfectly dry, and the fistula causes no discomfort. Incontinence of urine is present in but two cases, in both of which the patients are suffering from locomotor ataxia. A slight weakness of the sphincter has persisted for a time in several cases, but has usually completely disappeared within two or three months. Generally a necessity of voiding quickly when the desire to urinate comes on is the chief complaint.

I am not prepared to give an accurate tabulation of the exact status of all of these patients now, but I can say that I know that all have been relieved by the operation, that not a single case has to use a catheter, and I believe that almost all of them can empty the bladder completely. A careful analytical study of 145 cases which I published last year[9] showed only four cases out of 145, in which the obstruction to urination had not been completely removed. I believe, however, that all such results are the fault of the operator and not the operation; that if the work is thoroughly and carefully done there will never be any failure to remove the obstruction completely. I heartily agree with Mr. Freyer, who says that he believes that incurable atony of the bladder muscle is practically never encountered. If the obstruction is completely removed the bladder will empty itself in almost every case, barring perhaps a few cases in which great over-distension of the bladder was present before operation, in which cases a small residual urine may persist. This may be due, however, to vesical sacculation.

As to the preservation of the sexual powers, I may again refer to the paper above mentioned, which showed that in the large per cent. of cases the sexual powers were not interfered with, and that in five cases in which erections have been absent for a long period before operation there was complete restoration of the sexual powers after removal of the prostatic lobes. This I believe was probably due to the removal of pressure upon the verumontanum and ejaculatory ducts.

The fact that the ejaculatory ducts, the vesical sphincter and the external sphincter can be preserved intact in almost every case has been demonstrated now in over 200 cases. A careful examination of the specimens removed has shown no evidence of the presence of an ejaculatory duct in more than two or three cases, and in all of these the operator was conscious of cutting too close to the well known location of these ducts. So confident am I of the preservation of these structures that I do not hesitate to perform a similar operation on cases of severe chronic prostatitis.

The improvement in the mortality rate in recent years and the absence of a fatality in the last 103 cases has been due not only to the simplification of the technic, the use of instruments suited to the diameters of this region, and the careful determination of the exact conditions present by previous cystoscopic examination, but also a great simplification of the postoperative treatment. In the early cases the gauze and tube drains were not removed for several days, and the patient remained in bed for a week or more. As a result perineal fistulas were slow in healing, and the patient often was considerably weakened by the confinement. During the past two years it has been the rule to remove the gauze packs on the morning after the operation and the tubes in the afternoon, and on the next day the patient has usually been placed in a wheel chair and carried out of doors. This has been the rule with even quite sick patients, and it is remarkable how much they have benefited by being up and out of doors. Almost all patients are encouraged to walk within a few days. This seems to have no bad effect on the wound, which has healed well in all but three cases, and better drainage is afforded by the erect posture. The absence of any case of sepsis following the operation shows the gerat advantage of the splendid drainage given by the perineal route. The fact, too, that the cavity left by the removal of the prostatic lobes is extravesical is probably also of great advantage. The absence of any deaths during the first week after the operation shows the advantage of being able to control hemorrhage by visual inspection during the operation and by carefully placing gauze packs in the extravesical cavities left by the enucleation of the lobes. There were no deaths from shock, or heart failure.

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[9] Johns Hopkins Hospital Reports, 1906, vol. xiv.

Since perineal prostatectomy has assumed a place as one of the benign surgical operations it has become necessary to extend its usage to other prostatic affections which have hitherto been considered beyond the realm of surgery. Besides the ordinary adenomatous enlargement which is easily enucleable by either the perineal or suprapubic route, we have to deal with the small sclerotic variety of enlargement, cancer and severe chronic prostatitis, which often assumes a hypertrophic obstructive type in even young men. For these I believe the perineal route is alone well adapted. I have now operated on 17 cases of severe chronic prostatitis and have experienced little difficulty in performing a conservative prostatectomy. A number of these patients had some obstruction to urination and three young men, about hirty years of age, were leading catheter lives. In other cases the patients suffered greatly from painful symptoms. The operative results have been extremely gratifying, in many cases the relief afforded has been immediate and there has been no impairment of sexual powers. I feel sure that we are going to come more and more to the adoption of surgical measures for cases of this type.

The general recognition of the increasing frequency of carcinoma of the prostate renders it imperative that early diagnosis and radical operations be made. During he past four years in my practice there has appeared one case of cancer to every four cases of hypertrophy of he prostate (68 cases of cancer to 250 cases of hypertrophy). Unfortunately most cases arrived too late to attempt a radical operation, but in six cases the disase seemed sufficiently early to warrant an attempt at radical cure and two of these patients are apparently well and free from recurrence, now almost three years fter the operation. A study of 87 cases of carcinoma of the prostate shows that the primary symptoms are ften not urinary in character, but in the form of neualgias of the pelvic region or thighs or back. Many a ase of supposed sciatica, lumbago or neuritis is in realty carcinoma of the prostate, and if rectal examination eveals an induration of the gland an exploratory perineal operation should be performed. When the poserior surface of the prostate is exposed the diagnosis an usually be made by palpation, but incisions into he lateral lobes and microscopic examination of frozen ections may be necessary. If the tissues are benign the usual conservative prostatectomy can be performed, but f malignant the prostate with its capsule and urethra, he seminal vesicles, anterior two-thirds of the the trigone and a cuff of the vesical neck should be removed n one piece. This can be accomplished with ease and no difficulty is experienced in anastomosing the bladder with the membranous urethra. In my cases the wound has generally healed well and no fistulas have persisted, and I am thoroughly convinced that with early diagnoses many radical cures can be obtained. If general practitioners can only be persuaded to make routine examination of the prostate, especially in every case in which the complaint is below the diaphragm, and to be suspicious of marked induration of the prostate in men over 50 years of age, I feel sure many early diagnoses will be made.

Prostatectomy is no longer to be considered an operation of necessity, a last resort. The fact that it can be performed with practically no danger and with perfect functional results should lead to its earlier adoption not only in cases of hypertrophy but of severe chronic inflammation and cancer of the prostate.

Note: At the time of correcting the proof, Jan. 16, 1908, I am able to add: I have now had 112 consecutive perineal prostatectomies without a death, and 238 with 7 deaths, a mortality of 2.9 per cent.

EXPERIMENTS ON SUBCONSCIOUS IDEAS.*

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While at the University of Leipsic many years ago I made an investigation of the association of ideas, in the midst of which I stumbled on the fact that subconscious ideas influenced the associations; these were the first experiments on "mediate association." Professor Aschaffenberg, of Heidelberg, afterward extended the experiments to insane persons. Lately Dr. Jung, of the University of Zurich, has developed a regular system of discovering the subconscious ideas that cause hysteria and are present in other forms of insanity. Not long ago I spent six months with Jung and made experiments in cases of dementia præcox, of which I shall use some illustrations. Professor Peterson has also worked with Jung and has already published some highly interesting results. Further work is now going on in the Department of Neurology at Columbia. Jung's method was applied to criminals by Dr. Groos, of Prag, who was enabled thereby to detect consciousness of guilt.

Most of us are familiar with experiments on the "association of ideas." A word is called out by one person; another one hearing it tells the first other thing he thought of. For example, on hearing the word "hat" he may think of "head," or with the word "marriage" he may associate "funeral," or to "goose" he may respond with "loose." In every case there is or has been some connection between the two ideas; hats and heads naturally go together, marriages and funerals are both solemn occasions, "goose" and "loose" have similar sounds. The associations of ideas may be put into two classes. The first is that of association by meaning, or internal associations; for example, "hat—head," and "marriage—funeral." The other class includes associations by similarities of form or of sound, such as "goose—loose," or "hat—bat," or "marriage—carriage." These we will call external associations. I believe we ought to add still another class to include cases where the patient does not associate by external form and yet only half grasps the meaning. Such associations as "paper—to use," or "book—to have" occur constantly under certain circumstances. Let us call these "indistinct associations." Finally, we can conveniently put the last two classes together as "superficial" in contrast to the associations by meaning, which might be called "deep" ones. Distraction of attention tends to produce superficial associations.

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* Read before the New York Neurological Society, October 8, 1907.

The association of ideas takes time; distraction of attention makes the time longer. It also makes us liable to forget what we have said.

Suppose, now, to "flax" the person experimented on associates "candle;" there is no direct connection between the two, but "flax" and "wax" have similar sounds and "wax—candle" is a natural association. The association of "flax—candle" was thus an indirect one through the word "wax" of which the person did not think consciously. The association "Caffir—breakfast" seems unexplainable until the intermediate unconscious link "coffee" is assumed. We thus have ideas that influence our associations, although they do not appear to the mind of the person experimented on. This leads us to ask: Can we get information concerning our subconscious life, its thoughts and emotions, by experimental methods?

Dr. Jung has devised a most brilliant method of doing this, which I will endeavor to illustrate to you. I have a set of twenty-five words printed on a blank, which I place on the table before me. I then explain to the subject or patient that I wish to test his mental activity, and that when I call out a word he is to say quickly what thing he thought of first. "For example," I say, "when I call out 'hand,' what did you first think of?" Often he replies, "I did not think of anything." Then I repeat the trial till he feels at ease and understands what he is to do. Sometimes he replies "hand," and says that he merely thought of a hand. But if you ask him "Whose hand?" you will find that he was thinking of somebody's hand, that is, a particular hand; you explain that in such a case he is to state what hand he thought of. Some patients will reply with whole sentences instead of a word; do not disturb them—this is a characteristic feature of certain diseases (e. g., epilepsy). Still other patients will try to define the words you call out; do not worry about it—this occurs regularly with imbeciles.

As soon as the patient feels at ease and answers readily I take a timer (stop watch) with split seconds (i. e., indicating fifths of a second) in the left hand and proceed to call off the words on the blank. As I call off "hat" I set the watch going; as the person answers I stop it. In this way the whole list of twenty-five words is run through (Jung uses a list of one hundred). Then I say, "We will go over the list again; answer just as before with the first thing you think of, but say the same thing if you can remember it."

The following is part of an actual record which I made in the Zurich Asylum on a case of dementia præcox:

SPECIMEN OF AN ASSOCIATION RECORD (DEMENTIA PRÆCOX).

Time in seconds; x indicates that the association was remembered: [ ] give the new association; I, II, indicate the complexes; the arrows indicate the persistence of the complex.

head	4.6	hair	x		
green	3.4	fields	[grass]	I	
water	3.6	to drink	x		
wool	4.4	knitting	x		
long	10.0	grass	x	I	↓
ship	6.6	sailing	x		↓
friendly	3.4	friend	x		
stupid	4.8	without sense	[silly]	II	↓
paper	9.2	to—to use—paper to use	[to write with]		↓
despise	11.2	to shun	x	II	↓
tooth	5.0	what—what you eat with.	x		↓
needle	3.4	to work with	[to use]		↓

In such a record we look for associations that show one or more of three indications of distracted attention, namely: 1, an unusually long time; 2, forgetfulness; 3, superficiality. Unusually long times are found for "long," "ship," "stupid," "paper," "despise" and "tooth." Forgetfulness is seen for "green," "stupid," "paper" and "needle." Superficial associations, i. e., those where the person was evidently not thinking of the meaning, are found for "paper" and "needle."

After finishing the record I asked the person what she thought of for "green." She said that when she made the association she thought of a beloved house and garden in far-off England which she misses very much. Such an idea or group of ideas connected with a strong emotion we call a "complex." We thus note down that one of the patient's complexes is that of house and garden.

Going further along the list we find "long—grass" with an exceptionally long time. The same complex was aroused. We note, moreover, that the following association "ship—sailing" has also an extra long time, 6.6 seconds. This is the usual case after a complex has been aroused; the associations that follow are slower because the person is still distracted. We also notice that the second time we aroused the complex it had a stronger effect than the first time.

For the word "stupid" the association was forgotten and the time was somewhat lengthened. A complex was evidently aroused. It was a strong one, which persisted for some time; this is shown in several ways. The time for the following association "paper" was long. Moreover, the association was very superficial; the person evidently could not fix her mind on "paper" and could only stammer "to—to use—paper to use." Lastly, she forgot what she had associated. The complex was, indeed, a strong one; the symptom of which she complained most strongly was her increasing stupidity. She said she was also troubled by the fear that people despised her for her trouble. This we see for ourselves in the long time for "despise—to shun" and in the superficiality of the two following associations.

Many hundreds of cases have shown that when a word brings up an idea that is associated with an emotion this distracts the person so that he does not pay full attention to what he is doing. This often lasts for several associations. It shows itself in the records in the three ways specified above. We then reverse the process and say that, when we find associations showing one or more of the characteristics, we assume them to be influenced by complexes.

For the sake of simplicity I have mentioned only three of the symptoms of complexes. Jung gives the following list of symptoms: 1, Unusually long time; 2, forgetfulness; 3, superficiality; 4, mistakes—no answers; 5, word is taken in some unusual meaning that can be explained only by the presence of some disturbing thought; 6, persistence of the disturbance for following associations.

The following record is that of a patient at the Vanderbilt Clinic:

SPECIMEN ASSOCIATION RECORD (HYSTERIA).

(For explanation see previous specimen.)

true	1.2	to me	x
laugh	2.0	at it	[at me]
clean			[walker]
all	3.6	over	x
friend	1.6	of mine	x
stupid	3.2	guy	x
blood	2.8	favorite	x
money	2.4	order	[maker]
forget	1.2	me	x

For the word "laugh" the association was forgotten. This indication of a complex is strengthened by the failure to associate within ten seconds for the following word, and a long time for the word after that. The patient denied that he was troubled in any way by people laughing at him; "everybody was good to him." In spite of this, it is safe to assume that his attacks and certain marital occurrences have made him feel ridiculous. After a few moments he says that on coming out of doors yesterday he was well dressed and that a lounger called him a "funny guy." He denied that he thought of it during the experiment. It is possible that the more basic complex of being ridiculed for his troubles may not have come to his mind at all, but that in searching for some explanation of the record he thought of the recent occurrence. It is also possible that the recent occurrence may have added itself to the larger complex. Another complex, the stupidity of which he complains bitterly, shows itself in the long time for "stupid" and in the superficial character of and the forgetfulness for the following association.

We all have passed through experiences of strong emotions. It is possible for an outsider by this method to discover them against our will. While Dr. Jung was once explaining the method one of the students declared that he did not believe it applicable to normal individuals. Dr. Jung said: "If you will do just one thing, namely, associate the words as quickly as you can, I will tell you what complexes you have." As a result the records showed that whenever a word was used referring to travel the associations showed the three characteristics we have described above. The student must have irresistibly thought of some unpleasant experience connected with traveling, and, although he tried to say something quickly, he unavoidably lost time or was distracted so that he made superficial associations or forgot what he had previously associated. Similar results were recorded for words relating to father, home, university, study and business. "Now," said Dr. Jung, "you are having some disagreeable experiences connected with these subjects; they form part of one or more of your complexes." "Yes," replied the student, "my father insists that I shall give up study at the university and go into business with him, but I have decided to leave home and go to some distant city rather than do it."

Dr. L. Pierce Clark, in making use of the method on a case of neurasthenia verging on hysteria, found abnormally long times for associations to "happy," "child," "blood," etc. The patient emphatically denied any experience involving a child and blood, but the family physician revealed a case of abortion with nearly fatal hemorrhage, and also that great unhappiness had been caused by the event.

To the physician a most interesting application is to the discovery of the complexes that cause hysteria. When people of unstable nervous systems meet the trials of life they are liable to be upset by a specially strong one. Even a moderately strong nervous system may break down under an unusually severe emotional strain. Such an experience remains in the person's mind as a complex which mixes itself into everything, even the ordinary affairs of life. Many cases of manic-depressive insanity undoubtedly have a similar cause.

According to Dr. Freud, of Vienna, such cases of hysteria can be cured if we can get the patient to talk out his complex. In many cases it is easy to find the complex, and then day after day the patient is induced to talk about it. Instead of making matters worse this method may actually produce a cure. Just how this is brought about is not quite clear. We may suppose that the continual hauling of the complex into the full glare of the limelight deadens it. Or, perhaps, the constant talking actually kills it. Or it may be that the patient actually becomes sickened of the whole business so that the complex instead of arousing an emotion becomes merely a tedious and indifferent bore. However this may be, the cures effected by the method are marked. Still more beneficial are the therapeutic talks properly applied.

But now we have another problem. The patient may refuse to reveal the complex, or may not be able to specify what past experience really upset him, or may select the wrong one. It can be found by means of the association experiments. I will not go into the matter further than to mention one case of Dr. Jung's. A woman was troubled with severe hysteric attacks for which she could assign no cause. The association experiments pointed to a painful experience many years ago of which the woman no longer had any thought. In the hypnotic condition this experience was revived and removed.

The application of the method in the detection of crime may be illustrated by an experience of Dr. Jung's. A man complained to him that a sum of money had been stolen from his office, but that he did not like to suspect his nephew. The boy was induced to undergo the association experiments on the plea that something was being done for his nerves. Words relating to theft, money, drawer, etc., were inserted in the list, with the result that the boy hesitated, stumbled and forgot whenever he came to them. When the experiment was over, the principle of discovering complexes was explained to him. His own record was then shown him; it was such a convincing document tthat he could no nothing else than confess.

Although any physician can learn to apply this method of finding complexes, yet it takes considerable time and skill. Eventually we may expect to have specialists to whom the patient is sent for a mental analysis, but to be returned for treatment.

87 Madison Avenue.

ENURESIS FOLLOWING PROSTATECTOMY.

REPORT AND ANALYSIS OF ELEVEN CASES, WITH RECOMMENDATIONS AS TO TREATMENT.

GRANVILLE MAC GOWAN, M.D.
LOS ANGELES, CAL.

I have operated for difficult or impossible urination, due, sometimes, to the obstruction of the urethral channel by new growths situated within the capsule of the prostate, sometimes to contracture of the prostatic capsule about the outlet of the bladder and consequent stenosis of the urethra with marked elevation of its floor above the base of the bladder, and sometimes to both elements combined, more than 250 times. In acquiring this experience I have put into practice nearly all of the procedures that have been suggested by writers on the subject of prostatism for the past twenty years. I frequently have the opportunity to examine persons who have been operated on by surgeons in many quarters of the world, and I am convinced that the claims which have been set up by some, that, following operations done by them, the patients are practically always able to empty their bladders entirely with comfort and have perfect control of their urine, are mistaken assumptions based on incomplete observation.

One hundred and sixty-seven of these operations have been the procedure commonly known as prostatectomy. The after-treatment of these cases, with very few exceptions, has been conducted and controlled by me in person, so that any conclusions I may formulate are from my own experience and not derived from the clinical observations of others. I have not deduced a favorite method of performing the operation, but apply the one which I think best for the particular case before me. I have seen bad results in my own practice and I have known men to wear urinals or use catheters after operations done by surgeons of the greatest skill practicing in Chicago, London, San Francisco and northwestern America. A prominent New York surgeon came to California and operated twice on a man, leaving him leaking and in agony for a year, simply because the surgeon was wedded to a particular perineal operation which was not applicable to this type of case, for a perfect result was subsequently obtained by the same surgeon from a suprapubic operation.

The difficulties of the operation have been so minimized, the benefits in many cases so magnified, and imperfect results so glossed over or concealed by writers of known operative skill, that many who have only a very uncertain idea of the anatomy of the urogenital organs are emboldened to commence operations which they never finish and the necessity for which is often only problematical. So much bad work of this nature is being done that this very beneficent operation may easily fall into disrepute.

It is by way of calling attention to one of the not unfrequent disagreeable after-features, that of leakage, not the moderate leakage which is so common within the first three months after operation, but the prolonged incontinence lasting for six, eight or ten months or, perhaps, for years, that the attached cases are reported and analyzed. I hope my experience may be of service to others whose opportunities for observation have not been so great or who for private reasons forbear from mentioning their troubles for fear of being accused of lack of skill. When such incontinence occurs the cause may be sought for and found in one of the following conditions:

1. The removal of unusually large prostates, which, in growing, have so separated the fibers of the detrusor as they spread out over the bladder base that its contractile power is greatly enfeebled or almost lost, and at the same time so stretched its fibers of insertion into the prostatic capsule and the sphincter that the vesical outlet is made to gape and the prostatic urethra and the bladder cavity become practically continuous. Add to this the element of chronic inflammation and fatty degeneration, always present in these muscles where marked obstruction to the exit of the urine exists, and you have a perfect preparation for the leakage which is almost sure to follow the removal of these great tumors. The support of the weakened bladder wall is taken away; a degenerated sphincter, whose nerve supply has been short-circuited by pressure and inflammatory deposit, is unable to contract. And, above all, the cicatricial tissue which fills in the large and irregular wound often so distorts the base of the bladder and its outlet that it must remain always a source of astonishment that such patients ever regain urinary control. The operator can not make new bladders, and, provided he has properly and entirely removed the pathologic condition which gave rise to the necessity for operation, he must not criticise himself, or be criticised by others, for the incontinence which is sure to follow in some cases, or admit as a proof of his unique skill the brilliant success which occurs in others. Time tends to improve the condition of these people, and it is even possible that control be finally regained after a year or more of enuresis. Cases 1, 2, 3 and 4 are of this type. In Case 1 the tissue removed weighed more than 300 grams, entirely filling a large Mason fruit jar. In Case 2 the tumors weighed 190 grams; in Case 3, 250 grams, and in Case 9, 160 grams.

2. Leakage following the attempted removal of very large markedly fibroid prostates, which can not be removed and prove inoperable. There are two of these cases, 5 and 6, which, so far as I know, are unique. The glands were so hard in both cases as to destroy the usefulness of all sharp instruments used in attacking them. There was no line of cleavage between the gland substance and its capsule, and the inflammatory adhesions to the surrounding organs were so densely organized that removal by free dissection was impossible without opening the rectum high up, sacrificing the lower part of the bladder and entering the peritoneal cavity. They seemed for all the world like the small solid india rubber balls, or sturgeon noses, with which the boys play hockey, placed in a setting of copper matte. In Case 6, with knife, scissors and rongeurs, I cut a channel which has served since for exit of the urine. In Case 5 a similar channel was cut by working from both a perineal and a suprapubic opening. This did not remain open very long, which necessitated later the burning of a groove with the instrument of Bottini, which procedure fortunately has served its purpose to the present.

The natural surmise in both instances was that the growths were cancerous, but the pathologist found them to be fibroid, with no microscopic evidences of malignancy. One patient was operated on in 1902, the other early in 1904. Both patients are alive and in fair general health.

3. Leakage following the removal of small hard prostates with connective tissue elements predominating over the glandular elements and accompanied by a high grade of contracture of the bladder neck and diminished bladder capacity. There are two of these cases, 7 and 8 which by a singular coincidence were complicated by postoperative perineal fistula. From these, and further experience, I am convinced that the only conservative way of dealing with such obstructions is to completely sever the ring of fibrous tissue and the prostate in the median line from the bladder to the membraneous urethra with a sharp, blunt-pointed knife of the Blizzard type, and then remove both halves by excochleation or rongeurs, or, if this can not be done, by dissection with forceps and scissors. If this measure is not adopted either the patient will leak continuously or the retention will not be relieved; in either case, the dysuria and inflammatory vesical symptoms will continue; whereas after such hemisection and removal free drainage is established, pain ceases, uremic symptoms disappear, and sooner or later more or less perfect control of the bladder follows. Case 7 is additionally interesting in its demonstration that restoration of the general health may follow free drainage when a high grade of renal insufficiency is present and pronounced uremia exists.

It might be argued that these are typical cases for

e use of the cautery apparatus of Bottini, and they
e. With my later experience I am convinced that,
rformed by a person who understands what he is
ing, prostatectomy is not more dangerous than pros-
totomy by electric cautery, and is more likely to be
sting and perfect in its results. This is at va-
nce with the stand taken by me several years
o in my reports on the procedure of Bottini,
en my experience with both operations was about
ual. I have been afraid of this cautery apparatus
er since an accident nearly three years ago, in which
e shaft of my instrument, one of the Young-Freuden-
rg model, with the water jacket in apparently perfect
tion, and the amperemeter registering 50, became
ated to such a degree as to destroy the urethra from the
dder to the peno-scrotal junction. This happened on
e person of one of my colleagues, whose condition was
own to be one of the type of cases now under discus-
n, and who after several years of study and research
all the literature then accessible had chosen the Bot-
i as the operation he wished done on him. I have not
ed the apparatus since.

4. Leakage after prostatectomy caused by the failure
the part of the operator to perceive and remove small
dules situated on the vault or the side of the vesical
ening of the urethra and which interfere with the
oper closure of the bladder. I have operated in four
h cases. The first, Case 9 of this series, had under-
ne two perineal operations by surgeons of small
perience in urethral work. Each surgeon took away
nething. The first one left the patient with retention,
second with continous enuresis. Cystoscopic exam-
ation revealed the cause, and its removal was followed
cure.

Case 2, No. 10 in this series, occurred in my own
ctice in the person of a gentleman on whom I had
ne a successful Bottini operation in 1899, and what I
ught was a very complete perineal prostatectomy in
bruary, 1905, after which he leaked continuously.
ystoscopic examination made in May of the same year
covered a small tumor hanging down by its pedicle
m the superior wall of the urethra at its vesical
ning. Its removal by suprapubic operation in Octo-
, 1905 was followed by immediate partial control and
ntually by perfect cure.

Case 3, No. 11 of this series, a man, 89 years old,
l also undergone two operations, one suprapubic and
perineal, for removal of the prostate. Both operators
re very competent general surgeons. The first left
n with retention, the second left him leaking. Each
noved something. The last operation was done in
rch, 1906. Again the cystoscope revealed the presence
a nodule in the vault of the urethral vesical opening.
e tumor, which was 2½ cm. thick, was removed from
gaping bladder mouth through a suprapubic in-
ion in April 1907. He has now full control, excepting
en he stoops a long time at work in his garden, and
n dribbles very little. A fourth case occurred in a
n of 74, operated on by a skilled orthopedic surgeon.
e prostate had been of moderate size and was shelled
easily through a small perineal wound; but control
s entirely lost. There was nothing to be felt through
rectum, and the urethra was clear of obstruction to
neck of the bladder; there was no great deformative
r; the bladder possessed good expulsive power when
ed by a syringe. The cystoscope showed a tumor of
derate size sticking into the bladder neck from the
upper quadrant, which prevented the closure of the
opening, and I believe is the cause of the leakage. He has not yet consented to a secondary operation.

The lessons to be derived from my experience are:

1. That after removal of extremely large growths bladder control sometimes comes slowly, and a condition of enuresis, either partial or total, will exist for from six months to a year, and, perhaps, always. This condition, though lamentable, improves with time, and is apt to be best at night. There is no surgical remedy, if the operation has been complete. But I would recommend, wherever the leakage has lasted for six months, that careful rectal, urethroscopic, and cystoscopic examinations be made and if any remaining intraurethral or intravesical nodules be found that they be removed.

2. There are some dense prostates, not malignant, which can not be removed. Such cases should not be disturbed until the comfortable use of the catheter becomes impossible. Through these a permanent groove or furrow must be made, preferably by the cautery apparatus of Chetwood. They will always leak.

3. Where enuresis follows the imperfect removal of a small hard prostate, the only remedy is the hemisection of the fibrous ring and the prostate on its floor, and removal of the prostate, together with the nonresilient scar tissue. In such cases patients will then slowly regain control and be well people.

4. If following a prostatectomy, usually perineal, and where the prostate has been only of moderate size, not belonging to one of the three preceding classes, there is enuresis, and a careful rectal examination fails to show the presence of an intracapsular growth of paplable size, overlooked at the time of the operation, a careful examination of the posterior urethra and bladder, with suitable optical instruments, has sometimes revealed the presence of small tumors of glandular tissue hanging or pressing into the vesical outlet, preventing its closure, and the removal of such tumors by *sectio alta* has resulted in a cure of the condition.

REPORT OF CASES.

CASE 1.—C. A. E., aged 64 years; for ten years had frequent urination, dysuria and marked hematuria. He had been cut for stone in the prostate twice, and for a long time was treated for vesical tuberculosis. For five years he had led a catheter life. He sought relief from very frequent and profuse vesical hemorrhages. Feb. 4, 1904, I removed 300 gms. of prostatic tissue through a median perineal incision. The tissue was soft, broke readily, and had to be removed piecemeal from both sides and from under the bladder base far up past the trigone, the enlargement being intra-urethral, ante-rectal and intra-abdominal. In the prostatic tissue and between the prostate and its inner capsule, on both sides, there were more than 100 granular yellowish calculi. Many of these adhered tightly to the capsule and could only be removed by vigorous curetting. Hemorrhage was profuse. Many sections were made by a competent pathologist, and the growth pronounced a simple adenoma.

A good recovery was made, and fair power of retention gained to 240 c.c. at night, and half as much during the day. The urine never became entirely free from blood, nor did he recover from his extreme anemia. There was always polyuria. Early in August I noticed enlargement of all the inguinal glands, the scar in the perineum became puffy and indurated, extreme weakness with edema of the feet and legs developed. He took to his bed, severe cardiac and stomachic complications arose, and on September 18 he died.

Postmortem.—I found the walls of the bladder greatly thickened and almost its entire surface was cancerous. The scar tissue in the site of the removed prostate, and the wound in the perineum had also become cancerous. The pancreas was similarly diseased. The kidneys were both intensely sclerotic.

This case possesses three points of interest: 1. The great improbability in the removal of excessively enlarged prostates, at least by the perineal route, of obtaining perfect vesical control. 2. It is unique, I think, by reason of the very great number of calculi situated in all portions of the prostate, but more especially in the tissue of the capsule. 3. It shows the rapid development of carcinoma in postoperative cicatricial tissue, for at the time of operation I had my fingers well into the bladder, palpating the greater part of its walls without the discovery of any suspicious nodules, while the pathologist asseverates that the thorough and complete miscroscopic examination of the tumors removed revealed nothing suspicious.

Case 2.—S. W. C., aged 65 years; at 50 had an attack of retention which required the use of a catheter for several days. At 58 he had a similar attack. At 64, during a third attack, he was unsuccessfully operated on twice for the removal of his prostate by his local surgeon; the last left him with a tortuous suprapubic fistula, and in the effort to close this he had been chloroformed and cut seven times. He was passing, with great dysuria, every twenty minutes about 15 c.c. of alkaline urine. Dec. 12, 1894, I removed suprapubically 190 grams of prostatic tissue. The healing of the wound took about nine weeks. He left the hospital dribbling during the day, but holding his water for three or four hours at night. In six months he had partial control during the day and better control at night. After a year, he continued to wear a urinal, because under excitement and fatigue he would leak some, and urination during the day was imperative at the end of every second hour.

Case 3.—V. M., aged 66; led a catheter life for about ten years. Operated by the Bottini method in 1901 without benefit. For a year the frequency of catheterization has been once in four hours, and severe attacks of hematuria have been frequent. The prostate is very large and soft.

Urine acid, sp. gr. 1.020; contains pus, blood, bacteria, a few hyaline casts, and ¼ per cent. albumin. Daily quantity, 1,400 c.c.; urea, 22 grams. The prostate was removed in February, 1905, under spinal anesthesia by the perineal route. The fragments almost filled a pint fruit jar. The patient made a good recovery, but never obtained full control of the bladder; he leaked when he was tired. Subsequent cystoscopic examination showed a bladder which was very much trabeculated and had a distorted entrance to the urethra, caused by the retraction of the cicatricial tissue which, filling out the enormous cavity left after the removal of the prostate, failed to support the bladder base and prevented full closure of the vesical outlet.

Case 4.—A. W. D., aged 62 years, was referred to me by Dr. Tanner. He had been a prostatic five years; led a catheter life one year. Prostate by rectal examination very large. Urine acid, containing 5 per cent. albumin, many hyaline and some granular casts, pus and bacteria; sp. gr. 1.018; daily quantity 2,000 c.c. Some digestive distress, some cardiac hypertrophy and commencing mitral lesions. April 6, 1906, perineal prostatectomy; enucleation difficult. The growth extended far up under the bladder wall, and its removal loosened this organ to a considerable degree from the surrounding structures. The bladder was sewed to the prostatic urethra on the sides with catgut. I watched this man's recovery with considerable interest, naturally fearing that he would never be able to retain his urine. Healing was complete in six weeks. He dribbled continuously until June 21, when he regained and has preserved nocturnal control. In October he obtained partial diurnal control, and could retain from 90 to 120 c.c. In December his bladder became very irritable, and on examining it with a cystoscope I saw a small rough phosphatic stone lying in a pocket back of the left ureter. I have had occasion to watch the formation of vesical stones with the cystoscope several times, and this was left in a position for purposes of observation until Feb. 18, 1907 when it was crushed and removed. We have cystoscoped him several times since. The bladder surface is very rough, there are huge pockets to be seen, the interureteral fold is distorted and the bladder ne irregular, but gradually the power of retention has return until he can now hold from 180 to 240 c.c. of urine, and or wears an urinal as a precaution because the call for emptyi the bladder is imperative when it comes. His sexual power, abeyance for several years, is restored, and he has gone work at his trade as a miner.

Case 5.—J. S., patient of Dr. Beckett, had symptoms urethral obstruction for three years; led a catheter life f two years. Catheterization possible only with a small m tallic catheter, and necessary every second hour. Prostate ve large; could not be circumscribed by finger in rectum. Uri acid; moderately purulent; no blood or casts; 900 c.c.; sp. g 1020.

Jan. 25, 1903, the prostate was exposed freely after th method of Proust. Excochleation was impossible because line of cleavage existed between the prostate and its capsul Removal *in toto* failed because the cellular cushion between th organ and the surrounding structures was destroyed by adh sions, and neither scissors, knife nor sharp rongeurs made an headway against its density. The sharp instruments we nicked and destroyed. A suprapubic opening was mad and as no better success followed the attack by this rout a small V-shaped ditch was sawed in the floor of the pro tate from the bladder to the isthmus. The outer wound healed without difficulty, but the retention was not relieve February 25 a central incision was made with Bottini's in strument. After the passage of the slough, there was reli from retention, with nocturnal control and diurnal dribblin The patient is still living. The pathologist reported no ind cation of malignancy.

Case 6.—J. D., aged 73 years, patient of Dr. M. L. Moor had difficult urination for ten years; continuous catheter lif for two months. It was almost impossible to insert any in strument. Urine acid; sp. gr. 1.020; albumin, 2 per cent.; pu and bacteria present. June 11, 1904, a perineal prostatectom was attempted. The prostate was extremely hard, adheren to its capsule, and the capsule adherent to all of the surround ing tissues. Excochleation, either partial or total, was impos sible. With knife and rongeurs enough tissue was removed t make a channel. This was accomplished by enlarging th perineal wound after the method of Proust, so as to clearl expose the prostate, and it was very difficult. The tissues wer almost cartilaginous in their density, hard enough to turn th edges of my best knives, break my scissors and nick my ron geurs. The pathologist reported this to be a fibroma. Th man is still living, has fair control of his bladder by day, but leaks at night. He works, and is satisfied and contented, fo he has no pain and is otherwise in good health.

Case 7.—Mr. X., patient of Drs. Salisbury and Haynes, had vesical irritability, difficult urination and decreasing sexual power for five years. This was treated disastrously by forced urethral dilatation. He was irritable, hysterical, uremic, emaciated and cachectic, and every twenty minutes passed a thin feeble stream of urine, which was alkaline; sp. gr. 1.010, contained some blood pus, micro-organisms, hyaline and granular casts, and some kidney cells. The daily quantity of urea varied from 9 to 12 gms. Bladder capacity 80 c.c. From the pain and cachexia it was believed that he was suffering from cancer. But local examination, together with frequent urinary analysis, convinced me it was rather a case of cystitis and congestive renal insufficiency kept up by prostatic obstruction. Continuous drainage by retention catheter; vesical and stomachic lavage with 1 to 30,000 silver nitrate solution; hypodermoclysis of normal salt solution, gentle sweating and restricted diet gradually improved his nutrition, increased the activity of his kidneys and caused the disappearance of the cachexia and depressing nervous symptoms; the intervals of urination lengthened to one and one-half hours, and the bladder capacity increased to 150 c.c., with a residuum of 75 c.c., but the dysuria continued.

Nov. 2, 1903, through a median perineal incision, the prostate was found to be small, sclerotic, obstructive laterally, and accompanied by a very marked contracture of the bladder neck. The organ was carefully removed without disturbing the vesical outlet, as I had foolishly promised not to enter the blad-

·. He made an uneventful recovery, and was about in two eks, but he dribbled continuously. Dec. 18, 1903, at a sec- lary operation done to discover the cause of the leakage, stenosed bladder outlet was found to be rigid and gaping. median incision was made through the sclerosed tissue to the se of the bladder, and the fibrous ring, which contained ny small nodules of prostatic glandular tissue set into it e pearls in a circle, was removed. He leaked from the atus more or less for a year, but gradually obtained control, said to have no residual urine, is well and works hard every ·.

ase 8.—C. B., aged 60 years, patient of Dr. Joseph Kurtz, l a litholapaxy done Oct. 6, 1903, for a calculus which had alided him for a year. Confinement for two days. At work two weeks. October, 1904, same operation, same condition. ctal examination showed only moderate prostatic enlarge- nt. Cystoscopy revealed intraurethral and intravesical ob- uctive nodes and contracture of the bladder neck. Vesical acity, 150 c.c.; residuum, 50 c.c. A cutting operation was posed and refused.

une 8, 1905, a perineal prostatectomy was done at his re- est, by Young's method. The prostate was small, fibroid, h the urethral surface studded with small nodules, and ry millimeter of the mucous membrane was adherent to prostatic capsule and came away with the prostatic sub- nce with provoking ease. The contracture had a very hard- ed opening. The prostatic tissue could not be separated m this sclerosed mass, so it was hemisected in the median e on the urethral floor to the bladder base, and then both ves were removed with rongeurs. A large calculus was noved from a pocket in the vault of the bladder over the bic arch and a smaller one from a pocket in the floor. For ee months he had very little control. He leaked from a all fistula in the perineum, which I never have been able close permanently, and which communicates with the left eral cut in the prostatic capsule. Gradually his condition improved, until he has entire nocturnal control, and his dder will hold to 150 c.c. of urine in the day time, which he sses in full stream, but when he gets very tired there is, netimes a little leakage. With a straight urethroscope and etrograde cystoscope one can see a small tumor of glandular sue growing into the upper left hand segment of the vesical let, and this, in my opinion, if removed, would result in fect control.

ase 9.—J. L., aged 75 years, a helpless invalid, referred to by the superintendent of the Good Samaritan Hospital, g. 7, 1905, had previously undergone two perineal operations prostatic obstruction. After the first operation he still had al retention; after the second he leaked continuously, and addition suffered from a widespread neuritis and cysto- sm. A few drops of urine were expelled with great tenes- s at intervals of from two to five minutes. Under spinal sthesia he was cystoscoped, and a small node was seen pro- ting into the urethra from the upper surface on the left e. This was removed suprapubically with a rongeur. The und healed in sixteen days. On the twenty-fourth day he ld retain urine from two to three hours, and eventually de a very good recovery, being able to control his bladder fectly.

ase 10.—N. B., 73 years old, patient of Dr. Mott, was rated on by me for enlarged prostate, by Bottini's method, 1899, from which relief of retention followed, lasting four rs. Feb. 2, 1905, a perineal prostatectomy was done. The state would not strip from its capsule, and had to be re- ved with rongeurs. After this operation there was only tial vesical control, best at night. During the day not re than 45 c.c. of urine could be retained, and this was ex- led in a feeble stream. May 20, 1905, on cystoscopic exami- ion, using the Schlagintweit retrograde cystoscope, a small und nodule could plainly be seen hanging from the superior ll of the vesical opening of the urethra. There was also isiderable edema of the bladder neck, and four minute cal- i were discovered lying in a pocket just in front of the intra- thral fold. Oct. 5, 1905, sectio alta was done under spinal sthesia. The prostatic nodule was removed with a ron- ır, and the calculi taken away. It was found that the scar tissue had formed a shelf over about an inch of the posterior urethra, and so puckered and deformed the opening from the bladder as to leave a small triangular slit that did not close at all. The shelf was cut through to the floor of the urethra and the adhesions broken up. A large catheter was introduced through the urethra and the suprapubic wound closed. Healing was complete on the tenth day. Improvement was immediate. He was soon able to control his bladder perfectly at night, and the increase of ability to retain urine during the day was marked. With the aid of a rubber urinal, to guard against sudden excitement or inability to find a place to relieve himself at the time when urination became imperative, he was able in 1906 to make a long European tour, and now has both nocturnal and diurnal control, except when very tired, when he will sometimes moisten a small pad worn to protect the clothing.

Case 11.—N. K., aged 89 years, had difficult urination for ten years; retention three years ago. Suprapubic operation for stone and removal of some prostatic obstruction, without relief. A perineal prostatectomy was done two years ago, and following this there was leakage and cystospasm. Cystoscopic examination revealed a large stone and a flap on the left side of the bladder neck, containing a nodule of prostatic tissue.

April 14 a sectio alta was done and I removed a large, granular, phosphatic calculus, 5½ cm. long, 7¾ cm. in circumference. A large nodule was found obstructing the urethra on the roof and upper left side of the vesical opening, and smaller growths sprang from the flap on the left of the bladder neck. These were all removed. At the end of five weeks he had entire control of his urine, excepting when over fatigued from working in a stooping position.

Clinical Notes

THE NATURE OF THE POISONOUS ELEMENT OF PROTEINS THAT IS CONCERNED IN THE REACTION OF HYPERSENSITIZATION.*

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There are several isolated facts and observations that seem to connect the aromatic radicals of the protein molecules with the toxic properties that seem to be common to all proteins, and on which seems to depend the property of inciting various reactions in whatever animal organism a protein may be injected. In the first place comes the fundamental fact that aromatic compounds are usually toxic, from the simple phenol to the highest molecular compounds containing an aromatic nucleus.

Again, the toxic and bactericidal properties of the products of protein disintegration are largely ascribed to aromatic compounds. Obermayer and Pick have found that the remarkable character of specificity of protein seems to depend in some way on the aromatic radicals of the protein molecule, as shown by the following observation: The precipitin that is produced by injecting any given protein into an animal is more or less closely specific for the protein that was the cause of its formation; but if before being used for immunization the protein has been first saturated with iodin, diazo groups, or other substances that combine with the benzene rings of the protein molecule, then the precipitin that will be produced by such an altered protein will not be specific for the protein injected, but will react with almost any sort of protein. For example, the serum of an animal immunized against bovine serum will produce precipitins that react only with bovine serum and not at all with any other proteins; but if bovine serum is first saturated with iodin before being used for immunization, the serum of the injected animal will react not only with bovine serum but also with horse serum, human serum, milk, or any other of a large list of different protein containing fluids. Of similar import is Fleischmann's observation that tryptic digestion of serum likewise causes the serum to be capable of producing only non-specific precipitins; for in tryptic digestion it is the tyrosin and tryptophan radicals that are first split out of the protein molecule. Vaughan and his pupils have been able to split proteins of various sorts into toxic and non-toxic portions, and at the recent meeting of the Association for the Advancement of Science, Dr. Vaughan stated that the toxic portion of the protein molecule contains the aromatic radicals, and that gelatin, which is notoriously poor in aromatic radicals, does not yield a toxic portion.

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* A preliminary note from the Department of Pathology of the University of Chicago.

The connection between the facts mentioned above and the remarkable phenomenon of hypersensitization or anaphylaxis, seems apparent, and it was thought that if these observations and deductions are correct, then the toxic effect of a second dose of a protein injected into an animal that has been sensitized by a previous injection of the same sort of protein given two weeks or more previously, may be dependent on the aromatic radicals of the proteins. To test this hypothesis several attempts have been made, with various modifications of dosage, to obtain sensitization of guinea-pigs to gelatin, which contains in the way of aromatic radicals only a small quantity of phenyl alanin, no tryptophan, and most minute or no traces of tyrosin. In no case has sensitization been obtained, although, so far as the literature shows, every other form of protein that has yet been investigated will sensitize guinea-pigs. These results are in agreement with Vaughan's finding that no toxic group can be split out of the gelatin molecule, and indicate that the toxic substance concerned in the anaphylaxis reaction in some way depends on the aromatic radicals of the proteins, just as the specificity of the precipitin reaction seems to be due to these same radicals. As Anderson and Rosenau[1] have suggested in their valuable studies, this reaction of anaphylaxis seems to be fundamentally related to many of the vital principles of infection and immunity, and if further studies that are under way can establish what the gelatin experiments indicate, that this reaction depends on certain specific groups of the protein molecule, an interesting line of research into the chemistry of these reactions will be opened.

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[1] Jour. Infect. Dis., 1908, v, 85.

FULMINATING PELVIC-ABDOMINAL EDEMA SIMULATING RUPTURED TUBAL PREGNANCY.

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The similarity of the symptoms to those of ruptured tubal pregnancy in two cases of fulminating pelvic-abdominal edema which came under my observation led me to search the literature for analogous cases. Extensive research and careful study of cases revealed only two cases of fulminating pelvic-abdominal edema in which a diagnosis of ruptured tubal pregnancy had been made. In one of these the diagnosis of retro-uterine hematocele was changed to salpingitis with suppurative ovaritis before operation was decided on. For purposes of comparison it might be well to give a brief history of these cases before citing my own:

Jocet's Case.—The first case was reported by Jocet in 1897. It occurred in a woman aged 28, who had been married eight years; no children. There was a history of having experienced on two different occasions severe pelvic-abdominal pain accompanied by accumulation of fluid in the right iliac fossa, which presented the characteristics of hematocele. These tumors terminated in resolution and the patient was entirely well during the intervals. She had a third attack in September, 1907, which was again diagnosed by another physician as hematocele and, in the light of the previous history, treated expectantly. Her condition improved, but on November 23 she was suddenly attacked by violent abdominal pains and almost incessant vomiting, accompanied by pallor, anxious facies, dry and flaccid skin. At the time of examination, chill; abdomen slightly tympanitic. A large fluctuating mass in the right iliac fossa extended within a hand's breadth of the crural arch. Right lateral cul-de-sac presented a tumefaction which appeared continuous with that of the iliac fossa. Bouilly positively excluded hematocele and diagnosed the condition as salpingitis, with suppurative ovaritis or inflamed cystic ovary. Operation November 25. Incision in right postero-lateral cul-de-sac was followed by a discharge of a large quantity of perfectly limpid fluid. A fluctuating cyst could now be palpated in the abdomen and Bouilly, believing this to be an ovarian cyst which had given rise to the peritoneal phenomena, performed laparotomy and exposed a large gelatiniform, encysted peritoneal mass in the iliac fossa, filled with a clear fluid. Underneath the peritoneal edema was a whitish-pink layer which formed the wall of the true sac. This was punctured and a considerable quantity of fetid pus evacuated. The pus sac was found to be the greatly distended suppurative ovary; it was separated from adhesions and enucleated. Recovery uneventful.

Legueu's Case.—The second case was observed by Legueu in 1901. Female, aged 21, was admitted to Hospital Hotel Dieu, May 16, 1901. Menstruation began at age of 16 and had always been regular. She aborted in May, 1900, and complained of pelvic disturbances since then. About fifteen days preceding date of admission to hospital, after regular and normal menstruation, she was suddenly attacked by violent pelvic pain accompanied by syncope, extreme pallor, cold extremeties, etc. The abdomen was enlarged. Pain diminished somewhat, but the abdomen remained distended, hard and painful to pressure. Vaginal examination disclosed a fluctuating mass in the posterior cul-de-sac. A diagnosis of retro-uterine hematocele was made. On opening the abdomen a quantity of yellow, serous fluid escaped. It was found that a serous exudate had developed around the right adnexa. This contained 500 grams of fluid and extended from the cul-de-sac of Douglas below to a wall of its own above, formed of a fibrinous network of tissue. The adnexa were removed and the roof of the serous cavity allowed to remain. Recovery was accompanied by slight postoperative suppuration. The serous fluid was examined and found to contain leucocytes and desquamated peritoneal epithelial cell.

Briggs' Cases.—I will now report my own observations:

Case 1.—Mrs. G.,[1] came to my office complaining of malaise and pelvic pain. Her menstruation had been normal. By a pelvic examination I discovered only a slight and obscure fulness about the left adnexa. The uterus was normal in size and consistency. Neither the history nor the local condition suggested ectopic pregnancy. Two days later the patient again came to my office. Her face was pale, anxious, pinched; her pulse 120, small and weak; temperature 100 F. The pelvis was completely filled with a fluctuating mass. Notwithstanding the early history I made a diagnosis of ruptured tubal pregnancy. On opening the abdomen I found the pelvis en-rely roofed over and when the agglutinated surfaces were parated serum poured out of them like sap from succulent rk in the spring time. Convinced that the case was one of fulinant pelvic peritonitis instead of misplaced pregnancy, and aring an almost certain infection of the general peritoneum the operation were completed from above, I closed the abmen and entered the pelvic peritoneum through the posterior rnix. About a pint of serum was evacuated and gauze ainage thoroughly established. Uneventful recovery.

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[1] Case reported to the Occidental Medical Times, Author give date—with a series of twenty-one ectopic pregnancies.

Case 2.—Mrs. ———, aged 34 years, has had two full term egnancies and six abortions; has had more or less discomfort r several years, which, however, did not impair either her neral health or her capacity for work and for which she did t consult a physician. Her last menstruation appeared n. 21, 1905, four days overdue; it was scanty and intermitnt but not otherwise abnormal until January 28, when I is called. I found the patient suffering with rather severe roxysmal pelvic pain, which she ascribed to abortion. Pulse d temperature were normal; the general condition was exllent; flow moderate and bright. I ordered codein and pheectin to relieve pain.

January 30, 2 p. m., patient has had severe pelvic pain extendg into the abdomen, particularly on the right, since 8 p. m. sterday; has had two "fainting spells;" temperature normal; lse 90, small and compressible; abdomen sensitive, particurly near the pelvic brim, but soft and pliable. Gave ¼ gr. of rphin hypodermically and ordered it repeated every hour by uth until pain was relieved. At 6 p. m. patient was reved, but evidence of shock was more pronounced; radial lse imperceptible; skin and mucous membrane were markedly emic; uterus retroverted, enlarged, fixed, sensitive; adnexa listinguishable; liquid could be demonstrated in the flanks either side but insufficient in quantity to transmit a wave. eling that the case was one of shock due to internal hemorage arising from ruptured tubal pregnancy, I advised an mediate laparotomy. At once the patient's face flushed a ep scarlet and the diagnosis, which a moment before I rerded as practically positive, was open to serious question. e deep flush seemed irreconcilable with the theory of so grave internal hemorrhage. The doubt was fully admitted, but ploratory incision was urged as the only means of diagnosis d possible treatment. A hypodermic of adrenalin and a h enema of saline solution were administered and the tient was taken to the hospital. Exploratory incision at :30 p. m. Preperitoneal connective tissues filled with great ibbers of serum which extended to the level of the umbilicus, fusing the relation of parts and necessitating a prolongation the incision upward. Three pints of serum were taken from abdominal cavity; the pelvic peritoneum pouched into the vic cavity from every direction; the left tube was chronicy inflamed, the right tube imbedded in adhesions; what med to be the right ovary was as large as a goose egg and tic. The abdomen was closed without further molestation. nsciousness returned but the patient did not rally and died 2:30 a. m.

utopsy by Dr. Twitchell.—Three pints of serum in perieal cavity; connective tissue as high up as umbilicus anteriy and the diaphragm posteriorly filled with serum; mesenly filled with serum; pelvic peritoneum pouching into pelvic ity from every direction and presenting the appearance of ts; what at the operation seemed to be the cystic right ry proved to be a peritoneal bag filled with serum; right ry and tube imbedded in recent adhesions, right tube ckened but free from pus, left tube slightly thickened and ected but free; with the exception of that covering the ht tube and ovary the peritoneum nowhere presented dence of inflammation.

These two cases, as well as the case observed by gueu, have much in common, both symptomatically d pathologically: symptomatically a close simulation ruptured tubal pregnancy; pathologically the rapid umulation of a large quantity of serum both subritoneally and intraperitoneally, in one case positively, the other probably, beginning in the pelvis and extending upward, in the earlier case to the false pelvis, in the latter to the diaphragm. In one case certainly, in the other case probably, there was a nidus of inflammation in the tube. Unfortunately Legueu does not state at what point the limiting fibrinous membranes had formed, nor does he give any information concerning the pathologic condition of the right adnexa which he removed.

Both of my cases so closely simulated ruptured tubal pregnancy that a positive diagnosis was prevented in the former case only by the absence of the usual history preliminary to rupture, and in the later case only by the sudden deep flushing of the face inconsistent with exsanguination. In the later case a confident diagnosis was expressed and I believe would have been expressed by the most experienced diagnostician before the flush described in the case report. The menstruation, hemorrhagic in character and delayed a week, the pelvic findings, the excruciating pain radiating from the pelvis, the seeming acute anemia with evident shock increasing to collapse, afforded grounds for a positive diagnosis of ruptured tubal pregnancy. The deep flush of the face following excitement was incompatible with this diagnosis.

Toward an etiologic solution of these cases I confess my inability to contribute anything positive. In both cases there was a mild inflammatory condition, in the earlier case producing agglutination of the peritoneum and roofing in the pelvis, and in the later case confined to the right adnexa. In the second case particularly angioneurotic edema suggests itself as a not improbable solution. The patient was highly neurotic and for a year or more preceding the fatal attack, beside doing her own housework, sewing, etc., had given a great deal of time to preparing herself for a musical career. Besides these there were other demands on her nervous system which may have contributed to the neurasthenic condition.

CONCLUSIONS.

1. Fulminating pelvic edema may very closely simulate a ruptured tubal pregnancy.
2. Absence of subjective and objective signs of pregnancy, of irregular uterine hemorrhage, of decidua in the flow in cases of shock with severe pelvic pain, would suggest the possibility of fulminating pelvic edema.
3. A hemoglobin test might assist in the differential diagnosis.
4. Fulminating pelvic edema is probably angioneurotic in origin.
5. Death (as in Case 2) may result from acute pelvicabdominal edema.

Glaucoma and General Affections.—Blessig of St. Petersburg warns that glaucoma should not be regarded as an independent and purely local affection, but rather as a manifestation of some general trouble. It is generally a symptom of pathologic changes in the vascular system. Reduction of the pressure in the heart arteries and corresponding increase in the venous pressure may suffice to transform a merely glaucomatous tendency into actual glaucoma. Zimmermann has reported great benefit from heart tonics, especially strophanthus, to reduce the difference between the general blood pressure and that within the eye. Emotional stress and neuralgia may also start or aggravate a glaucomatous condition. Hirth found sclerosis of the carotids in 46 among 69 glaucomatous patients. The specialist and the internist must work hand in hand, Blessig concludes, in order to control glaucoma. His article was published in the *St. Petersb. med. Wochschr.*, Sept. 7, 1907.

INTESTINAL PERFORATION BY ABDOMINAL CONTUSION; OPERATION; RECOVERY.

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Perforation of the intestine caused by a blunt, nonpenetrating, vulnerating body, with operation and recovery, is sufficiently uncommon to justify the report of an isolated case.

Early in September, 1907, a middle-aged, robust farmer ate eighteen ears of sweet corn, finishing his repast at 2 p. m. Two hours later, while at work in the barn, he was kicked by a horse, the blow falling just above and to the left of the umbilicus. For a few seconds he did not consider himself seriously hurt, but the pain soon became excruciating. He was assisted to his house, and medical aid reached him within a half hour. At about this time he vomited "two basinfuls" of sweet corn. Morphin, ¼ grain, was administered at intervals.

I was called at 6 p. m., but train connections and distance made it impossible to reach the bedside before 1 a. m., nine hours after the accident. At this time a contusion as large as a silver dollar was plainly visible three inches above and to the left of the umbilicus. The abdominal walls were board-like in their rigidity, tenderness on pressure was acute, especially in the immediate vicinity of the contusion. Symptoms of shock were but slightly marked at this time.

Basing judgment on the history, and especially on the "board-like rigidity of the abdominal muscles," a diagnosis of intestinal perforation was made, and the abdomen immediately opened. Coils of intestines were already agglutinated by fibrino-purulent exudate, and a brief search revealed a perforation of the intestine at about the jejunoiliac junction, and almost directly under the contusion. The perforation was round and sufficiently large to admit the little finger, but was effectually closed by the protruding mucous lining of the intestine. It was located opposite the attachment of the mesentery. The perforation was closed in the usual way, a few grains of corn were removed, the intestine in the immediate vicinity was carefully sponged, drainage introduced, several additional grains of corn coming away with the discharge from the wound, which was profuse for a few days. The patient made a complete and uneventful recovery.

This case is classic in every way. The perforation was directly under the point of impact, opposite the mesenteric attachment; almost completely closed by the mucous lining of the intestine, and merely enough of the intestinal contents had escaped to set up a severe but localized peritonitis. The vomiting was life-saving. All credit is due to the attending physicians, Drs. McLaughlin and Heald, who so quickly recognized the serious nature of the accident.

WHOOPING COUGH

COMPLICATED BY ACUTE NEPHRITIS, LOBULAR PNEUMONIA AND LEFT-SIDED HEMIPLEGIA.*

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E. S. M., aged 4 years and 8 months; breast fed; has had none of the diseases incident to childhood except whooping cough, which began six weeks prior to May 14, 1907. The cough was moderately severe, four to eight paroxysms daily, with considerable eructation; the child was not considered ill, and was not under medical observation. She was carefully fed, kept in the open air a great deal, which may have had some influence on the nephritis because of the extreme dampness and cold prevalent during this period.

Suddenly, at 5 p. m., May 14, 1907, while on the porch, the child was seized with a general convulsion, which was immediately followed by coma, absolute and continuous for the next ten days. Convulsions recurred at 5:30 and 8 p. m. and 1 a. m. Careful inquiry elicited no indiscretion in diet. However, the intestinal tract was thoroughly emptied by enemata and salines. Most careful examination of the lungs failed to detect any pneumonic process. Having eliminated the most likely causes of convulsions under the existing circumstances, we were puzzled when they recurred and the coma did not lessen. At 11 p. m. we catheterized the child and obtained one-half dram of a highly albuminous urine.

The cause of the convulsions having been established, the child was placed in a hot pack, which failed to cause her to perspire. The temperature began to rise, and at 2 a. m., after the last convulsion, the temperature reached 108.4. The child was pulseless; respirations were very high, but were not recorded. Prompt and vigorous stimulation with digitalin, nitroglycerin, strychnin sulphate, the constant application of the ice bag to the head and abdomen, and constantly rubbing the surface with alcohol, reduced the temperature gradually but continually to 101.4 at 2:30 p. m. The skin remained dry and harsh throughout the disease, with no visible tendency to perspiration, and the application of heat, in any form, sponge pack or hot mustard foot bath, increased the temperature, and they were discontinued.

On the tenth day there appeared on the neck and chest a vesicular eruption, which soon disappeared. Liquids given in teaspoonful doses were swallowed with difficulty, but, together with saline enemata, increased the amount of urine, which was voided involuntarily. On the evening of the third day the temperature had risen to 103.8, at 11 p. m. respiration 36, pulse 144, and there were signs of beginning pneumonia in the middle part of the right lower lobe.

The following morning at 11:30 the temperature was 103.6; pulse, 140, and respiration, 40.

The lung lesion had gone on to complete consolidation about the size of hollow of hand. In the middle of the right upper lobe, anteriorly, there was a consolidation about the size of a silver dollar, with numerous moist râles over the left base posteriorly. The temperature was again reduced to 102 by ice-cold compresses applied to the abdomen and the other means above detailed. On the morning of the sixth day the temperature again rose to 106.6, the child became pulseless, and respirations, while recorded as 36, were suppressed at intervals, Cheyne-Stokes in type, and indicated laryngeal stenosis, so marked that the child seemed to be strangling to death. The cough was irritating, suppressed, and the lungs filled rapidly with mucous râles.

The condition was so extreme that all nourishment which had been given by gavage was withdrawn for a period of twelve hours, during which time the crisis occurred. Throughout this period there were constant convulsive movements of the right arm and leg. On pin pricking she would move somewhat her right arm and leg, but not her left. Whether this apparent paralysis of the left side was sensory or motor was difficult to decide in the presence of the profound coma. On returning consciousness, about the tenth day, there was plainly present a left-sided paralysis involving the leg, arm, face and external rectus. The urine, as stated before, was voided involuntarily, but numerous specimens collected on cotton under waxed paper, showed large quantities of albumin, numerous hyaline and granular casts, and some blood. It increased in amount and the abnormal findings gradually disappeared until the thirtieth day, when the urine was practically normal.

The pneumonia gradually resolved itself, and the coma was replaced by returning consciousness; the cough again became troublesome and paroxysmal, whooping in character, with expectoration of mucus and occasionally vomiting. It finally disappeared, as is usually seen in uncomplicated whooping-cough.

The paralysis was absolute, but gradually improved. On June 5, 1907, she made the first attempt to move the leg. There was present marked talipes equino varus, which was corrected by a brace. At this time, Jan. 1, 1908, she walks with a halt, and there is still loss of power in the arm, and especially in the hand.

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* Presented at the West Branch of the Philadelphia County Medical Society.

The treatment of the case was symptomatic, with rather vigorous stimulation in a child so young; she received for days, every three or four hours, hypodermics of digitalin, gr. 1/50 to 1/100, and nitroglycerin, gr. 1/200 to 1/400, together with strychnia and whisky at intervals.

The most common complications of pertussis is bronchopneumonia, and the mortality is large, more than 25 per cent. Other and less frequent complications are meningitis, measles, diphtheria, convulsions, cerebral hemorrhage and spasm of the glottis. The text-books mostly mention nephritis in the list of complications, and yet, with a rather extended search of the English literature, I was unable to find a single reported case.

The special points of interest in this case are the number and severity of the complications, any one of which would give a bad prognosis, but to have present in a child of this age, acute nephritis, with suppression of urine for about twelve hours, a rather severe type of bronchopneumonia, a complete hemiplegia due to cerebral hemorrhage, and laryngeal stenosis of rather severe type, with recovery, was more than those in attendance or consultation could have hoped for.

A CASE OF VACCINATION OPHTHALMIA.

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I think the following case which came under my observation worthy of publication, as it brings before the practitioner a serious complication of vaccination but little thought of, and too little guarded against:

Willie S., 6½ years old, had been vaccinated about three weeks before I first saw him. The vaccination had taken, the arm had become sore and swollen, there was much discharge from he point of vaccination, also much itching. Although the point of vaccination had been protected by a shield, the child ad raised this and scratched the wound. About two weeks fter vaccination the eye became red, and the lids became wollen, till the eye was almost completely closed. When the mother brought the child to me the condition was as follows:

The lids were swollen so as to close the eye almost comletely; a profuse mucopurulent secretion was present. On pening the lids, a gray membrane was seen covering the inner ortion of the eyeball, and the conjunctival surface of the ids, extending from the caruncle to the cornea, and covering oth upper and lower tear puncta. This membrane was modrately thick, but little adherent, and caused but little bleedng on removal. On the conjunctival surface of the lower lid, ear the punctum, but not involving it, was a swollen oval ulcer with ragged, dirty gray edges; here the membrane was somewhat more adherent and there was bleeding on removing the membrane. The cornea was hazy, and at its inner border was a mall gray area of infiltration about the size of a pinhead. The pupil was contracted, but the iris was not discolored and reacted to light.

At first I thought I had to do with a case of diphtheria. I ook the child's temperature and found it normal. I examined he nose and throat and found no involvement there. The mother herself called my attention to the fact that the child ad been vaccinated, and that she thought there was some conection between the inflammation of the eye and the vaccinaion. It then began to dawn on me that I was dealing with a ase of inoculation of the eye with vaccine virus.

I removed the membrane, and by means of small cotton wab I carefully and thoroughly touched its site, as well as the ite of the conjunctival ulcer of the lid with a solution of ermanganate of potash, 1 to 250. I instilled a 1 per cent. tropin solution into the eye, and found that the pupil dilated evenly and without difficulty. The mother being unwilling to eave the child in the hospital, I ordered a 10 per cent. argyrol olution to be dropped into the eye four times a day, atropin olution (1 grain to the ounce) twice a day, hot applications four times a day, and I myself applied a 1 to 250 solution of permanganate of potash daily to the conjunctiva of the lids. A culture from the membrane showed no Klebs-Loeffler bacillus.

At first the condition proved somewhat refractory. While the membrane did not reform, the conjunctival ulcer was slow in healing, and the corneal infiltration showed a tendency to spread, becoming thicker, grayer and larger, the epithelium breaking down, till there was an ulcer about half the size of a split pea. It was only after cauterizing the corneal ulcer twice thoroughly with a 95 per cent. solution of carbolic acid that it was checked. In all, it took four weeks of careful attention before the boy was discharged cured, and when last I saw him, six months after his discharge, there was still quite a dense gray macula at the site of the corneal ulcer, which fortunately involved only the periphery of the cornea, and did not, therefore, injure the vision in the least.

The literature does not deal very extensively with this condition. The cases that have been reported are carefully analyzed in a dissertation by Dr. Reiner Schmitz of Dortmund. He cites cases of Berry, Critchell, Hirschberg, Peiper, Schapringer, Schirmer, Sénut and Weiss. Aron also reported several cases and reviewed the literature.

While in the majority of these cases the outcome was good, at times, the eye involvement was very severe, and in several cases severe corneal complications resulted in loss of sight. If we happen to know that an individual presenting such an eye involvement has been vaccinated, and are fortunate enough to have somebody question the connection between the two conditions, then a diagnosis is easy; otherwise, we are almost certain, if we see the disease during its membranous stage, to mistake it for diphtheria.

The differential diagnosis, however, is not difficult. The fact that the membrane is not especially adherent, that it does not bleed freely on removal, the absence of nose and throat involvement and of severe constitutional symptoms, and, finally, the culture test render a differential diagnosis easily possible.

103 State Street.

DEATH FOLLOWING ADMINISTRATION OF A CROUP REMEDY.

J. A. PALMER, M.D.
ERIE, KAN.

I wish to report a case in which death was directly attributable to "Dr. Drake's German Cough Remedy."

I was called to attend a child, aged 4 years, who was in deep coma. Breathing was stertorous, skin cyanotic, pulse intermittent and almost imperceptible, pupils were deeply contracted, in fact, I saw at once that the child was dying of opium poisoning. On inquiry, I found that the child had had an attack of croup the previous evening and had been given one-half teaspoonful of Dr. Drake's German Croup Remedy every half hour. The child died within an hour after I saw it, and was sick, in all, about twenty-four hours.

This preparation is said to contain three-fourths of a grain of opium to the dose, and the child had been given about half the contents of the bottle—which contained about three ounces—an enormous amount of opium for a child of this age. It is stated on the label that the dose is so small as to be harmless. Were the equivalent in minims or drops of laudanum stated on the label, the public might have a better appreciation of the danger of administering nostrums containing opium. When the amount is expressed in grains it means little except to a physician. In this case the statement that the amount of opium present is so small as to be harmless is little short of criminal.

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SATURDAY, FEBRUARY 15, 1908.

TUBERCULOSIS IN BIRDS.

In view of the marked general interest that now obtains with respect to tuberculosis in all its forms and all its aspects, it may not be without value to recount here the chief facts learned in regard to tuberculosis in birds as the result of extensive investigation in Berlin by Max Koch and Lydia Rabinowitsch.[1] During a period of about two years, beginning in November, 1903, these investigators examined carefully 459 birds at the Berlin Zoological Garden, and in 118 (25.7 per cent.) they found distinct tuberculous changes. The animals belonged to ten different orders of birds, the largest number with tuberculosis being different fowls. In birds tuberculosis is usually situated in the abdominal organs, especially in the liver and the spleen, as well as in the case of fowls in the intestinal tract. A peculiar necrotic substance develops as the end-product of the tuberculous process in birds that corresponds to the caseous material in mammalian tuberculosis. The tuberculous intestinal changes are proliferative rather than ulcerative, and nodules frequently develop in the external layers of the intestine without definite changes to correspond in the mucous membrane. These nodules are the analogue of tuberculous mesenteric nodes in mammals, such nodes being absent from the mesentery in birds. Hence we see that in birds tubercle bacilli may pass through the mucous membrane of the intestine without leaving any lesion in it. As the nodules perforate the mucous membrane tubercle bacilli are eliminated in the feces. In the lungs multiple nodules are most frequently seen. Caseous pneumonic processes are rare and cavity formation was never observed. Tuberculous pericarditis and tuberculous ulcers in the stomach were frequent.

Avian tuberculous lesions are characterized by the immense number of bacilli present and by the special arrangement of the giant cells. The bacilli are found in the center of the caseous masses as well as at the periphery, where they lie mostly in round heaps as the result of being or having been contained within cells. Around the necrotic masses are radially arranged giant cells full of bacilli.

Tuberculosis is, in the main, the result of food infection in the case of birds. At the same time other modes of infection as, for instance, by inhalation and by direct inoculation, may occur. The congenital transfer of tuberculosis is possible, and it has been shown microscopically that tubercle bacilli may be present in the eggs in the oviduct, and tuberculous chickens have been reared from infected eggs. In zoological gardens it is possible that tuberculosis may be conveyed to birds in the bodies of rats and mice which are given birds as food. Infection with human tubercle bacilli takes place relatively seldom in zoological gardens, much more rarely than is the case with birds that are kept in houses, such as parrots. The principal source of the infection of birds is tuberculous materials from other tuberculous birds, especially intestinal discharges with which the food becomes contaminated. As regards the bacilli isolated from tuberculous lesions of birds, it must be said that constant differences from the bacilli of mammalian tuberculosis were not demonstrated. In some cultures the bacilli resembled very much the mammalian type, and from the organs of three birds typical human bacilli were isolated. Parrots are susceptible to mammalian as well as to avian tuberculosis, and this seems to be true also of canaries. Small laboratory animals are easily infected with avian tuberculosis, which may be transferred also to cattle and goats, and several mammals (mice, rats, cattle, swine, horses, apes) have been found spontaneously infected with this form of tuberculosis, and bacilli of the avian type have been demonstrated also in man.

From their investigations Koch and Rabinowitsch find, as a general conclusion, that the bacilli of mammalian and avian tuberculosis can not be regarded as distinct species, but only as varieties of the same species adapted to different animal species.

THE EYE SYNDROME IN DEMENTIA PRÆCOX.

It is highly gratifying to note the recent advancement which psychiatry has taken in this country under the inspiration of Kraepelin's teaching. It is hoped, however, that the science will be divested of its cant phraseology or that glossaries will be inserted in text-books to give the general practitioner more definite insight into the meaning of terms used which have been taken over bodily from the German psychologists. No one study is of greater moment in psychiatry to-day than the solution of the problem of dementia præcox. The real pathogenesis of this dementing disorder of adolescence would seem to depend in no small degree on physical causes. The evidence for its autotoxic character is steadily increasing since Marro advanced the theory in 1900. Thus the urine studies show very defective elimination, and fully one-half of the subjects of dementia præcox die of tuberculosis. Certain toxic dermatoses, such as erythemata, and vasomotor paresis seen in chronic intestinal putrefaction, occur very frequently in dementia præcox. Some additional facts are at hand as shown in the coexistence of psychic excesses, neurasthenia with states of autointoxication. The blood studies show a toxic state, as summarized by Blin[1] in his monographic consideration of the autotoxic nature of dementia præcox.

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[1] Virchow's Archiv, 1907, Supplement to vol. cxc.

Finally, it would seem from the study of Pierce Clark and Tyson[2] on the eye in dementia præcox, which is also a definite contribution to the autotoxic character of the disease, that we have at hand a new eye syndrome peculiar to this mental disorder. As a result of several years' study of the eye in dementia præcox, these observers are able to report a constant finding in the optic disc, pupil and corneal sensibility. In brief, the changes may be summarized as those of a moderate degree of congestion and hyperemia of the disc (perineuritis of optic nerve), passing over into that of optic atrophy. The pupillary sensory reflex is negative, as well as the psychic pupillary reflex. The Piltz reflex, that is, an alteration in the size of the pupil on attempts to close the eye when the lids are held open, is also negative. The visual fields are all concentrically contracted, the average being but 10.6 degrees. Corneal sensibility is markedly diminished. These changes in discs, pupils, visual fields and corneal sensibility were found by Clark and Tyson in no other psychosis. The disc changes in dementia præcox, however, had most resemblance to those seen in toxic amblyopia of tobacco, lead and alcohol. The cases which were studied embraced individuals who used alcohol and tobacco moderately or to excess, as well as abstainers. The distinguishing feature of toxic amblyopia, a central scotoma for red, was found in but one patient with dementia præcox and he had an alcoholic history. Inasmuch as the disc changes in the first stages resembled somewhat those seen in ordinary intestinal toxemia, they repeatedly examined the discs in a number of their cases while the patients were under active hygienic treatment by free catharsis, intestinal antiseptics, baths and dietetic regulations. A marked degree of betterment was noticed in the congestive margins of the discs, but the central edema and transition pallor endured. The residual harm evidently could not be overcome. This fact may throw some light on the clinical observation that dementia præcox has remissions and arrests, but rarely a cure.

The authors believe their eye syndrome is of diagnostic and prognostic importance, as it varies in intensity with the mental disorder *pari passu*. There can be ittle doubt that the optic nerve lesion described by these authors is quite in accord with our best knowledge of the pathologic anatomy of dementia præcox, as given by Alzheimer, in other tracts of the brain of which the optic nerve is really an analogue. The early vascular changes in dementia præcox ought to be studied still more thoroughly, as the initial attacks of the toxin from gastrointestinal putrefaction ought to be registered first there. Definite and conclusive proof of the existence of the new eye syndrome in dementia præcox can be furnished only by microscopic analysis, which we understand is in process of completion.

SUBCONSCIOUS IDEAS IN THERAPEUTICS.

Dr. Scripture's article in this issue of The Journal[1] brings out prominently one desideratum in internal medicine, viz., the utilization of the methods of experimental psychology for therapeutics. Hitherto what has been done in this line has had comparatively little direct practical utility except to some extent in diagnosis, at least so far as the use of accurate recording instruments is concerned. Psychologic therapeutics has been largely, if not entirely, a rule-of-thumb affair, and what has been gained by accurate measurements of reaction time, etc., in morbid conditions in diagnosis has not been directly applied to the treatment of disease.

Within the past three or four years, however, Jung's studies have not only thrown new light on hysteria, but have actually led to a practical method of its cure in the large proportion of those cases in which the special emotional complexes on which it depends can be thus determined. Hysteria is defined by Münsterberg as "strangulated emotion" which disappears when the forgotten emotional ideas are brought to conscious expression. This does not, of course, sum up all the pathology of hysteria, but it at once suggests the possibility of the inhibitions of the repressed ideas or associations in consciousness being the direct cause of the morbid manifestations. This is Münsterberg's interpretation, and, so far as his definition applies, it gives as probable an explanation of the mechanism of the cures reported as any that can be offered at present. Of course, the underlying weakness that makes such a cause effective still exists, and in the more serious conditions of actual insanity, based on graver lesions or defects, a like favorable result can hardly be expected. It is, however, a great gain to have a treatment of hysteria that is based on scientific principles of physiologic psychology and the use of instruments of precision (for a stop watch may be thus designated with propriety when used for the purpose of testing time reactions in morbid states), recognizing, of course, the possibility that there may be types of hysteria not amenable to this treatment. Whether the method will be found of therapeutic value in other diseases is not yet shown, but there are so many disorders in which the hysterical element is a more or less prominent and important complication that it seems not improbable that a yet wider use may be made of it than has thus far been attempted. It may even develop some valuable results in the treatment of insanity.

The use of the method for the detection of crime alluded to at the close of Dr. Scripture's article has been recently[2] illustrated by Professor Münsterberg in a popular article. This, of course, is not particularly a matter of medical interest, but Münsterberg sees in it the greatest utility of the discovery. Whether, as he seems to think, it will completely displace the objectionable methods of the so-called "third degree" or not is uncertain; it may be found to have serious limitations when its details become known to clever criminals and they are prepared to meet and resist the tests. He shows, however, that it can be successfully used to elicit concealed facts of crime or vice, and its utility may yet come to be regularly recognized in the administration of justice.

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[1] "La démence précoce," Thèse de Paris, 1905.

[2] "Preliminary Report on the Significance of the Ocular Signs and Symptoms of Dementia Præcox as Observed in a Series of 115 Consecutive Cases," Proceedings N. Y. Psychiatrical Soc., Nov. 6, 1907.

[1] Page 521.

[2] McClure's Magazine, October, 1907.

We have said nothing about the value of such psychologic methods in diagnosis; they are self-evident. The time is coming when, as Dr. Scripture anticipates, the physician will learn his dependence on accurate psychologic insight in the diagnosis of many diseased conditions that, for the lack of this insight, have heretofore been the opprobria of medical science. Not every one will have the natural qualifications or have the time or opportunity to acquire any special skill in every phase of the work; there may arise, as Scripture suggests, a class of psychologic diagnostic specialists, but the simple methods he describes of determining the underlying fixed ideas in hysteria would seem to be available for nearly every educated physician.

SUPPLEMENTAL SCHOOLS FOR MENTALLY BACKWARD CHILDREN.

It is a sign of great humanitarian progress that the mentally backward child is no longer to be neglected in the public school system of this country. The advantages of a special institution training are about to be given a broader significance and application, and special training is to be brought nearer the home. For some time it has been possible for the rich to send their unfortunate children to special schools and also to employ trained teachers to give instruction in their own homes. But the less fortunate poor have had no such advantage. At best they have been permitted to send the mentally backward child to a state institution too remote and inaccessible for visitation. The result has been only too frequently that such a child has remained at home without school training, neglected, untaught and left to drag out a miserable existence, doomed at the outset to a life of inutility and intellectual darkness. For many years in Germany, England and Switzerland secondary or supplemental schools have been in successful operation. The purely mental training has been completely amplified by a thorough and detailed system of industrial education, an "intellectualization of the senses" has been aimed at. During the past four years similar adjunct or supplemental schools have been opened in this country. About fifty schools of this class are at present in active operation in New York City. It is generally recognized that these children need a separate and special system of school instruction, and it is obviously unjust to the normal child that he should be made to associate with the mentally backward child and *vice versa.*

As has been pointed out,[1] these supplemental schools should serve as clearing houses, as it were, for the whole class of mentally backward children. Thus, children only slightly backward may be so trained by careful study of their special lack that a short course of training may result in their being quickly returned to the normal school again; those children more lacking may require continued instruction in the special schools, while the obvious and proved cases of feeble-mindedness, after careful study and classification, will be sent at once to the proper state institution for this particular class. In order to make these schools efficient it is necessary that the teachers in charge should be specially trained for the work in hand. To this end it has been suggested by some of the public school and charity authorities that all teachers of the supplemental schools should have a preliminary qualification of attendance at a lecture course on the theory and method of teaching mentally deficient children, such as that given at the New York school of pedagogy; and that this didactic instruction be followed by a complete and thorough practice course in teaching mentally backward children in some state institution. A commission to consider the ways and means and the practical method of establishing a normal school for teachers of these children has already taken up this problem.[2] The idea is unique. No country has yet viewed the matter in so comprehensive a light.

This whole plan of special schools in connection with the public school system appeals to all, especially to the family physician who is so frequently consulted regarding ways and means of obtaining suitable education for these unfortunates. The scheme of proper establishment of these schools in every large city embraces advantages of far-reaching importance, far beyond the mere academic educational issue of completing any one city's public school system.

While it is not possible to say just how many children are in need of these schools, the work already done in Boston, Philadelphia, Baltimore and New York discloses the fact that the numbers are far beyond what is popularly supposed. It is noteworthy that the great charity movement of the past few years in state care of the insane has left the needs of the great army of backward children unimproved, hence the activity of public school authorities in the present movement. If the effort shows that fewer such children can be properly taught in these adjunct schools the movement will not be without great advantage in the care of these young wards of the state. The need of a more elaborate institutional care will have n definitely emphasized. In not a few instances may be safely said that state institution training ves much to be desired. The public school movement day for the mentally backward child can not help but mulate research all along the line of medical peda- gics both in and out of state institutions. Finally, it ll render signal aid in economics by restraining the norant, vicious and morally perverse child of the men- ly backward group from an after life of pauperism, generacy and crime. Present day studies (Kraepelin) ove that fully two-thirds of the petty thieves and mps are recruited from mental defectives.

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[1] Report of Commission on Mentally Backward Children in the New York Public Schools, New York County Medical Society, December, 1907. Also address on "The School Training of Backward Children in the New York City Public Schools," by Dr. C. E. Atwood, *New York Medical Journal*, Sept. 7, 1907.

[2] Committee for a proposed normal school for teachers of mentally backward children, appointed by Hon. Robert N. Hubbard, Commissioner of Charities, New York City.

NOSTRUM ADVERTISING IN FARM JOURNALS.

An article entitled "Medical Advertising and Guar- tees"—stated to be by a "well-known advertising n"—that is in every way as remarkable as it is grati- ng, appears in the January issue of *Agricultural Ad- tising.* The writer, who claims twenty-five years' ex- ience as an advertising man, first sketches the nges that have taken place in the advertising col- ns of the farm journals during the past five years, rticularly in regard to medical advertising. He then licates the losses inevitably entailed by the exclusion "patent-medicine" advertisements. Finally, display- a considerable familiarity with the conditions of blic policy and of general ethics that render such ex- sion desirable, he asks what prompts the publishers turn down year after year a small fortune, and sug- sts the following significant answer: "Perhaps the esight of these publishers is clear enough to make it parent that during the next quarter of a century they l be so strongly entrenched in the hearts of their ders that it [their circulation] will more than offset profit their loss on medical advertising." The agri- tural papers whose columns are to-day "closed and ked" against this nostrum advertising, according to writer, are the *Farm Journal* (which has for years used all medical advertisements), the *American Ag- ulturist,* the *Orange Judd Farmer,* and the *New gland Homestead,* which have together turned down ce 1902 some $50,000 worth of such business, and *Farm and Home,* which has refused some $60,000 rth during the same period. That these papers, ich as a class have perhaps less to fear than most ers from the stoppage of subscriptions through objec- ns on the part of readers to any specific class of adver- ng, and perhaps proportionately more to lose also advertising returns, should be among the first to nd for clean advertising, is of the greatest credit to m. But to those who have the interests of this move- nt truly at heart their action is in the highest degree tifying, not only as a significant example of the ting on the wall, but even more because the class of ple mainly reached by such journals, living, as they more isolated lives than community workers, are re apt to be misled by plausible mendaciousness and cious suggestion, and, moreover, being dependent for ir supplies largely on the mail order system, they the re easily fall victims to the vultures of commerce.

PARATOXIN.

The part played by the liver in protecting the organism against various intoxications, either organic or inorganic in origin, suggested to Gérard and Lemoine the possibility of utilizing the hepatic secretion therapeutically in certain infectious conditions. Having noted the virulency which is exhibited by tuberculous infections in patients suffering from disease of the liver, they first turned their attention to the possibility of favorably influencing the course of this disease by the administration of biliary products, and after some years of experimental work they have published the results of their investigation.[1] The authors state that it is with some hesitation that they submit a new treatment for tuberculosis, but that their results have been so favorable that they feel justified in emphasizing the importance of their discovery and asking that the method be given a wider trial. After some experimenting they have evolved a preparation of bile containing cholesterin and various allied substances, but deprived of the bile pigments, which they call "paratoxin." As repeated trials of this substance on guinea-pigs seemed to show that it possessed distinct virtues as a therapeutic agent in tuberculosis, they proceeded to test it clinically. It is administered by mouth, hypodermically, or by intralaryngeal injection in doses of from one to four cubic centimeters a day, or in larger doses if it is given at longer intervals. No local or systemic reaction has been observed; in fact, it seems to be harmless. From their observations on the 250 patients on whom it was tried, they conclude that paratoxin has a markedly beneficial effect on the course of pulmonary tuberculosis in the first and second stage, the patients improving immediately, both symptomatically and specifically so far as may be demonstrated. Laryngeal tuberculosis and tuberculous enteritis have also been shown to respond satisfactorily to this treatment, but rapidly-progressing or far-advanced processes are less amenable to improvement. Paratoxin is supposed to act by neutralizing the tuberculous toxins and thus giving the organism a better opportunity to cope with the local process, though the possibility of a bactericidal action is considered. The claims of Gérard and Lemoine are conservative in tone and seem to be fairly well supported by the evidence which they present.

WINTER CHOLERA.

Within the past three or four weeks there have been numerous press reports of an epidemic gastric and enteric disorder in rather widely separated localities in the Lake states. In the suddenness of its onset and the severity of its subjective symptoms the designation, "winter cholera," which has been applied to it, seems well chosen. Catarrhal disorders of the digestive tract are not uncommon in cold weather, but they do not usually appear suddenly as epidemics, nor are they usually severe. In Lansing, Michigan, whence the first reports came, a city of about 30,000 inhabitants, the disorder is reported as making its first appearance by simultaneously attacking many citizens. In about a week the worst was over and there was no immediate mortality. Since then, similar reports have come in from several places in Wisconsin, Ohio, and contiguous states, of what seems to be the same disease—a sort of gastroenteritis attended with nausea, vomiting, and, in severe cases, collapse. The most natural supposition would be that the epidemic was due to impurity in the water supply, though at Lansing, where the state board of health has investigated the matter, this is disproved. Another possibility suggested is that it might be an exacerbation of a special gastrointestinal form of influenza. The epidemic bears a close resemblance to a similar one that occurred in some parts of the country in the winter of 1880-1, and which was discussed in the *Bulletin of the National Board of Health* that existed at that time. There was the same epidemic onset and the gastrointestinal and other symptoms were apparently identical, but while the severity of the attack was usually quickly over, there were many relapses. At that time epidemic influenza had not reached this country and therefore received no credit for the epidemic. Being prior to the days of medical bacteriology, its cause was not investigated. This older epidemic cut no figure directly in the mortality reports, but undoubtedly had an indirect effect which was later attributed to other causes, and the same will probably be the case to some extent with the present disorder.

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[1] Traitement de la Tuberculose par la Paratoxine, Basé sur l'Action Antitoxique du Foie, Vigot Frères, Editeurs, Paris, 1907.

STATE AND INTERSTATE SANITATION.

A bill was recently introduced in the Ohio legislature giving the state board of health supervisory powers over water courses, public waterworks and sewage disposal. There can be no question as to the propriety and urgent need of some such measure in every state not already thus provided for. The states of the middle West, with their small amount of waste lands, densely settled rural districts and numerous large towns, stand in special need of such legislation, which will naturally be vigorously opposed by local and private interests now profiting from the insanitary conditions. In Illinois, for example, in 1897 there were fifty-two municipalities obtaining their public water supply exclusively from surface drainage, mostly from slowly-running streams carrying the sewage of manufacturing villages. This was the figure given by the U. S. Geological Survey ten years ago, and it is not likely that conditions have materially improved since then. Other states are no better in this respect and some may be worse. State legislation, moreover, while a necessity and capable of doing an immense amount of good, will by no means meet all the needs; there must be interstate cooperation or a federal control of sanitary matters to a large extent to insure normal sanitation of water supplies. As was well said by Dr. H. R. Mill,[1] when speaking of English conditions in his presidential address before the Royal Meteorological Society: "Care for the water supply of the country, coming as it does from the air that knows no boundaries, across the land, is by no means a parochial, but in the fullest sense a national matter, and should be dealt with in the interests of the nation as a whole. . . ." This applies also to this country, where matters of healt as well as of wealth are so extensively involved Up to a recent period, as shown by Dr. Bracken, less than half a dozen states had approximately adequate laws on this subject and there had been hardl any active cooperation for the interstate control of wate supplies. It is probably true that large rivers, flowin long distances without local contamination, tend to purify themselves, but when flowing through populous districts this self-purification can hardly be relied on, and the Ohio river, bordering five states, has recently been described as "a thousand miles of typhoid." In case of smaller streams, under like conditions, a similar epithe is even more likely to be appropriate. How far the general government can take up this matter may need to be settled by court decisions, but there are some ways that ought to be directly practicable. The state board of health of Georgia has recently taken a step in this direction by passing resolutions favoring the establishmen of the Appalachian National Forest Reservation, which will also, it is said, be favored by the authorities of other southern states. If the general government can be given the control of the head waters of the streams of a large portion of the country it ought to simplify many of the questions that would inevitably arise if the matter were left to the state authorities alone.

THE AUTOMOBILE NUMBER.

The Automobile Number of The Journal, March 7 1908, we believe, will be an interesting issue. In response to the announcement in The Journal, in which we asked for experiences, we have received many communications — bright, thoughtful, analytical — which seem to present all the various phases of automobile experience. Many readers write us that they look forward to this issue with great anticipation, because our previous automobile number not only was interesting but proved of practical value to them in connection with their choice of a machine. There is room for a few more communications—the more terse and pointed the better—but they should be received within the next seven days. We can also use more illustrations. It is preferable that the illustrations show the machines in local surroundings and ready for the road, and it is most important that they may be clear and sharp.

Medical News.

CALIFORNIA.

The Plague Situation.—A telegram from the special correspondent of The Journal in San Francisco, dated February 11, states that one case of human plague was verified February 8. The citizens are very active, and a large fund is being raised to be placed at the disposal of Surgeon Rupert Blue of the P. H. and M.-H. Service for additional rat catchers, traps, etc. Additional sanitary inspectors to be placed under the orders of Dr. Blue will also be appointed, and the sanitary laws will be rigidly enforced. The law committee, consisting of Drs. Herbert C. Moffitt and Philip Mills Jones, and Captain Goodall, on February 11, saw the mayor and the president of the police commission, who agreed to swear in all sanitary in-

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[1] Nature, January 23.

[2] The Journal A. M. A., Aug. 24, 1907, p. 668.

ectors as special police, and to make the police force co-
erate in the strenuous cleaning up of premises, in the en-
rcement of the garbage ordinances, which have heretofore
en dead letters, and in the condemnation of insanitary prem-
s. Results thus far from the action of the state society
mmittee far exceed expectations, and a large number of
izens are now thoroughly aroused to the present danger,
d are devoting their time to impressing on others the impor-
nce of the most energetic measures. C. C. Moore, president
the chamber of commerce, is chairman of the executive com-
ittee of the citizens' health committee, and is devoting his
tire time to this work. On February 11 the wholesale butch-
s agreed to make all abattoirs, etc., rat proof, and to catch
d kill rats in their territory. The bounty on rats has been
creased to 25 cents for males and 50 cents for females. In
neral, it may be said that the progress made in the conflict
ainst bubonic plague in San Francisco is encouraging.

COLORADO.

Cornerstone Laid.—The cornerstone of the Swedish Sana-
rium for Consumptives, Englewood, was laid with impressive
remonies recently. Governor Buchtel was the principal
eaker, and complimented the Swedish people on their work
accomplishing their plans for the completion of a hospital
r consumptives of their nationality. The first building of
e sanatorium is to cost $7,000.

Society Meetings.—At the annual meeting of the Las Animas
unty Medical Society, held in Trinidad, January 3, the fol-
wing officers were elected: Dr. Perry Jaffa, president; Dr.
orge W. Robinson, vice-president; Dr. E. W. Fox, secretary,
l of Trinidad, and Dr. William Hutchinson, Delagua, treas-
er.——At the annual meeting and banquet of the Lake
unty Medical Association, held in Leadville, January 2, Dr.
enry A. Calkins was elected president, and Dr. E. T. Boyd,
cretary, both of Leadville.——At the annual meeting of the
eblo County Medical Society, held in Pueblo, January 6, the
llowing officers were elected: President, Dr. J. J. Pattee;
ce-presidents, Drs. Joseph E. Pearis and William F. Rich;
rarian, Dr. Wilbur W. Bulette; censor, Dr. Alexander T.
ing, and delegate to the state society, Dr. Robert C. Robe, all
Pueblo.——At the annual meeting of the Fremont County
edical Society, held at Florence, the following officers were
ected: President, Dr. Charles H. Graves, Canon City; vice-
esident, Dr. William A. Williamson, Rockvale; secretary-
easurer, Dr. Royal C. Adkinson, Florence, and Dr. James W.
mbo, Florence, delegate to the state society.——The annual
eeting of the City and County of Denver Medical Society was
ld January 7; Dr. George H. Stover was elected president;
. Edmund W. Stevens, vice-president; Dr. William H. Davis,
easurer; Dr. M. Newton McGiffin, financial secretary, and
r. Carl G. Parsons, recording secretary.

DELAWARE.

Addition to State Hospital.—The addition recently built to
e Delaware State Hospital, Farnhurst, has been named the
hn J. Black Cottage. The superintendent in his report
owed a population of 411 in the institution, an increase of 5
ales and 4 females during November.

Society Election.—At the annual meeting of the Newcastle
unty Medical Society, held in Wilmington, the following offi-
rs were elected: President, Dr. John Palmer, Jr.; vice-presi-
nt, Dr. Joseph P. Pyle; secretary, Dr. Harold L. Springer
e-elected), and treasurer, Dr. Samuel C. Rumford (re-
ected).

DISTRICT OF COLUMBIA.

For Consumptives.—A new department has been established at
e Georgetown University for the examination and treatment
tuberculosis. The clinic is under the charge of Dr. William
Gwynn. It is conducted in connection with the outdoor
partment of the hospital and in cooperation with the com-
ittee on the prevention of tuberculosis.

Insane Hospital Report.—Dr. William A. White, superinten-
nt of the Government Hospital for the Insane, Washington,
his report for the last fiscal year, states that there were 46
ore patients remaining in the hospital at the end of the year
an at the end of the fiscal year of 1906. The daily average
r the year was 27 more. During the year there were admit-
d 619, making a total of 3,167 under treatment. Of this
mber 409 were from civil life and 210 from the public serv-
es. During the year 571 were discharged, as follows: 177
covered; improved, 134; unimproved, 40; died, 216, and de-
ared not insane, 3. During the year a psychologic laboratory
s been established in the institution. This is a step toward
e creation of a scientific department for the study of mental
seases.

IDAHO.

Society Meeting.—At the annual meeting of the North Idaho Society, held in Lewiston, the following officers were elected: President, Dr. John F. Hurlburt; vice-president, Dr. Charles C. Phillips, and secretary-treasurer, Dr. Frank L. Hinkey, all of Lewiston.

Tuberculosis Exhibit.—Dr. Lucien P. McCalla, Boise, has taken up the work of organizing a committee in Idaho to prepare a creditable exhibit and to select delegates to represent the state at the International Congress on Tuberculosis in Washington, in September next.

Personal.—Dr. Malcolm McKinnon, Sand Point, has been appointed physician of Bonner County.——Dr. Hugh V. Scallon, formerly of Eau Claire, Wis., has been made mayor of Coeur d'Alene for the third term.——Dr. W. F. Smith, Boise, is taking a postgraduate course in New York City.

ILLINOIS.

Unlicensed Practitioner Fined.—Emma Howe, Granite City, was charged with practicing medicine without a license. It is reported that she failed to appear, that judgment was rendered against her for $100 and costs and the fine paid.

Verdict for Physician.—In the case of E. L. Wilson vs. Dr. James A. Marshall, Pontiac, who is alleged to have made false representations to the plaintiff in order to get him to submit to a surgical operation, the jury on January 26 brought in a verdict for the defendant.

Antituberculosis Association.—A meeting of colored people of Chicago was held February 9, at which an organized movement was begun to check tuberculosis. Dr. A. W. Spriggs was elected president; Dr. Augustus W. Mercer, vice-president; Dr. A. Wilberforce Williams, secretary, and Dr. George C. Hall, treasurer.

Injured and Ill.—Dr. James F. Percy, Galesburg, while cranking his automobile January 25, sustained a compound fracture of the right arm. Pending the recovery of the use of his arm he will travel in Europe.——Dr. Augustus K. Van Horn, Jerseyville, sustained painful injuries in a runaway accident January 30.——Dr. Ralph H. Herbert, Poplar Grove, is seriously ill with pneumonia.

Epidemic Diseases.—At Franklin 8 cases of smallpox are reported.——On account of the prevalence of smallpox in the neighborhood of Mount Pleasant, the public school has been ordered closed.——The smallpox at Pleasant Plains has abated in the last few days.——Fire on January 30 destroyed the Peoria Isolation Hospital. The six smallpox patients were rescued with difficulty, and later were placed in temporary quarters in a houseboat.——A disease believed to be scarlet fever is causing much concern at Lacon.——Several new cases of smallpox are reported in Virden and Chatham.——The public schools at Lewistown have been ordered closed on account of the prevalence of smallpox.——An epidemic of diphtheria is reported at Whitehall.

KENTUCKY.

Fined for Selling Liquor on a Prescription.—According to a decision handed down by the Court of Appeals, whisky can not be sold as medicine in a local option county in the state. James Hutson is said to have been fined $60 by a jury in the Carlisle Circuit Court for selling whisky on a prescription, to be used for a child threatened with pneumonia, although the testimony of the physician and the father of the child showed that it was to be used as a drug.

Hospital Notes.—The annual report of St. Anthony's Hospital, Louisville, shows that in 1907 905 patients were admitted, 447 of whom were charity patients.——The mayor of Louisville announces that a new city hospital will be built very soon, the money for the purpose being taken out of the general fund.——The new hospital at Maysville, given to the city by Mrs. Mary P. Wilson, was recently opened to the public.——The tuberculosis annex to the Louisville City Hospital will, it is hoped, be ready for occupancy, March 1.

LOUISIANA.

Hospital Notes.—The New Orleans Health Association has decided to devote its funds and efforts toward the building of an isolation hospital, which is greatly needed in the city. The association has about $30,000 in its treasury.——A new hospital is to be erected in New Orleans, operated by the Woman's Home Missionary Union, to be known as the Presbyterian Hospital.

Against Tuberculosis.—At the first annual meeting of the Louisiana Anti-Tuberculosis League, Dr. Edward L. McGehee, New Orleans, was re-elected president, and Dr. J. George Dempsey, treasurer.——The contractors for the sanatorium of the league report that seven cottages are completed.——Mr. M. O. Nelson, a St. Louis philanthropist, has offered to defray the expenses of the tuberculosis sanitarium at St. Tammany Parish for three months.

Society Meetings.—At the annual meeting of the Orleans Parish Medical Society the following officers were elected: President, Dr. Amedee B. Granger; vice-presidents, Drs. William H. Seemann, Richard W. Salter and C. W. Allen; secretary, Dr. Edward M. Hummell; treasurer, Dr. Sidney K. Simon; librarian, Dr. Hober Dupuy, and directors, Drs. John J. Archinard, William W. Butterworth and Eugene H. Walet.——At the annual meeting of the Rapides Parish Medical Society, held in Alexandria, January 6, the following officers were elected: President, Dr. G. M. G. Stafford, Alexandria; vice-president, Dr. Alexander H. Biscoe, Tioga; secretary, Dr. Arthur R. Chopin, Lamothe, and treasurer, Dr. F. V. Gremmillion, Alexandria.——At the annual meeting of the Bienville Parish Medical Society, held in Gibsland, January 17, the following officers were elected: President, Dr. Oliver O. Hamner, Bienville; vice-president, Dr. Claude C. Allums, Manning, and secretary-treasurer, Dr. F. R. Singleton, Arcadia.——At the annual meeting of the Tangipahoa Parish Medical Society, held in Amite City, January 12, the following officers were elected: President, Dr. H. G. Morris, Kentwood; vice-president, Dr. Glenn J. Smith, Amite City, and secretary, Dr. James L. Lenoir, Amite City.——At the annual meeting of the Shreveport Medical Society the following officers were elected: President, Dr. James C. Willis; vice-president, Dr. J. M. Bodenheimer; secretary, Dr. D. A. Mohler, and treasurer, Dr. William L. Egan.

MARYLAND.

Personal.—Dr. Charles A. Wells, Hyattsville, sailed for the Orient February 6.——Dr. John P. Briscoe, Washington, D. C., has been appointed temporary resident physician of the Maryland Agricultural College, College Park, vice Dr. William O. Eversfield, deceased.

Tuberculosis Exhibit.—The traveling tuberculosis exhibit of the Maryland Association for the Prevention and Relief of Tuberculosis will be held at the Hebrew Friendly Inn and Aged Home, Baltimore, February 10 to 17. During this time public lectures will be given each afternoon and evening.

Baltimore Personal.—Dr. William F. Lockwood, Baltimore, is ill at his home with diphtheria.——Dr. William D. Booker, Baltimore, has been critically ill with pneumonia.——Dr. Howard A. Kelly has returned from a six weeks' trip to Mexico.——Prof. George M. Stratton, head of the department of experimental psychology at the Johns Hopkins University, has resigned to accept the directorship of the department of psychology in the University of California.

Library Site Purchased.—The Medical and Chirurgical Faculty of Maryland has purchased a site 60x234 feet for the use of the new library building on Cathedral Street, Baltimore, for $22,000. Only the leasehold interests were bought, the lot being subject to a ground rent of $123.50 per year. Professor Welch will address the legislature February 12 in favor of a bill making an appropriation of $100,000 toward the library fund. The druggists of Baltimore have raised $5,000 for the building.

MICHIGAN.

Illegal Practice.—Urban Hartung, Detroit, accused of practicing medicine without registration, is said recently to have been found guilty.

Personal.—Dr. Charles B. Stockwell, Port Huron, is critically ill with pneumonia.——Dr. Alexander W. Blain, Jr., has been appointed senior house physician of Harper Hospital, Detroit.——Dr. Walter E. Wilson, Grand Ledge, was elected president of the State Board of Pardons January 14.

Consumptive Sanatorium Opened.—The State Tuberculosis Sanatorium at Howell recently opened, has at present 11 male patients. The building for women is almost completed, and this with a third building in process of erection, will give a total accommodation of 38 patients for the sanatorium.

Communicable Diseases.—Menominee is suffering from an epidemic of typhoid fever and pneumonia.——Smallpox is reported in one of the lumber camps 20 miles west of Cadillac.——The quarantine on the state prison, Jackson, established on account of the presence of smallpox, has been raised.——Burr Oak has 4 cases of smallpox and Calhoun County 17.——Monroe Center is reported to have several cases of smallpox, and the public school has been closed.——Scarlet fever is said to be epidemic at Kingsley.——Several cases of scarlet fever are reported from Shepherd, where schools have been closed and public gatherings interdicted.

MINNESOTA.

New Hospital.—The proposed Sheltering Arms Hospital, Minneapolis, plans for which have just been completed, is to stand in Mississippi Parkway between Lake Street and Minnehaha. It is to be a brick structure and will cost about $40,000.

Personal.—Dr. I. Daniel Webster, Mankato, at present in San Diego, Cal., has almost recovered from his recent illness.——Dr. Gustav W. Barck, health officer of Albert Lea for 14 years, has resigned.——Dr. D. Edmund Smith has been elected superintendent of the Asbury Hospital, Minneapolis, and Dr. Willard B. Pineo, secretary.——Dr. J. Warren Little has resigned from the directory of the Asbury and Rebecca Deaconess Hospital and Home, Minneapolis.——Dr. Arthur Sweeney, St. Paul, has been visiting in Lawrence, Mass.——Dr. Peter M. Holl, Minneapolis, has been elected city physician, vice Dr. Ole E. Linjer, deceased.——Dr. John F. Fulton, St. Paul, has resumed active practice.

Contagious Diseases.—There are said to be about 24 cases of diphtheria among the inmates of the state reformatory, St. Cloud.——In order to prevent the spread of scarlet fever, the board of education of Minneapolis has decided to burn at least 750 text-books in use in the Kenwood and Douglas schools.——Scarlet fever is reported to be epidemic in Preston.——Several cases of hemorrhagic smallpox have been discovered in St. Paul.——In Monterey and Triumph 116 cases of smallpox are reported, and the inspector of the state board alleges that no attention has been given to the matter by the local boards of health.——Smallpox is reported to be prevalent in Lake Prairie township.

MISSOURI.

Permit Refused.—The board of health of St. Louis on January 9 is said to have refused to grant a permit to the Hippocratian College to conduct a hospital and dispensary.

Smallpox.—A number of cases of smallpox are reported in Bucklin and Hart.——Several cases of smallpox are reported in Johnson and Lafayette counties.——Kansas City has 20 smallpox cases in the Isolation Hospital.

Fire in Epileptic Colony.—Cottages B and C at the State Colony for the Feeble-minded and Epileptic, Marshall, were damaged to the extent of $35,000 by a fire, January 19. The patients in the two cottages were removed without injury.

Personal.—Dr. Charles B. Simcoe, St. Joseph, has been elected superintendent of the State Colony for the Feeble-minded and Epileptic, Marshall, vice Dr. William L. Whittington, term expired.——Dr. Joseph E. Dibble has been elected president of the colored people's branch of the Kansas City Society for the Relief and Prevention of Tuberculosis.

Elections.—At the annual meeting of the North St. Louis Medical Society, held January 14, Dr. Henry J. C. Sieving was elected president; Dr. Andrew A. Henske, vice-president; Dr. Henry C. Niebrugge, secretary, and Dr. Albert F. Koetter, treasurer.——The St. Louis Society of Internal Medicine was incorporated January 19. Dr. Gustav Baumgarten was elected president; Dr. Washington E. Fischel, vice-president and Dr. Elsworth Smith secretary-treasurer.

Hospital Notes.—The new hospital for the treatment of tuberculosis patients under the direction of the authorities of Kansas City, is to be erected on high land near Leeds. The estimated cost of the structure is $6,500 and the building is to be constructed from native stone with thatch and stucco.——The Kansas City Postgraduate Medical School and Hospital, formerly occupied by the Medico-Chirurgical College, is now ready to receive patients. The hospital has accommodations for 60 patients.——The addition to the Ensworth Hospital, St. Joseph, is nearly ready for occupancy. The improvement, when completed, will provide accommodation for about 40 more patients, making the capacity of the hospital about 90.

The Finger-Licking Habit.—At a meeting of the Medical Society of the City Hospital Alumni of St. Louis, held February 6, the following preamble and resolutions relative to the habit of finger-licking were adopted and copies ordered to be sent to the postmaster general, postmaster of St. Louis, St. Louis health department, and the daily and medical press:

WHEREAS, The specific organisms of serious diseases may be present in the mouths of persons who apparently are in a fair state of health. The secretions from the posterior nares, throat and mouth supply a means whereby the transfer of such organisms to other persons and things is facilitated. Next to promiscuous spitting, the practice of habitual insalivation of the fingers by those harboring such organisms affords the readiest means of conveying infection to others. Healthy persons may infect themselves by germs carried by their fingers into their own mouths. Money, pers, books, and other articles that are constantly passing from nd to hand have been found to carry the active germs of infec- ous diseases. Employés addicted to this habit who, in the per- rmance of their duties as stamp sellers, postmen, clerks, cashiers, lespeople, waiters, conductors, etc., are necessarily in contact ith the public, and who persist in so doing after notice and arning, should be deprived of their positions as thereby consti- ting a menace to the general health. Sanitary and medical con- mnation of the practice of finger licking rests on the proved fact at the bacteria of many of the most virulent diseases are often undantly present in the secretions of the human throat and outh, even when no outward evidence of danger appears; There- re be it

Resolved, by the Medical Society of City Hospital Alumni, of St. ouis, that the attention of the Postmaster General, and of the ostmaster of St. Louis be respectfully directed to the practice of e objectionable habit of digital insalivation among some of the nployés of the postoffice, with request that effective measures be ken to protect the public against danger from such sources. And it further

Resolved, By the Medical Society of City Hospital Alumni of St. ouis, that the St. Louis Health Department be respectfully re- ested to investigate and publicly report on the prevalence of the abit of finger licking among employés of departments, corporations d concerns serving or catering to the people of St. Louis in order at warning may be given of the risks to health incurred by tronizing places, public utilities, and establishments where such unclean and dangerous practice is permitted.

MONTANA.

Personal.—Dr. Charles K. Vidal, Belt, has been appointed hysician of Cascade County.——Dr. Edwin W. Spottswood, ief surgeon of the Northern Pacific Hospital, Missoula, has signed, and has been succeeded by Dr. James P. Aylen, heldon, N. D.——Dr. Charles A. Brady, city physician of reat Falls and Cascade county, is reported to be seriously ill the Columbus Hospital, Great Falls.

Communicable Diseases.—A smallpox case is reported at iphon and a second from Sommers.——A woodchopper from ne of the camps near Emory is reported to be suffering from nallpox at Deer Lodge.——Two cases of smallpox are reported Missoula.——There have been 5 cases of spinal meningitis Missoula, with 3 deaths.——Influenza and pneumonia are id to be extremely prevalent in and around Missoula.

Society Meetings.—At the annual meeting of the Missoula ounty Medical Society, held in Missoula, January 25, the fol- wing officers were elected: Dr. John J. Buckley, president; r. George T. McCullough, vice-president; Dr. F. D. Pease, cretary; and Drs. William P. Mills, Edwin W. Spottswood nd Edgar F. Dodds, delegates to the state association, all of issoula.——At a meeting held in Helena, January 22 and 23, e Montana Public Health Association was organized with the llowing officers: President, Dr. Creswell T. Pigot, Butte; ice-presidents, Drs. Clyde W. Jump, Bozeman, and J. W. Stith, iles City, and secretary, Dr. Thomas D. Tuttle, Billings.

NEBRASKA.

Personal.—Dr. Ernest Kelley, Omaha, has been appointed ssistant physician and pathologist of the State Hospital for e Insane, Norfolk.——Dr. Clifford W. Waldren, Beatrice, has en reappointed a member of the board of commissioners for e insane.——Dr. John R. Gray, Osceola, has been elected phy- cian of Polk County, vice Dr. L. Matt Shaw.

Communicable Diseases.—At McCook 28 cases of smallpox re reported and 5 cases at Bartley. In both places the schools ave been ordered closed, compulsory vaccination has been stituted, and public gatherings have been prohibited.——In- uenza is reported to be epidemic in Bellevue College, Beatrice. —On January 30 there were 7 smallpox patients in the Isola- on Hospital Lincoln.

Hospital News.—The commissioners of Douglas County have ecided to take immediate steps to build the new tuberculosis ard of the county hospital.——The Wise Memorial Hospital, maha, was dedicated with impressive ceremonies, February 2. he medical staff for the year consists of Drs. Oscar S. Hoff- an, Wilson O. Bridges, Robert A. Gilmore, Abraham Romm, ames S. Goetz, Albert P. Condon, August F. Jonas, John E. ummers, Jr., Byron B. Davis, Charles C. Allison, J. C. Moore, harles Rosewater, Palmer Findley and Frank S. Owen.

NEW MEXICO.

Sanatorium Opened.—The Fraternal City Sanatorium at lamogordo has been completed and 17 patients are already stalled. The institution comprises three buildings, with a pacity of 150 patients.

Society News.—At the monthly meeting of the Bernalillo ounty Medical Society, held in Albuquerque, December 4, the llowing officers were elected: President, Dr. Celia W. Tay- r-Goodman; vice-presidents, Drs. Lucien G. Rice and John A. eidy; secretary, Dr. John R. Haynes; treasurer, Dr. Eligio suna, and censors, Drs. James H. Wroth and Percy G. Cornish, all of Albuquerque.——At the annual meeting of the Grant County Medical Society, held in Silver City, December 28, the folowing officers were elected: President, Dr. George K. Angle; vice-president, Dr. William J. Hammer, and secretary-treasurer, Dr. L. W. Peters.

NEW JERSEY.

Personal.—Dr. Isaac N. Griscom, Ocean City, has been elected vice-president of the State Drainage Association.——Dr. Harry Jarrett, Camden, is critically ill at his home with pneumonia.

Diphtheria and Scarlet Fever.—The report of the state commissioner of charities, Dr. George B. Wight, shows that diphtheria is increasing in the reformatory at Rahway. Thus far 130 cases have been reported. This is about one-third of the population of the institution. No deaths have as yet resulted. ——Dorchester reports an epidemic of scarlet fever, which has caused the closure of the public schools.

Vital Statistics.—During the month ended January 15 there were 3,381 deaths reported to the bureau of vital statistics. Of these 411 were due to pneumonia, 409 to diseases of the nervous system, 360 to diseases of the circulatory system, 326 to tuberculosis, 273 to diseases of the respiratory system, 255 to nephritis, 215 to diseases of the digestive system, 115 to cancer, 70 to diphtheria, 49 to typhoid fever, 39 to scarlet fever, 7 to whooping cough and 6 to measles.

Election of Officers.—The following officers were elected at the annual meeting of the Camden City Medical Society, January 7: President, Dr. Edward A. Schellenger; vice-president, Dr. William I. Kelchner; secretary, Dr. Joseph W. Martindale; treasurer, Dr. William H. Pratt; librarian, Dr. J. H. Mills, and historian, Dr. Thomas B. Lee.——At the annual meeting of the Passaic Medical Society, January 10, Dr. Henry H. Brevoort, Lodi, was elected president; Dr. John N. Ryan, Passaic, vice-president; Dr. L. H. Joyce, Passaic, secretary, and Dr. Frederick F. C. Demarest, Passaic, treasurer.

NEW YORK.

New State Society President.—Owing to the refusal of Dr. Edward L. Trudeau of, Saranac Lake to act as president of the Medical Society of the State of New York on account of ill health, Section 2 of Chapter 6 of the by-laws makes the first vice-president, Dr. Arthur G. Root, of Albany, become the president for the year 1908.

Hospital for Crippled Children.—Plans for a new hospital which will accommodate 400 crippled or deformed children have been prepared by the board of managers of the New York Hospital for the Care of Crippled and Deformed Children at West Haverstraw. It is said that the hospital will cost $50,000 and an appropriation from Albany is expected.

Nassau Hospital Will Continue.—At a meeting of the executive committee of this institution it was announced that necessary funds had been pledged to continue the work. A plan has been instituted by which forty villages in Nassau and Suffolk counties endow a bed each. The endowment for a bed is $3,000. Ten villages have already acquiesced in the arrangement.

New Measures in the Legislature.—A bill has been presented which would transfer from the local health authorities to the state labor department authority to enforce the mercantile law. ——At the request of the State Board of Pharmacy, a bill has been introduced which seeks to make the state law conform to the federal law relative to false labeling and misbranding of drugs. The enforcement of this proposed law is put in the hands of the State Board of Pharmacy.——A bill is being prepared for presentation to the legislature providing that hereafter surgeons employed in hospitals must have had an experience of at least six months in a hospital before being sent out on ambulance duty.

Dependents Decreasing.—The report of the State Board of Charities says that there are indications that the proportionate number of dependents in the state is decreasing. There are still, however, 30,000 dependent children. Altogether there are 31,328 beneficiaries in institutions subject to visitation by the board. In order that private charities may be properly expended and husbanded, the report urges the legislature that authority be given the board to visit and inspect institutions and corporations conducted as private charities. It is recommended that the state take control of and manage the Randall Island House of Refuge and that only in exigency should the state be taxed to maintain private institutions. It is stated that should the present busines depression continue, the public charitable institutions of the city will be entirely inadequate to meet the requirements of the situation and advises New York City to extend the facilities of the department for the care of the dependent poor as rapidly as possible. It also advocated the extension of civil-service rules to all almshouses, as this would attract more capable men and women, and would give a higher standard of efficiency.

New York City.

Hospital Needs Aid.—The Eastern District Hospital of Williamsburg, Brooklyn, which was established more than fifty years ago, has made its first appeal for aid to the public. The Ladies' Auxiliary has arranged for an entertainment for the benefit of this institution.

Lowest Death Rate on Record.—The death rate for the month of January was 18.51 per 1,000 population, the lowest since 1898, with the exception of 1906. The rate comes within three one-hundredths of breaking the record. The decrease is largely in infant mortality. The figures for the week ended February 1 are lower than for any other week in the records of the department, the rate per 1,000 being 17.03. There were decreases in the deaths from heart disease, pneumonia and tuberculosis.

Academy Prosperous.—Col. William C. Gorgas, assistant surgeon general, U. S. Army, chief surgeon of the Canal Zone, who delivered the anniversary address at the New York Academy of Medicine on "The Sanitation of the Canal Zone," has been elected an honorary member of the academy. The membership of the academy, which is limited to 1,000, is now completed, and it has so large a waiting list that, at the present rate, three years will elapse before the last applicant can be admitted.

Disposal of Stray Dogs.—The health department has asked the board of estimate and apportionment for $15,000 for the purpose of catching and caring for stray dogs. Dr. Darlington in supporting the request said that there were in the laboratory undergoing treatment 30 persons who had been bitten by mad dogs. Last year $7,000 was expended in caring for such persons. He thought the services of the Society for the Prevention of Cruelty to Animals should be recognized. The question was referred to the legal department.

To Explain Overcrowding.—There will be an exhibit in the American Museum of Natural History for two weeks beginning March 9, for the purpose of showing the conditions resulting from overcrowding. The investigation of the evil conditions which has recently been made will be placed on record. On the second day of the exhibit a discussion will be held, at which Governor Hughes, Mayor McClellan and several of the commissioners of the city will speak. The object of this exhibit will be to recommend that the population spread to the suburbs.

Hospital Election.—At the annual meeting of the governing board of Mount Sinai Hospital the following officers were reelected: Isaac Stern, president; George Blumenthal and Emil Lewis, vice-presidents; F. Asiel, treasurer, and Leo Arnstein, secretary. The president's report shows that, during 1907, 6,173 patients were admitted. There were 177,829 dispensary cases, and 152,956 prescriptions were made. There is a deficit in the finances of the institution of $31,830. The hospital hopes to establish a tuberculosis bureau which will divide the upper section of the city into districts.

NORTH CAROLINA.

Asheville to Have an Ethical Pharmacy.—A movement, headed by several well-known physicians of Asheville, is being made to establish a drug store which will carry a complete stock of druggists' supplies and chemicals, and will make its specialty the filling of physicians' prescriptions, but will eschew, it is said, all "patent" or proprietary remedies.

Tri-State Society Meeting.—The tenth annual meeting of the Tri-State Medical Association of the Carolinas and Virginia will be held in Charlotte, February 18 and 19, under the presidency of Dr. Stuart McGuire, Richmond. Dr. J. Howell Way, Waynesville, is secretary. Headquarters will be at the Selwyn Hotel, and the topic for the general debate will be "The Treatment of Epilepsy."

Personal.—Dr. Paul H. Ringer, Asheville, who has been seriously ill at the Mission Hospital in that city, is now improving. ——Dr. J. Vance McGougan, Fayetteville, has been elected vice-president of the Scottish Fire Insurance Company of North Carolina.——Dr. Kenneth M. Ferguson, for four terms mayor of Southern Pines, has resigned and will move to Washington.——Dr. Edward C. Register, Charlotte, has returned from Europe. ——Dr. Lawrence E. Holmes, superintendent of the Biltmore Hospital, is convalescent from an attack of pneumonia.

Prohibition Act.—The legislature has passed an act submitting the question of state prohibition of the manufacture and sale of intoxicants to a vote of the qualified voters of the state. The election is called for May 26, and if carried the law will become effective Jan. 1, 1909. The act permits the sale of alcoholic liquors only on prescriptions of regular practicing physicians, and permits also the sale of Jamaica ginger and other medicines containing alcohol.

NORTH DAKOTA.

Smallpox.—The most extensive and general outbreak of smallpox ever known in Wells County came to public notice in Fessenden, January 4, where five families were simultaneously placed under quarantine. The disease has existed among Russian residents for some time, but has apparently been concealed. The public schools of Fessenden have been closed.

Personal.—Dr. James P. Aylen, Sheldon, for many years coroner of Cass County, has been appointed chief surgeon of the Northern Pacific Railroad Hospital, Missoula, Mont., and has assumed his new duties. A banquet was given by the county society to Dr. Aylen, January 11, at which he was presented with a clock as a token of the esteem in which his contemporaries hold him.——Dr. Francis R. Smyth, Bismarck, has been elected president of the State Board of Medical Examiners, vice Dr. James P. Aylen, resigned.——Dr. Paul Sorkness, Fargo, has been reappointed physician, and Dr. Krekore H. Mallarian, Fargo, assistant physician, of Cass County.——Dr. William H. M. Philip, Hope, is reported to be seriously ill.——Dr. Robert D. Campbell, Grand Forks, left for Europe January 5.——Dr. George A. Stark, Mandan, has been appointed county physician for the eastern district, and Dr. Jacob Bursma, New Salem, for the western district, of Morton County.

OKLAHOMA.

Smallpox.—Smallpox has made its appearance among the students of the Oklahoma University, Norman. One student is ill with the disease and several are under quarantine.——More than 50 cases of smallpox are reported at Owassa.

Seek Separation.—The State Board of Health and the county health officers have asked the state to separate the State Board of Health from the State Board of Medical Examiners, and also asked for the establishment of a bureau of vital statistics.

Personal.—Dr. William W. Rucks, Guthrie, has been appointed assistant superintendent of the Oklahoma State Hospital for the Insane.——Dr. Clinton M. Maupin has resigned as a trustee of Waurika County.——Dr. W. S. Owens has been appointed physician of Muskogee County.

Physicians Must Register.—The attorney-general has decided the question of the practice of medicine requirements of the Indian Territory side of the state. He holds that practicing physicians are not required to take out certificates of registration, for which a fee of $2.50 is payable, but are required to register, which does not require the payment of a fee.

PENNSYLVANIA.

Measles Prevalent.—On account of the prevalence of measles in Iron Bridge and Lobachsville, the public schools have been closed.

Personal.—Dr. Daniel Dechert, Schuylkill Haven, whose arm was amputated on account of blood poisoning, is recovering.——Dr. E. P. Darlington, Norwood, has gone to Arizona.

Expenditures for Typhoid.—As the result of an investigation by the Pittsburg authorities, it was figured that the cost to Greater Pittsburg of typhoid fever for the year ended June, 1907, was $721,436.

To Fight Tuberculosis.—To fight tuberculosis in Schuylkill County, a committee of 25 prominent professional and business men was named by the Schuylkill Medical Society, January 27. Judge A. L. Shay, James B. Reilly, President G. E. Farquhar of the Schuylkill Lawyers' Association, and Dr. Arthur B. Fleming, Tamaqua, president of the medical society, head the committee.

Hospital Notes.—Contracts have been awarded for the Oliver Annex to the Southside Hospital, Pittsburg, which is to be put up this year. It is the gift of the Oliver estate and adjoins the present hospital buildings, and will cost about $200,000.——A donation of $10,000 has been received for the North Scranton Hospital.——Two lots, 20x150 feet each, have been donated as a site for the Berwick Hospital.

Relief Report.—The report of the Carnegie relief fund for 1907 shows that the distributions amounted to $216,764.05, divided as follows: Accident benefits, $17,545.15; death benefits, $130,449, and pension allowances, $68,769.90. Since the relief fund was established, six years ago, there has been a total of 8,954 beneficiaries, as follows: Injured in accidents, 7,531; death benefits, 856, and pension allowances, 567, which has necessitated a distribution of $1,129,117.29.

Philadelphia.

Staff for the Oncologic Hospital.—The board of trustees of the American Oncologic Hospital, at its annual meeting January 23, elected the following medical staff for the hospital: Attending surgeons, Drs. Addinell Hewson, G. Betton Massey and Samuel McClary; attending physicians, Drs. William S. Newcomet and Charles A. E. Codman; consulting laryngologist, Dr. J. Solis Cohen; consulting neurologist, Dr. Charles K. Mills; consulting ophthalmologist, Dr. G. Oram Ring; consulting aurist, Dr. S. MacCuen Smith, and consulting odontologist, Dr. Dudley Guilford.

Health Report.—The total number of deaths reported for the week ended February 8 was 598, an increase of 56 over the previous week and an increase of 3 over the corresponding week of 1907. The principal causes of death were: Typhoid fever, 18; whooping cough, 5; diphtheria, 11; influenza, 16; consumption, 77; cancer, 23; apoplexy, 21; paralysis, 9; heart disease, 63; acute respiratory diseases, 90; gastritis, 5; enteritis, 16; cirrhosis of the liver, 7; acute nephritis, 10; Bright's disease, 41; premature birth, 17; congenital debility, 13; old age, 6; suicide, 2; accidents, 20, and marasmus, 6. There were 257 cases of contagious diseases reported, with 33 deaths, as compared with 281 cases and 31 deaths reported in the preceding week.

Personal.—Dr. Clara Marshall was elected a school director January 28.——Dr. Bernard J. Berens was re-elected president of the Athletic Club of Philadelphia, January 28.——Dr. George W. Spencer is ill in Jefferson Hospital.——Dr. E. Sherman Clouting has been appointed examiner of the insane at Blockley, vice Dr. Alfred Gordon, removed.——In compliance with the resolutions unanimously adopted at a meeting of the staff of the physicians of the Philadelphia Hospital, Director Neff is said to have requested the resignation of Dr. Julius L. Salinger.——Dr. Charles A. Oliver, who has been spending the winter in Southern California, Mexico and Cuba, returned to the city February 8.——Dr. Henry Winsor, surgeon in the University Hospital, Manila, sailed from New York for the Philippines, February 4.——Dr. C. H. H. Hall of Yokohama, Japan, is visiting in the city. Dr. Hall was formerly a surgeon in the United States Navy, but has been practicing medicine in Japan for the last 21 years.

VIRGINIA.

Tuberculosis Exhibit.—The Richmond board of health recently held a tuberculosis exhibit, which was attended by 11,517 people of Richmond and vicinity. More than fifty speakers discussed tuberculosis at the different meetings held during the week of the exhibit. The program included addresses and discussions on the following subjects: "Fundamental Facts in the Prevention and Cure;" "The City's Responsibility;" The Responsibility of the Doctor in the Crusade;" "Care of the Consumptive in the Home;" "Importance of Early Diagnosis;" "'Patent Medicines' in Tuberculosis;" "Tuberculosis in the Negro;" "The Commercial Aspect;" "What Tuberculosis Costs Richmond;" "Tuberculosis and Organized Labor," etc. These exhibits, held in connection with the work of the National Association for the Study and Prevention of Tuberculosis, have been of great benefit to the public, and the health authorities of Richmond should be congratulated.

McCormack in Virginia.—Dr. J. N. McCormack addressed the state legislature of Virginia January 20 in the hall of the Virginia House of Delegates. About 40 members of both branches of the legislature were present, as well as representative members of the medical profession of Richmond and prominent citizens. Speaker Byrd presided. Dr. McCormack was introduced by Hon. Eugene C. Massie of the Richmond delegation, in the unavoidable absence of Governor Swanson, who had warmly seconded the invitation extended to Dr. McCormack by the State Board of Health. Mr. Massie, in introducing the speaker, spoke of the previous visit of Dr. McCormack to Richmond, and stated that at that time he had been astonished at the facts which had been presented. He had seen for the first time some of the difficulties under which physicians labor and he felt sure that very few of the laity understood these matters, or the obstacles against which the physician works in his efforts to advance the welfare of the community. Dr. McCormack delivered a forceful address, which was listened to with great interest. After his address a meeting of the State Board of Health was called to formulate final recommendations for a bill to be presented to the general assembly, enlarging the powers of the board and giving it better financial support. Dr. McCormack was present and gave the members of the board the benefit of his experience. Many of his suggestions were incorporated in the bill, which has since been introduced in the legislature. The Journal correspondent writes as follows regarding the effect of Dr. McCormack's visit: "Altogether, it should be productive of much good in many ways. Before his first visit to Richmond, almost a year ago, we had not been altogether unaffected by the charges made in certain medical journals to the effect that the American Medical Association was exceeding its authority and making itself obnoxious by sending into the field a man to lecture to the doctors on their own affairs. Five minutes with Dr. McCormack at that time was sufficient to dispel this idea entirely, and with further light on the splendid work which he is doing and on his tactful, whole-souled way of doing it, the motives of those who sought to discredit this work are hard to understand. The broad good-will of Dr. McCormack, his deep-rooted love for his professional brethren everywhere, and his forceful way of presenting to the general public the claims of the medical profession, entitle him and the American Medical Association to the profound gratitude of every right-thinking physician."

GENERAL.

Missouri Valley Society Meeting.—The twentieth semi-annual meeting of the Medical Society of the Missouri Valley will be held in Lincoln, Neb., March 19 and 20, under the presidency of Dr. William F. Milroy, Omaha.

Bellevue Alumni Meeting.—The annual meeting and dinner of the Western Alumni Association of the University and Bellevue Hospital Medical College was held at the Grand Pacific Hotel, Chicago, February 3. Dr. John M. Ristine, Cedar Rapids, Iowa, was toastmaster. Dr. Willis O. Nance, Chicago, was elected president of the association; Dr. Hugh D. Wood, Angola, Ind., vice-president; and Dr. George W. Mahoney, Chicago, secretary.

Society Meetings.—The second annual meeting of the Chattahoochee Valley Medical and Surgical Association was held in Columbus, Ga., January 14, 15 and 16. The following officers were elected: President, Dr. James H. McDuffie, Columbus, Ga.; vice-presidents, Drs. Jesse G. Palmer, Opelika, Ala., and James A. Winn, Clayton, Ala.; secretary, Dr. William J. Love, Opelika, Ala.; treasurer, Dr. Andrew J. Coley, Alexander City, Ala., and councilors, Drs. Thomas E. Mitchell, Columbus, Ga., and John H. Drake, Auburn, Ala. The next meeting of the society will be held in Auburn, Ala., on the second Tuesday in July.

Civil Service Examinations.—The United States Civil Service Commission announces an examination on February 19 and 20 at various places throughout the United States for physicians at $150 per month, in the Panama Canal service. The commission announces an examination on March 4 for acting assistant surgeons of the Public Health and Marine-Hospital Service, for duty at St. John's River Quarantine, Mayport, Fla., at $125 per month, and vacancies requiring similar qualifications as they may occur. For the specific vacancy the applicant must be an expert in the diagnosis and treatment of yellow fever, and immunes are preferred. The age limit is 20 years or over on the date of examination. Applicants must be citizens of the United States, competent physicians and surgeons, and graduates of recognized medical colleges.

Entertainment for Medical Women at the June Session.—The Women Alumnæ Committee, the Women's Medical Society of the State of Illinois and the Medical Women's Club of Chicago each wishes to entertain the medical women visiting Chicago during the session of the American Medical Association next June. As the session of the American Medical Association is so short and the time so entirely filled, these three organizations have combined efforts and hereby extend to all the women physicians who will be in Chicago at that time, a most cordial invitation to a banquet and entertainment to be given on the evening of June 2, which is the evening that has been reserved for the special entertainment of the visiting alumni. At this banquet a special feature will be made of the reunions of the alumnæ of the different colleges. The College Club, Fine Arts Building, 203 Michigan Avenue, will be exclusively at the disposal of the medical women during the session of the American Medical Association, and will afford a place for them to meet, lunch and visit together. For further information inquiries may be addresed to those in charge of the arrangements. For the Women Alumnæ Committee, Katherine Brainerd Rich, M.D., chairman, 92 State Street, Chicago. For the Woman's Medical Society of the State of Illinois, Marion

K. Bowles, president, Joliet, Ill. For the Medical Women's Club of Chicago, Alice I. Conklin, M.D., president, 100 State Street, Chicago.

FOREIGN.

Spanish Antituberculosis Congress.—The first Spanish national congress to discuss ways and means to repress the spread of tuberculosis is to be held at Saragossa in October.

To Visit Chicago.—Dr. August Martin, professor of gynecology at the University of Greifswald, Germany, will visit this country next summer to attend the annual session of the American Medical Association.

Medical Study Trip.—A Paris organization has perfected arrangements to take a party of physicians through Italy in April and May for a medical study trip. Naples will be the most southern point visited.

Memorial Service for Lassar.—A memorial service for the late Prof. O. Lassar was held, January 20, in the amphitheater of his clinic under the auspices of the Dermatological Society. Rosenthal and Mayer delivered the main addresses.

The Final End of the Cancroin Suit.—The Journal duly chronicled the suit brought by Professor Adamkiewicz, formerly professor at Warsaw, against the firm of E. Merck of Darmstadt, claiming damages for non-fulfillment of contract in regard to pushing the sale of his "cancroin" for the cure of cancer. He lost his suit, and the final court of appeals has confirmed the judgment of the lower court, based on expert testimony as to the worthlessness of the alleged remedy.

Fine for Exaggerated Claims for "Augenwol."—The local court at Chemnitz, Germany, has fined the business manager of the firm manufacturing "Augenwol" for the exaggerated claims made for this article, which is being extensively advertised in Germany. The medicolegal experts testified that it was entirely worthless and the price far in excess of the actual cost of the ingredients. "Augenwol" was stated to be merely a mixture of salt, boric acid, glycerin and alcohol, tinted and perfumed. A fine of $36.50 was imposed (150 marks).

Honors to Dr. Roberto Wernicke of Buenos Aires.—A recent issue of the *Semana Medica* of Buenos Aires is nearly all devoted to the ceremonies attending the presentation of the diploma of honorary professor conferred by the authorities on Wernicke in token of appreciation of his services to the city, the nation and the profession. His friends and students also presented him with a piece of statuary. He has been professor of general pathology for a number of years, and has always taken a prominent part in all measures for the welfare of the public and of the profession.

New Journal on the Heart, Vessels and Blood.—Professor Vaquez of Paris, with Laubry and Aubertin, has founded the *Archives des Maladies du Cœur, des Vaisseaux et du Sang*, to be published monthly by J. B. Baillière et fils, rue Hautefeuille 19, Paris, France, for 17 francs, about $3.40, a year. The first issue has been received and contains a study of the pharmacodynamic and therapeutic action of the nitrites, a study of the histologic action of the Roentgen rays in lymphoid leukemia, and an article entitled, "Les poisons alimentaires et athérome," by Professor Loeper. There is a department for abstracts of works on this specialty and a list of prizes offered by various scientific societies for works bearing on some phase of the subject.

Official Medicolegal Service at Rio de Janeiro.—Prof. A. Peixoto, one of the editors of the *Brazil Medico*, has been placed in charge of the newly inaugurated medicolegal department of the police service. The city is divided into six zones, and a physician has been appointed for this service in each zone. There is besides this a morgue where autopsy of all deaths from violence is imperative, a central detention hospital for the insane and an establishment in the rua Mem de Sa, where the main offices, library, museum, rooms for gynecologic examinations and well-equipped chemical and microscopic laboratories are installed. The library already contains 500 authorities on medicolegal questions. The department for chemistry and microscopy is in charge of Dr. A. de Andrade.

Typhoid Fever in Scotland.—A serious outbreak of typhoid occurred in the west end of Glasgow during the latter part of December and in January. Investigation showed that all the patients were receiving milk from the same dairy. Further investigation brought out the fact that the milk was procured from a farm in the neighborhood of Glasgow and that a young woman, a member of the family, was ill with typhoid. At first it had been supposed that the illness was influenza, and later pneumonia was suspected, but careful examination showed that the disease was typhoid; the blood gave the Widal reaction. The farmhouse was thoroughly disinfected and the sale of milk therefrom stopped, but unfortunately, not before 69 cases of typhoid and several deaths had occurred in Glasgow.

Jubilee of the Norwegian Military-Medical Society.—The twenty-fifth anniversary of the founding of this society was celebrated at Christiania, Dec. 21, 1907, and two fine commemorative works were published. One contains the history of the association since its foundation and the work it has accomplished, and the other biographical sketches and portraits of the Norwegian medical officers in the military service 1882-1907. After a festival meeting and announcement of gifts toward the accumulation of a jubilee endowment fund, the members adjourned to attend the jubilee banquet. The income from the endowment is to serve as prizes for important works published during the year and for loans or gifts to students making a specialty of military medicine or to members in need. The *Tidsskrift f. d. norske Lægefor.*, January 15, reports the proceedings in detail.

Robert Koch to Visit America.—A cable dispatch says that Koch is contemplating a trip to this country as part of a year's rest. He expects to start for New York early in April and visit Niagara, the Yellowstone, and other points of interest, striving to free his mind from all thought of science and medicine during a year of travel and mental rest. He is said to be looking somewhat worn from his strenuous year and a half in the heart of Africa, devoted to the study of sleeping sickness. He was 65 years old December 11, and first won fame by his publications on the bacteriology of anthrax, 1876. He received one of the Nobel prizes in 1905, and the German government has conferred honors and gifts on him so that the discoverer of the tubercle bacillus and the comma bacillus is now a rich man. His wife accompanied him on his scientific missions to Africa, and will be with him in this country. He has refused all invitations to lecture, wishing to remain a spectator during this year of rest, which may include a trip around the world.

Foundation of International Health Office.—The International Conference which met at Rome Dec. 9, 1907, decided to found an international health bureau. Only thirteen of the twenty-one states that participated in the Paris conference in 1903 took part in this last conference, Germany, Austria, Greece, Holland, Hungary, Luxemburg, Montenegro and Portugal not being represented. All the other European states were represented besides the United States and Egypt. The international health office was organized in accordance with the recommendations of the ways and means committee. The headquarters are to be at Paris, and the contracting states will contribute their share of the $30.000 required for its maintenance. The director of the health office is not to be allowed to fill any other salaried position. The *Semaine Méd.*, January 8, adds to its account of the conference the information that the diplomatic convention signed by the delegates to the recent convention is to remain in force for seven years, and then for an additional seven years for each state that has not given official notice in the meantime of its intention of withdrawing from participation in the International Health Office.

LONDON LETTER.

(From Our Regular Correspondent.)

London, Feb. 1, 1908.

Poisoning by Cocain.

A woman in London died in a drug store on January 18, while under the influence of cocain which had been administered for extraction of teeth. The person who gave the drug was neither a registered dentist nor a druggist, with British qualification, but a Russian who had opened a drug store in that quarter of London in which aliens are most numerous. In cross-examination it came out that Zeifert, the keeper of the drug store, had administered cocain when extracting teeth many times. A verdict of manslaughter was returned against him.

Plague in West Africa.

Prof. W. J. Simpson of King's College, London, has been despatched by the British government to the West Africa Gold Coast to assist in combating the outbreak of plague which is raging in Accra. There is no reason to believe that the outbreak is unusually serious, but as it has occurred in a fresh place it is thought desirable that it should be dealt with at once. Plague broke out some time ago in South Africa and Professor Simpson was sent, and by prompt measures completely checked the outbreak. He is taking with him to the Gold Coast a considerable quantity of Haffkine's plague serum.

Fog and Diseases of the Respiratory Organs.

The prevalence of fog in London this winter has been reponsible for the large number of affections of the air passages which have been evident. Pneumonia of the variety which eally amounts to a combination of pneumonia and bronhitis, has been frequent and deadly in London recently. Anther form of inflammation to which the name of "influenzal neumonia" has been given, has been distinguished by its ravges during the past few months.

Cancer Discovery.

Dr. Ford Robertson, pathologist to the Scottish asylums, has eported the discovery of certain peculiar rod-shaped bodies in ancer which hitherto seem to have escaped notice. These small odies are said to be not of the nature of microbes, and further nvestigation in regard to their significance will be awaited vith interest.

Proprietary Medicines.

The official report of the committee on the quackery prevenion bill, New Zealand, has been published. It is a good-sized olume, of which nineteen pages are occupied by extracts from he *British Medical Journal* and other publications giving nalyses of various proprietary medicines. The two medical nen whose evidence is published, Dr. Mason and Dr. Cahill, ach defined proprietary medicines. Dr. Cahill spoke of: 1, The vorthless class, mentioning anti-fat cases; 2, drugs which, hough useful for a particular purpose, are fraudulently adertised as beneficial in a variety of cases; 3, those that are bsolutely harmful. One of Dr. Mason's points was that dislosing the formula would not give away a man's business. Many firms state their compounds on the label. Dr. Ham, comnissioner of health of Queensland, is even more outspoken as o the bulk of proprietary medicines. He says that Australia, ike America, is the home of quackery. A large army of mporters, so-called "professors," "herrs," "nurses," "herbalsts" and "specialists," with little if any professional training n medicine are allowed to fatten on a credulous community. Some of the proprietary medicines sold contain more than 5 per cent. of proof spirit. "Soothing syrups," "headache powers" and "cough mixtures" containing deadly drugs are sold n Australia by many storekeepers.

Tuberculosis in Milk.

Dr. Robertson, health officer for Birmingham, in conjunction vith Mr. J. Malcolm, veterinary superintendent to the local uthority, in an important report on tuberculosis and milk upply, emphasize the ineffectiveness of existing precautions. An investigation of 175 samples of milk taken from churns at ailway stations and other places outside Birmingham showed hat 14 per cent. were tuberculous. In five samples taken from he mixed dairy milk, over which special powers of supervision re exercised, no evidence of tuberculosis was found. In two arge herds supplying milk to Birmingham 22 per cent. of the ows were found to be affected with tuberculosis.

Sanatoriums for Consumption and Certain Other Aspects for the Tuberculosis Problem.

Dr. Bulstrode, one of the medical inspectors to the British ocal government board, has issued recently a report of great noment. It deals with sanatoria and other aspects of the uberculosis question. Dr. Bulstrode, after pointing out that onsumption has been steadily decreasing in England for the ast thirty years, says that the magnitude of the evil has been verrated and that as a matter of fact, it is a disease declining t a fairly fast rate. He also draws attention to the greater iability to contract tuberculosis by means of tuberculous meat nd milk than by direct infection. Milk is especially to be readed in this respect. Dr. Bulstrode concludes that usefulness of sanatoria has been overestimated. They are valuable or treating patients in the early stages, or, rather, for educatng such persons in the kind of life they should lead, but othervise are of little utility.

The Lancet Libel Case.

The libel suit brought against the *Lancet* and which has been reviously referred to in this department,[1] has been tried. A erdict was given against the *Lancet* with damages for $5,000. The action arose from certain comments made in the *Lancet*, March 9, 1907, on an inquest held by Dr. Waldo, the city of London coroner, on the body of a man who died from consumpion. During the evidence at the inquest it was elicited that he deceased (a poor workingman) had been using "Dr." Tucker's "Asthma Specific." The coroner made some remarks on the remedy, which were borne out by the *Lancet* in an editorial. The defendants pleaded that their remarks were fair comment, but the jury, influenced by the judge, who directed them that it was a slanderous attack on the plaintiff's private character, gave a verdict as stated above. Augustus Quackenbush Tucker is the British agent for his brother, "Dr." Tucker of Ohio. The nostrum seems to have taken with the British public, as last year over $100,000 was made from its sale. In giving evidence, Tucker disclaimed all responsibility for the literature that accompanied the article and said that he did not know of what the "specific" was composed; he also said that he was not aware that he was infringing the pharmacy act by the sale of the cocain-containing fluid. The *Lancet* has been granted a stay of execution with a view to appeal.

Sanatoria for Consumptives.

The British local government board recently issued a report on "Sanatoria for Consumption and Certain Other Aspects of the Tuberculosis Question." Dr. Timbrell Bulstrode is responsible for the report, which he began in 1902. In the course of his inquiries he has visited and inspected every public sanatorium in England and Wales. It is shown that mortality from consumption has greatly decreased in England. The most interesting part of the report, however, is that which states the manner in which consumption is communicated. Dr. Bulstrode thinks it probable that the disease is more frequently conveyed by tuberculous milk and meat, by way of the alimentary canal, whence in those predisposed to the disease, it finds a path to the respiratory organs, bones and tissues. He is also of the opinion that the communicability of tuberculosis has been overestimated and that the value of treatment by means of sanatoria has been exaggerated. Dr. Bulstrode lays stress on the need of early treatment in cases of consumption.

Unconsidered Factors Affecting the Birth Rate.

At the Royal Statistical Society, Dr. Reginald Dudfield, health officer for Paddington, read an important paper on this subject. His aim was to estimate potential fertilities as affected by the alteration in the age, constitution of the married population of the country, and the amount of the decrease in the number of legitimate births resulting from "moral restraint." Fecundity is measured by the number of confinements; fertility by the absolute number of children. The upper limit of the fecundity of women he raised from 45—the figure usually adopted—to 54 years. The proportion of fecund women to the population has undergone but slight change during the last half century. But the growth of legitimate births has not kept up with the growth of the population to the extent of 28 per cent. There had also been a lagging behind the increase in the number of fecund women to the extent of 37 per cent. Dr. Dudfield estimated that the numerical loss of births owing to "moral restraint" in England and Wales amounted to 209,295 per annum.

Sleeping Sickness in Rhodesia.

A report just received in Liverpool from the expedition of the Liverpool School of Tropical Medicine dispatched to Rhodesia for the purpose of checking the spread of sleeping sickness in Central Africa, of studying the disease, and of investigating the distribution of biting flies, says that the fly, *Glossina palpalis*, is found along both banks of the Luapula and scattered over the whole district. It is thought advisable to appoint special traveling medical officers whose duty will be to travel constantly through the threatened districts looking for cases. The villages along the river might with advantage be moved inland in many cases; no hardships would thus be entailed on the natives, as they are not dependent on the river for food, and the huts are easily built. In case the villages are not moved the river front could be cleared for a considerable distance—at least 500 yards on either side of the huts. If vigorous measures are adopted the expedition sees no reason why the district should not be preserved free from infection for an indefinite period.

A Small, Tough Slum Race.

In an address on infant mortality delivered before the Sociological Society, Dr. Robert Hutchison said that one of the remedies suggested was the regulation of marriages. He thought the medical profession would hesitate before they interfered in the question of marriage. Physicians do not know what types it would be best to produce. It did not follow that people big in limb and full of brawn and beef would be well fitted to survive the conditions of life in the slums. He believes that the race, left to itself, is evolving a small, hardy kind of slum dweller who can withstand the unfavorable conditions of slum life better than the big country-bred folk.

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[1] London Letter, The Journal A. M. A., Jan. 11, 1908, p. 133.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Lobar Pneumonia.

Although this is generally a self-limited disease, and there is no specific treatment that can kill the pneumococci or curtail the systemic infection or hurry the resolution of the part of the lung involved, still it should be emphatically stated that the intensity of the symptoms can be modified, rarely the disease apparently aborted, and that many times life is saved by proper management. The word management is used to include nursing, diet, hygienic surroundings, physical therapeutic measures, and medication. It is just as absurd to declare that the pneumonia patient needs no medication and that nothing can be done for him medicinally as to throw down the reins of a runaway horse because he can not be stopped immediately.

While it has been lately disputed, statistics and observations seem to bear out the assertion that pneumonia has been more frequent and more fatal in the last two decades than before that time. As no acute disease puts more labor on the heart than does pneumonia, it is the heart that so frequently fails us, at first or at last, and sometimes all the time, in this disease. It would probably be untrue to assert that pneumonia is more virulent than it was or that the pneumococci are harder to combat, but, as the hearts of this age are weakened by continuous and unending nervous strain and excitation, and by the frequent taking of coal tar preparations, this disease is more frequently fatal, as the hearts are unable to stand the strain. Also, while not more men smoke than twenty years ago, it is a frequent observation that more men who do smoke, do so excessively, and oversmoking leaves a heart unfit for the hard battle.

PROPHYLAXIS.

The same precautions that are used and advocated to prevent the tubercle bacillus from living and thriving should be applied to the pneumococcus. This germ inhabits the damp, ill-ventilated, dark and crowded tenements, and pneumonia has been shown by careful investigation in cities to occur in direct ratio to the crowding of the population; in other words, the more crowded the tenement or the more thickly populated the street, the greater the number of deaths from pneumonia. Pneumonia is a communicable disease, perhaps as communicable as tuberculosis, and certainly many more times communicable than cerebrospinal meningitis, and should be declared by boards of health "a reportable disease." Rooms and tenements in which pneumonia has occurred should be fumigated as carefully as is now done where there has been tuberculosis.

The pneumococcus has many times been found in the mucus of the mouth and throat, but doubtless can not cause pneumonia until by some means it reaches the lungs. It seems to find its opportunity to cause infection when a patient is debilitated, especially by a catarrhal inflammation of the upper air passages, or a bronchitis. Influenza often gives it its opportunity. While pneumonia often attacks a strong, healthy man or woman, anything that tends to prevent recurring colds, tonsillitis, laryngitis or bronchitis tends to prevent pneumonia. In other words, the nose and throat should be made healthy.

Fresh, clean air in the sleeping room is as much a preventiv of pneumonia as a preventive of tuberculosis.

CAN THIS DISEASE BE ABORTED?

Except in instances in which the sputum has been found t contain pneumococci, and, under measures instituted the congested lung has cleared up in a day or two, we are not justified in asserting that an attack of pneumonia has been aborted On the other hand, with assistance and without assistance, we all see instances of congestion of one lobe of a lung occur, stop, and become normal in two or three days. Unfortunately, at this period of an apparent pneumonia there may be no sputum, and if there is, it is not examined for pneumococci, and it may not have been a pneumonia at all, but certainly it was a congestion of one lobe of a lung. Consequently an attempt to abort an apparent first stage of pneumonia should be made.

If the patient is strong, sturdy, and especially if he is plethoric, venesection will often give good results, and is positively indicated if there is marked dyspnea, if the heart is laboring, the head full, and the face congested, even if there is no actual cyanosis. Life has been saved by venesection done under the above conditions.

If the symptoms are not dire enough to demand venesection and for other reasons it is deemed inadvisable, which is generally the case, a full dose of an antipyretic drug, such as antipyrin, sufficient to cause profuse sweating, is good treatment, as:

℞.

	gm.		
Antipyrini	1|	or	gr. xv

Fac chartulam 1.

Sig.: To be taken at once, with plenty of water.

Or, as this drug has a disagreeable taste:

℞.

	gm.		
Antipyrini	1|	or	gr. xv

Fac capsulas 2.

Sig.: Take both capsules at once, with plenty of water.

Unless there is sufficient pain to require an immediate dose of morphin, calomel could be combined with the above powder, as:

℞.

	gm.		
Hydrargyri chloridi mitis...............	.|20	or	gr. iii
Antipyrini	1|		gr. xv

Fac chartulam 1.

Sig.: Take at once with a cup of milk.

Or, if it is to be given alone:

℞.

	gm.		
Hydrargyri chloridi mitis...............	|20	or	gr. iii
Sodii bicarbonatis	1|		gr. xv

Fac chartulam 1.

Sig.: To be taken at once, with water or milk.

Or, 0.10 grams (2 grains) of calomel may be given with an aloin, belladonna and strychnia tablet.

If the pain is severe, morphin should not be delayed, but given, if necessary hypodermatically, in a dose sufficient to stop the pain, either ⅛ or 1/6 of a grain. It is better to repeat the dose of morphin when needed rather than give as large a dose as ¼ of a grain, which will, perhaps, produce more profound sleep than is desired. If morphin is given for the first acute pain, a saline purgative should be given on the following day. Over the part of the lung involved dry cupping some times seems to stop the pain and relieve the internal congestion. It also seems to require less morphin for the primary pain if hot fomentations (and none better than the flaxseed poultice) are used over the region of the lung involved. *Post hoc* or *propter hoc*, from the above treatment an apparent beginning pneumonia sometimes stops.

The older treatment with aconite and veratrum viride is undoubtedly often of value. They have come somewhat into disuse on account of the weak heart which so often is present uring pneumonia, and the physician has disliked to think that e may have first weakened that heart with the cardiac deressants. If aconite is used, it should be given as follows:

℞.	c.c.		
incturæ aconiti	15	or	fl℥ss

Sig.: One drop, every half hour, until the pulse becomes oft and slow.

Veratrum viride was once believed to be almost a specific in neumonia, but is not now much used except by a few beevers.

℞.	c.c.		
incturæ veratri	25	or	fl℥i

Sig.: Five drops, every half hour, until the pulse becomes low and soft.

Neither aconite nor veratrum viride should be used after the rst twenty-four hours. Whatever good action they may have ould be before the first twenty-four hours had passed.

(*This subject is to be continued.*)

Hematuria.

Some of the causes of this condition are:

Trauma.
Hemophilia.
Gravel and renal calculus.
Floating kidney.
Scurvy.
Severe malarial infection.
Purpura hemorrhagica.
Henoch's disease.
Acute infectious fevers (rarely).
  Measles.
  Diphtheria.
  Scarlet fever.
  Typhoid fever.
  Cerebrospinal meningitis.
  La grippe, influenza.
Acute nephritis.

Tuberculosis of the kidney.
Sarcoma of the kidney.
Cancer of the kidney.
Cystic degeneration of the kidney.
Poisoning by various drugs.
Rarely by non-poisonous doses of:
  Coal-tar drugs.
  Genitourinary stimulants and antiseptics.
  Salicylic acid.
  Quinin.
  Potassium chlorate.
  Thyroid.
Gas poisoning.

The cause of the bleeding from the kidney having been diagosed, the treatment in most instances becomes that of the isease that causes it. When there is simple inexcusable hemrrhage, the following rules may be laid down: The most imortant thing is absolute rest in bed, with a milk diet, and ot much liquid taken aside from this, so that the blood presure may be kept low. Anything that would much increase he blood pressure would seem to be contraindicated. When here is a hemorrhage into an internal organ and the bleeding oint can not be reached, it seems absurd to raise the blood ressure by either suprarenal preparations, ergot, digitalis, trychnin, atropin, or any other vasoconstrictor. Of course, it well known that most internal hemorrhages cease after such edication, but they cease because there is clotting in the leeding vessels, not because of the action of the drug. Adinistration of nitroglycerin to reduce the internal pressure y dilating the peripheral blood vessels is much more valuable.

If there is any nervous excitation or pain, as from calculus, orphin should be given, as it will reduce the tension and thus educe the blood pressure.

In scurvy the specific treatment with oranges and lemons and roper food soon stops the bleeding.

In hemophilia various drugs may be tried. Suprarenal exract may do good, and thyroid extract has often been of adantage, although in other instances it tends to increase the emorrhage. The exact element in the blood that is wrong or he exact internal secretion that is at fault in hemophilia has ot been discovered and may not be constant, hence the varied esults from the administration of the various organic extracts. elatin has been fed with advantage in such instances, and alcium chlorid has often been of benefit. Calcium chlorid ay be given as follows:

℞.	gm. or c.c.		
alcii chloridi	5	or	ʒiss
yrupi calcii lactophosphatis	100		fl℥iv

M. et Sig.: A teaspoonful, with plenty of water, every three ours.

Tannic acid, or better, gallic acid, as the tannic acid is probably absorbed as sodium gallate, has seemed to be of benefit in bleeding from the kidneys. Whether this action is a *post hoc* or a *propter hoc* it is difficult to determine.

Dry cupping over the kidneys, or over the kidney supposed to be at fault, has seemed to be beneficial.

Of course, if the bleeding is due to a calculus or to disease of the kidney, the hemorrhage will recur until the cause is removed.

In the acute infections the bleeding is rarely serious, although it renders the outcome of the disease more doubtful.

For the treatment of malarial hemoglobinuria see The Journal, Aug. 17, 1907, page 615.

Pharmacology

Deodorizing Powders.

Boston, Jan. 18, 1908.

To the Editor:—1. Has any analysis been made by your chemists of the deodorant powder "Amoline"? The powder is sold chiefly for women to use during menstruation and seems to give satisfaction. 2. I have been interested in your endeavors to eliminate the use of such nostrums and, therefore, I have been attempting to make some powder which would have the following characteristics: 1, It must be white; 2, it must be odorless, or at least have a faint but pleasant odor; 3, it must be non-irritant; 4, it must be a really efficient deodorant. Can you give me any suggestions in regard to the composition of such a powder? Edward R. Williams

Answer.—1. Amoline is being examined in our laboratories and a report will be published next week. 2. Deodorants, as distinguished from antiseptics, are substances which destroy foul odors by uniting with the foul-smelling substances or by concealing the odor by a more pungent and pleasant one. For the first purpose, substances which fix such odorous gases as ammonia or sulphuretted hydrogen may be used. Salts of zinc serve a good purpose in this way; they also act as antiseptics by coagulating albuminous matter and preventing the action of the putrefactive bacteria on it. For most cases in which foul odors are to be dealt with, a mild antiseptic, one that will check the putrefactive decomposition from which the foul odor arises, should be used. For this there is nothing more effective than powdered boric acid. It is best in these cases, however, to suit the method to the individual patient, and hence it would be preferable to write a special prescription rather than to recommend a ready-made powder in any cases. The pulvis antisepticus of the National Formulary (Physician's Manual, page 126), may be taken as a type and its ingredients varied to suit the needs of the patient or the special use to which it is to be put. The solid constituents of the liquor zinci et alumini compositus N. F. (Physician's Manual, page 88) might also be used; or the pulvis talci salicylicus N. F. (Physician's Manual, page 129).

Another Fraternal Paper Omits Nostrum Advertisements.

The *Modern Woodman* announces that, commencing with its January issue, all medical advertising will be excluded. It says:

"We are taking this stand, not because we believe all medical advertisers are 'fakes,' but because we find it impossible to sift 'the wheat from the chaff.'"

Although this means the loss each month of a considerable volume of advertising, the *Modern Woodman* declares, it is determined to have its columns absolutely free from any kind of advertising that in any way conflicts with the following guarantee of the advertising manager:

"To each member of the Modern Woodmen of America I positively guarantee, while I am advertising manager of this paper, that no advertisements will be allowed in our columns unless I believe that any reader can safely do business with the advertiser. . . ."

The frank statement that it is impossible to discern between safe and dangerous medical advertisements is a confession that might well be made by many a paper if it had sufficient courage.

The interesting point about this action of the *Modern Woodman* is that the advertising manager feels that the step is necessitated by his endeavor to assure to the readers a square deal from every advertiser. He realizes that it is unsafe to count on any such thing from the average "patent medicine" or medical "specialist."

In contrast to the above action is the conduct of another fraternal paper, known as the *Royal Neighbor*, which is brought to our attention by a recent letter. As our correspondent states, the majority of the members of this order are women, and medical advertisers seem to think them easy marks, if we may judge by some very fraudulent advertisements found in this paper. We would suggest to the members of the order represented by the *Royal Neighbor* that they call the attention of the proper authorities to the unneighborliness of this partnership with fraud carried on by their journal.

WHAT IS HYDROCINE?

An Analysis of the "Hyper-Oxidized Hydro-Carbon."

Hydrocine, widely advertised as a consumption cure and belonging to the class that Samuel Hopkins Adams would designate the "fundamental fakes," has been analyzed by our chemists and found to consist chiefly of cane sugar. This preparation was referred to in The Journal, Aug. 17, 1907, and its evidently fraudulent nature commented on.

In common with other members of its class, it is advertised as being an essentially non-secret preparation and, to bear out that claim, an involved and meaningless "formula" is appended. Its promoters state that Hydrocine is "a vegetable hyper-oxidized hydro-carbon"—whatever that may mean. Its "formulas" are equally enlightening. We use the plural advisedly, as Hydrocine exhibits that fine fickleness and mutability of composition that characterizes nostrums of its kind. Its early "formula" was as follows:

Hyper-oxidized hydro-carbon (vegetable)	28	gr.
Pure rock sugar	8	gr.
Powdered pancreatin	1/20	gr.

> The oxids are liberated in the stomach and thrown into the circulation.

For some unknown reason, however, this "formula" was changed before the edition of the pamphlet, setting forth the wonders of the combination, was exhausted. "Formula" No. 2, as printed on a "sticker" placed over "Formula" No. 1, states that Hydrocine consists of:

Oxidized carbo-hydrates and essential oils	18½	gr.
Mineral constituents	1½	gr.
Pure rock sugar	9	gr.
Powdered pancreatin	1/20	gr.

Accompanying this later pamphlet—or more correctly, the earlier pamphlet with a later "formula"—is a circular giving the following enlightening information regarding the composition of Hydrocine:

INGREDIENTS.

> "Oil of cinnamon, coniin, peppermint, spruce, myrtle, chekan, marrubium, myrrh, turpentine and thymol, with all toxic properties positively eliminated. The residue is highly oxidized, mixed with oxidized sugar, pancreatin and pressed into a 30 grain tablet. The oxygen is liberated in a nascent form, and taken up by the circulation, and thus enables patients to become saturated with the same in 30 minute doses."

This same circular also gives what purports to be a report of an analysis of Hydrocine Tablets, which, however, reads more as if it were a testimonial prepared at the request of the manufacturer, in spite of the fact that it is written by a presumably reputable chemist. Thus, while the report states that the tablets contain a certain amount of "aldehydes, ketones and oxidized products from the bodies used," the chemist virtually acknowledges that these bodies were not actually determined by him. In fact, from the language of the report one is led to believe that he accepted the manufacturer's statement in regard to their presence. Of course, we do not know the composition of the hydrocine which the manufacturer submitted to this chemist for report, or the composition which hydrocine will have in the future. The report of the analysis made for the American Medical Association by its chemists indicates the composition of Hydrocine such as is sent to physicians, and is, therefore, of interest. It is as follows:

> We have made a careful examination of the original package of Hydrocine and find that the average weight of the tablets is 29.5 grains. Of this, 95 per cent., or 28 grains, of the total of 29.5 grains, is cane sugar. Each tablet contains an average of 0.3 of a grain of a substance, insoluble in alcohol, containing nitrogenous matter. The indications are that this substance may be very impure pancreatin, that is, that this 0.3 of a grain may contain the 1/20 grain of pancreatin claimed to be present by the manufacturers. It also contains very small quantities of aromatic oils, and it is probably due to the fact that these oils, like turpentine, react with oxygen that it is claimed that the vegetable matter is "hyper-oxidized." The formula, however, mentions "hyper-oxidized hydro-carbon." Perhaps the manufacturers have reference to the rock sugar and mean carbohydrate, for there is probably no oxidation of the sugar, though it is probable that the aromatic oils present may be partially oxidized and changed in other ways after a time, but the "hyper-oxidized hydro-carbon (vegetable) 28 grains" of the formula is an absurdity, particularly as the analysis shows that the tablet contains 28 grains of sugar. We do not believe that it is possible for such a substance as turpentine, for instance, when in contact with sucrose (cane sugar) to act as an oxidizing agent.

Apparently, therefore, the essential constituent of Hydrocine, as it is now offered to physicians, is cane sugar, and evidently this was the substance which was referred to as the "hyper-oxidized hydro-carbon." As indicated by our chemist's report, the very learned (?) statements regarding the "hyper-oxidized hydro-carbons" or "oxidized carbo-hydrates" may be reduced to a simpler statement: "Each 29.5 grain Hydrocine tablet contains 28 grains of cane sugar and small quantities of volatile oils and a trace of pancreatin."

SUMMARY.

To sum up, we have: A preparation, shown by analysis to be 95 per cent. cane sugar, put on the market to be retailed at a cost of $8 a pound (avoirdupois). The claim is made that by giving this preparation in 30-grain doses to the extent of one and a quarter ounces daily, tuberculosis can be "permanently cured" in "from six to sixteen weeks." To impress the unthinking, the main constituent in the formula is given a quasi-scientific name, meaningless in import. The exploiter of this "remedy" claims to have given up a practice yielding $10,000 annually "to spread the truth regarding this preparation"—and incidentally, we suspect, to reap the benefits that must acrue from selling sugar at over $5 a pound, wholesale.

Our chemist having translated for us into simpler language the statements as to the composition of the article, we, as physicians, should not find it difficult to interpret correctly the evidence on which the claims are based.

One Newspaper Editor's Opinion of Kargon.

Anaheim, Orange County, Cal., does not occupy a very large place on the map, but it is to be congratulated on having a newspaper, the Orange County *Plain Dealer*, that is independent of "patent medicine" fakers. It contains no "patent medicine" advertisements, and, therefore, can speak its mind. Some one has favored us with a copy of the January 25 issue in which the editor first quotes one of the very "taking" reading notices that tells of the wonderful preparation that will cure all diseases, that is non-secret, that is not a "patent medicine" and in which "Compound Kargon"[1] is the "milk in the cocoanut." After quoting this advertisement, the editor makes these comments:

> We saw the above innocent looking little item floating through our exchanges and said to ourself here, we may help

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[1] The Journal A. M. A., March 16, 1907, p. 967.

ome poor devil far removed from a physician, by publishing this, but before we publish we will try the stuff, for we, too, at that time had a back on hand that was raising the devil with us. All our life, mind you, we have been telling people never consult a blacksmith when they were sick, but go to a physician, and go at once. But this was a "home remedy," don't you know, such as mother used to make out of catnip, boneset, lobelia, mullen, sassafras, carrots and burdock for all the ills of human kind. Well, to make a long story short, instead of sending for Dr. Johnston, our family physician, we sent the recipe to a drug store and had it filled and commended it to our innards in regulation doses. Do us any good? We had better taken a pound of ten penny nails. Good? Hell! A little later we saw Dr. Johnston and told him what an ass we had made of ourself. He read over the article above and—grinned. "Do you know what Kargon is?" said he. We fessed at once that we didn't. "Well," he continued, "nobody else does save the manufacturers who make it, and it catches lots of dupes, and the poor druggist who puts up the prescription has to pay them a good round price for it. It is a neat way to catch suckers, don't you know, who are innocent of guile."

The language used by our Pacific Coast editor is not altogether elegant, but there is no mistaking his meaning. Elsewhere in the same issue he comments on the opposition to the national Food and Drugs Act as follows:

> The fruit growers of the state are now in active hostility against the provision of the national Pure Food law that provides against the sulphuring of fruit in the drying process. The whisky men are fighting it tooth and nail because of the provision in the law that requires it to be made pure and free from coloring matter or adulteration of any kind. The packers of breakfast foods, and the manufacturers of 'patent medicine' nostrums are also on the warpath. It is hard to get a pure food law, when an attempt is made to enforce it, that will please anybody. The sausage maker wants to mix bran and corn meal with his sausage. Why? Corn meal and bran are cheaper than meat. That's the reason. Corn meal and bran at 15 or 20 cents per pound pay the beef barons a handsomer profit. See? A pure food law is an instrument of the Devil in the eyes of Greed. See?

Would there were more newspapers of the character of the Orange County *Plain Dealer*.

The Prescribing of Proprietaries by Physicians Decreasing.

In various parts of the country investigations have been made, through the cooperation of pharmacists, as to whether or not the prescribing of proprietaries by physicians is increasing, decreasing or remaining stationary. The evidence thus far shows that there is a marked decrease. The last issue of the *Weekly Roster* of the Philadelphia County Medical Society announces that the collective investigations by the Ethical Preparations Committee of the Philadelphia Association of Retail Druggists show that the "returns already received, we are delighted to say, show a decrease varying from 10 to 60 per cent." Similar reports have been received from other localities.

Book Notices

The Diagnosis and Treatment of Diseases of Women. By Harry Sturgeon Crossen, M.D., Clinical Professor of Gynecology, Washington University; Gynecologist to Washington University Hospital and Chief of the Gynecological Clinic, etc. With Seven Hundred Illustrations. Cloth. Pp. 800. Price, $6.00. C. V. Mosby Medical Book and Pub. Co., St. Louis, 1907.

In the preface the author specifically states that his attention is exclusively devoted to diagnosis and treatment of diseases of women, so that only such space is given to etiology, pathology and major operative technic, as is necessary to bring the work to its highest usefulness as a practical guide in the lines indicated. Hence the customary chapter on anatomy is absent, such anatomic points as are given being found in the chapter devoted to a consideration of the various pathologic conditions. The methods of gynecologic examination and diagnosis are painstakingly outlined, with numerous illustrations, and an original topical division of the abdomen for diagnostic aid is presented, the umbilicus being the fixed point in abdominal mensuration. The author emphasizes the importance of analysis of the blood, urine, sputum, etc. Methods of analysis, however, are not given, nor is any form of laboratory or microscopic diagnosis considered, except in the paragraphs on gonorrhea.

The differential diagnosis of abdominal and pelvic conditions is undertaken with marked detail and abundant illustration. Indeed, the chief characteristic of the book is the extreme care shown in outlining diagnostic features very systematically, even at the risk of repetition, and then covering each point with but a few words of description or explanation. Considerable space is given to a consideration of the pessary and of electricity as a therapeutic measure. The Roentgen ray, the Finsen light, radioactivity, Pincus' atmocausis therapy and opsonic treatment are discussed briefly. The indications and contradindications for pelvic massage are well considered, as are other general subjects, such as diet, exercise and dress reform.

One of the most valuable chapters in the volume is that on lacerations and fistulæ. This subject is exceptionally well presented, although nothing new is added. This holds true, as well, in discussing trachelorrhaphy and all plastic operations on the cervix.

In the treatment of uterine fibromyomata, the author favors palliative systemic and local treatment, resorting to operation where the tumor is causing symptoms that plainly can not be corrected by other measures. At the same time, he emphasizes the importance of not advising the patient to wait until serious symptoms have developed and that such symptoms usually are present early. In malignant disease of the uterus he considers carcinoma of the cervix separately from that of the corpus. Abdominal section is preferred in operable cases where the cervix is involved. In cancer of the corpus ordinary hysterectomy, either abdominal or vaginal, is deemed sufficient.

In the chapter devoted to pelvic infection, conservative treatment in the acute forms is advised, and non-operative measures in the chronic forms before operation is resorted to. In extrauterine pregnancy operation on diagnosis is advised in nearly every case. Ovarian and parovarian tumors are discussed ably. Malformations of the genitalia, on the other hand, are given but two pages of illustrations and one of text, surely an inadequate treatment of so broad a subject. Disturbances of function, such as amenorrhea, dysmenorrhea and sterility are also considered very briefly. An important chapter is that devoted to a discussion of abdominal and vaginal section. The last chapter is a short one on medicolegal points, and then is introduced a series of formulæ for internal and external use.

The medical rather than the operative treatment of the diseases of women is emphasized. Hence, those subjects amenable wholly or partially to operative work are passed over briefly.

For the student and general practitioner this volume undoubtedly possesses certain advantages. Generally speaking, the subject-matter is clearly outlined and definitely stated. Gynecologists, on the other hand, will see much in this work that is readily reminiscent of what is already in print. This is particularly true of the illustrations, over one-half of which have been selected from other works. While some of these pictures are redundant, as is demonstrated on pages 40, 136 and 137, for example, yet the selections have been made carefully and full credit is given. The chief defect is the omission of laboratory diagnosis, save for that given in the pages on gonorrhea, without which no text on this subject is complete to-day.

The book has been well put forth, the print is clear, the margins are generous enough and the type is large. Perhaps a too abundant use is made of the broad-faced font, so as to lose the effect desired. It is to be regretted that in a work of such physical proportions more care was not exercised in the proof reading, typographical errors being profuse. The illustrations are excellent, not only elucidating the text, but occasionally even supplanting it, as is the case on page 715, in the paragraph given to varicose veins of the broad ligament.

Essentials of Milk Hygiene. A Practical Treatise on Dairy and Milk Inspection and on the Hygienic Production and Handling of Milk for Students of Dairying and Sanitarians. By C. O. Jensen. Professor in the Royal Veterinary and Agricultural College of Copenhagen, Denmark. Translated and Amplified by Leonard Pearson, Dean of the Veterinary Faculty of the University of Pennsylvania. Illustrated. Cloth. Pp. 275. Price, $2.00. Philadelphia and London: J. B. Lippincott Co., 1907.

The importance of the proper supervision of the milk traffic is attracting wide attention and an English edition of this work of Professor Jensen, whose experience and standing lend weight to his views on many phases of the question, will surely be welcome. Copenhagen has long been in the lead in the care of the milk supply, and is singularly fortunate in the possession of commercial concerns that, so far from being merely acquiescent followers in the matter, have done pioneer work, carrying their control to a point far in advance of anything contemplated by the public authorities.

The subject matter of the book is divided into: 1, Milk and its composition; 2, the injurious properties that milk may possess; 3, pasteurization and sterilization of milk; 4, the use of milk for infants. The first part is gone into with detailed completeness. The physiologic chemistry is so lucidly described as to present no serious difficulties, even to those whose acquaintance with this comparatively recent science is of the most meager character. In Part II, the addition of various substances, especially preservatives, the absorption of odors, and the transmission of infection by milk are considered. The work of the various observers on the relation of milk to tuberculosis is appraised with fairness. Jensen discusses, in a very judicial and dispassionate manner, the dictum of Koch that bovine and human tuberculosis are not identical, and also the three important questions arising therefrom. While he admits that the identity of the two kinds of bacilli is still an open question, he gives cogent reasons for concluding that tuberculosis is undoubtedly not so infrequently caused by food as Koch affirms; that the transmission of human tuberculosis to cattle can be affected by inoculation; and that bovine tuberculosis is transmissible to man. He discusses other diseases having milk as a possible means of infection either from disease in the animal or as a consequence of contamination from without.

Pages 157 to 237 are taken up with matter relating to the public control of the production and handling of milk. The standards and tests are clearly described, as also are the detecting of adulterations and preservatives, and bacterial investigation. An interesting feature is the appendices, and especially that containing the regulations governing the Trifolium Milk Supply Company in Copenhagen. The original text is elucidated and illustrated by notes and comments by Professor Pearson. The entire subject is one of special moment to every physician.

A Very Young Ovum in Situ. By Prof. G. Leopold, Geheimer Medizinalrat, Director of the Royal Gynecologic Clinic and School for Midwifery. Authorized English translation, by W. H. Vogt, M.D., Gynecologist and Obstetrician to the Lutheran Hospital, St. Louis. Cloth. Pp. 69, with 16 lithographic plates. Price, $3.50. St. Louis: C. V. Mosby Co., 1907.

This monograph is an exhaustive microscopic study of an ovum from a young woman who committed suicide by taking phosphorus. After the organs had been hardened in formalin and alcohol, repeated and careful examinations of the endometrium were made with a magnifying glass. At first nothing was detected, but finally a small spot was found, lighter than the surrounding tissue, situated on the posterior wall of the corpus uteri. This spot was carefully excised, hardened and cut into a continuous series of sections. Examination showed that the middle 160 sections comprised a very small ovum, measuring 1.4 mm. long, 0.9 mm. deep and 0.8 mm. wide. No positive information could be obtained regarding the exact age of the ovum. The results of careful and exhaustive study of the 160 sections are embodied in the monograph, illustrated by 16 lithographed plates, comprising 28 figures beautifully printed in colors. The author sums up the results of his work as follows:

"The following are some of the points in which my views have changed as a result of the study of this youngest ovum and are now at variance with views formerly expressed: the origin of Langhans' cells, the decidua of uterine epithelium in the neighborhood of the ovum, the origin of the intervillous spaces, and a few others. A further advance of our knowledge of this problem depends on the discovery of more very young human ova in situ, coming, if possible, from patients who have died suddenly, but not as suicides. These specimens must be carefully preserved, painstakingly examined and microscopic pictures reproduced in illustrations which are true to nature."

Operations of General Practice. Edred M. Corner, M.A., M.C., M.B. (Cantab.), B.Sc. (Lond.), F.R.C.S. (Eng.), and H. Irving Pinches, M.A., M.B., B.C. (Cantab.), M.R.C.S., L.R.C.P. (Lond.). Pp. 296. Cloth. Price, $5.50. New York: Oxford University Press, 1907.

The object of this book is to bridge over the gap between the knowledge of the general practitioner and that imparted by elaborate text-books of surgery. As the writers state, "The education of the vast majority of medical men is deficient in the practice and performance of the many small operations which lie so largely on the borderland between medicine and surgery and which all practitioners are called on to perform frequently." The first chapter is devoted to general considerations, such as asepsis and antisepsis, sterilization, choice of instruments, suture material, different forms of dressings. The use of the *x*-ray in minor surgery is also considered. The second chapter is devoted to anesthetics and method of administration. Then follow two chapters on surgery of the head and one on each of the following subjects: neck, chest, abdomen, male and female genitourinary organs, rectal region and the limbs. No attempt is made to discuss the larger surgical problems or to give alternative methods of treatment, as the scope of the book does not admit of such discussion. In the chapter on the neck, for instance, the following subjects are considered: abscesses and cellulitis of the neck, carbuncles and boils, lipomata, tuberculous glands, tracheotomy, laryngotomy, intubation and foreign bodies in the larynx, retropharyngeal abscess, tenotomy of the sternomastoid for torticollis. The book is well illustrated and attractively printed and bound. General practitioners who do not care to devote time to surgical work and yet are compelled to do occasional minor surgical work will find in this book much of interest and value.

Minor Surgery. By Edward Milton Foote, A.M., M.D., Instructor in Surgery, College of Physicians and Surgeons (Columbia University). Cloth. Pp. 752, with 407 illustrations. Price, $5.00. New York: D. Appleton & Co., 1908.

Dr. Foote states, in his preface, that his object has been to apply to the less serious every-day problem of surgical practice the new knowledge which the discoveries of the last twenty-five years have revealed. The field of minor surgery, he says, is the only one which the average practitioner will ever enter. It is also the one in which most of surgeons will find the majority of their patients, yet, as he truly says, the physician, untaught regarding minor surgery, fails to achieve good results and performs more bad surgery on the hands than on the organs of the abdomen. This statement will be endorsed by all those who have had occasion to review the surgical work of the average practitioner, yet what else can be expected when the average medical student is given abundant instruction regarding hysterectomy for carcinoma, an operation which he will probably never perform, and is told little or nothing regarding infections of the hand or foot, which may come to him at any hour of the day. Two things impress one in looking over this work. The first is the absence of conventional and stereotyped consideration of the different subjects. The second is the number and practical value of the illustrations. A very commendable feature is the legend under most of the illustrations, giving some idea of the duration, severity, etc., of the lesion portrayed. For instance, one is marked, "Abscess under sternomastoid muscle. Six months' duration; probably tubercular. Patient aged 56 years." Another reads, "Abscess of neck. Duration two weeks; secondary to pediculosis capitis occurring in child of 2 years." Four successive photographs of a patient with carbuncle of the neck show the beginning stage, two successive stages of inflammation and one of cicatrization. To the general practitioner Dr. Foote's book will be of decided and constant value.

Insanity and Allied Neuroses. A Practical and Clinical Manual. By George H. Savage, M.D., F.R.C.P., Late Physician and Superintendent of Bethlehem Royal Hospital, etc., with the Assistance of Edwin Goodall, M.D. (Lond.), B.S., etc.; Medical Superintendent of the Cardiff City Hospital for Mental Diseases. Cloth. Pp. 624. Illustrated. New Edition. Price, $2.75 net. Chicago: W. T. Keener & Co., 1907.

This fourth edition of this manual has been revised throughout and special attention given to the pathology of the several disorders. Dr. Goodall is a well-known British alienist, and in addition Dr. Savage has had the advice and help of Dr. Mott, the pathologist of the London County Council's laboratory, who, as an authority on his specialty, is second to none in Great Britain. As might be expected, therefore, the work has been brought well up to date and is comprehensive enough to fairly cover the ground indicated in its title.

Surgical Emergencies. By Percy Sargent, M.A., M.B., B.C. (Cantab.), F.R.C.S., Assistant Surgeon to the National Hospital for the Paralyzed and Epileptic. Cloth. Pp. 256. Price, $2.00. New York: Oxford University Press, 1907.

As stated in the preface, the author lays no claim to completeness, but states that the book "is rather of the nature of an essay based on an experience gained during some eight years' immediate association with the surgical side of St. Thomas Hospital." A number of the emergencies more frequently encountered are discussed, among them being hemorrhage, burns scalds, fractures, acute infective and abdom-nal diseases, injuries of the abdomen, strangulated hernia, espiratory obstruction, injuries of the neck, chest, nervous ystem, eye and ear. Avoiding unnecessary details, the author has confined himself to the essential points of emergency reatment.

Anesthetics and Their Administration. A Text-book for Medi-al and Dental Practitioners and Students. By Frederic W. Hewitt, M.V.O., M.A., M.D., Cantab., Anesthetist to His Majesty the King. Third Edition with Illustrations. Cloth. Pp. 627. Price, $4.00 net. London and New York: The Macmillan Co., 1907.

This work is well arranged from a practical as well as from clinical standpoint. The author first considers the physiol-gy and pharmacology of anesthetics; second, the selection f the anesthetic and the preparation of the patient; third, he methods of administration of the various anesthetics and heir mixtures and sequences; fourth, the accidents and dan-ers liable to be associated with surgical anesthesia and their revention and treatment; fifth, the postoperative dangers of nesthetics. Hewitt apparently favors the closed method of iving ether which has fallen somewhat into disfavor in this untry. Considerable space is given to the method of administering nitrous oxid.

History of Nursing. By Adelaide Nutting, R.N., President of ie American Federation of Nurses, and Lavina L. Dock, R.N., Sec-tary of the American Federation of Nurses. Vol. I. Cloth. p. 549. Vol. II. Pp. 461. Price, $5.00. New York: G. P. Put-am's Sons, 1907.

This commendable piece of work fills a definite lack in edical lore. The task involved in collating from their scat-red settings all the facts here presented must have been a eat one, indeed. The work is well done, the illustrations any, and the style interesting. After discussing the evi-nces of treatment of sickness and injury by the lower ani-als, the work takes up nursing by primitive man and among e various nations previous to the Christian era, then by the omen of the early church, the military and monastic nurs-g orders, etc., continuing through the work of Florence ightingale and the Red Cross down to modern nursing.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for is column must be accompanied by the writer's name and ad-ess, but the request of the writer not to publish name or address ll be faithfully observed.

FOLIN'S QUANTITATIVE STUDY OF URINE.

Glenwood, Iowa, Jan. 31.

To the Editor:—Please inform us where we can obtain informa-n in regard to Folin's simplified methods of quantitative study the urine mentioned in an editorial in The Journal, Jan. 11, 08.

DeWitt and Benson.

Answer.—Folin's methods may be found by consulting the fol-wing: "*Eine neue Methode zur Bestimmung der Harnstoffe im rne,*" *Zeitsch. f. physiol. Chem.*, 1901, xxxii, p. 504. "*Ein einfaches Verfahren zur Bestimmung des Ammoniaks im Harne,*" ibid., p. 515.

Folin's method for urea is as follows: Three c.c. of urine are placed in a 200 c.c. Erlenmeyer flask, 2 c.c. of concentrated hydrochloric acid, 20 grams of magnesium chlorid, and a small piece of paraffin are added. The flask is then connected with a long glass safety tube to condense the vapors and prevent loss of material. The contents are boiled until each drop of reflow makes a very perceptible thump, the heat is then reduced and the boiling is continued one-half hour. Allow the contents of the flask to cool slightly and transfer the contents to a liter Kjeldahl flask washing out the original flask with about 500 c.c. of water. Add from 8 to 10 c.c. of 20 per cent. sodium hydrate solution and distill off the ammonia into 25 c.c. of n/10 sulphuric acid. In order to be certain that all the ammonia is driven off about 350 c.c. of distillate are necessary, which amount will ordinarily pass over within one hour. Titrate back the unused sulphuric acid, with n/10 sodium hydrate solution, using alizarin red as an indicator, titrating to the red point, and not to the purple. If phenolphthalein be used as an indicator, the distillate must be boiled to expel carbon dioxid. Each cubic centimeter of n/10 ammonia present equals 0.1 per cent. of urea, or 1 gram of nitrogen found represents 2,143 grams of urea. From this figure the amount of preformed ammonia, as well as that present in the magnesium chlorid, must be subtracted.

Folin's method for determining ammonia is as follows: Set up a battery of four glass bottles. In the first, place 50 c.c. of 10 per cent. sulphuric acid to catch all ammonia which may be present in the air forced through the series of bottles. In the second bottle, place 50 c.c. of 10 per cent. sodium carbonate solution to catch any acid that may be forced from the first bottle. In the third bottle, place 10 grams of sodium chlorid, 25 c.c. of urine, and 10 c.c. of benzin or kerosine to prevent foaming in the mixture. In the last wash bottle, place 50 c.c. of n/10 sulphuric acid. When the bottles are all filled, connect them, in the order given, with tight-fitting rubber tubing, and connect the bottle, containing 10 per cent. sulphuric acid with a current of compressed air. One dram of dry sodium carbonate is then added to the bottle containing urine, and a steady current of air is forced through the bottles for one and one-half hours, at the end of which time the ammonia will have been driven from the urine into the n/10 acid solution.

At the ordinary temperature of the laboratory, this ammonia is all driven over, but it may be advisable to heat the flask containing the urine to a temperature ranging between 40 and 50 C. Titrate back the excess of sulphuric acid with n/10 sodium hydroxid, using alizarin red or rosolic acid as an indicator and calculate the amount present in the 25 c.c. of urine, each cubic centimeter of sulphuric acid used representing 0.001707 grams of ammonia.

The above method is a slight modification of that originally proposed by Folin, who uses a suction pump to draw the air through the bottles instead of forcing it through from the compressed air cylinder. If Folin's original method be used, it will be necessary to arrange the bottles in a different order so that the stream is drawn through the urine into the standard acid.

TRYPSIN IN THE TREATMENT OF CANCER.

Biltmore, N. C., Jan. 20, 1908.

To the Editor:—Please let me know the result of the use of trypsin on inoperable cancer. I have seen nothing in The Journal lately on the subject. I have a case of rectal carcinoma in which I am especially interested, and I should be greatly obliged if you would let me know if the latest reports would justify its employment. When in New York a year ago I tried to find out what was being accomplished in the matter, but what I saw and heard gave me no encouragement. I should like to know what difference, if any, another year's trial has made, and, if this method should be considered worth while, where detailed methods of treatment can be found.

Lawrence E. Holmes.

Answer.—While some of the early reports of cases treated by this method were extremely favorable, later ones indicate that no permanent results are to be expected. Some physicians have observed such untoward results as to justify caution in using this form of treatment. The following articles on this subject have appeared during the past year:

"Trypsin Treatment of Cancer:" W. P. Graves, *Boston Medical and Surgical Journal*, Jan. 31, 1907; abstracted in The Journal, Feb. 16, 1907, page 644.

"Trypsin Treatment of Malignant Disease:" J. T. Campbell, The Journal, Jan. 19, 1907, p. 225.

"Trypsin Treatment of Cancer:" J. W. Luther, *New York Medical Journal*, Feb. 23, 1907; abstracted in The Journal, March 9, 1907, p. 904.

"Trypsin in Cancer:" W. S. Bainbridge, *New York Medical Journal*, March 2, 1907, abstracted in The Journal, March 16, 1907, p. 974.

"Trypsin in Treatment of Cancer:" E. v. Leyden and P. Bergell, *Zeitschrift f. klinische Medicine,* vol. lxi, Nos. 3 and 4, abstracted in THE JOURNAL, May 4, 1907, p. 1556.

"Trypsin in Epithelioma of the Larynx:" H. Dupuy, *New Orleans Medical and Surgical Journal,* July, 1907; abstracted in THE JOURNAL, July 13, 1907, p. 189.

"Trypsin Treatment in Malignant Disease:" A. Cutfield, *British Medical Journal,* Aug. 31, 1907; abstracted in THE JOURNAL, Sept. 28, 1907, p. 1148.

"A Word for Trypsin:" A. K. Matthews, *Medical Press and Circular,* London, Oct. 2, 1907; abstracted in THE JOURNAL, Nov. 2, 1907, page 1562.

"Trypsin in Treatment of Cancer:" Abstract of paper read by W. P. Graves, at meeting of Boston Medical Library, THE JOURNAL, Dec. 7, 1907, p. 1950.

"Trypsin in Treatment of Malignant Tumors:" W. P. Graves, *Boston Medical and Surgical Journal,* Jan. 23, 1908; abstracted in THE JOURNAL, Feb. 8, 1908, p. 479.

"Cancer: Its Etiology and Treatment by Trypsin": J. Alcindor, *British Medical Journal,* Jan. 11, 1908, abstracted in THE JOURNAL, Feb. 8, 1908, p. 486.

Of course the time since the introduction of the treatment is too short to form any very definite opinion as to the value of trypsin in the treatment of carcinoma. Reports seem to indicate that in many cases diminution in size of the tumor, lessening of pain and removal of discomfort have followed the application of this method. How far a natural tendency to cure of the disease in isolated cases and to remission in others may be responsible for these results it is impossible to say. The report from v. Leyden's clinic indicates that while there may be great possibilities in trypsin or pancreatin the proper method of using it has not yet been learned. W. P. Graves has used the ferment in a considerable number of cases, but bases his conclusions on six cases of recurrent cancer; all were observed for at least six months, and most of them for fourteen months. In all there was a gradual inevitable progress of the disease to a fatal termination in four; two patients are living, but will undoubtedly die within a few months. In spite of this unfavorable result Graves has seen such improvement in the local condition as to encourage him to continue the treatment in suitable cases. Experience so far gives no ground for expecting a cure or even a great prolongation of life, but, in view of the comfort which the reports indicate has been given to some patients by reduction of the local inconveniences, a trial of the method may be justified in strictly inoperable cases in which other treatment is of no avail.

DIPHTHERIA ANTITOXIN IN THE TREATMENT OF EXOPHTHALMIC GOITER.

OMAHA, Feb. 4, 1908.

To the Editor:—Some time ago I reported several cases of exophthalmic goiter treated with diphtheria antitoxin, with good results. Have since treated two more cases; results very favorable. Will those who have used this method kindly report cases to the undersigned, so that conclusions may be reached as to the value of the procedure? ADRIAN F. BURKHARD.
1902 S. 17th Street.

CASTORIA DECLARED A COMMON NAME.

HOMESTEAD, PA., Jan. 22, 1908.

To the Editor:—Can you tell me the volume of the United States court decisions in which you found the opinion written by Justice Brewer holding that, since the patent on the process of making Castoria had expired, the name Castoria, being the only name to designate the article, became a common name and therefore free for use? Not knowing the year in which the decision was rendered, nor the names of the plaintiff and defendant, I could not find it without looking over each volume in the series, which would be a month's job. D. T. POWELSON, M.D.

ANSWER.—The United States Court of Appeals, Eighth Circuit, rendered a decision, Jan. 10, 1898, in the case of Centaur Company vs. Heinsfurter et al., in which the opinion was prepared by Circuit Justice Brewer, which may be found in 56 U. S. App. 7; 28 C. C. A., 581; or 84 Fed. 955.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Feb. 8, 1908:

Carter, E. C., surgeon, and Morse, A. W., asst.-surgeon, appointed members of an Army retiring board at Fort Leavenworth, Kansas.

Talbott, E. M., asst.-surgeon, relieved from duty at Fort Leavenworth, Kansas, and ordered to duty with the Army of Cuban Pacification.

Miller, E. W., asst.-surgeon, relieved from duty with the Army of Cuban Pacification, and assigned to duty as surgeon, U. S. A. transport *Kilpatrick.*

Bourke, James, asst.-surgeon, relieved from duty as surgeon of the U. S. A. transport *Kilpatrick* and ordered to Fort Leavenworth, Kansas, for duty.

Munson, E. L., surgeon, left Fort Sheridan, Ill., on 10 days' leave of absence, with permission to apply for an extension of 20 days.

Tignor, E. P dental surgeon, ordered from Fort DuPont, Del., to Frankfort Arsenal, Pa., for temporary duty.

Whinnery, J. C., dental surgeon, arrived at Fort Liscum, Alaska, for duty.

Marshall, J. S., examining and supervising dental surgeon, relieved from duty at the Army General Hospital, Presidio of San Francisco, Cal., and ordered to proceed on transport sailing March 5, for Philippine service.

Ames, J. R., dental surgeon, ordered from Onancock, Va., to Fort Leavenworth, Kansas, for duty.

Hess, J. H., examining and supervising dental surgeon, relieved from duty at Fort Leavenworth, Kansas, and ordered to report for duty at the Army General Hospital, Presidio of San Francisco, Cal.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Feb. 8, 1908:

W. A. McClurg, medical director, commissioned medical director from June 16, 1907.

Orvis, R. T., surgeon, commissioned surgeon from March 1, 1905.

McDonnell, W. N., P. A. surgeon, detached from duty at the Naval Hospital, New York, and ordered to the Naval Recruiting Station, Chicago.

Wheeler, L. H., asst.-surgeon, ordered to the Naval Training Station, Newport, R. I.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 5, 1908:

Stoner, G. W., surgeon, directed to proceed to Malone, New York, for special temporary duty, on completion of which to rejoin his station at Ellis Island, N. Y.

Carmichael, D. A., surgeon, directed to proceed to Fort Stanton, N. M., and St. Louis, for special temporary duty; on completion of which to rejoin his station at Buffalo, N. Y., returning via Washington, D. C.

Brooks, S. D., surgeon, granted an extension leave of absence on account of sickness for ten days.

Young, G. B., surgeon, detailed to represent the service at the Third Annual Convention of the American Society of Inspectors of Plumbing and Sanitary Engineers to be held at Chicago, Feb. 10-12, 1908.

Sprague, E. K., P. A. surgeon, granted leave of absence for 10 days from Feb. 11, 1908.

Wickes, H. W., P. A. surgeon, granted leave of absence for two days from Jan. 28, 1908, under Paragraph 189, Service Regulations.

Corput, G. M., P. A. surgeon, directed to proceed to Austin, Texas, for special temporary duty; on completion of which to rejoin his station at Galveston, Texas.

McLaughlin, A. J., P. A. surgeon, relieved from duty at Naples, Italy, and directed to proceed to Manila, P. I., reporting to the Chief Quarantine Officer for duty.

Earle, B. H., P. A. surgeon, granted leave of absence for seven days from Feb. 4, 1908.

Francis, Edward, P. A. surgeon, granted extension leave of absence for seven days.

Boggess, J. S., P. A. surgeon, relieved from duty at St. John, N. B., and directed to proceed to Chicago, reporting to the medical officer in command for duty and assignment to quarters.

Foster, A. D., P. A. surgeon, granted leave of absence for one month from Feb. 10, 1908.

Spratt, R. D., asst.-surgeon, leave of absence granted for 21 days from Jan. 14, 1908, amended to read for 11 days only.

Wollenberg, R. A. C., asst.-surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Naples, Italy, for duty.

Blount, B. B., acting asst.-surgeon, granted leave of absence for 30 days from Jan. 31, 1908.

Hicks, W. R., acting asst.-surgeon, excused from duty without pay, Dec. 15 to 23, 1907, inclusive.

Keatley, E. W., acting asst.-surgeon, granted leave of absence for five days from Jan. 14, 1908, under Paragraph 210, Service Regulations.

Moncure, J. A., acting asst.-surgeon, granted leave of absence for 30 days from Feb. 20, 1908.

Walker, R. T., acting asst.-surgeon, granted leave of absence for four days from Feb. 18, 1908.

BOARD CONVENED.

A board of medical officers was convened to meet at San Francisco, Feb. 3, 1908, for the purpose of making a physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman, and P. A. surgeon C. H. Gardner, recorder.

CASUALTY.

Williamson, Stacy D., acting asst.-surgeon, died Jan. 25, 1908.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended Feb. 7, 1908:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Jan. 12-26, 7 cases.

California: Los Angeles, Jan. 11-18, 3 cases; San Francisco, Jan. 11-18, 5 cases.

District of Columbia: Washington, Jan. 12-25, 15 cases.

Georgia: Augusta, Jan. 11-28, 1 case (imported).

Illinois: Chicago, Jan. 18-25, 3 cases; Springfield, Jan. 16-23, 7 cases.

Indiana: Elkhart, Jan. 18-25, 1 case; Indianapolis, Jan. 12-19, 1 case; Terre Haute, Jan. 18-25, 1 case.

Kansas: Topeka, Jan. 18-25, 3 cases; Wichita, 4 cases.

Louisiana: New Orleans, Jan. 18-25, 4 cases.

Kentucky: Lexington, Jan. 18-25, 3 cases.

Michigan: Grand Rapids, Jan. 11-18, 6 cases; Saginaw Jan. 11-25, 36 cases.

Missouri: Kansas City, Jan. 11-18, 2 cases; St. Louis, Jan. 18-25, 5 cases.

Montana: Butte, Jan. 4-21, 3 cases (from railway camps).

New Mexico: Albuquerque, to Jan. 26, 15 cases.
New York: Buffalo, Jan. 18-25, 1 case.
Ohio: Cincinnati, Jan. 17-24, 17 cases; Toledo, Jan. 18-25, 1 ase.
South Dakota: Sioux Falls, Jan. 11-18, 12 cases.
Tennessee: Knoxville, Jan. 18-25, 8 cases; Nashville, Jan. 8-25, 3 cases.
Texas: Houston, Jan. 11-18, 3 cases; San Antonio, 2 cases.
Washington: Spokane, Jan. 11-18, 10 cases; Tacoma, 4 cases.
Wisconsin: La Crosse, Jan. 18-25, 5 cases; Milwaukee, Jan. 11-5, 3 cases.

SMALLPOX—FOREIGN.

Brazil: Bahia, Nov. 30-Dec. 28, 103 cases; Para, Dec. 28-Jan. 11, 5 cases, 9 deaths; Rio de Janeiro, Dec. 22-29, 30 cases, 4 deaths.
Canada: Halifax, Jan. 18-25, 1 case; Winnipeg, Jan. 18-25, 10 ses; New Brunswick, Albert County, Jan. 30, outbreak.
China: Hankow, Dec. 14-21, 1 case; Shanghai, Dec. 15-22, 4 ses, 13 deaths (cases foreign, deaths native).
Ecuador: Guayaquil, Dec. 1-31, 8 deaths.
Egypt: Cairo, Dec. 24-Jan. 7, 1 case, 2 deaths.
France: Brest, Dec. 28-Jan. 11, 5 cases; Paris, Jan. 4-11, 7 cases, death.
India: Bombay, Dec. 25-31, 7 deaths.
Italy: General, Jan. 2-9, 100 cases; Messina, Dec. 21-28, present.
Japan: Kobe, Dec. 28-Jan. 4, 256 cases, 91 deaths; Yokohama, ec. 30-Jan. 6, 6 cases, 3 deaths.
Java: Batavia, Dec. 7-14, 3 cases.
Malta: Dec. 22-Jan. 11, 8 cases.
Mexico: Aguas Calientes, Jan. 25-26, 6 deaths; Manzanillo, Dec. 31, 2 cases; Mexico, Dec. 7-21, 3 deaths; Monterey, Jan. 5-19, 2 aths; Nuevo Laredo, Jan. 28, 1 case.
Netherlands: Rotterdam, Jan. 4-11, 2 cases.
Russia: Moscow, Dec. 21-Jan. 4, 25 cases, 8 deaths; Odessa, Dec. -Jan. 11, 6 cases, 6 deaths; Riga, 6 cases; St. Petersburg, Dec. -Jan. 4, 23 cases, 9 deaths; Moscow, Oct. 26-Nov. 15, 57 deaths.
Spain: Denia, Jan. 4-11, 6 cases, 2 deaths; Valencia, Jan. 3-12, cases, 4 deaths; Vigo, Jan. 4-11, present.
Turkey in Europe: Constantinople, Dec. 22-Jan. 5, 11 deaths.
Turkey in Asia: Bagdad, Nov. 30-Dec. 14, 60 cases, 10 deaths.

YELLOW FEVER.

Brazil: Para, Dec. 28-Jan. 11, 27 cases, 17 deaths.
Cuba: Cienfuegos, Jan. 11-18, present in vicinity.
Ecuador: Guayaquil, Dec. 1-31, 3 deaths.
Honduras: Interior towns, Jan. 27, present.
Trinidad: Jan. 4-11, 3 cases, 2 deaths.
India: Bombay, Dec. 14-21, 2 deaths; Cochin, Nov. 29-Dec. 6, 9 aths; Rangoon, Dec. 14-21, 11 deaths; Tuticorin, 38 deaths.
Russia: General, Dec. 11-17, 55 cases, 17 deaths.
Turkey in Europe: Constantinople, Jan. 10, 3 cases; lazaretto, c. 30-Jan. 4, 46 cases, 36 deaths.

PLAGUE.

Arabia: Nivernais, Jan. 4, 1 case, 1 death; Djeddah, Dec. 30-n. 4, 20 cases, 9 deaths; Medina, Dec. 25-Jan. 3, 133 cases, 113 ths; Mekka, Dec. 29-Jan. 4, 421 cases, 333 deaths; Yambo, c. 24-Jan. 3, 148 cases, 91 deaths.
Brazil: Bahia, Nov. 25-Dec. 28, 9 cases, 7 deaths; Rio de Janeiro, c. 22-29, 6 cases, 1 death.
Egypt: Alexandria, Dec. 13-25, 4 cases, 3 deaths; Dimetta, Dec. 28, 1 case; Provinces: Assiout, Dec. 19-30, 22 cases, 15 deaths; nieh, Dec. 17-23, 1 case.
India: Bombay, Dec. 24-31, 6 deaths; Rangoon, Dec. 14-21, 1 th.
Japan: Nushima Island, Jan. 8, present; Osaka, Dec. 28-Jan. 4, reasing.
Peru: Callao, Dec. 18-25, 1 case, 2 deaths; Catacaos, 2 cases, 1 th; Ferrenafe, 3 cases; Jequetepeque, 4 cases; Paita, 18 cases, deaths; San Joronimo, 15 cases; Trujillo, 20 cases, 8 deaths.

edical Education and State Boards of Registration

COMING EXAMINATIONS.

ONNECTICUT State Board of Medical Examiners, City Hall, New ven, March 10. Secretary, Dr. Charles A. Tuttle, 196 York St., v Haven.

ONNECTICUT Homeopathic Board of Medical Examiners, New ven, March 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave., v Haven.

ONNECTICUT Eclectic Board of Medical Examiners, New Haven, ch 10. Secretary, Dr. T. S. Hodge, 16 Main St., Torrington.

OWA State Board of Medical Examiners, Capitol Building, Des nes, March 10-12. Secretary, Dr. Louis A. Thomas, Des Moines.

ASSACHUSETTS Board of Registration in Medicine, Room 15, te House, Boston, March 10-12. Secretary, Dr. Edwin B. Harvey, m 159, State House, Boston.

AINE Board of Registration of Medicine, State House, Augusta, ch 17-18. (Note change of place from Portland.) Secretary, Dr. liam J. Maybury, Saco.

linois Medical Colleges Not Recognized.—Information comes us from Dr. J. A. Egan, secretary of the Illinois State rd of Health, that the following medical schools of Chicago e been declared not in good standing:

National Medical University.
Reliance Medical College.
Jenner Medical College.
American Medical Missionary College.
College of Medicine and Surgery (Physio-Medical).

his information indicates that the Illinois Board of Health do its share in bringing about fairer standards of medical education and licensure. In taking this action the board will doubtless have the endorsement not only of the medical profession and of the various state examining boards, but of the public also.

Pennsylvania June and December Reports.—The office of the Medical Council of Pennsylvania reports the examination held by the State, Homeopathic and Eclectic medical societies of Pennsylvania, at Philadelphia, Pittsburg and Harrisburg, June 25-28, and Dec. 3-6, 1907. The number of subjects examined in at these examinations was 7; percentage required to pass, 75.

At the examination held by the State Medical Society, at Philadelphia and Pittsburg, June 25-28, the total number of candidates examined was 367, of whom 328 passed and 39 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Total No. Examined.
Denver and Gross Coll. of Med.	(1907)	1
George Washington University	(1904), (1907)	2
Georgetown University	(1906)	1
Kentucky University	(1906)	2
University of Louisville	(1907)	1
Maryland Med. Coll.	(1907)	1
Coll. of P. and S., Baltimore.	(1904), (3, 1906), (5, 1907)	9
Baltimore Med. Coll.	(1894, (1895), (1904), (1906), (5, 1907)	9
Johns Hopkins Med. School	(3, 1906), (8, 1907)	11
University of Maryland	(1906), (3, 1907)	4
Harvard Med. School	(1904), (1906)	2
Albany Med. Coll.	(1907)	1
University of Buffalo	(1906), (1907)	2
New York Woman's Med. Coll. and Hosp.	(1894)	1
Leonard School of Med.	(1906)	3
Western Reserve University	(1907)	1
Cleveland Coll. of P. and S.	(1907)	1
University of Pennsylvania	(2, 1904), (1905), (6, 1906), (73, 1907)	82
Jefferson Med. Coll.	(1903), (1905), (6, 1906), (54, 1907)	62
Western Pennsylvania Med. Coll.	(1904), (1905), (2, 1906), (37, 1907)	41
Woman's Med. Coll. of Pennsylvania.	(2, 1906), (11, 1907)	13
Medico-Chirurgical Coll., Philadelphia	(2, 1905), (3, 1906), (64. 1907)	69
Temple College of Med.	(1907)	4
University of the South	(1904)	1
University of Virginia	(1902)	1
University of Budapest, Hungary	(1904)	1
University Catania, Italy	(1905)	1
University of Naples, Italy	(1898)	1

FAILED.

College.	Year. Grad.	Total No. Examined.
Howard University, Washington	(1904)	1
Kentucky School of Med.	(1904)	1
Maryland Med. Coll.	(1906), (4, 1907)	5
Baltimore Med. Coll.	(1907)	3
College of P. and S., Baltimore	(1904)	1
University of Maryland	(1906)	1
Detroit College of Med.	(1906)	1
St. Louis Coll. of P. and S.	(1901), (1905), (1906)	3
Ensworth Medical College, St. Joseph	(1892)	1
Leonard School of Med.	(1906)	1
Starling Med. Coll.	(1903)	1
Ohio Medical University	(1900)	1
Western Penna. Med. Coll.	(1905), (1906), (6, 1907)	8
Jefferson Med. Coll.	(1906), (4, 1907)	5
Medico-Chirurgical College, Philadelphia	(1907)	1
University of the South	(1904)	1
Meharry Med. Coll.	(1907)	1
University of Virginia	(1907)	1
University of Naples, Italy	(1906)	1
University of Prague, Bohemia	(1900)	1

At the examination held by the Homeopathic Medical Society at Philadelphia, June 25-28, the total number of candidates examined was 47, of whom 46 passed and 1 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Total No. Examined.
University of Michigan, Homeo. Dept	(1907)	1
Boston University	(1906)	1
Hahnemann Med. Coll., Philadelphia	(2, 1906), (36, 1907)	38
Woman's Med. Coll. of Pennsyvania	(1907)	1
Cleveland Homeo. Med. Coll.	(1, 1904), (3, 1907)	4
Pulte Med. Coll.	(1907)	1

FAILED.

College.	Year. Grad.	Total No. Examined.
Hahnemann Med. Coll., Philadelphia	(1907)	1

At the examination held by the Eclectic Medical Society at Harrisburg, June 25-28, the total number of candidates examined was 22, all of whom passed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Total No. Examined.
Bennett Coll. of Ecl. Med. and Surg	(1907)	2
College of Med. and Surg., Chicago	(1901)	1
University of Louisville	(1905)	1
Maryland Med. Coll.	(1906) (3, 1907)	4
College of P. and S., Baltimore	(1907)	1
Baltimore Med. Coll.	(1907)	1
Medico-Chirurgical Coll., Philadelphia.	(1898), (2, 1903) (1906) (4, 1907)	8
Eclectic Med. Inst., Cincinnati	(1907)	4

At the examination held by the State Medical Society at Philadelphia, December 3-6, the total number of candidates examined was 88, of whom 59 passed and 29 failed. The college and year of graduation for one candidate who passed was not given. The following colleges were represented:

College.	Year. Grad.	Total No. Examined.
PASSED.		
Howard Univ., Washington	(1904) (1906) (4, 1907)	6
George Washington University	(1907)	2
Georgetown University	(1906)	1
University of Louisville	(1907)	1
College of P. and S., Baltimore	(2, 1905) (3, 1907)	5
University of Maryland	(1905) (1907)	2
Maryland Med. Coll	(1907)	1
Baltimore Med. Coll	(1907)	3
College of P. and S., Boston	(1906)	1
Johns Hopkins Med. School	(1907)	1
Leonard Med. School	(1907)	1
Syracuse University	(1907)	1
Columbia University	(1904)	1
Miami Med. Coll	(1906)	1
Med. Coll. of Ohio	(1903)	1
Temple Coll. of Med., Phila	(1906)	1
Woman's Med. Coll. of Pennsylvania	(1899)	1
University of Pennsylvania	(1899) (1904) (1905) (1906)	4
Jefferson Med. Coll	(1901) (1905) (1906) (7, 1907)	10
Western Pennsylvania Med. Coll	(1907)	5
Medico-Chirurgical Coll., Philadelphia	(2,1906); (1907)	3
University of Virginia	(1906) (1907)	2
University of Vermont	(1907)	1
University of Bukharest, Roumania	(1906)	1
University of Rome, Italy	(1899)	1
University of Vienna, Austria	(1906)	1
University of Switzerland	(1903)	1
FAILED.		
Howard University, Washington	(1907)	1
Illinois Med. Coll	(1901)	1
National Med. University	(1907)	1
Louisville Med. Coll	(1907)	1
Kentucky School of Med	(1907)	1
Maryland Med. Coll	(1906)* (3, 1907)*	4
Baltimore University	(1898)	1
College of P. and S., Baltimore	(1907)	1
Baltimore Med. Coll	(1907)	3*
Detroit Coll. of Med	(1906)	1*
St. Louis Coll. of P. and S	(1905)	1*
Medico-Chirurgical Coll., Philadelphia	(1905) (1907)	2
Western Penna. Med. Coll	(1906);* (1907); (3, 1907)*	5
Jefferson Med. Coll	(1906)* (1907)	2
University of the South	(1904)	1*
University of Vienna, Austria	(1903)	1
University of Naples	(1906)	1*
University of Rome, Italy	(1905)	1

At the examination held by the Homeopathic Medical Society at Philadelphia, December 3-6, the total number of candidates examined was 6, of whom 5 passed and 1 failed. The following colleges were represented:

College.	Year. Grad.	Total No. Examined.
PASSED.		
Atlantic Med. Coll., Baltimore	(1907)	1
Cleveland Univ. of Med. and Surg	(1897)	1
Hahnemann Med. Coll., Philadelphia	(2, 1906) (1907)	3
FAILED.		
Hahnemann Med. Coll., Philadelphia	(1907)	1*

At the examination held by the Eclectic Medical Society at Philadelphia, December 3-6, the total number of candidates examined was 6, of whom 5 passed and 1 failed. The following colleges were represented:

College.	Year. Grad.	Total No. Examined.
PASSED.		
American Coll. of Med. and Surg	(1907)	1
Louisville Med. Coll	(1907)	2
College of P. and S., Baltimore	(1904)	1
Maryland Med. Coll	(1907)	1
FAILED.		
Eclectic Med. Inst., Cincinnati	(1905)	1

* Second examination during 1907.

Another College Not Recognized.—We learn from Dr. W. T. Gott, secretary of the Indiana State Board of Medical Examiners, that recognition has been withdrawn from the Eclectic Medical College of Indiana, located at Indianapolis. Any students graduated there after 1908 will not be permitted to take the Indiana examination for license to practice.

A Stronger Medical Department at Tulane.—The Medical Department of Tulane University now has nearly a million dollars of endowment besides buildings and grounds valued at another half-million. New buildings for the work of freshman and sophomore years are being erected on the university campus and the university is endeavoring to secure additional professors of high-class ability, to devote their entire time to teaching and research. The last two—the clinical years—will continue to be given at the old site in connection with the Charity Hospital with its 900 beds, which receives $150,000 a year from the state of Louisiana.

Beginning with the present year, the requirement for admission to the medical school is a four-year high school course or its equivalent. This requirement, in 1910, will be further increased to include an additional year in the university in physics, chemistry, biology and languages.

The great advance at Tulane is most encouraging since it shows that in the movement to elevate the standards of medical education the South will do its full part.

Miscellany

A German's Impressions of American Medical Colleges.

The European travelers who, after a brief visit to America, have published their impressions of our country, have been sufficiently numerous. They have usually found much to blame and little to praise in American life. It is gratifying, therefore, to read so just and so kindly an account of American conditions and especially of our medical institutions as that given by Friedrich Müller in an address to the medical association at Munich (*Münch. med. Wochschr.*, Nov. 26, and Dec. 3, 1907). He remarks that the traveler naturally expects to find many things altogether different on the other side of the ocean, and this expectation is fulfilled in many respects, but careful observation soon shows how closely related the two countries are in many respects. Especially is this so in regard to medicine. Müller says:

"The medical science of America is most closely related to that of Germany. We find there the same views, the same problems and the same sort of investigation and, if we except the language, a great part of American medical literature might have been written in Germany. While French literature in many departments of medicine, e. g., in the pathology of metabolism, is difficult for us to understand because it proceeds from quite different conceptions, American literature is closely bound up with the German and in spite of the difficulty which the German language presents to foreigners we find among American scholars and physicians an astonishing acquaintance with German medical literature. Without doubt American medicine stands in closer relation to German medicine than that of France or even of England.

"One may say that the American physician knows Germany and the German language better than the German physician knows America and the English language. Many German professors who have traveled in America in the last few years have lectured in the American universities in the German language and been understood by the students."

Müller then goes on to describe the universities and university life of this country. He notes that the universities are mostly institutions of general culture, founded as a rule by philanthropic individuals or benevolent corporations instead of by the state. This, he says, applies mostly to the eastern part of the country. The courses correspond to a large extent to German gymnasium instruction, but the students are allowed a freedom of choice of studies unknown in the German institutions. The money paid by the students goes largely to the payment of running expenses and the donations of the founders are expended in the erection of new buildings so that the professors receive but a meager compensation. He says:

"A change must be brought about in this respect or the attractivenes of the academic career for young men of ability, but slender means, and the social position of the university professor will suffer. Energetic and talented young men will prefer to devote themselves to other pursuits which afford them better prospects of success. The patrons of the universities should consider that for the prosperity of a college the professors are of more importance than the buildings." He also says: "Alcohol plays no part in the life of the American university. In the dining halls only water and tea are served. It must further be emphasized that among the student body stricter views in regard to morals are prevalent than at many of our universities in the large cities, or even in those of France. Still, this is no peculiarity of the universities, but it is quite commonly recognized that especially in the life of the streets, on the billboards and exhibitions, as well as in the illustrated humorous papers, everything that may be regarded as obscene is avoided. This may be due in part to stricter police regulations, but in reality it is the public itself, and

specially the women, whose healthy sentiment and energetic
ction hinder the appearance of anything vulgar in word or
icture. With this are connected the facts that venereal dis-
ases play over there a smaller rôle than with us, that even in
arge hospitals there is no department for venereal patients,
nd that tabes is not so frequent as in Germany and France."

In describing medical instruction Müller takes his examples
rgely from schools of the highest grade and gives thereby a
icture that may be designated as somewhat overdrawn. He
nds, however, that in many respects the methods pursued in
merican medical schools are worthy of imitation. He notes
lso that on the average medical students in the United States
re older than in Germany. He discusses the division of
tudies in the various years of the medical course, and men-
ions specially the fact that instruction in physiology and
hysiologic chemistry is conducted in a manner somewhat
ifferent from that in Germany, referring especially to the
ethods pursued at Bellevue, New York, and at Yale. He
peaks highly of the instruction given in chemistry at some of
e Cleveland colleges. He commends the method of using
ogs and other small animals in teaching physiology, pathol-
gy, pharmacology, and even surgery, and states that in New
ork he looked over a notebook kept by a student which
owed how students are stimulated to thought and observa-
on by these experiments.

The conception of pathology in America, he declares, is quite
ifferent from that in Germany. At the German universi-
es pathologic anatomy and histology are chiefly taught in the
thologic institutes; in America greater importance is at-
ched to general pathology and especially experimental path-
ogy. The reason for this, he thinks, may be to a certain
tent the circumstance that in many states of the Union
rmission for making autopsy even in hospitals is obtained
ly with the greatest difficulty, and that correspondingly the
portunity for opening a dead body is relatively rare. He
entions especially the work done at the pathologic insti-
te in Baltimore under the direction of Dr. Welch, and de-
ribes some of the experiments. He also praises the experi-
ental surgery done by Cushing of Baltimore, and asks:
Vhy are we in Germany so afraid to apply experiment on
imals to the instruction of students? Is this fear indeed
ly a result of the anti-vivisectionist agitation, and shall we
frain longer from doing that which we think proper on ac-
unt of the exaggerated and often mendacious assertions of
ople who have no conception of the functions and needs of
dicine?

"Is it not inconsistent," he asks, " that many physicians set-
g themselves up as specialists in diseases of the heart or of
stomach and intestines have never seen a beating heart
watched the movements of the intestines under the influ-
ce of ordinary medicines? The anti-vivisectionists say that
imal experiments make the physician brutal; the opposite
correct, they secure understanding and deepen respect for
secret of life."

He answers the question decidedly in the affirmative and
tes that the student is assured of a better understanding
many pathologic processes by the practice of animal experi-
ntation.

Ie then goes on to say:

"Clinical instruction in America is chiefly conducted by
iding the students of a year into small groups which are
rusted to single instructors. To each student is assigned
tain patients which he has to investigate in all directions,
n carrying out the examination of the urine, blood and spu-
n. The students must keep thorough clinical histories and
y appear at the visit of the instructor with a bundle of
tory sheets under the arm. The control of these histories
the supervision of the students and of the department
uires naturally a large force of instructors, and these are,
eed, the younger teachers who correspond in some degree
our privat-docents. The younger teachers have besides to
two or three recitations a week in which the task is
osed on the students of preparing for each hour a selected
pter of some text-book employed in the school, so that they
y recite and be questioned on it at the next hour. The teacher can in this way judge of the diligence of the students; he learns whether the fundamental conceptions are well grounded and the student has the opportunity to ask questions and express his doubts.

"This system of drill and control of diligence is foreign to German universities. With us it is left completely to the student whether he will learn something or not, and the teachers in our great schools do not stand in close relations with their hearers. Many of us trouble ourselves very little about how much or how little the student understands of his lectures. Certainly our universities should remain advanced schools and should be arranged more particularly for the more capable and diligent students. It is not right to curtail the mental pabulum for the best because stupid and lazy men press into the universities. But it is not permissible, on the other hand, utterly to neglect the latter category of students, and there is exhibited a sort of intellectual haughtiness when the lectures are kept on so high a level that only the best gifted and most diligent students get any good from them. Could not much more be done by us to fill up the breaks in the student's knowledge and to establish the fundamental principles without which a further understanding of the lectures is impossible? Is there really among our students no need for such recitations and drill as are customary in the American medical schools? Surely there is and it is satisfied, but, mostly outside the walls of the universities. It is well known that in Munich as also in other universities such recitation courses are held to prepare for examination in many departments of medicine, particularly such as require great exercise of the memory. . . . Would it not be better to include these recitations in the university course and make them legitimate than to leave them wholly to drill masters who are not controllable since they hold their courses outside the university? While they may be good teachers they often make it more their aim to drill into their examination candidates the peculiarities of the examiners than to instil into them a real intimacy with the material of science. If recitations on the American plan are to be introduced among us, it must be understood that to correspond to the spirit of our universities they must not be obligatory. The students must be free to take part in them or not. Any compulsion would be injurious. Many of the younger instructors who must now content themselves with poorly attended lectures might find thereby a useful field of activity in which to develop their gift of teaching. To be sure, this arrangement, as we have seen it in American schools, has a certain dark side, since the younger instructors particularly the older assistants and the younger professors, are so much occupied by the courses and practical exercises that there remains less time for their own scientific work than is the rule at our universities."

The thorough instruction of American students in text-book and recitation drill results also in a better preparation for the strictly clinical work. Müller says: "I was often astonished to see how well the American student was able to give an account of the patient assigned to him. At a clinical lecture by Professor Barker in Baltimore, at which I was present, a patient was presented who had entered the hospital the day before and had been assigned to a student. Professor Barker asked the student immediately for the diagnosis and the student replied that the case was one of Adams-Stokes disease and sustained his diagnosis in a completely satisfactory way. He knew that the symptom picture depended on a disturbance of the conducting bundle; he knew the animal experiments belonging to it; he had studied the curves which had been taken by the assistant physician on the same day from the cardiac impulse, the carotid and the jugular, and on the question of Professor Barker as to whether he had re-read the literature of this disease, he admitted that in consequence of lack of time, this had been possible for him only to a slight extent. It is evident that after this introduction the lecture could proceed on a quite different scale from that which would be possible in many German clinics." Müller found that his audience heard with understanding a lecture full of chemical details which would have speedily led to a marked diminution of the numbers of a German audience.

The architectural magnificence of some American medical schools and the munificence with which some of their departments are equipped are also described. The custom of employing skilled preparers of specimens, which economizes the time of the head of the department, is especially commended. The inconvenience of having much of the clinical instruction done at a long distance from the school is noticed and the example of Johns Hopkins with its own hospital and dispensary is commended.

The typical American hospital is described and the condition of the patients contrasted with that of Germany, which provides fully for its working classes through its insurance law, but makes rather inadequate provision for those who are able to pay moderate hospital fees. The plan of medical attendance is discussed and its advantages and disadvantages clearly pointed out. The training schools for nurses are noticed and the statement made that on the whole nurses in America receive a better training than in Germany. The work of the pathologic institutes of the hospitals and of the independent medical institutes is appreciatingly described.

The position of the American physician is rated as about the same as in Germany. Overproduction has led, in Müller's opinion, to a reduction in the income of physicians, which is often smaller than in Germany, although the cost of living is higher. Müller does not encourage dissatisfied or ambitious German physicians in the idea that they will find an easy road to a lucrative practice in America, since the public demand for educated physicians has produced a generation of American physicians as well educated as the German, against whom they are fully able to hold their own. The custom of country physicians of seeking postgraduate instruction in the cities and the postgraduate schools which have sprung up to meet this need are noticed, as also the employment of assistants by physicians in large cities; and the systemizing of records by card indices and other devices is described.

Our former visitor concludes: "Every American is possessed of the proud consciousness of belonging to a great nation which is called to a high destiny and which will some time cast all the other nations in the shade by its mighty development. This youthful enthusiasm, this joyful energy is indeed a powerful lever of progress. That slowness which many of our newspapers assert rules in Germany would be sought in vain in America. But these journals do us wrong when they speak of pessimism. The regard and the sincere friendship which the educated American feels toward the German people and especially toward German science, rests rather on the fact that he also esteems us a nation devoted to progress which is not willing to rest contentedly on what it has already accomplished.

"Travel begets modesty. It is well to convince oneself that in foreign lands and on the other side of the ocean men dwell who order their affairs as well and in some respects better than we. Self-contentment and overestimation of oneself flourish nowhere better than in the narrow circle of one's home."

Marriages

George Raymond Pray, M.D., to Miss Zoe King Porter, both of Jackson, Mich., February 1.

Caleb W. G. Rohrer, M.D., to Miss Emma Marie Albrecht, both of Baltimore, January 29.

Clyde R. McKinniss, M.D., Norristown, Pa., to Miss Virdie L. Eyman of Columbus, Ohio, January 25.

Ernest Linwood Cheney, M.D., Duluth, Minn., to Miss Grace Lillian Hinckley of Chicago, February 5.

Louis Wardlow Miles, Ph.D., M.D., to Miss Katherine Wistar Stockton, both of Princeton, N. J., January 25.

W. Edgar Cunningham, M.D., Richmond, Cal., to Miss Edith Cecilia Treanor of San José, Cal., January 24.

Frank Parkinson Auld, M.D., Shelbyville, Ill., to Miss Catherine Agness Price of Maplehurst, near Shelbyville, Ill., January 1.

Deaths

Andrew Boelus Brumbaugh, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1866; of Huntingdon, Pa.; a member of the American Medical Association; one of the founders of and lecturer on hygiene in Juniata College, Huntingdon; surgeon of the Pennsylvania and Huntingdon & Broad Top railroads; medical inspector for the Department of Health of Pennsylvania; a member of the American Association of Railway Surgeons, the pension examining board and the local board of health of Huntingdon; physician at the Orphans' Home for 27 years; a member of the State Editors' Association; was seized with appendicitis January 22, was operated on at the hospital of Dr. Price, in Philadelphia, two days later, and died from peritonitis January 27, aged 71.

William Randolph Steinmetz, M.D. Georgetown University School of Medicine, Washington, D. C., 1865; University of Pennsylvania, Department of Medicine, Philadelphia, 1868; who served as a private, general service, and hospital steward throughout the Civil War; was commissioned lieutenant and assistant surgeon in the Army in 1868; was promoted to captain in 1871; was retired on account of disability from injury in the line of duty in 1891; and made major and surgeon (retired) in 1904; died at his home in Baltimore, January 26, from disease of the stomach, after an illness of more than a year, aged 72.

Joseph Thomas, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1856; a member of the Medical Society of the State of Pennsylvania and Bucks County Medical Society; surgeon of the One Hundred and Eighteenth Pennsylvania Volunteer Infantry during the Civil War; president of the First National Bank of Quakertown; a member of the board of trustees of the State Hospital for the Insane, Norristown since 1889, and its president since 1899; once state senator; died at his home in Quakertown, January 28, from kidney disease, after an illness of two weeks, aged 77.

Andrew W. Riley, M.D. New York University Medical College, New York City, 1880; a member of the American Medical Association; one of the founders of the Omaha Medical Society; a prominent practitioner of Omaha; chief of staff of St. Joseph's Hospital, and lecturer on the practice of medicine in the John A. Creighton Medical College, Omaha; died at his home, January 21, from septicemia following erysipelas, contracted in line of duty, after an illness of one week, aged 49.

John Anderson Reed, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1866; a member of the American Medical Association; for more than 20 years a practitioner of Maysville Ky.; president of a bank in that city; chairman of the Mason County board of control of the Society of Equity; prominent as a physician and business man; died at the hospital of the University of Pennsylvania, Philadelphia, January 25, after an illness of two years, aged 64.

Leonidas H. Laidley, M.D. Jefferson Medical College, Philadelphia, 1868; Bellevue Hospital Medical College, New York City, 1872; a member of the Missouri State Medical Association and St. Louis Medical Society of Missouri; professor of gynecology and pelvic surgery in the Marion-Sims-Beaumont College of Medicine, St. Louis, and medical director of the Louisiana Purchase Exposition; died suddenly in St. Louis, February 5, from cerebral hemorrhage, aged 64.

David S. Hoffmann, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1874; a member of the American Medical Association; local surgeon at Lake City, Colo., of the Denver & Rio Grande Railroad; surgeon to the Lake City Hospital; register of the United States land office, and a member of the legislature in 1883; died in California, from disease of the stomach, January 29, aged 56.

Samuel F. Wentworth, M.D. Dartmouth Medical School, Hanover, N. H., 1862; one of the founders of the University of Minnesota, College of Medicine and Surgery, Minneapolis, and professor of dermatology at that institution; for several years surgeon of the Minneapolis & St. Louis Railroad; died at his home in Minneapolis, January 29, from bronchial pneumonia, aged 71.

John J. Green, M.D. Western Reserve University Medical College, Cleveland, 1870; a member of the Medical Society of the State of Pennsylvania and Allegheny County Medical Society; a veteran of the Civil War; who was struck by a street car January 24, breaking one rib and sustaining internal injuries; died at his home in East End, Pittsburg, January 27, aged 62.

Edward L. Elrod, M.D. University of Louisville (Ky.) Medical Department, 1888; a member of the American Medical ociation, and for nearly 20 years a practitioner of Henry- Ind.; died January 28 in Jeffersonville, Ind., from pneu- ia, following influenza, after an illness of two weeks, l 45.

obert H. McMullen, M.D. University of Nashville (Tenn.) ical Department, 1852; a surgeon in the Confederate serv- during the Civil War; and for many years a practitioner of tsville, Ala.; died at his home in Rockport, Texas, Oct. 23, 7. from senile debility, after an illness of two months, l 78.

uncan M. Brown, M.D. Medical College of Virginia, Rich- d, 1884; a member of the Petersburg Medical Faculty, and many years superintendent of public schools of Petersburg, ; died at his home in that city, January 27, from laryngeal rculosis, after a long illness, aged 51.

ames Daugherty, M.D. University of Arkansas, Medical De- ment, Little Rock, 1897; a member of the State Medical ociation of Texas and Caldwell County Medical Society; at his home in Fentress, Texas, January 23, from cerebral orrhage, after a short illness, aged 38.

hn Milton Walls, M.D. College of Physicians and Surgeons, timore, 1896; a member of the State Medical Association of as and Morris County Medical Society; died at his home Naples, Texas, January 25, from tuberculosis, after an ill- of three months, aged 32.

ouglass Scovil Flewelling, M.D. New York University Med- College, New York City, 1892; a member of the American lical Association, and medical inspector in the Somerville ss.) public schools; died at his home January 31 from eral breakdown aged 46.

alisbury Eugene O'Neill, M.D. Bellevue Hospital Medical ege, New York City, 1873; a member of the Iowa State and pello County medical societies and coroner of Wapello nty; died suddenly in his apartments, in Ottumwa, Janu- 30, aged 71.

rank P. Leckner, M.D. Michigan College of Medicine and gery, Detroit, 1893; a member of the Michigan State and yne County medical societies; died at his home in Detroit, uary 30, from neurasthenia, after an illness of sixteen ths, aged 49.

ashington West, M.D. Washington University, Medical De- ment, St. Louis, 1868; acting assistant surgeon, U. S. y, from 1868 to 1870; was found dead in his buggy, in t of his home in Belleville Ill. from heart disease, Janu- 29, aged 59.

eth W. Fuller, M.D. Starling Medical College, Columbus, 5; a member of the Ohio State Medical Association and an County Medical Society; for 66 years a practitioner of efontaine, Ohio; died at his home in that city, January 30, l 94.

homas P. Marston, M.D. Medical College of Virginia, Rich- d, 1852; for several years assistant physician at the East- State Hospital, Williamsburg, Va.; died at his home near tfoot, Va., January 26, after an illness of several weeks, l 73.

hn Clark Johnston, M.D. Jefferson Medical College, Philadel- , 1875; for 30 years a practitioner of Butte, Mont., and a ber of the staff of St. James Hospital, died at that insti- on, January 29, from diabetes, after a prolonged illness, l 58.

illiam R. McCreight, M.D. Medical Department of the Tu- University of Louisiana, New Orleans, 1858; a member of Louisiana State and Morehouse Parish medical societies; sh coroner for 25 years; died at his home in Bastrop, Janu- 25.

iram G. Wyckoff, M.D. Rush Medical College, Chicago, 1868; teran of the Civil War, and for many years a practitioner alifornia; died at his home in Palo Alto, January 28, from bral hemorrhage, after an illness of three days, aged 68.

ter D. Moore (Years of Practice, W. Va.), 1882; a member he West Virginia State Medical Association and Wood nty Medical Society; died at his home in Parkersburg, ary 27, from nephritis, after a long illness, aged 67.

obert Wesley Southard, M.D. Hahnemann Medical College Hospital of Chicago, 1878; of Perry, Okla.; died at the e of his daughter in Kansas City, Mo., Nov. 15, 1907, from nia, after an illness of three years, aged 70.

elson Buell Kizer, M.D. New York University Medical Col- , New York City, 1871; a veteran of the Civil War; died is home in Brooklyn, January 27, from the effects of an dose of opium, aged 63.

Charles Sample Peeke, M.D. College of Physicians and Surgeons in the City of New York, 1890; died suddenly from heart disease, at his home in Rotterdam Junction, N. Y., January 27, from heart disease, aged 43.

Herbert N. Tanner, M.D. Albany (N. Y.) Medical College, 1895; of East Aurora, N. Y.; who had been ill since April last; died at the Buffalo General Hospital, January 25, after a surgical operation, aged 38.

Charles Ross Burner, M.D. Medical College of Indiana, Indianapolis, 1904; of South Bend, Ind.; died at the home of his father, near Rollison, Ill., January 25, after an illness of nearly three years, aged 30.

John Gretts McKenney, M.D. Atlanta (Ga.) Medical College, 1873; of Pine Bluff, Ark.; died at the home of his daughter in that city, Dec. 8, 1907, from erysipelas, after an illness of two weeks, aged 57.

Cyrus Theodore Kimmel, M.D. Washington University, Medical Department, St. Louis, 1860; died at his home in Kansas City, Mo., February 1, from senile debility, after an invalidism of a year, aged 75.

Henry Going M.D., M.R.C.S. Dublin, Ireland, 1842; for more than 60 years a practitioner of London, Ont., but more recently of Detroit, Mich., died January 27, at his old home in London, aged 92.

John Alexander Elliott, M.D. Eclectic Medical College of the City of New York, 1874; died at his home in Northumberland, Pa., from paralysis, January 28, after an illness of two months, aged 65.

F. F. McClure (Years of Practice, Ky.), 1894; for more than 40 years a practitioner of Symsonia, Ky.; died at his home, January 25, from pneumonia, after an illness of one week, aged 70.

William E. Sprague, M.D. Trinity Medical College, Toronto, Ont., 1884; of Belleville, Ont.; died suddenly from cerebral hemorrhage in the city clerk's office in that city, January 25, aged 62.

William Stratford, M.D. New York University Medical College, New York City, 1870; a member of the New York Academy of Medicine; died at his home in New York City, January 24.

William Franklin Hill, M.D. Northwestern University Medical School, Chicago, 1900; died at his home in Chelsea, Iowa, Dec. 8, 1907, from pneumonia, after a short illness, aged 47.

Arthur E. Springsted, M.D. Cleveland (Ohio) University of Medicine and Surgery, 1884; died from pneumonia at his home in Bluffton, Ind., January 27, after an illness of one week.

Charles C. Ogg, M.D. University College of Medicine, Richmond, Va., 1907; died at his home in Hillsboro, Va., from typhoid fever, January 23, after a short illness, aged 35.

Edward Jenner Kinloch, M.D. Medical College of the State of South Carolina, Charleston, 1892; died at his home in Summerville, S. C., after a long illness, January 31, aged 39.

Claude A. Morrison, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1902; of Burlington, N. J.; died at Fort Worth, Texas, January 26, from tuberculosis, aged 30.

Harry Z. O'Brien, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1903; resident physician at the Whitehaven Sanatorium, died Dec. 6, 1907, aged 29.

William Caspari, M.D. Kentucky School of Medicine, Louisville, 1859; died at his home in Mitchellsburg, Ky., January 23, from pneumonia, after a short illness, aged 80.

Frederick Whitcomb Currier, M.D. Beaumont Hospital Medical College, St. Louis, 1894; died at his home in Springfield, Ill., Dec. 2, 1907, from pneumonia, aged 39.

Charles A. Wilson, M.D. Cleveland University of Medicine and Surgery, 1883; died at his home in San Antonio, Texas, January 28, after a lingering illness, aged 49.

L. Brown Means, M.D. Jefferson Medical College, Philadelphia, 1883; of Wexford, Pa.; died suddenly at the home of his brother in Sewickley, Pa., January 29.

Octavius H. E. Clark, M.D. Magill University Medical Faculty, Montreal, 1870; formerly of Chicago; is said to have died recently at Los Angeles, Cal., aged 61.

Henry David Fanning, M.D. University of California, Medical Department, San Francisco, 1902; of San Francisco; died in Tucson, Ariz., January 28, aged 29.

Frank Heyden Moss, M.D. Toronto (Ont.) Medical Faculty, 1892; of Palo Alto, Cal., was found dead on the railroad track near Morgan Hill, Cal., February 5.

Charles Crawford Hindman, M.D. Jefferson Medical College, Philadelphia, 1876; died at his home in Dubois, Pa., January 24, from influenza, aged 54.

Robert D'Unger, M.D. Eclectic Medical College of Philadelphia, 1859; died at his home in Chicago, January 30, aged 83.

Deaths Abroad.

H. Snellen, M.D., formerly professor of ophthalmology and director of the eye clinic at Utrecht; one of the leading ophthalmologists of his day; died January 18, aged 73. His test-types and other devices for testing vision are in almost universal use, and numerous operations for ectropion, tenotomy, etc., were invented or perfected by him. It was in his honor that the International Congress of Ophthalmology in 1899 was held at Utrecht. Nine years ago he resigned his chair and directorship in favor of his son, H. Snellen, Jr.

Sir Thomas McCall Anderson, M.D. Glasgow (honor), 1858; regius professor of medicine in the University of Glasgow; formerly lecturer on the practice of medicine in Anderson's College, Glasgow; professor of clinical medicine in Glasgow University from 1874 to 1900, then professor of the practice of medicine; physician to the Glasgow West Infirmary; formerly dean of the medical faculty of the University of Glasgow, and some-time president of that university; died suddenly from heart disease, January 25, aged 72.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

THE PROFIT-SHARING PLAN.

How Some Unthinking Physicians Are Suborned to Push Nostrums.

In the development of the nostrum business, all kinds of advertising devices and methods of attracting the patronage of physicians have been utilized by enterprising, though often somewhat impertinent, advertising managers. Souvenirs, useful and decorative articles of all sorts, blotters *ad lib.*, calendars *ad nauseam*, have all been employed in turn. The facsimile letter, the follow-up system, the personal call of the friendly and learned detail man, even the establishment, publication and distribution of "medical journals" which possess no paid subscription list—all these have been employed, and as fast as a new advertising scheme has been developed it has found a host of imitators.

It has remained for recent years, however, to develop the choicest advertising scheme of the entire nostrum business, namely, the "profit-sharing" plan, by which "stock" is sold to physicians or is handed out to them as a reward for prescribing the wares of the company. In some cases the "stock" has been sold under the plea of "professional cooperation" or "giving the doctor the profit instead of the druggist," etc. This plan, beside holding out the always alluring prospect of "dividends" and "profits on investments," possesses a practical advantage, from the manufacturer's standpoint in that each physician who invests is converted into a drummer for the house.

These reflections are suggested by the following notice which is appearing in the "Roster of the Philadelphia County Medical Society":

SHARE-HOLDING IN NOSTRUM COMPANIES BY PHYSICIANS TO STOP.

"Section 1 of Article 1 of the by-laws of the Philadelphia County Medical Society provides that any physician who shall procure a patent for a remedy or who shall give a certificate in favor of a patented or proprietary remedy or patent instrument, or who shall enter into an agreement with an apothecary to receive pecuniary compensation on patronage for sending his prescriptions to that apothecary, shall be disqualified for becoming or remaining a member.

"The holding of shares of stock in a company, to make or deal in patent or secret remedies, is, therefore, incompatible with membership in the Philadelphia County Medical Society. This notice shall be printed in three successive issues of the weekly roster.

"The foregoing action, adopted at the annual meeting on January 15, means expulsion of offenders from the county society, the state society and the American Medical Associati after expiration of the three notices mentioned."

THE GIRARD COMPANY.

One of the most brilliant examples of this method of doi business is that of the Girard Chemical Company, firm located in Philadelphia. This company sent physicians a pamphlet called "The Physician's Record." Tl pamphlet contained a liberal supply of blanks, each co taining the names of the preparations of the company, with space opposite each name for each day of the month. T physician is supposed each day to record on this blank t nostrums he prescribes, and to return it monthly to the off of the company. He is then credited with 25 per cent. of t wholesale price of the remedies prescribed, redeemable in t stock of the company. The circular says: "The plan is equitable one. The stock allotted will be in proportion to t interest [in the company, of course] manifested by each in vidual physician." Translated into ordinary English, tl means that the amount of stock which the physician gets is e actly in proportion to the extent to which he is willing cretly to use his patients for his own profit.

A charming variation introduced by this company is a post card on which is printed a glowing endorsement of the nc trums manufactured by the company. Under the endorseme is the following: "You may send me a full trial box and sai ples without cost to me," with a space for the signature of t physician to whom the card is sent. Of course, the doctor, order to get a free sample, has to sign an endorsement a recommendation of preparations which he has probably nev seen, but such a trifle is hardly worth mentioning. The use which the endorsement will be put later can be imagined.

Among the preparations manufactured by this company a listed in their literature are the following:

Nuxpeptyn.
Nuxpeptyn Aurin.
Nuclo Ferri-Mangan.
Cuca Vin.
Algicide.
Girard Uterine Tonic.
Col-Bry-Lith.
Girard Laxative Pills.
Creta-Methyl.
Lignol.
Lignol Capsules.
Lignol Ointment.
Lignol Suppositories.
Lignol Soap.

The physician who accepts this kind offer to act as a drui mer for soap at so much a cake, and whose commission depen on the amount of soap he is able to induce his confiding p tients to purchase, takes his profit out in the form of sto of the company that makes the soap. That is, he does if can sell enough soap to secure a stock certificate. Physicia also advise their patients to eat certain kinds of food ard wear certain articles of clothing, but we have yet to learn a grocery store offering a physician a commission on the gr cery bills of the various families, or of a clothing store offeri a physician an interest in the business if he will recomme a certain kind of wearing apparel. This teaches us that dr firms are much more enterprising than grocers or clothiers.

The following letter from this company to its "stockholder is certainly calculated to cause the heart of a physician swell with pride, that such a communication should be a dressed to any member of our profession by a nostrum man facturer. Notice the way in which the Girard Company crac the whip over the heads of the physicians who have accept this offer of stock. Also notice the veiled threat in the four paragraph, which is held over the heads of the luckless "su scribers" who are not working with sufficient enthusiasm " further the interests of the company."

Dear Doctor and Stockholder:—Enclosed herewith we hand y statement of your special certificate which is being paid for dividend credits.

We think by this time you are thoroughly familiar with t products manufactured by our house and know their efficacy. are simply going to put one question to you: Can you say co scientiously that during the past six months you have earned the company that which the company is crediting you with dividends? If not, we can only say that we know of no bett time for you to start than the present.

Certainly it is not fair on your part if you are not using t preparations to stand by silently and permit the company to cre your account with dividends earned by the efforts of other sto holders.

We do know that some physicians who hold these certificates a not doing what they can to further the interests of the compa and we shall before long inaugurate a system and put it into op ation which will enable us to ascertain to a very great exte hich of our stockholders are working in cooperation with us and hich are not.

We enclose herewith literature bearing on Creta-Methyl and a port of the use of Col-Bry-Lith in conjunction therewith.

Yours truly, THE GIRARD COMPANY.

THE HUFF SYSTEM.

One of the worst features of such methods is that the little h are led to envy and emulate the big fish. An illustration as recently occurred. An individual who advertises himself s the "sole owner" of the "Huff System" recently sent a cir- ılar letter to a number of physicians, offering them an oppor- inity to participate in what the promoter enthusiastically aracterized as "the greatest money-maker for all concerned at was ever launched." How characteristic is the literary yle of the nostrum promoter! The writer says further:

"I am in possession of two most valuable formulas which lone are not only the best in their class, but also profitable say the least, hence to combine all under one head it is ıffice to say would make a business to be envied by all."

Doubtless the precision of the gentleman's financial ideas is a a par with the clarity of his diction. The next paragraph worthy of the ideal "patent medicine" promoter:

"My Diphtheria and Croup Remedy has been tested for the ast twenty years, and has never been known to fail in effect- ıg a cure, and for all throat troubles I do not believe their a remedy made that will equal it, besides it shows a profit almost 200 %."

This is certainly an interesting scientific announcement. hat the owner is not lacking in some of the necessary quali- cations for a career in high finance is shown by the following:

"If we get one-fourth of the physicians in the United States buy a single share and each and every one to prescribe or commend Huff's Beef, Iron and Wine, Huff's Diphtheria and roup Remedy, it will not only mean the greatest working rce on earth, but also the greatest profit bearer that ever isted."

Evidently the day of diphtheria antitoxin therapy is past; uff's Diphtheria and Croup Remedy will doubtless inherit e earth.

And it is to promote the use of such stuff as this that phy- cians are asked to invest. It may be that there are physi- ans who will invest in such enterprises. Ages ago the trust- g and simple-minded farmer allowed the wily confidence man sell him beautiful gold bricks. Owing to increasing enlight- ment in the rural districts, however, this species has become arly as rare as the dodo.

Action Against Osteopathic Amendment.

The Medical Society of the County of New York, at a meet- g held January 31, adopted resolutions against the adop- on of the Assembly Bill 268, an act amending the medical w of the state. At its last session, the state legislature acted a law placing a uniform requirement on all who de- ed to practice medicine in the state. The law provided at all osteopaths practicing at the time of the passage of e law, who were qualified according to osteopathic standards, ould be exempt from the requirements of the law. The endment now proposed extends this exemption to all other steopathic physicians" regardless of their qualifications. If is amendment were adopted, it would confer on a large num- r of individuals all the rights and privileges of licensed prac- ioners simply because they happen to reside in the state New York and have been "practicing" osteopathy at the ne of the passage of the bill. The county society also holds at such action is an unjust discrimination against gradu- es of medical colleges who were required to pass the re- nts' examination before receiving a license to practice. It evident that the amendment is class legislation, since it eks to confer a special privilege on a certain class, which ivilege is denied to others.

Tuberculosis Sanatoriums Established in Illinois.

The Illinois legislature has adopted the bill proposed by nator Glackin of Cook County, enabling cities and villages establish and maintain public tuberculosis sanatoriums. is bill passed the senate on January 1 and the house on nuary 28. It provides that when one hundred legal voters of any city or village shall present a petition to the city council or the board of trustees, asking for a tax levy for the establishment and maintenance of a public tuberculosis sanatorium, the question shall be submitted to the voters at the next regular annual election and, if the voters approve of the plan, the city council shall establish and maintain a public tuberculosis sanatorium under the direction of a board of three directors, one of whom shall be from the local board of health, and the other two appointed from the citizens at large. The sanatoriums established under this act are to be free and for the benefit of the inhabitants of the city or village establishing the institution. All reputable physicians are to have equal privileges in treating patients.

Medical Defense in Wisconsin.

The council of the State Medical Society of Wisconsin considered the question of medical defense at its annual meeting on January 2. The committee appointed to prepare a plan of operation presented its report, showing that forty county societies had acted on the question which was submitted to them, thirty-five voting in favor of the plan and five against it. The council unanimously adopted the recommendations of the committee, which provide that on and after Jan. 1, 1908, it shall be the duty of the executive committee to investigate all claims of malpractice against members, and if, in its judgment, the case is one which should be defended, to forward all papers connected with the case to the attorney of the society. Judgments, claims or statements against any member are not included in the plan. Each member of the state society is to be assessed $1 a year for this purpose. Only resident members in good standing whose dues for the year are paid in advance are to be entitled to this protection. The success of this method and the general satisfaction of the members with it in New York, Pennsylvania, Illinois and other states is sufficient assurance that the State Medical Society of Wisconsin will find this to be one of the most effective methods of building up and maintaining an efficient organization, as well as of securing the active cooperation and loyalty of the members, that could be devised. Not only does this coöperative plan give the individual physician what he sorely needs, namely, competent, disinterested advice and guidance in time of trouble, but it has also been found without exception that the adoption of this plan by medical societies has resulted in a marked diminution of unnecessary and unjustifiable lawsuits and of the practical elimination of the shyster lawyer from this line of business. It is inevitable that in Wisconsin, as in every other state in which a new plan has been introduced, there will be some opposition until the matter is understood and until the benefits are clearly seen. Having once been demonstrated, there is no doubt that this additional membership privilege will soon be highly prized by all members.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month.

FOURTH WEEKLY MEETING.

Fractures.

Varieties.

(a) Describe stellate, comminuted, multiple, punctured, gunshot, transverse and oblique fractures.

(b) Complete, incomplete, greenstick, depressed, fissured fracture.

(c) As to displacement of fragments, depressed, with overriding, transverse, rotary, angular and longitudinal displacement. Impacted fracture.

(d) Simple, compound and complicated fracture.

(e) Differentiate traumatic and pathologic fractures.

Etiology: Predisposing and exciting causes. Mechanism of each.

Symptoms: Immediate symptoms, local and general. Mediate symptoms, local and general.
Diagnosis: Diagnose a fracture, describing methods of examination.
Treatment: Principles in treatment.

Society Proceedings

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and Second Annual Meeting, held at Albany, Jan. 27-30, 1908.

(*Continued from page 477.*)

The Consequences of the Pathologic Changes in Appendiceal Peritonitis.

Dr. E. M. Stanton, Schenectady, read this paper. His statements were based on a study of the condition of the peritoneum as observed at operation in 162 cases of acute and 331 interval and chronic cases of appendicitis operated on at St. Mary's Hospital, and on Dr. A. J. Ochsner's service at the Augustana Hospital, Chicago, together with 40 cases of appendicitis operated on at Ellis Hospital, Schenectady. As a control series he made use of previously reported studies of the operative findings in 485 cases operated on at the Albany Hospital during the six years previous to 1905, making in all 1,018 cases studied relative to the pathologic course of the intraperitoneal changes in this disease. Tracing the sequence of changes from a purely pathologic standpoint, they found three stages of the disease corresponding in clinical experience to periods showing wide differences in operative mortality. In conclusion he emphasized that fact that the distribution of an intraperitoneal infection is in most part dependent on purely mechanical factors and that in the absence of peristalsis such as is produced by giving food or cathartics by the mouth, the tendency of a localized peritonitis even of appendiceal origin to spread beyond its original boundaries was very slight indeed; while when a condition of peritoneal rest was once obtained, the vast majority of the cases of extensive and severe peritonitis showed a rapid localization of the inflammatory process which either subsided entirely or ends in the formation of a localized abscess.

DISCUSSION.

Dr. A. J. Ochsner, Chicago, considered Dr. Stanton's paper so accurate and complete that it would stand as a basis for professional opinion on the pathology of acute appendicitis. Some eight years ago he said he had brought out the proposition that the distribution of the infection and consequent mortality in acute appendicitis depends not so much on the disease itself as on the disturbance caused by the peristalsis of the small intestines. Where the infection had spread beyond the appendix itself it is possible to limit the distribution and cause it to be localized, provided the action of the intestine could be inhibited. He advised keeping the stomach absolutely empty. If regurgitation occurred from the intestines the stomach should be washed out. He found the number of exacerbations somewhat dependent on the number of examinations. The claim to superiority of this form of treatment in cases of acute perforating or gangrenous appendicitis has been conclusively demonstrated.

Dr. Willis G. MacDonald, Albany, did not agree with the opinions of the two who had just spoken.

Dr. John C. Munro, Boston, commended the paper and said it was placed on a solid and scientific basis. He had used the treatment advised by Dr. Ochsner.

Dr. Skinner believed in the non-operative treatment of appendicitis.

Dr. Lake, Towanda, recalled his experience of thirty years ago, when appendicitis was unknown and yet the mortality low.

Dr, L. Duncan Bulkley said that fifty years ago he had had an attack of what was then known as typhlitis, but which he now knew was appendicitis, and under opium treatment for six weeks the infection was localized and at last th abscess ruptured into the bladder.

Dr. Vander Veer, Albany, said that Dr. Alonzo Clark ha said practically the same thing as Dr. Ochsner on the ver same spot forty-two years ago.

Dr. Stranahan, Rome, had treated 120 cases, with no mor .tality, and had used Dr. Ochsner's treatment.

Tuberculosis in Children.

Dr. Charles G. Kerley, New York, said that the tw features regarding tuberculosis in children which impresse him most strongly are the marked resistance which childre show to tubercular infection, particularly after the fourt year, and the readily traceable source of the infection in man cases. His experience has shown that the intimate associatio of the child with a tuberculous adult is most frequently th source of infection. He related a number of instances i which the source of infection was difficult to find, but in whic it was finally traced to association with a tuberculous adult The recent experiments of Dr. Harlow Brooks with monkey in the New York Zoological Garden were related as demonstrating that infection occurs much more certainly where dus containing the dry secretions of previous tuberculous animals had been allowed to collect and remain in the cages? Excepting those animals which had been directly exposed to the dried or fresh secretions of the infected animals, not one case of tuberculosis has developed. All new animals are now quarantined until they are shown to be free from tuberculosis and the result has been to reduce the mortality among the primates from over 50 per cent to zero, so that as a mortality factor tuberculosis has ceased to exist in these zoological gardens. These experiments bear directly on tuberculosis in children because the type of disease seen in monkeys and even the organism present are apparently identical with the disease in children. It has been proven beyond a doubt that in these animals the mode of infection is through the respiratory tract. That this mode of infection is by far the most frequent is further shown by the location and character of the lesion as proven by autopsy records. In 34 out of 35 of his own autopsies, bronchial gland and lung involvement showed signs that they were the original site of infection, and according to Northrup the intestine is primarily involved in less than 2 per cent of the cases.

While infection from milk is possible, Dr. Kerley is of the opinion that it is certainly very infrequent. In his experience where intestinal lesions had been found they were in marked cases of generalized tuberculosis, and they were doubtless due to the swallowing of sputum from advanced pulmonary processes. He said that in Greenland and in Japan, where cows' milk is not fed to infants, tuberculosis is much more prevalent than in countries where cows' milk is fed to children. He made no objection to boiling all market milk, but wished to get at the exact truth and lay it before physicians, legislators and educators. He is confident that milk adds but little to the mortality from tuberculosis. The disease among cattle should be stamped out, but more stress should be laid on the danger from the inhalation of infected dust instead of putting too much on infection through milk. He recommended education of the public as to the nature of the disease, and legislation to force the infected to observe reasonable sanitary laws. He would have all physicians report all cases.

Can Tuberculosis be Eliminated from Cattle?

Prof. Veranus A. Moore, Ithaca, N. Y., said that New York had been unfortunate until very recently in that there was no law to prevent the entrance of infected cattle into the state, and in having, at times, in official capacity those who belittled the significance of bovine tuberculosis, thereby discouraging farmers from adopting the most approved methods of protecting their cattle. The demand for fresh milk has led farmers to sell their dry and buy fresh cows, thus tending to spread the disease. Tuberculosis in cattle as in man is a very insidious disease, its period of incubation being uncertain and its course either long or short. Its positive diagnosis in most living animals is impossible without the use of the tuberculin test. The methods for its elimination are based on the recognized principles of segregating the diseased individuals and rotecting the uninfected. Infected animals can be used in ree ways: Total destruction, excepting for fertilizing purses; slaughter for beef under proper inspection; and the paration of infected individuals that appear to be well, and eping them for breeding purposes. Tuberculin does not give reaction during the incubation period, in many if not all ses where the disease is arrested, and possibly when it is ry far advanced. This means that the records of infected rds do not point out all the animals that are infected. It not known how long the disease may lie dormant, but cases e known where lesions have sprung into activity after three d one-half years, and also where an apparently healed, calfied tubercle contained living virulent tubercle bacilli at the d of three years. It has also been shown that a considerable mber of animals that react to tuberculin do not respond subsequent tests. The bovine variety of tubercle bacillus is uch more virulent for most animals than is the human form. he perplexing problems met with in dealing with this queson are the getting of trained and competent men to use the berculin, the equitable and just disposal of infected animals, e teaching of owners of the disastrous effects of the disease the remainder of the herd. He suggested the following de: Protect the healthy herd by keeping all infected animals om entering them. Promptly eliminate all animals exhibing tuberculosis of the udders or evidence of generalized berculosis. As quickly as possible test all animals in suscious herds and segregate the reacting ones. Retest at freent intervals. Dispose of reacting animals as suggested ove. Never return to the sound herd animals that have acted to the tuberculin test, although they cease to react and pear perfectly well. Stop the practice of selling dry cows d buying fresh ones in order to maintain a milking herd. ttle should not be purchased for dairy purposes unless they ss the tuberculin test. All new animals should be watched d tested. The state should provide ample means to assist a systematic manner those who are willing to bear their are in eliminating this disease from their cattle.

DISCUSSION.

Dr. Delancey Rochester, Buffalo, asked whether any exriments had been made as to the possibility of the hay cillus, which resembles the bacillus of tuberculosis, being a urce of tuberculosis in cattle.

Dr. Totman, Syracuse, told of one of the herds supplying racuse, where, out of the total of 28 cows, 25 were found have tuberculosis. The farmer, after disposing of these, ught ten other cows and produced more milk than he had fore from the 28. He thought that if the farmer could be de to realize that it is a losing game to keep tuberculous ws, it would do much to secure his cooperation in dealing th the problem.

Dr. Hubert Schoonmaker, Clifton Springs, asked how often herd, say of 100 cattle, should be tested for tuberculosis in ler to be reasonably safe.

Dr. Fayette H. Peck, Utica, asked what disposition of the lk from segregated cows could be made. This was important ause, if, as had been stated, 40 per cent. of the cattle in the te had tuberculosis, if we did away with that percentage of tle we would be confronted with a milk famine. He did not gue for the use of infected milk, but only thought we should sider the serious economic question involved.

Dr. Moak was of the opinion that infection takes place quite quently through the intestinal tract, and related personal periences which seemed to confirm that belief.

Milk Production; Old and New.

Dr. L. Emmet Holt described the methods formerly in vogue New York City. At present the milk shipped to the city m long distances is of the best quality; often that produced r by is not sufficiently well iced, and therefore is more sustible to bacteria than that produced further away. The estion of getting pure milk into New York seemed to be ly a question of price. It was shown that at present it costs cents a quart to produce the purest milk. It is possible to ve a milk that is practically sterile, but whether that is irable is still an open question. Dr. Holt dwelt at length the necessity of keeping the cows perfectly groomed if we are to have clean milk. No doubt the decreased death rate of the city among children under 5 years of age is due to improved methods in producing and handling milk. He does not think it desirable to make pasteurization a requirement, for the reason that pasteurized milk would not sour and yet it might be very foul. It would afford dealers an opportunity to dispose of milk that otherwise would be unsalable.

(To be continued.)

Medicolegal

Stricture and "Local Disease."

The Supreme Court of Wisconsin says that in the case of Cady vs. Fidelity and Casualty Company counsel requested the trial court to instruct the jury that if Mr. Cady had an organic stricture at the time he took out the policy of insurance, or at any time during one year prior thereto, he had a local disease within the meaning of the policy. The court gave the instruction coupled with an explanation and instructions in the general charge to the effect that if Mr. Cady had an organic stricture it did not constitute a local disease within the meaning of the policy unless the affection was so far developed and had become so serious as to have some bearing on his general health.

The Supreme Court considers that the meaning of the term "local disease" as used in the policy was correctly given to the jury. The parties to the contract must have intended to use the term "local disease" so as not to bind the assured unreasonably. Absurd results are always regarded as not within the contemplation of parties to a contract at the time of reducing the same to writing where their words in any reasonable view will admit of a construction making the agreement reasonable. It is considered that an affection, even though curable only by medical or surgical treatment, but nevertheless readily remediable and so not necessarily tending to shorten life, before it has become so far developed as to have some bearing in præsenti (present time), on the general health, is not a disease as one would ordinarily understand that term, and that to go further and give such term, as urged, in the contract in question, its technical meaning would be going too far. Parties are supposed, generally speaking, in making their contracts to use words in their common, ordinary sense, and that assumption should prevail in the absence of some reasonably clear indication to the contrary. It is believed by the court that the conclusion reached is in harmony with the decided cases notwithstanding there has been no adjudication of the matter, so far as the court was advised on facts the same or very similar to those here involved.

Drunkenness and Insanity Induced by Intoxication as Defenses to Crime.

The Supreme Court of Appeals of West Virginia holds, in the case of State vs. Kidwell, that a person who, being sane and responsible for his acts, voluntarily becomes intoxicated, with or without a preconceived design to commit murder or other crime, and while intoxicated, though it be to such a degree as to render him wholly oblivious of his acts or conduct, commits a homicide, or does any other act which, if done by a person capable of distinguishing between right and wrong, is criminal, if not excused or justified in some way, is held responsible by the law for his act, notwithstanding his mental condition at the time.

Insanity, though superinduced by long continued indulgence in intemperance or intoxication and known as delirium tremens or *mania à potu*, renders the person so afflicted irresponsible for his acts, if it be of such character as to deprive him of his power to distinguish between right and wrong, whether he be under the influence of liquor at the time of the commission of the act or not; but, to do so, his affliction must be settled or fixed insanity, not a mere fit of drunkenness. A person not previously laboring under such disease or affliction, who voluntarily becomes intoxicated to such an extent and for such a period of time as to cause unconsciousness of his acts and affliction with delusions and hallucinations, is not irresponsible under the law for the acts done by him while in such mental condition.

The accused on the trial for an indictment for murder is not entitled to an instruction propounding the inquiry as to whether he was insane at the time of the killing, if the evidence adduced by him to sustain such defense lacks tendency to show mental unsoundness antedating the drunken spree, in the course of which the killing was done, and also to show that intoxication had ceased, and settled insanity ensued, as a result of habitual indulgence in intoxication.

City Upheld in Requiring Traveling Physicians to Pay Fifty Dollars a Year License Tax.

The Supreme Court of Iowa upholds, in the case of the City of Fairfield vs. Shallenberger, a city ordinance requiring traveling physicians engaging for pay or reward in that occupation or profession in the city to pay a license of $50 per year. Section 700 of the Iowa Code provides that cities and towns shall have power "to regulate, license and tax . . . itinerant doctors, itinerant physicians and surgeons," while Section 2581 thereof provides that the state board of medical examiners may issue to itinerant physicians a license to practice within the state. But the court does not think that Section 2581 repeals or limits the power of Section 700 by implication or by any express language used therein.

The power to license conferred on cities and towns by Section 700, the court says, is in reality a grant of power to enact police regulations for the general welfare of the particular community. And it is on this principle that physicians, other professional men, and skilled workmen generally may be required to procure a license which certifies to their fitness to pursue their respective callings in which professional skill is most necessary, and in which the ignorance of the practitioner is likely to be productive of harm to the public and to individuals having business relations with them. What the state may do in its sovereign capacity it may authorize its creatures to do, and the court thinks there can be no doubt of its power to delegate to municipal corporations the enactment of such local police regulations as shall be deemed reasonably necessary for the protection of the public in the particular localities. That the legislature may, in the exercise of its police power, regulate a state license for the practice of medicine, and at the same time authorize municipalities to require a license for the practice thereof within their boundaries, the court does not doubt. It would, in effect, be nothing more than the imposition of an increased charge for the privilege, and the court was cited to no authority which holds this to be beyond the power of the state. If the state may thus act, it follows that no inconsistency necessarily exists between the two acts under consideration. In one the power is given municipalities to license within their confines, and in the other a license for the whole state is issued, but by implication it is not effective where a local license is required until such license has been obtained. That a license may be required from the same person for the same business by the state and by its municipalities is a rule of general application.

The court does not consider that the ordinance violates Section 1 of the fourteenth amendment to the Constitution of the United States, which provides that "no state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, . . . nor deny to any person the equal protection of the laws."

Nor does the court think the ordinance open to the charge that it discriminates against a non-resident of the city or of the state. It requires a license only from traveling physicians, it is true, but it nowhere confines its operation to traveling physicians who are non-residents of the city of Fairfield. If a resident of said city was a traveling physician and sought to practice his profession therein, he would be as surely subject to the ordinance as was the defendant. The ordinance is of uniform operation because it embraces all of the class designated therein.

Neither was the license required unreasonable. Fifty dollars per year for the privilege of practicing medicine is not in and of itself unreasonable or exorbitant.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

February 1.

1 Classification of Cases of Appendicitis. J. J. McGrath, New York.
2 Psychologic Study of Hamlet. J. W. Wainwright, New York
3 *Cutaneous Tuberculin Vaccination in the Diagnosis of Tuberculosis. W. J. Butler, Chicago.
4 After-Care of Tuberculosis with Reference to Employment H. R. M. Landis, Philadelphia.
5 Treatment of Cancer. A. G. Henry, Cortland, N. Y.
6 Teaching of Physical Diagnosis. O. L. Mulot, Brooklyn, N. Y
7 Congenital Irideremia with Cataract. E. S. Thomson, New York.

3. **Tuberculin Vaccination.**—Butler describes the technic o tuberculin cutaneous vaccination and the reaction, and concludes that in a child positive reaction is undoubtedly diagnostic of tuberculosis. Failure of reaction is of little antidiagnostic significance in the terminal days of tuberculous infection A negative result may occur in obsolete tuberculous foci. I fails in cachectic children. He considers it a valuable diagnostic aid in children, though adults may present the reaction even when healthy.

Boston Medical and Surgical Journal.

January 30.

8 *An insidious Type of Non-tuberculous Pyelonephritis. A. L Chute, Boston.
9 *Adenoids and Tonsils. H. G. Langworthy, Dubuque, Iowa.
10 *Division of the Posterior Spinal Roots for Amputation Neuralgia. P. C. Knapp, Boston.
11 Reform of Expert Medical Testimony. L. C. Southard.
12 Spina Bifida. B. B. Cates, Knoxville, Tenn.

8. **Non-Tuberculous Pyelonephritis.**—Chute describes two unusual cases which leads him to conclude that there are certain forms of pyelonephritis that simulate bladder infection very closely in that those signs most relied on in the diagnosis of kidney infection are absent in the early stage, and occur only late in the disease at a time when we are powerless to stay its course. Cystoscopy is the only means by which these forms of pyelonephritis can be recognized while treatment is still of avail. In cases, he says, that are apparently chronic cystitis but persist without evident cause, the physician should consider that the burden of proving that the condition is not renal rests on him. Early drainage is probably the most efficient method of treatment.

9. **Adenoids and the Status Lymphaticus.**—Langworthy discusses adenoids and tonsils, and in relation to the question of operation takes up the subject of the status lymphaticus. He holds that a positive diagnosis during life is, to say the best, extremely difficult, if not impossible; and that there seems no reason to suppose that cases of simple adenoid and tonsillar trouble are especially suggestive of the status lymphaticus. It is only when they are associated with other stigmata, e. g., absence of pubic hair in an adult, frequent attacks of syncope, dyspnea and laryngismus stridulus, that the possibility of the lymphatic constitution should be considered. He discusses the methods of removing the tonsils which should be complete and should include the capsule.

10. **Amputation Neuralgia.**—Knapp considers the development of severe neuralgia of the stump after amputation and the suggested treatment of division of the posterior spinal roots. He reports two cases, in one of which death ensued on the table, and in the other the operation not only failed to give permanent relief to the patient, but was undoubtedly the cause of some change in the cord resulting in paraplegia.

New York Medical Journal.

February 1.

13 *Carcinomatosis of the Meninges. D. J. McCarthy and M. K. Meyers, Philadelphia.
14 *Anesthesia by Nitrous Oxid, Nitrous Oxid and Oxygen, Nitrous Oxid and Ether, Chloroform and Oxygen, and Ether Administered by Rectum. P. LeBreton, Buffalo, N. Y.
15 Spontaneous Rupture of the Heart. T. Klingmann, Ann Arbor, Mich.
16 *Noma. R. C. Rosenberger, Philadelphia.
17 Notes on European Surgical Clinics. O. C. Smith, Hartford, Conn.
18 *Milk and Education. G. W. Goler, Rochester, N. Y.
19 *Tuberculosis Among Medical Students and Its Possible Prevention. I. J. Wile, New York

13. **Carcinomatosis of Meninges.**—McCarthy and Meyers report a case of multiple secondary carcinomatosis of the nervous system limited to the meninges, a condition of which only eleven cases could be discovered after a careful search of the iterature. The case is of further interest, owing to a mistake n the clinical diagnosis of cerebral syphilis, notwithstanding the great care taken in arriving at a diagnosis. The patient was a colored woman of 38, and the predominating symptoms were as follows: There was pain in the lower extremities on admission to hospital, and the knee jerks were absent. On the following day the left knee jerk was present. On admission there was pain in the lower extremities, with headaches dating rom three months previous. One month after admission, and nine days previous to death of patient, she first began to show cerebral symptoms. These began with affection of the sixth nerve on the left side, and after a few days were followed by an affection of both third nerves. On the following day the seventh nerve on the right side became affected, with an almost similar affection of the fifth nerve on the left side. On the day before her death the difficulty of swallowing indicated an nvolvement of the ninth or tenth nerve. One week previous o her death there was a progressively developing stupor. Such a group of symptoms, with their progress, irregular distribution and development, indicated multiple lesions affecting first the spinal cord and later the brain. For this reason and for no other was the diagnosis of syphilis of the nervous system made. In a patient presenting these symptoms with an evident carcinoma elsewhere in the body, or with a history or evidence of its removal, the diagnosis of multiple secondary carinomatosis of the nervous system could be made. A frank, etive tuberculosis elsewhere in the body would lead to the iagnosis of tuberculosis of the nervous system. The history f syphilis, or distinct evidence of syphilis elsewhere in the body, would lead to a diagnosis of cerebrospinal syphilis. The istory of the case with the rapid development of cerebral ymptoms such a short time before death would practically xclude multiple sclerosis. Autopsy in the present case dislosed on gross examination that the entire brain was covered with minute white areas varying in size from a pin point to a in head, along the course of the blood vessels. The same conition was present over the spinal meninges. At first sight his gave the impression of a syphilitic meningitis, but more areful examination and the finding of the tumor masses in the ther viscera led to a correct diagnosis. The microscopic examination presented a typical picture of carcinoma. The involvement of the cortex was unquestionably an extension from the meninges. Involvement of the spinal roots is not an uncommon condition, but involvement of the spinal ganglia is relatively rare.

14. **Anesthesia.**—LeBreton discusses the administration of itrous oxid alone, of nitrous oxid and oxygen for prolonged anesthesia, of nitrous oxid given continuously with the addition of small quantities of ether, or used to precede straight ether (ethyl chlorid may be substituted in certain cases), of hloroform and oxygen, and finally rectal anesthesia by ether. he technic of the latter is described and cases are reported.

16. **Noma.**—Rosenberger's studies simply confirm the obserations made by the majority of investigators, that no spefic organism has yet been isolated in this condition. He preers to refer to the diphtheria-like organism isolated by him as a pseudodiphtheria bacillus rather than to call it a true iphtheria bacillus. The reasons for this are that on agar the rowth was exceptionally abundant and lacked the typical eam-colored colonies so typical of the true diphtheria bacillus. It also was wanting in its toxic properties, as well as the subultures on various media.

18. **Milk.**—Goler thinks that the education and training of hose entrusted with the production, transportation and distriution of milk should be made the subject of the state's greatest care. It is of importance not merely on account of the elation between infantile mortality and unwholesome milk, ut also because of the danger of disease in the year of the hild's formative state, when the energies of the body should be used for growth and not for resisting disease carried by milk. A cow may furnish excellent food for a calf, but at the very best only indifferent food for a human baby. Yet 75 per cent. of nurslings are fed by the cow. The protection of the milk supply, therefore, is one of the greatest measures of protection for our future citizens. How many cities, he asks, have clean milk? The only cities possessing a milk ordinance requiring milk to be delivered under 50 F. are New York, Boston, Brockton, Los Angeles, Detroit, Cleveland, Cincinnati, St. Louis, St. Paul and Minneapolis. The only cities buying milk from tuberculin tested cows are Grand Rapids, Mich., Minneapolis, Montclair, N. J., Colorado Springs and Pasadena. He discusses the question of dairy farms and suggests that there should be in every health office a model milk room in actual operation, and that imprisonment should be the penalty for a second offense of breach of the milk laws. He suggests the need of a licensing permit after inspection of premises, herds, including the tuberculin test and appurtenances and care of shipping and retailers' facilities. This is not a purely medical question, but a great social one.

19. **Tuberculosis Among Medical Students.**—The prevalence of pulmonary tuberculosis among medical students and practitioners is well known, says Wile. The three places in the medical curriculum liable to be sources of infection are the clinical laboratory, the postmortem room and the wards. He suggests that as soon as the entering classes in medicine are enrolled, they should be addressed on the necessary and unnecessary dangers to which their work will expose them. They should be advised against overwork under-exercise and overstimulation. Good food is essential, and it is not often to be obtained at the cheap boarding-houses in the proximity of medical schools. The student should see that his rooms are not infected, and should insist on having them fumigated before occupation. One evening a week for the theater or other preferred diversion is an excellent rule, and no work on Sunday. One patient may contaminate an entire ward with tubercle bacilli. Patients should be instructed to cough under cover of a piece of gauze, and should use the regulation tin-covered sputum cups lined with pasteboard boxes to prevent spilling. In the laboratory no sputum should be examined in large bulk. The proper receptacle for sputum examination is the wooden screw box painted inside with black enamel, which should be expectorated into once or twice only. Its black surface renders it easy to discern the desirable elements for examination without transferring infectious material to another surface. The student should avoid contaminating his hands. Plenty of soap and water and some disinfectant should be always at hand. In the postmortem room means should be at hand and should be used for immediate and thorough cleansing of the hands after handling diseased tissues. He recommends the use of thin rubber gloves in the autopsy room.

American Journal of Obstetrics, New York.

January.

20 *Rôle of Gonococcus in Disease. R. W. Taylor, New York.
21 *Treatment of Terminated Ectopic Pregnancy. Report of Cases, Including One of Recurrent Ectopic Gestation. C. A. Stillwagen, Pittsburg.
22 *Extrauterine Pregnancy. Clinical and Operative Study of Over One Hundred Cases. L. J. Ladinski, New York.
23 *Management of the Puerperium from a Surgical Standpoint. A. Flint, Jr., New York.
24 *Care of the Patient in the Puerperium. F. A. Dorman, New York.
25 *Treatment of the Puerperium. S. Marx, New York.

20. **Gonococcus in Disease.**—Taylor sums up the activities of the gonococcus in disease as follows: It attacks the human urethra and there gives rise to both a catarrhal and a hyperplastic inflammation from which may follow chronic urethritis and a tendency to stricture. By contiguity of tissue it invades the testes and their appendages and thus threatens sterility in men. Limited in its effects, as a rule, to the subepithelial connective tissue layer, it in some cases by further invasion gains a foothold in the venous and lymphatic radicles of the male and female genitalia and produces local and general disturbances. By this extension the whole organism may be more or less seriously attacked and local disorder, much suffering and disability may result. The gonococcus then becomes a true factor of septicemia and serious and even mortal illness is to

be feared. Arthritis and rheumatism are the most constant concomitants of gonorrheal invasion and induce marked changes in the joints, the tendons, the bursæ and the muscles. Generalized systemic infection is most commonly observed when by extension (usually from the joints) the heart in part or in whole is attacked; then severe and perhaps mortal illness may be produced. In general, the reaction is in proportion to the extent of cardiac territory attacked, and such cases may assume a malignant form. Such is the antitoxic power inherent in the blood serum that in many cases, even when vital parts are attacked, the gonococcus is destroyed. By reason of its toxins or, perhaps the microbe itself, more or less structural change is produced in the cerebrospinal system, which may be local or more or less generalized. Gonococcic invasion of the pleura is not uncommon and various forms of phlebitis may thus result. While it has been shown that the spleen may be attacked, there has been no evidence of liver involvement described. A large range of cutaneous and mucous membrane lesions have their origin in the gonococcus. These are ulcers, abscesses and follicular lesions, erythematous and keratosic exanthems. Bone lesions of mild and severe forms are more or less remotely dependent on the virulent potentialities of the gonococcus. The whole genitourinary tract in the male may be involved by the gonococcus; the prostate, seminal vesicles, bladder, ureters and kidney may be attacked. Certain extragenital parts, such as the mouth, rectum, nares, umbilicus and eyes, are frequently the seat of gonococcic inflammation. Infection of the female genitourinary tract is very common. When the lower pudendal portions are involved there is less danger, but extension of the process to the uterus and parts above constitute menaces to health and life. The question as to whether an inhibitory serum may be produced to kill or jugulate the virulent microbe is yet unsettled. In the vast majority of all cases of gonorrhea the gonococcus is at first the absolute causal agent. The few cases in which a condition resembling gonococcic urethritis is produced by other microbes constitute but a drop in the bucket. While the gonococcus may become latent and may hibernate in tissues, crypts and follicles, it may at any time become potential. It also may lead to mixed infection and prepare the soil for other microbes which may run a severe course. The gonococcus thus shows itself capable of producing the most far-reaching infections to which the human race is liable.

21. Abstracted in The Journal, Nov. 9, 1907, page 1624.

22. **Extrauterine Pregnancy.**—Ladinski discusses the etiology, histology, course and termination, symptomatology and diagnosis, including (a) diagnostic signs of unruptured tube, (b) of ruptured tube, (c) differential diagnosis and treatment. In regard to the latter Ladinski can not agree with, nor does his experience confirm, the theoretical reasoning of those who advocate delaying operation in ruptured tubal pregnancy on account of the presence of profound shock. He has repeatedly operated effectually when there was no pulse at the wrist, and at times the operation has been done when the patient was absolutely unconscious and did not require anesthesia, either general or local. He reports a case in point and discusses the subject. The abdominal route he considers the route *par excellence* for tubal pregnancy. Venous infusion he regards as the most important life-saving measure next to rapid and skilful operation. In conclusion he says that tubal pregnancy has the same bearing on gynecology that appendicitis has on general surgery, and when we compare the frequency of each in women of the parturient age we shall find tubal pregnancy responsible for possibly as great a mortality and morbidity as appendicitis, and it is certainly entitled to the same consideration on the part of the general practitioner.

23. **The Puerperium.**—Flint advises the immediate repair of perineal lacerations, placing the sutures deeply and tying them loosely. The contraindication to immediate repair is the exhausted condition of the patient. Flint repairs laceration of the cervix only when extensive enough to cause hemorrhage. One or two plain catgut sutures placed high in the angle of a torn cervix is the next best method of arresting hemorrhage. He still uses the binder for comfort's sake. Vaginal douches should not be given, but the vulva should be irrigated afte each evacuation of the bladder when dressings are changed Hemorrhage occurring early is most commonly due to retention. Curettage with a large blunt curette (never a sharp one should be practiced, if necessary, after digital examination. A intrauterine douche of hot sterile salt solution should b given and the patient put to bed. Later hemorrhages are commonly due to imperfect involution. The possibility of chorioepithelioma must be remembered and scrapings should be examined microscopically; immediate hysterectomy should b done if it is found. Flint recommends careful physical examination at the end of the fourth and sixth week for subinvolution and displacements. Tampons of boroglycerin or tanni acid and glycerin between the periods give astonishing results In addition, strychnin and ergotin may be administered internally and hot douches may be given.

24. **Id.**—Dorman urges the importance of the nurse and patient being mutually congenial as well as that the nurse should be efficient. No nurse should be engaged till this point is settled, and several should be tried if necessary. Catharsis is necessary for almost every patient. He recommends fluid extract of cascara in dram doses. He discusses various ailments, and in regard to drying up the breasts he recommends that they be bandaged when empty, with a bandage giving firm, even pressure; the nipples disinfected and covered with sterile cotton; a dry diet, and a daily morning saline cathartic. The bandage must keep up firm, continuous pressure, and on no account must it be removed and the parts massaged. For pain he advises icebags locally and a little codein.

25. **Id.**—Marx's custom for many years has been to allow the mother a most liberal diet, even immediately after labor, in the absence of any contraindication. He has seen no evil results. Sepsis comes from filth, not feeding. He administers small doses of ergot during the puerperium. After-pains call for careful Credé treatment daily, and posture to aid drainage; ten grains (0.65 gm.) of chloral every hour until relief, or codein one to two grains (0.065-0.13 gm.) by mouth or rectum. Gelsemium and bromids are occasionally of value. Douches he considers unnecessary except for esthetic reasons at the end of the first week. The rubbing of the nipples to prepare them for lactation he considers a most prolific cause of complications.

Lancet-Clinic, Cincinnati.

January 25.

26 *Reasons for Some Unsatisfactory Results, and the Remedy, in the Treatment of Anorectal Diseases. B. Asman, Louisville, Ky.
27 *Local Anesthesia Versus General in Rectal Surgery. G. B. Evans, Dayton, Ohio.
28 Rheumatism. T. C. Crawford, Dunkinsville, Ohio.
29 Treatment of the Stump in Appendectomies. F. C. Meriweather, Asheville, N. C.

26. Published in the *American Practitioner and News*, October, 1907, and abstracted in The Journal, Nov. 9 1907, page 1630.

27. Abstracted in The Journal, Oct. 26, 1907, page 1466.

Medical Fortnightly, St. Louis.

January 25.

30 *Hyperemesis Gravidarum and Its Treatment. W. H. Vogt, St. Louis.
31 The Distal Mesenteric Artery. B. Robinson, Chicago.
32 Case of Multiple Bowel Perforations Due to Gunshot. J. W. Shankland, St. Louis.
33 Case of Multiple Stab Wound of the Chest and Abdomen, with Prolapse of Viscera. W. C. G. Kirchner, St. Louis.
34 *Opsonic Index and Active Immunization. E. H. Shorer, Columbia, Mo.

30. **Hyperemesis Gravidarum.**—Vogt describes the various causes predisposing to this condition, namely, congenital malpositions and shapes of the stomach, usually associated with external evidence in the breasts, pelvis, etc.; acquired malpositions in shapes of the stomach brought about by tight lacing; organic stomach diseases; chlorosis and anemia; nervous diseases; poor living and improper nourishment, and changes in the sexual organs. He considers, for reasons adduced, that hyperemesis gravidarum is really caused by syncytial intoxication of at present undetermined origin. It seems to induce a

ain temporary immunity, hence its greater commonness in niparæ. He suggests treatment by the injection daily of n three to five quarts in divided portions of normal saline ition, allowed to flow very slowly, into the bowel. An irriing can or fountain syringe may be used, with a larged rubber catheter attached, which is passed high into the el, the irrigator being not more than three feet above the l of the patient. The solution is lukewarm. Rest in bed, milk in tablespoonful doses as the only nourishment, and a nsing irrigation of the bowels every morning are also recnended. In great irritation of the bowels, the addition of n ten to twenty drops of tincture of opium to the saline ition is advised. Vogt considers that the more general ption of this treatment would enable many more women to y their infants to term.

Opsonic Index.—Shorer details the history of the reches which culminated in Wright's work. From his own ly of the opsonic index in various diseases, but especially rysipelas, he criticises the method on two counts: 1, The eliability of the determination of the opsonic index; 2, the ertainty as to the influence of bacterial treatment on the nic index. In general his attitude is rather a critical one inst undue enthusiasm than an objecting one.

Denver Medical Times.

December.

*Tuberculosis of the Mouth. R. Levy, Denver.
Unusual Case of Pneumonia. C. V. Ganoe, Denver.
Preparation Before, During, and After Normal Labor. M. Weller, Denver.
Calx Iodata. R. J. Smith, Schenectady, N. Y.

January.

Transperitoneal Removal of Tumors of the Bladder. C. H. Mayo. Rochester, Minn.
Enormous Stone in Common Bile Duct, Pressing on Duodenum and Causing Symptoms of Pyloric Cancer. L. Freeman, Denver.
Pneumococcic Peritonitis. C. B. Lyman, Denver.
Case of Postoperative Acute Dilatation of Stomach. M. R. Root, Denver.
*Case of Complete Severance of Larynx with Recovery. A. L. Stubbs. La Junta, Colo.
Case of Stricture of the Esophagus. C. E. Ruth, Denver.
Stomach Troubles of Gall-Bladder Origin with Report of Operative Findings and Final Results. C. E. Tennant, Denver.
Outline Records of Flexion and Extension After Serious Injury of Elbow Joint. G. W. Miel, Denver.
Economy of Asepsis. H. G. Wetherlll, Denver.
Influence of Trauma in Production of Displacements of Female Pelvic Organs. C. K. Fleming, Denver.

Tuberculosis of Mouth.—Levy points out that tubercu- lesions of the mouth include those involving the lips, ks, gums, hard and soft palates, tongue, teeth and alveolar esses. He does not include tuberculosis of the pharynx in paper. Tuberculous lesions may manifest themselves in rent forms, according to: 1, pathologic changes; 2, mode levelopment; 3, clinical course. Pathologic alterations are ilar infiltration, superficial ulceration, deep ulceration, perting ulceration, necrosis of bone, chronic abscess, and tumor. mode of development may be endogenous or ectogenous inwald), corresponding to Holländer's descending and nding forms. Clinically there may be malignant and be- forms. The ectogenous or ascending form, which may be gnated as the inoculation variety or purely local, represents less active, sluggish, or benign type; while the endogenous scending variety, representing infection through blood and ph streams, through miliary deposits, or infection from in, corresponds to the active virulent type. Levy disies in detail the etiology, subjective symptoms and objec- signs, the latter being illustrated, diagnosis and treatment. the relief of pain cocain may be used; curetting and cauter- are also serviceable in some cases. The galvanocautery been of some avail. Rest is of prime importance; nutri- must be maintained and local anesthetics used as neces- .

. **Complete Severance of Larynx.**—Stubbs reports the case man who had attempted to commit suicide by cutting his at, having cut it severely, as the subsequent description es. The man seems to have been able to wash himself, s in clean clothes and go down stairs to the hotel clerk, ing signs for a doctor to be summoned. On examination Stubbs found a cut across the throat extending from the inner border of one sternomastoid to the other, the larynx being entirely severed between the thyroid cartilage and the hyoid bone. The wound was gaping and the larynx hanging two inches outside the opening. Fearing that through-and-through sutures would cause constant irritation, he closed the larynx without anesthesia by suturing the fascia and such few muscle fibers as could be found on the outside, closing the skin wound. Six hours later he was summoned again, the larynx having torn open. Stubbs opened the skin wound, sewed the larynx, just as one would a piece of hose, putting the needle below the first ring under the cut and above the first ring over the cut. He closed it tightly and closed the outside tissues and the skin. The sutures in the larynx apparently caused no irritation; no edema and no infection occurred, and in twelve days the patient went home entirely healed. The power to speak returned as soon as the larynx was closed. None of the large blood vessels was injured although a considerable quantity of blood was lost and the carotids could be seen pulsating in the wound.

Utah Medical Journal, Denver.

December.

49 *Etiology, Pathology and Diagnosis of Gastric and Duodenal Ulcers. A. A. Kerr, Salt Lake City.
50 *Medical Treatment of Gastric and Duodenal Ulcers. R. W. Fisher, Salt Lake City.
51 *Surgical Treatment of Gastric and Duodenal Ulcers. J. S. Richards, Salt Lake City.

January.

52 Surgery of the Thyroid Gland. A. C. Behle, Salt Lake City.

49. **Gastric and Duodenal Ulcers.**—Kerr discusses the etiology, pathology and diagnosis.

50. **Id.**—Fisher discusses the medical treatment of this condition, and incidentally remarks that the silver nitrate treatment, of which we have heard a good deal of late, while undoubtedly beneficial in cases, has also done a great deal of harm. He has seen the constant washing out of the stomach with silver solution in a number of cases which came under his observation result in making the patient worse.

51. **Id.**—The surgical treatment of ulcer is discussed by Richards, who considers that gastroenterostomy will fill more indications in the treatment of gastric and duodenal ulcers than any other single operation.

Ohio State Medical Journal, Columbus.

December.

53 *Surgery of Thyroid Gland. G. W. Crile, Cleveland.
54 *Duty of Medical Profession to Public. E. M. P. Brister.
55 Nasal Fibroma Invading Antrum of Highmore, Frontal Sinuses and Cranial Cavity. C. R. Holmes, Cincinnati.
56 *Mental Development. C. D. Mills, Marysville.
57 Pathology of Drinking Water. R. C. Longfellow, Toledo.
58 Pneumonia in Children. W. A. Dickey, Toledo.

53. **Thyroid Gland Surgery.**—Crile combats the idea of a 40 per cent. mortality rate in thyroidectomy to-day; that thyroidectomy is likely to be followed by insanity; that it is extremely dangerous, few patients ever recovering; that it is likely to cause myxedema, etc. He says that the surgery of benign tumors and hypertrophies of the thyroid is now placed on a basis comparable with that of appendicitis in the quiescent period of gallstones and of ovarian tumors. The mortality from unexpected complications is perhaps 0.5 or 1 per cent. in experienced hands. Exophthalmic goiter demands much further investigation. Excision of the thyroid breaks a pathologic chain and the cure is permanent. In a goiter under observation, if the gland begins to grow, it should be promptly excised, because of the great possibility that it may become a malignant growth. Many more thyroids should be removed, just as benign tumors elsewhere are removed, to prevent the development of malignancy.

54. **The Medical Profession and the Public.**—Judge Brister says that the medical profession owes to the public the most thorough preparation possible; an opposition to "patent medicines," to lost manhood cures, and other advertising abominations; a rectification of the status of medical expert evidence, in regard to which latter he holds that expert witnesses should not be subpenaed for either side of the case by the plaintiff or

defendant, but by the court for the whole case. They should not testify for or against any side, or for or against any theory of a case, but should apply their expert knowledge to the proved facts of the case and to nothing else. The hypothetical question should be simplified or even entirely abolished and a limit put on the number of experts who may testify in a given case. Another duty of the medical profession is to drive from its ranks the criminal abortionist. Finally, he would advocate a greater extension of the preventive principle in medical practice, the physician being retained to inspect his patient, regularly, say once a week, and to deal with him according to the examination. The regulation of marriage, the elevation of stirpiculture to the status of a practical science, and the improvement of sanitary conditions, etc., are parts of the duty of the medical profession to the public.

56. **Mental Development.**—Mills emphasizes the importance of an appreciation of the difference between the child and the adult, which would result in the radical modification of kindergarten methods with its mat weaving and sewing, which bring into action refraction and accommodation powers and accessory muscles at a time when the central muscular masses and the grosser movements are instinctive and much more important. He urges that "reasons why" should form a small part of early instruction in home and school and memory studies greater emphasis; that technical studies should be postponed until higher grades, and that children particularly should not be allowed to associate with any one that it will do them harm to imitate.

Journal of Ophthalmology and Oto-Laryngology, Chicago.

December.

59 Empyema of Sphenoidal Sinus. A. H. Andrews, Chicago.
60 Radiography and Transillumination in Diagnosis of Sinus Disease. J. C. Beck, Chicago.
61 The Eye, Ear, Nose and Throat Clinics of Vienna, Berlin and London. A. K. Higgs, Heppner, Ore.
62 *An Easy Method of Fully Everting the Lower Lid in Certain Cases; also an Easy Method of Everting the Eyelids of Infants. D. T. Vail, Cincinnati.

January.

63 Retinal Glioma, with Report of a Binocular Case Cured. C. Lukens, Toledo, Ohio.
64 Case of Congenital Coloboma of the Eyelid. W. O. Nance, Chicago.
65 *The Nose in Its Relation to Epilepsy. W. S. Bryant, New York.
66 Malignant Growths of the Nasopharynx. K. W. Baldwin, Philadelphia.

62. **To Evert the Eyelids.**—When it is found difficult to evert the lower lid, Vail recommends that the patient look downward and the upper lid be everted in the usual way. If he is then directed to look upward and at the same time the usual effort to evert the lower lid is made it will succeed. To evert the eyelids of a child Vail recommends the following method: The surgeon sits with the child's head lightly clamped between his knees, the child's body in the lap of the nurse sitting close by in a chair, and the child's hands held by the nurse. The feet are allowed to kick free. The entire finger nail of the left index finger is placed on the lower lid and the finger crooked so that the pulp of the finger tip will just override the edge of the lower lid; then the upper lid is gently pushed downward by means of the index finger of the right hand placed at the upper tarsal rim, until the free border of the upper lid overrides the pulp of the finger tip of the left index. Maintaining the pressure with the right index finger when this position is effected the upper lid is turned inside out by simply keeping the free edge of the upper lid against the pulp of the index finger of the left hand. The right hand is now free to use in everting the lower lid. Having everted the upper lid, the lower is easily everted by making pressure downward with the right thumb.

65. This article was published in the *Medical Record*, Nov. 23, 1907, and was abstracted in The Journal, Dec. 7, 1907, page 1953.

Montreal Medical Journal.

January.

67 *The Scientific Spirit in Medicine. A. B. Macallum, Toronto.
68 Obstetric Nursing. David J. Evans, Montreal.
69 Narrowing of the Uterus Successfully Treated by Operation. I. Olmstead, Hamilton, Ont.
70 Case of Cutaneous Horn. J. M. Elder, Montreal.
71 Effect of Anesthesia on the Opsonic Index. A. C. Ran Montreal.

67. **Scientific Spirit.**—Macallum deprecates the loose use the term science. *Scientia* means knowledge in the ordin and simple sense; to-day, in popular language, science is oracular personality. This is wrong, for it makes a cult o word and the word becomes a fetish. Science is simply org ized knowledge, not of isolated facts, but of facts put in s relation to one another that all of them and the phenom involved are explained. The scientific spirit is engaged in ordinating and organizing the knowledge of facts. It proaches every problem in the questioning mood, not grea concerned whether the solution is or is not of practical utili After marshaling facts it proposes an explanation to comp hend the why and how of them all, which remains as a wo ing hypothesis until further facts overthrow it. The disp agement of the theorist of this kind is irrational. It is t extravagant theorist, whose speculations have no regard ascertained facts or are based on no facts at all, who sho rightly meet with deprecation; but as great an obstacle knowledge is the so-called practical man, for he accepts, c sciously or unconsciously, the popular explanations or theori which in the majority of cases are either inadequate or who wrong.

Illinois Medical Journal, Springfield.

January.

72 *Modern Treatment of Tuberculosis; Climatic Fallacy. J. Pettit, Peoria.
73 *General Considerations Concerning Opsonins and Therapeu Inoculations of Dead Bacteria. L. Hektoen, Chicago.
74 *Virulent Pneumococci, Opsonin and Phagocytosis. E. C. Ro now, Chicago.
75 *Bacterial Vaccine Therapy in Tuberculosis. M. C. Linco Chicago.
76 *Vaccine Therapy in Staphylococcus Infections. G. Fri Hagans, Chicago.
77 *Bacterial Vaccine Therapy in Gonorrhea. R. Vail, Chicago
78 *Clinical Results and Conclusions. J. C. Hollister, Chicago.
79 New Modification of the Primary Position in the Bloodl Treatment of Congenital Hip-joint Dislocation. F. Muell Chicago.
80 Medical Treatment of Nephrolithiasis Urica. A. C. Croft Chicago.
81 Exophthalmic Goiter. O. M. Steffenson, Chicago.

72. **Tuberculosis: The Climatic Fallacy.**—Pettit reviews t opinions of authorities on the subject of climate in the tre ment of tuberculosis and points out that everything tends prove that climate is not an essential thereto. He does n deny that it may possess some value as an adjuvant, but asserts that even in climatic resorts, sanatorium treatment essential, and exactly the same conditions are imposed there elsewhere. Moreover, a departure from the climate is usual followed by relapse, patients rarely remain long enough effect a cure, the expense has impoverished innumerable fa ilies and many examples show that equally good results can obtained if the same principles are applied, in almost a climate where pure fresh air can be obtained, no matter wh the altitude, dryness, humidity, etc.

73. The ground of this paper was covered in Dr. Hektoe remarks at the meeting of the Idaho State Medical Associ tion, an abstract of which appeared in The Journal, Nov. 3 1907, page 1870.

74 to 78. Abstracted in The Journal, Nov. 23, 1907, pag 1799 and 1800.

Maryland Medical Journal, Baltimore.

January.

82 Relations of Physicians and Pharmacists and the Use of t Pharmacopeia and National Formulary. L. F. Barker, Bal more.
83 *Tumors of Lateral Aberrant Thyroid Tissue. A. McGlanna Baltimore.

83. **Tumors of Aberrant Thyroid Tissue.**—McGlannan poin out that only paired ductless glands of the body are orga most prominent in the production of aberrant collections specialized tissue. While tumors of aberrant thyroid tiss are not so common as hypernephroma, they are still comm enough to attract attention. They are found in all regio developed from the embryonic areas adjacent to the branchi tract. They are median or lateral, superior or inferior, accor ing to their relation to the hyoid. Their common position

at of the lymphatic glands of the neck and axilla. An im- rtant point apparently overlooked is the condition of the mphatic glands in these cases. Normal glands would prove sence of metastases. Tumors of this type may be confused ith other epithelial growths in which colloid degeneration has ken place, or myxomatous tumors may be mistaken for yroid tissue. These tumors attract more attention in women cause they share with the thyroid the physiologic hyper- ophy that occurs with puberty, menstruation and pregnancy. ccurate clinical diagnosis is practically impossible. When posed at operation, the naked eye appearance of the tumor characteristic. The operation for the removal of these mors is usually easy, but the presence of the thyroid in the rmal situation must first be ascertained, lest by removal of e entire thyroid tissue a cachexia strumipriva should result. he author reports four cases.

Kentucky Medical Journal, Bowling Green.

January.

84 *Therapeutic Facts, Fads and Fancies. W. L. Heizer, New Haven, Conn.
85 *Leadership in Medical Organization. W. W. Richmond, Clinton.
86 *Technic and Advantages of the Modified Blood Clot Method of Closing the Wound in the Mastoid Operation as Used in Fifty-three Cases. J. A. Stucky, Lexington.
87 The Doctor—His Business Side—and His Relations to His Fellow Doctors. M. B. Stedman, Versailles.
88 Differential Diagnosis and Methods for Prevention of Spread of Diphtheria. A. L. Wagoner, Scottsville.
89 *The Trinity of the Urolog. C. L. Wheeler, Lexington.
90 Diagnosis of Tumors of the Brain. W. M. Ewing, Smith's Grove.
91 *Address on Sanitation. W. Bailey, Louisville.
92 *Varicose Veins of the Lower Extremity. J. M. Salmon, Ashland.
93 *Value of Laboratory Methods to the Country Practitioner. J. R. Cowan, Danville, Ky.

84. Abstracted in THE JOURNAL, Nov. 2, 1907, page 1551.

85, 86, 89. Abstracted in THE JOURNAL, Nov. 9, 1907, pages 624, 1625.

91. **Sanitation**—Bailey recounts the progress made in recent ears in public sanitation, including the recent Food and Drugs ct and the crusade against nostrums, and points out that nitation can be accomplished successfully only by the aid of e masses, and, therefore, calls for education as a prime neces- ty. No money expended by the government, state or munici- ality yields such large economic returns as that given for curing public health, and he deplores the fact that while thou- nds of dollars can be obtained to stamp out Texas fever in ttle it is difficult to get even hundreds for the benefit of an.

92. **Varicose Veins.**—Salmon concludes that varicose veins f the lower extremity are a disease affecting principally oung adults between the ages of 15 and 40. They may be red by surgical operation in about 84 per cent. of the cases. efore attempting any operation it must be demonstrated that o serious obstruction to venous return exists in the deep eins. The operation which gives the best results is that hich has for its object the extirpation of the internal saphen- us vein and the obliteration of its anastomotic branches. In rtain cases the Schede cut is advisable as an additional pre- ution against recurrence. The danger connected with opera- ion is slight but it exists, and lies in the possibility of infec- on and embolism.

93. Abstracted in THE JOURNAL, Nov. 9, 1907, page 1624.

Journal of Advanced Therapeutics, Rahway, N. J.

January.

94 Physiologic Laws Relating to the Effects of Physical Measures as Employed in Therapeutics. (To be continued.) W. B. Snow, New York.
95 Vibration. F. A. Davis, Boston.
96 Cancer and Its Treatment by Cataphoric Sterilization. (To be continued.) G. B. Massey, Philadelphia.

Providence Medical Journal.

January.

97 Report of Committee on Clean Milk for Babies.
98 Appendicitis Complicating Pregnancy in Eighth Month: Operation, Miscarriage, Recovery. C. O. Cooke, Providence.
99 Two Cases of Splenectomy. W. L. Harris, Providence.
00 Popliteal Aneurism; Radical Cure by Matas' Method of Operation. J. W. Keefe, Providence.
01 Cases of Rabies Treated During the Past Year in Rhode Island Hospital. A. A. Barrows, Providence.

American Practitioner and News, Louisville.

January.

102 Typhoid in Children. P. F. Barbour, Louisville
103 Malignant Diseases of the Rectum. F. W. Samuel, Louisville.
104 Care of the Infant. J. M. Witt, Waco, Texas.
105 Anesthesia, General and Local. C. E. Montgomery, Louisville.

University of Pennsylvania Medical Bulletin, Philadelphia.

January.

106 The Liver in Antiquity and the Beginning of Anatomy. M. Jastrow, Jr., Philadelphia.
107 Nélaton. A. P. C. Ashhurst, Philadelphia.
108 New Instrument for Measuring Marked Differences in Expansion on Two Sides of the Chest. R. S. Lavenson, Philadelphia.
109 *Chronic Cystic Mastitis. J. Speese, Philadelphia.
110 Anatomy of Parathyroid Bodies with Reference to the Surgical Aspects. N. Ginsburg, Philadelphia.

109. This article was published in the *Pennsylvania Medical Journal*, January, 1908, and was abstracted in the Society Proceedings in THE JOURNAL, Oct. 26, 1907, page 1465.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

January 18.

1 *Erythremia—Polycythemia with Cyanosis—Vaquez Disease. W. Osler.
2 Tropical Abscess of the Liver. T. R. Bradshaw.
3 *Preparation of Catgut for Surgical Purposes. Lord Lister.
4 *Excision of Cecum and Ascending Colon with Corresponding Lymphatic Area. J. F. Dobson and J. K. Jamieson.
5 *Legal Responsibility and Anesthetics. D. W. Buxton.
6 Arteritis Obliterans of Lower Extremity with Intermittent Claudication. F. P. Weber.
7 Certain Pupillary Signs in Chorea. F. Langmead.
8 Case of Imperfect Development; Acrania. A. Yule.
9 Bone Cavities Treated by Stopping with Paraffin. A. J. Walton.
10 Electrolytically Produced Fluids Containing Hypochlorites, Their Manufacture and the Rationale and Chemistry of the Process for Securing Stability. F. W. Alexander.

1. **Erythremia.**—Osler discusses elaborately a remarkable case of the condition variously known as splenomegalia, polycythemia, Vaquez' disease and Osler's disease, polycythemia rubra, erythrocythemia megalosplenica, and erythemia. The last term is preferred by Osler because it is short, designates the most striking and most constant peculiarity, and indicates the analogy with leukemia, both affections being associated with states of morbid activity in the bone marrow. The condition, which was first described in 1892 by Vaquez, consists of hyperglobulism with cyanosis, and is believed by him to be due to overactivity of the blood-forming organs. Osler is in full accord with those who regard the disease as a hitherto unrecognized affection of the blood-making organs. The cardinal signs are a peculiar cyanosis, erythemia, and enlargement of the spleen; additional features are, occasionally, pains in the hands and feet, headache, constipation, high blood pressure, sclerosis of the superficial arteries, with a trace of albumin in the urine, bronchitic and asthmatic attacks, hemorrhages (petechiæ, hemoptysis, hematemesis or hematuria). Death from cerebral hemorrhage has occurred. With regard to the cyanosis, the color of the skin in health depends on two circumstances, the degree of fulness of the peripheral vessels and the rate of circulation in them. The degree of fulness shows remarkable differences both in individuals and in races. As to the rate of blood flow, normally the current is so rapid that the tint of the skin is arterial. Cyanosis results whenever the capillaries are full and the current is slow, but these factors must be combined. When both force and volume sink to a minimum pallor, not cyanosis, may result. The causes underlying the rate of blood flow are increase in the total volume of blood, increased viscosity and dilatation of the venules, with loss of tonicity in the peripheral veins. But cyanosis is not altogether a question of stasis and capillary engorgement. The peculiar color is a corpuscular affair, depending on whether the hemoglobin is oxidized or reduced. There are forms of cyanosis due entirely to changes in the hemoglobin, such as that produced by taking the coal-tar products, and enterogenous cyanosis due to toxic absorption from the intestinal canal. For the determination of the erythremia, of course, a blood count is essential. A true polyemia, a plethora vera, is present.

The red blood counts are greatly increased. As many as 13,600,000 per c.mm. have been counted. The enlargement of the spleen is a variable factor. It may precede the occurrence of cyanosis or not be discovered until after death. Theoretically polyglobulism may be due to a diminished destruction of the red blood corpuscles, to an excessive loss of plasma, and to an increased production of red cells. Osler does not agree with Weintraud, that the polyglobulism in this disease is due to retarded destruction, while the absence of pigment deposit appears to negative the idea of increased hemolysis. In the six known postmortem examinations of this disease were found, on the contrary, the indications of increased production, a plethora vera; intense hyperplasia of the bone marrow, a myelomatosis rubra; an enlargement of the spleen, with histologic changes indicative of chronic passive congestion; and a uniform hyperplasia of all the elements. Even this, however, does not tell us the cause of the mysterious flooding of the body markets with the products of its red blood factories. In this disease there is a condition in which, so far as we know, there is an oversupply without any corresponding demand, and the same riddle confronts us as in leukemia. Regarding treatment, we have nothing wherewith to control morbid processes in the bone marrow. Repeated bleedings have relieved vertigo; oxygen inhalations have relieved cyanosis and diminished the number of red blood corpuscles. In some cases the *x*-rays have diminished an enlarged spleen. Osler states, in a footnote, that a month of oxygen inhalations and *x*-ray treatment resulted in one case in a gain of several pounds in weight and an increase of strength; but there was no change in the cyanosis or the polycythemia, though the spleen was somewhat reduced in size.

3. **Catgut.**—Lister enumerates the requirements of satisfactory catgut for surgical use, namely, adequate strength against strain, the power to hold tight when tied in a reef knot, an absence of such rigidity as would cause it to work its way out by mechanical irritation, a sufficient life before absorption, and thorough asepticity. Chromium sulphate is the ideal substance in regard to these effects with the exception of asepsis, but this can be supplied by the addition of a little corrosive sublimate. Commercial chromium sulphate varies greatly in quality, hence the method devised by Lister and used since 1894, but never before published, which is as follows: The preparing liquid must be twenty times the weight of the catgut. So for forty grains (2.60 gm.) of catgut 800 grains (52 gm.) of preparing liquid are required. It is made by mixing two liquids—namely, the chromium sulphate liquid and the sublimate liquid. The sublimate liquid is:

Corrosive sublimate		13	gr. ii
Distilled water	20	70	gr. cccxx

The sublimate may be dissolved by heat, but the solution must be used cold. The chromium sulphate liquid is prepared thus:

Chromic acid		26	gr. iv
Distilled water	15	50	gr. ccxl

Add to this as much sulphurous acid (B. P. solution) as gives a green color. If more is added the color becomes blue, which shows that rather too much sulphurous acid has been used. It is well to reserve a few drops of the chromic acid solution to be added after the blue color has just appeared and restore it to green. Then enough distilled water is added to bring the green liquid up to 480 grains (31.10 gm.). The sublimate liquid is then added. The catgut is kept twenty-four hours in the preparing liquid, and is then dried on the stretch. Lister details experiments to prove the keeping qualities of this catgut. Two hundred and seven grains (13.40 gm.) of catgut thus prepared three years previously were chopped into short segments and covered in a mortar with 2,000 grains (129.60 gm.) of distilled water, enough to cover them. The gut was macerated in a stoppered bottle for seventeen hours and the infusion tested by the late Dr. Macfadyen with *Bacillus anthracis*, *Staphylococcus pyogenes aureus* and *Streptococcus pyogenes*, when it was found that the liquid inhibited growth in proportion to its degree of concentration and the length of time of exposure of the germs thereto. Lister cautions, however, against the danger of forgetting that the dry surface is liable to contamination. His practice has been to put the catgut in 1/20 solution of carbolic acid about a quarter of an hour before the operation is begun.

4. **Excision of the Cecum and Ascending Colon.**—Dobson and Jamieson report a case of carcinoma of the ascending colon and one of tuberculous disease of the cecum, in which was carried out an operation suggested by them in a paper on the lymphatic system of the ascending colon, cecum and appendix (*Lancet*, April 27, 1907, page 1137), as being possible. The operation included the removal, in one piece, of the cecum ascending colon, and the terminal portion of the ileum, together with the whole ileocolic chain of lymphatic glands, including the gland lying on the duodenum at the origin of the ileocolic artery. In both cases the patients made excellent recoveries and have since done well. Practically, the operation presents no special difficulties.

5. **Anesthetics.**—Buxton discusses the legal responsibilities of the anesthetist in relation to (1) the patient, (2) the operator, (3) the selection of the anesthetic. He considers the relation of the anesthetist to the dentist, to the unlicensed medical practitioner, and in regard to illegal operations.

British Medical Journal, London.

January 18.

11 *Preparation of Catgut for Surgical Purposes. Lord Lister.
12 *Results of the Operative Treatment of Chronic Constipation. W. A. Lane.
13 Passage of Food Through the Human Alimentary Canal. A. F. Hertz.
14 *Special Form of Dilatation and Displacement of the Stomach. T. S. Short.
15 Physiologic Aspects of Gastroenterostomy. H. C. Cameron.
16 Ether Anesthesia by Open Method. H. B. Gardner.
17 *Conveyance of Whooping Cough from Man to Animals by Direct Experiment. H. A. Macewen.
18 Hypersensitiveness to Antidiphtheritic Serum. R. T. Thorne.
19 Case of Vagitus Uterinus. S. McNaughton.

11. See abstract No. 3.

12. **Chronic Constipation.**—In the earliest cases in which Lane removed the greater part of the large bowel the symptom demanding it was pain, usually in the cecum, splenic flexure, or sigmoid. Noticing the startling change abruptly following operation from the cessation of the associated symptoms of autointoxication, he was induced to operate also in cases in which pain was not necessarily a marked feature, but in which life was becoming a burden through the misery and distress induced by the autointoxication and its results. At first he removed the large bowel only so far as the splenic flexure, but subsequently he excised the residual bowel in many such cases of incomplete resection; and in all primary operations he removed the entire large bowel with the exception of the rectum. Constant and abundant subcutaneous saline injection obviated the severe vomiting which occurred in the earlier cases. He reports a series of thirty-eight cases, with six deaths arising from various causes. In the remaining cases the patients not only did well, bnt recovered wonderfully good health.

14. **Dilatation of the Stomach.**—Short describes a form of dilatation of the stomach not due to pyloric obstruction or to the atonic gastrectasis of old people. The condition is associated especially with periodic attacks of severe pain—of a very acute type—relieved if the patient can vomit, but usually accompanied by inability to vomit. In the intervals between the painful attacks, discomfort, especially flatulence, occurs, the latter making its presence known not only by distension, but also by audible rumblings. There is also a want of proper assimilation of the food taken, as shown by loss of flesh, debility, and great depression of spirits, verging at times on melancholia. In investigating a large number of such cases Short has found that the condition present is dilatation with downward displacement of the stomach. In this paper he deals with the causes, diagnosis and treatment of this particular form of dyspepsia.

17. **Whooping Cough.**—Macewen describes an experiment with a cat from which he draws the following conclusions: Whooping cough is beyond doubt an infectious disease. The specific virus is contained in the sputum or vomit material or both. Infection may take place either during the process of swallowing or by ingestion of the infective agent. Cats are susceptible to whooping cough, and, therefore, may occasionally be the means of disseminating the disease.

Medical Press and Circular, London.

January 15.

20 Tuberculous Laryngitis. A. Wylie.
21 Suppuration of the Middle Ear. J. D. Grant.
22 *Sterilization of Air. S. Bernheim.
23 Diagnosis and Treatment of Simpler Forms of Conjunctivitis. L. Paton.
24 Congenital Talipes. W. F. Fedden.

22. **Sterilization of Air.**—Bernheim describes an apparatus of imple construction for sterilizing the air in rooms, etc. It onsists essentially of a rectangular box containing a vat made f metal, and having good conducting properties, which is subitted to the action of a source of heat (gas or coal). The at contains filtering matter—amianthus or filings. The sides f the box are pierced below and at the top for the inlet and utlet of air, the current of which is caused on heating the box a temperature of 180 F. The size of the apparatus and he nature of the heating plant will necessarily depend on the mount of cubic space to be sterilized. A small closet or room ay be served by an alcohol lamp, larger ones by a gas heater, coal chimney, or even a special furnace. The exhausting ction of the apparatus is said to be very powerful. A umer of experiments are referred to in which air heavily laden ith germs was shown, after the operation of the apparatus, o have its bacterial contents very materially reduced; as, for stance, in one case from 275,000 germs to the cubic meter to 2,000 in one hour. The apparatus is said to be so simple that ny one is able to construct one exactly similar and to attach to any chimney that draws well. The importance of this ethod for lying-in rooms, operating rooms, as well as other laces where people congregate, should its claims be sustained, ust be obvious. It is to be regretted, however, that the uthor's description is not more explicit as to the mode of onstruction.

Practitioner London.

January.

25 *Diagnosis of General Paralysis. F. W. Mott.
26 Etiology and Treatment of Lupus Erythematosus. J. H. M. MacLeod.
27 Anatomy of the Urethra. G. J. Jenkins.
28 Causes and Varieties of Urethral Stricture. A. Edmunds.
29 Treatment of Stricture of Urethra by Bougie. H. Lett.
30 Treatment of Acute Gonorrhea. J. Pardoe.
31 Diagnosis and Treatment of Gonorrhea. C. Gibbs.
32 *Review of Recent Work on Epidemic Cerebrospinal Meningitis. C. B. Ker.
33 *Arrest of Postpartum Hemorrhage. J. H. E. Brock.
34 Orthopedic Surgery. A. H. Tubby.
35 Subacute and Chronic Middle-Ear Deafness. M. Yearsley.
36 Ophthalmia Neonatorum. (To be continued.) S. Mayou.
37 Membranous Rhinitis. F. A. Rose.

25. **General Paralysis.**—Mott discusses the relation of syphis to general paralysis and expresses his own conviction that actically speaking only those suffer from general paralysis ho have acquired or inherited syphilis. It is necessary, therere, to discuss the question of previous syphilitic infection in aking a diagnosis. It must not be assumed that syphilis can excluded simply because it can not be proved by the history by residua in the body. He considers the diagnosis of genal paralysis in relation to the phenomena of alcoholism, lead isoning, dementia præcox, the various forms of brain syphis and cerebral tumors. It is of the utmost therapeutic imporance to distinguish between the various forms of brain syphis and paralysis, for the latter is a neuronic decay, which can t be influenced by antisyphilitic treatment, whereas in aprently hopeless cases of true brain syphilis the patients may either cured, partially cured, or greatly relieved by energetic eatment with mercury inunction and injection and large ses of iodid. Many of these cases are wrongly considered philitic general paralysis, whereas they are quite different thologically. The most difficult question of diagnosis, perps, is that from alcoholic pseudoparalysis. The article is full pointers, evidently the result of experience, that do not lend emselves to abstraction.

32. **Epidemic Cerebrospinal Meningitis.**—Ker reviews comratively epidemic cerebrospinal meningitis as it has recently emplified itself in New York, Leeds, Glasgow and elsewhere. e details the evidence for and against, in regard to its relaon to posterior basic meningitis, and also particularly that of aser and Comrie, whose investigations strongly confirm the work of Jehle that the disease is in large part spread by carriers through their nasopharyngeal secretions. With regard to the course of infection, it is interesting to learn that it is considered more likely that both Leeds and Glasgow were infected by transmigrants from the continent of Europe, passing through *en route* for America, than by emigrants from America; for in the latter event, Liverpool and Southampton should surely have suffered equally with Glasgow. The disease is very prevalent among miners abroad, particularly Poles, who pass through Scotland *en route* for America. The experience of the Edinburgh City Hospital favors the belief that the disease may be related to acute abdominal infection. Ker compares in detail the data of Billings' report on the symptoms in the recent epidemic in New York with the Leith and Edinburgh outbreaks, in which the Edinburgh figures as to the frequency of diagnostic symptoms tally almost exactly with those of Billings. There is no drug which can in any way be regarded as a specific. Morphin has the greatest reputation for the relief of certain symptoms, but Ker's experience is against its use, as he thinks the patient is usually the worse for it afterward. Chloral is probably the most satisfactory drug to use. Very hot baths, repeated three or four times in twenty-four hours, unquestionably constitute the best sedative treatment. Lumbar puncture for the relief of pressure, in his opinion, has an extremely limited value. He considers the various serums of Kolle and Wassermann, Jochmann, Ruppell and Flexner. Ker has used all of them at the Edinburgh City Hospital, but holds it too early yet to express any very definite opinion on the merits of this form of treatment. He is inclined to think that when given directly into the spinal canal a better result may be occasionally obtained than could be reasonably expected if the patient had been left without serum. Finally, he discusses the bacterial vaccine treatment and relates his experience with Radmann's method of using the cerebrospinal fluid of the patient himself by injecting 8 c.c. into the skin of the arm. Both of Radmann's patients recovered. Ker tried the method in three severe cases. Although he did not succeed in saving any of them, two patients appeared to be improved after the injections, and in all the opsonic index rose considerably. In none was there any inflammation at the seat of injection, which is a remarkable fact when it is considered that the fluid injected was almost purulent.

33. **Postpartum Hemorrhage.**—The treatment of postpartum hemorrhage, Brock says, is dependent on the question whether after separation of the placenta it is arterial or venous blood that is lost during a flooding. Brock goes into detail in regard to this subject and expresses his opinion, contrary to the prevailing one, that the bulk of the blood lost in postpartum hemorrhage flows from the maternal sinuses, through the uterine veins by a backwash from the inferior vena cava; consequently, the treatment of serious postpartum hemorrhage resolves itself into that of regurgitant venous hemorrhage, and must be carried out by one of two methods: 1, The application of direct pressure to the bleeding sinuses, after the method advocated by Dr. Herman, of introducing one hand closed into the vagina, while, with the other, the fundus of the uterus is pressed down on to it through the abdominal wall; or 2, elevation of the pelvis and compression, not of the aorta, but of the inferior vena cava, by precisely the same maneuver. He is of opinion that the method for arresting postpartum hemorrhage by compression of the aorta depends for its success on the compression, not of the aorta, but of the inferior vena cava, thus stopping the backwash of blood from the latter vessel.

Glasgow Medical Journal.

January.

38 Development, Growth and Reproduction of the Short-Lived Hairs. T. Reid.
39 *Calmette's Ocular Reaction to Tuberculosis: A Suggestion of Caution in Its Use. A. Napier.
40 *Diagnosis and Treatment of Appendicitis. A. E. Maylard.
41 Diagnosis and Treatment of Diseases of the Lachrymal Passages. A. M. Ramsay.
42 Symptomatology of Acute Abdominal Diseases. J. Patrick.

39. **Tuberculin Ocular Reaction.**—Napier thinks the encomiums on this measure must be accepted with reservation. In two

cases of pulmonary tuberculosis he could get no reaction at all, though he tried again and again. On the other hand, sometimes there is a violent reaction. He reports two cases tending to show that the instillation of Calmette's solution, even when it gives rise to no apparent reaction, brings about a local change of some kind which responds sharply to the introduction of a moderate dose of tuberculin into the circulation. It causes the conjunctiva to react locally exactly as a latent tuberculous focus would act.

40. **Appendicitis.**—Maylard gives the following as the conditions calling for operation: 1. Operation is imperative and immediate so soon as it is believed that the symptoms indicate perforation into the general peritoneal cavity. 2. It is also imperative when, at the expiration of forty-eight hours, there are wanting evident signs of improvement. 3. It is advisable at the end of a week in all cases of acute appendicitis which have taken even the most favorable courses. 4. It is indicated in all cases of subacute recurrent attacks of appendicitis. He rests his advice in the third case on the grounds that at this particular period of the illness the operation is exceptionally easy and safe, and that it removes all possibility of future complications.

Clinical Journal, London.

January 15.

43 Case of Muscular Atrophy. W. P. Harringham.
44 Surgical Diseases of Children. A. H. Tubby.
45 Pneumonia and Its Complications. H. Mackenzie.

Journal of Tropical Medicine and Hygiene London.

January 1.

46 Malarial Prophylaxis in Small Communities in British Central Africa. R. Howard.

Annales de l'Institut Pasteur, Paris.

December XXI, No. 12, pp. 929-1008.

47 Relations Between Cobra Venom and Its Antitoxin. A. Calmette and L. Massol.
48 Treatment of Experimental Infection with the *Trypanosoma gambiense*. F. Mesnil and M. Nicolle.
49 How to Combat Anaphylaxis. Besredka.
50 Lesions of the Small Intestine of the Pig. Produced by the Giant Echinorhynchus. Weinberg and Romanovitch.
51 Trypanosomiases of the Ivory Coast. G. Bouet.
52 Research on Opsonins. J. G. Sleeswijk.
53 Influence of Lactic Ferment on the Flora of the Excrements of Mice. J. Belonovsky.
54 Technic for Isolation of Anaërobic Bacteria. F. Marino.

Bulletin de l'Académie de Médecine, Paris.

December 31, 1907, LXXI, No. 45, pp. 603-622.

55 Rousseau a Sufferer from Unsuspected Urethral Stricture. (Maladie de J. J. Rousseau.) A. Poncet and R. Leriche.
56 Abortive Local Treatment of Syphilis. H. Hallopeau.

January 1, No. 1, pp. 1-52.

57 Intoxication with Carbon Monoxid During Sleep. Gréhant.
58 Importance of Daily Dosage of Gases in Air of Mines to Prevent Catastrophes, and Apparatus for Measuring Gases. Id.

Beiträge zur klinischen Chirurgie, Tübingen.

December, 1907, LV, No. 2, pp. 263-580.

59 *Present Status of Operative Treatment of Acute Diffuse Suppurative Peritonitis. G. Hirschel.
60 *Peptic Ulcer of the Jejunum. T. Schostak.
61 *Pathology and Treatment of Splenomegaly with Cirrhosis of the Liver. (Banti'sche Krankheit.) F. R. Nager and J. Bäumlin.
62 Laparotomy for Subcutaneous Rupture of Spleen. (Milzruptur.) M. Haffter.
63 Operative Treatment of Exophthalmic Goiter. (Morbus Basedowii.) H. Moses.
64 Operative Treatment of Internal Hernias. A. Jaehne.
65 Primary Angioma of the Muscles. H. Kolaczek.

59. **Operative Treatment of Acute Diffuse Suppurative Peritonitis.**—Hirschel's extensive monograph reviews the history of operative treatment and relates his experience with 110 cases. He preaches the necessity for surgical measures in every case of diffuse peritonitis unless the patient is actually moribund. Even in the most threatening cases the intervention is liable to induce a change for the better. There are certain established indications for rinsing out the cavity, as he relates in detail, and he advocates the use of 1 per cent. camphorated oil as a means of preventing further absorption of the exudate. The incisions should be ample, and be drained, tamponed and dressed as open as possible.

60. **Peptic Ulcer of the Jejunum.**—Schostak reports 4 cases from Krönlein's clinic and reviews 31 from the literature. He discusses the possibility of the condition being due to pepti influences, that is, disturbances in the circulation and the digesting action of the acid juice, or to bacterial processes, and reviews the gastric measures effectual in prophylaxis.

61. **Splenomegaly and Cirrhosis of the Liver.**—Nager and Bäumlin assert that Banti's disease must be regarded as an actual disease entity, a primary affection of the spleen. Careful differentiation will exclude the many contradictions noticeable in the cases of alleged Banti's disease that have been published. It is particularly important to differentiate between inherited syphilis and cirrhosis of the liver. The first (anemic) stage of Banti's disease is identical with primary splenomegaly and splenic anemia. Splenectomy is the only correct treatment for these cases. It should be supplemented by a Talma operation in the stage with ascites.

Deutsche medizinische Wochenschrift, Berlin.

January 9, XXXIV, No. 2, pp. 49-88.

66 *Management of Third Stage of Labor. (Nachgeburtsperiode.) F. von Winckel.
67 Ocular Reaction to Tuberculin. (Ophthalmoreaktion.) E. Schenck.
68 Measurement of Diastolic Blood Pressure in Man. (Weitere Untersuchungen über Messung des diastolischen Blutdruckes.) J. Strasburger.
69 *Treatment of Pruritus. Kromayer.
70 *Functional Diagnosis and Dietetic Treatment of Chronic Intestinal Catarrh. (Darmdiagnostik und chronischer Darmkatarrh.) L. von Aldor.
71 Coincidence and Connection Between Vasomotor Dermatoses and Achylia Gastrica as Part Manifestation of Congenital Asthenia. G. Graul.

66. **Management of Third Stage of Labor.**—von Winckel found that the placenta was spontaneously expelled in 569 of 968 cases in less than half an hour; in 262 in one hour, and in 137 in less than two hours. He advises expectant treatment to the end of the second hour. In 40 out of 1,008 cases, that is, in only 3.7 per cent., the placenta had not been expelled by the end of the second hour, and expression according to the Credé, Schroeder or Schatz technic became necessary. He emphasizes the fact that these manipulations should be done only during a labor pain. All the escaping blood and that accumulated in the placenta is caught in a bedpan. If 500 gm. have accumulated and the afterbirth has not been expelled, he loosens the placenta with two fingers, but adds that this is the most dangerous of all obstetric operations. Whether it should be done with gloves or not is still open to discussion. His total morbidity in 8,097 childbirths—1900-1904—was 14.86 per cent. Ten European clinics have reported a better percentage than this, but seventeen others have had still higher morbidity. The amount of blood lost ranged from 60 to 530 gm. in the normal deliveries, an average of 225 gm., which is about the same or a little less than the average lost under more active measures for the third stage of labor. He complains that too much attention is paid to operative and other active measures in the teaching of obstetrics, and that students are not trained to rely on Nature to the proper extent.

69. **Effective Treatment of Pruritus.**—Kromayer advises having plenty of prescriptions on hand for pruritus, as the various salves soon lose their efficacy and a frequent change is advisable. He prefers tar and its derivatives, with, further, tumenol, menthol and sandal oil. He has found the latter very useful. He remarks that the treatment of pruritus, like that of eczema, is the touchstone for the skill of the dermatologist. If the ordinary measures fail to cure the pruritus, he advises causal treatment by cauterization of the tiny serous blisters under the epidermis, which he has found constantly in the pruriginous skin, even in the very earliest stages of the pruritus. He wipes off the itching region with cotton moistened with a 15 per cent. solution of caustic potash. After a few seconds transparent spots appear on the skin, about the size of a pinhead. When the skin is rinsed off with water, these spots are seen to project above the surface of the skin, looking like swollen and burst grains of sago. These are the remains of the blisters. The epidermis covering them opposes less resistance than normal skin to the action of the caustic, which thus eats its way into the blisters and destroys them in elective style. As the itching is the result of the irritation from these blisters, as soon as they are destroyed the pruritus is cured for the

ime being or permanently by a single application of the austic potash. The caustic must be washed off thoroughly in rom five to thirty seconds, according to the thickness of the kin at the part. This measure is not applicable when the surace is inflamed or excoriated or for application to mucous embranes. He does not hesitate to apply the caustic potash o an entire limb if need be, and has never seen bad effects. he cauterization is liable to be somewhat painful, but the atients sometimes consider even this a welcome relief from he unbearable pruritus. He dresses the part afterward with oist compresses or salves, and healing is complete in a few ays. He has thus treated 160 patients. In one case the ruritus between the scapulæ had lasted for years; the patient, physician, had been advised to have the patch of skin excised, n account of the terrible itching. A single, vigorous applicaion of the caustic potash effected a cure. A number of small lcerations followed, but soon healed. In another case, a woman f 40, had suffered for ten years from pruritus of the neck, houlder and thigh. The parts were excoriated from scratching, nd there was a tendency to lichenification. Under sulphur, the cute inflammatory conditions retrogressed in a week, and the austic potash was applied in a mild form. Three weeks later he pruritus recurred and the caustic was applied again, folowed by a salve; there was apparently complete cure for six onths, after which a tendency to recurrence became apparent. his is the usual course in the chronic cases; it is rare when n old pruritus can be banished at one sitting. He has treated orty patients with Roentgen rays, alone or in combination ith the caustic potash, and describes the technic which he as found effectual, especially for pruritus ani. He does not hrink from a Roentgen dermatitis of the first degree, finding hat vigorous application is essential for causal treatment. The ain point is to have the rays actually reach the part. The atient has to assume the knee-elbow position, and the atendant holds the buttocks apart with his hands while the atient strains, thus causing the mucosa of the anal region to rotrude. The time of exposure can be shortened by having the ube only 5 cm. from the anus. The example of this treatment iven is the case of a man of 40, who had had pruritus ani for any years; the skin of the region was much thickened and ying in folds. Seven exposures, each 5 or 6 minutes long, were ade in 10 days; the amperage was from 3 to 4.5, voltage rom 40 to 64, the total amounting to four normal Roentgen oses. The itching ceased after the third exposure, but slight edness and pain persisted in the exposed region for two or hree weeks.

70. **Treatment of Chronic Intestinal Catarrh.**—L. von Aldor tates that his further experience has confirmed the superiority f the method of treating chronic intestinal catarrh by high njections of hot Carlsbad water, after failure of ordinary easures, but he does not advise this local treatment for the cute or recent cases. He descants on the importance of exmining the stomach functioning in intestinal affections, delaring that the gastrogenic form of intestinal disturbances ields most readily to appropriate treatment. He says that here is scarcely any alteration in the stomach functioning hich is not able to produce obstinate intestinal trouble menioning the obstinate diarrhea accompanying achylia gastrica s an example in point. Achylia gastrica seldom causes any ymptoms referable to the stomach, and the resulting diarrhea s generally misinterpreted and treated with bismuth, opium, tc., and the diet incorrectly regulated—all measures which ave a distinctly injurious action on the stomach and are iable to extinguish the last spark of normal gastric functionng. Owing to the absence of hydrochloric acid in the stomach, here is no stimulus for the production of pancreatic juice, and onsequently the digestion lacks this latter important element lso. This explains the efficiency of hydrochloric acid given to atients with achylic diarrhea. The hydrochloric acid is not iven in amounts sufficient to replace the missing gastric seretion, but the amount ingested is sufficient to start the panreatic secretion. The food must be such as will promote gasric secretion; abundance of albuminoids in the diet has this ffect and may restore secretory conditions to normal. The iet must aim to spare the stomach from motor strain and to supply a substitute for the missing proteolytic function. These aims are realized by preparing the food in fluid form and with every device to stimulate the appetite. Systematic examination of the stools in 150 cases has confirmed the importance of Schmidt's test diet. It consists of 1.5 liter milk, 100 gm. zwieback, 2 eggs, 50 gm. butter, 125 gm. beef, finely chopped, raw or roasted, 190 gm. potato and 80 gm. of oatmeal gruel. This ration is divided into five meals during the day, and is repeated on the two following days. The repeated finding of particles of muscle or muscle fibers in the stool points to an affection of the small intestine, but exaggerated putrefaction of albumin with gas formation and alkaline reaction is a sign of a diffuse affection of the entire intestinal tract. Gas formation and an acid reaction denote fermentation of carbohydrates. The test diet thus shows how to regulate the diet, suppressing meat in case the muscle fibers are undigested, or dropping the albuminoids or carbohydrates in case of positive findings with the putrefaction or fermentation tests. He adds that when the test diet indicates that albumin should be restricted, gelatin will be found an ideal substitute. It resembles albumin in its composition, is readily digested and is almost completely absorbed, while it also serves to save albumin. Senator has recently advocated gelatin in treatment of gastric ulcer, and von Aldor has used gelatin in 60 cases of intestinal catarrh with excellent results, finding it an absolutely ideal article of food in cases in which the muscle fiber test gave positive results, or when the patient was much debilitated by prolonged intestinal catarrh. Prepared from calves feet and eaten as a meat jelly, flavored with lemon or hydrochloric acid, it is relished for a time by the most fickle appetite. Pure gelatin may be given dissolved in bouillon or in other ways.

Mitteilungen a. d. Grenzgebieten d. Med. und Chir., Jena.

XVIII, No. 3, pp. 377-566. Last indexed, Jan. 4, p. 82.

72 *Experimental Research on Functioning of Parathyroid Bodies. (Epithelkörperchenfunktion.) H. Pfeiffer and O. Mayer.
73 *Difficulties in Diagnosis of Abdominal Tumors. P. Kroemer.
74 *Appendicitis and Gastric Ulcer. F. Mahnert.
75 *Carcinomatous Supraclavicular Glands on Right Side with Gastric Carcinoma. (Supraclaviculardrüsen bei Magencarcinom.) P. H. Hosch.
76 *Surgical Treatment in Epidemic Cerebrospinal Meningitis. (Epidemische Genickstarre.) Radmann.
77 Obliteration of Appendix. (Obliteration des Wurmfortsatzes.) C. Tomita.
78 Tumors of Appendix. (Geschwülste der Appendix Vermiformis.) R. de J. de Jong.
79 *Stomach Tube and Tracheotomy to Relieve Disturbances in Swallowing and Breathing in Tetanus. (Schling- und Atmungsstörungen beim Tetanus und deren Behandlung.) P. Harrass.

72. **Experimental Study of the Functions of the Parathyroid Bodies.**—Pfeiffer and Mayer devote 63 pages to the detailed report of long series of experiments on dogs and mice, which confirm the assumption that postoperative tetany is the result exclusively of the loss of parathyroid functioning. They do not believe that the hypertoxicity of the urine is due to any special tetany toxin, but think that it is merely the symptomatic expression of the increased metabolism during the attacks. Other findings supply an experimental basis for the clinical findings of Escherich in respect to the constant morbid changes in the parathyroid bodies in children who exhibit a tendency to tetany.

73. **Difficulty of Diagnosing Abdominal Tumors.**—Kroemer gives the details of twenty-one cases of abdominal tumors in which the diagnosis was a difficult matter, and expatiates on the advantages of an exploratory incision over mere puncture.

74. **Frequent Coexistence of Appendicitis and Gastric Ulcer.**—Mahnert reports 50 cases in which an ulcer developed in the stomach after an attack of appendicitis, probably from the tendency to thrombosis and embolism liable with appendicitis. In 10 cases the gastric ulcer developed sooner or later after an operation on the appendix or was discovered at the time of the appendectomy. In 4 others, the ulcer in the stomach with coexistent appendicitis was an autopsy finding. In 7 others, a threatening ulcer in the stomach developed in patients who had at some time passed through an attack of appendicitis under medical treatment only. In 20 other cases, the gastric ulcer developed in patients who were unaware that

the appendix was diseased, but study of the anamnesis revealed signs of disturbances and symptoms which were readily recognized as the result of chronic inflammation of the appendix. In the 8 other patients with gastric ulcer, there had been no signs to indicate appendicitis, but investigation revealed objective findings demonstrating the existence of chronic inflammation of the appendix. In addition to these 50 cases, he has observed a number of others in which there was a strong probability of latent chronic appendicitis with a coexisting ulcerative stomach affection, although absolute proof of the appendicitis was not forthcoming. During the last two years, he has been able to detect chronic appendicitis in 64 per cent. of 36 cases of pronounced gastric ulcer. These findings confirm Payr's announcements in regard to the way in which the appendix throws off thrombi while the omentum plays only a passive part. He succeeded in producing in animals hemorrhagic erosions, infarcts, hemorrhages and ulcers in the stomach and duodenum by artificially induced embolism in the veins of the omentum and mesentery. Mahnert thinks that all these facts point to the necessity for removal of the appendix, not only in acute inflammation, but also in the chronic and latent forms of appendicitis. The surgeon operating for appendicitis should always examine the stomach and environment for possible ulceration.

75. **Cancerous Involvement of the Supraclavicular Glands with Gastric Cancer.**—Hosch describes a case in which the diagnosis wavered between tuberculous peritonitis and abdominal cancer, but the discovery of metastatic enlargement of the supraclavicular glands differentiated malignant disease. He thinks that these glands have differential importance for malignant disease of the alimentary canal, if scrofula and syphilis can be excluded, especially when the glands are small and hard, close under the skin and movable. There was no painfulness, spontaneous or on pressure, in the cases on record, but their increasing size is an important differentiating point. As extirpation of one of these glands for microscopic examination is such a comparatively trifling matter, he advises this as a routine measure, and relates some instructive examples of the benefits of such exploratory excision, allowing surgical removal of the primary growth at a stage when its existence was still very dubious, as it had given no conclusive signs of its existence. The tell-tale glands were always on the right side in his experience and in the records in the literature.

76. **Surgical Treatment of Epidemic Cerebrospinal Meningitis.**—Radmann reports two cases to show the benefits liable to be attained by systematic drainage of the lateral ventricles to relieve hydrocephalus. He is not convinced of the advantages of lumbar puncture in this disease, thinking that baths and wet packs relieve the severe symptoms of the early stage better than puncture, but he has found that drainage of the hydrocephalus in the later stages is liable to produce great improvement. He gives an illustrated description of the little wire frame, in which four wicks are introduced for drainage.

79. **Treatment of Disturbances in Swallowing and Breathing in Tetanus.**—Harrass was unable to save either of the two patients, reports of whose cases are published, but he calls attention to the remarkable way in which the disturbances in breathing were relieved at once and permanently by tracheotomy, while the introduction of a stomach sound relieved the disturbances in swallowing. The sound should be introduced under general anesthesia in order to avoid starting reflex cramps, and should be left in place for some time. Tracheotomy, he thinks, is indicated not only in case of spasm of the glottis, but also when there is spasm of the intercostal and auxiliary respiration muscles. Absolute inability to swallow was cured permanently in his first case after the stomach sound had been introduced and left in place for twenty or thirty minutes. The patient was able thereafter to drink freely. The paralysis or spasm of the respiratory muscles was likewise cured by the tracheotomy, no further spasms being noticed for twenty-one hours until they recurred, mild and rare, four hours after removal of the tracheotomy tube. The patient succumbed suddenly to heart failure when apparently well on the road to recovery. The second patient succumbed in the first spasm of the respiratory muscles, before tracheotomy was possible, but had previously derived great benefit, in regard to swallowing, from introduction of the stomach sound under the chloroform given while the primary wound on the arm was being treated with pure carbolic acid and alcohol.

Virchows Archiv, Berlin.

December, 1907, CXC, No. 3, pp. 381-560.

80 Syncytium-Containing Tumors in Testicles. ("Syncytium"-haltige Hodentumoren.) J. G. Mönckeberg.
81 Tumors of Maxillary Sinus. (Geschwülste mit epulidem Grundgewebe.) H. Böhmig.
82 Pathologic Anatomy of Leukemia. E. Fabian, O. Naegeli and O. Schatiloff.
83 Hernia in Region of Duodenum and Jejunum. R. Basset.
84 Physiologic Proportion of Bromin in the Organism. (Brom-Gehalt des Organismus.) J. Justus.
85 Elimination of Bilirubin Crystals in Severe Icterus. Waechter.

Wiener klinische Wochenschrift.

January 2, XXI, No. 1, pp. 1-36.

86 The Latest Achievements in Syphilology. E. Finger.
87 Results of Experimental Cancer Research to Date. (Krebsforschung.) G. Joannovics.
88 Meningococcus Toxins and Antitoxins. (Meningokokkengifte und Gegengifte.) R. Kraus and R. Doerr.
89 Differentiation of Cutaneous Reaction to Tuberculin in Adults. J. Kentzler.
90 *Aims and Practical Results of Scopolamin-Morphin Anesthesia in Obstetrics. O. P. Mansfeld.

90. **Scopolamin-Morphin in Obstetrics.**—Mansfeld, assistant at Tauffer's maternity at Budapest, spent six weeks at Freiburg studying the technic and practical value of the scopolamin-morphin anesthesia as practiced by Krönig and Gauss. He calls attention to the prevalent erroneous conception that this method of anesthesia is designed to abolish the pain of labor. Krönig and Gauss, he declares, do not attempt to banish the pain, but aim solely to deprive the woman of all memory of childbirth, including the memory of the pain. They believe that the remembrance of the childbirth is liable to prove the starting point for a psychosis, neurasthenia or disturbances mistakenly attributed to the genitalia. They reason that if the woman has no remembrance of the birth process it can not enter as a factor into a psychosis. Mansfeld says that the first dose, scopolamin 0.00045 gm. (1/134 gr.), and morphin 0.01 gm. (1/6 gr.), is never given until the obstetrician is convinced that labor is going to proceed normally and till severe labor pains recur frequently (every five minutes). This first dose does not, as a rule, affect the consciousness, and after an hour the second injection is given: scopolamin 0.0003 gm. (1/175 gr.), but no morphin. Thirty minutes later, the woman's power of attention is tested; she is asked if she remembers the injections, their number and the point at which they were made. The correct answer is marked on the record with a plus sign, inability to remember with a minus sign, and a dubious response with the two signs combined. Even if the answer is plus or dubious no new dose is given, but twice more at intervals of thirty minutes some object is shown to the patient, and again, thirty minutes later, she is asked if she still recognizes it. The second injection is thus made one hour after the first, and the third an hour and a half after the second, unless the attention is lost before this. No attention is paid to the patient's expressions of pain—the loss of the power of attention being the main point, as abolition of memory of the process is the result desired. When the attempt is made to suppress all pain there is danger of over-dosage due to repeated doses of scopolamin, as usually only one dose of morphin is given. When an over-dose has been given the labor proceeds without any expression of pain, there is prolongation of the labor, asphyxiation of the child, and sometimes postpartum hemorrhage. The correct technic aims to have the third stage of labor proceed free from the influence of the scopolamin. The method of testing the attention is faulty, and it is used only in place of a better. The parturient must be roused from her drowsiness between the pains to answer questions, and intelligent answers can scarcely be expected under these circumstances. Mansfeld adds: "A well-conducted scopolamin-morphin childbirth requires enormous care, pains and constant attention. After the first injection the woman must not be left without continuous medical supervision, for—as all adherents of the method admit—there is perhaps no other drug that acts so differently in individual cases, and over-dosage may become evident even with minimal

oses." "As the child is expelled, the woman's face is covered, er ears plugged or the cry of the child muffled by the sound f running water. Thirty minutes after delivery the quietly leeping woman is asked whether she has been delivered, and n most cases she has actually no remembrance of the birth rocess, and hesitates to believe that the child is actually ers." The passage of the head, he adds, may require ethyl hlorid necrosis to supplement the other, as it is difficult to be ertain that memory of this event will be lost under the nfluence of scopolamin alone, without danger of over-dosage. Iansfeld lays stress on the fact that the method is dangerous hen used outside of a well-equipped hospital or maternity. He ites with approval Hochheisen's dictum that the aspect of the atient, with red face and twitching hands, would frighten the amily and render illusory any attempts to deaden the power f attention, while the necessity for constant oversight and the umerous attendants required to keep the woman tranquil and ossibly to restrain her make the method absolutely impossible utside of a maternity.

Zeitschrift für Geburtsh. und Gynäkologie, Stuttgart.

LXI, No. 2, pp. 185-448. Last indexed, Jan. 25, p. 323.

91 Obstetric Statistics in Mecklenburg Province in 1904. O. Büttner.
92 *Etiology and Prevention of Pregnancy Toxicoses. (Cholämie, Eklampsie, Hyperemese.) J. Hofbauer.
93 Unusual Incarceration of Gravid Uterus. H. Cramer.
94 Study of Function of Corpus Luteum. F. Kleinhaus and F. Schenk.
95 Frequency of Twins from One Ovum in Connection with Age of Mother and Sequence of Childbirths. (Häufigkeit der eineiigen Zwillinge.) F. Prinzing.
96 *Carcinoma of the Vulva. R. Teller.
97 Clinical and Experimental Research on Action of Certain Caustics on the Uterine Mucosa. (Wirkung einiger Aetzmittel auf die Uterusschleimhaut.) G. Burckhard.

92. **The Toxicoses of Pregnancy.**—Hofbauer ascribes to the iver the chief share in the toxicoses of pregnancy—cholemia, clampsia and uncontrollable vomiting. He presents evidence o prove that the liver during pregnancy is the seat of an nfiltration of fat in the central segments of the acini, associated with a deficiency of glycogen. There is stagnation of bile, with consecutive deposits of pigment in the interior of he lobulus and dilatation of the bile capillaries, central veins and afferent capillaries. These changes in the liver injure it o such an extent that when additional irritation is superposed rom intoxication resulting from a ferment in the placenta—which he asserts is the principal cooperating factor in eclampsia—the liver is taxed beyond its powers of endurance, and the syndrome of eclampsia results, with the characteristic athologic findings in the eclamptic liver. In the vomiting of regnancy the liver shows the ordinary aspect of the pregnancy liver, as described above, which develops to an extreme, atal phase in the fulminating cases. In case of uncontrollable vomiting in pregnancy, it is important to determine how far these morbid processes have progressed, and he thinks that Strauss' levulose test is instructive. The glycosuria after ingestion of 60 gm. (900 grains) of levulose is the limit for expectant treatment, beyond which the interruption of the pregnancy must not be deferred. These facts suggest the necessity for watching the liver during pregnancy. The diet should be regulated to exclude articles of food that have an injurious influence on the liver or on the flow of bile. All irritating articles of food should be avoided, and everything tending to favor catarrhal conditions in the intestinal tract, on account of the danger from secondary injury of the liver parenchyma. Conditions to promote the flow of bile should be made as favorable as possible, with plenty of exercise, avoidance of all pressure on the liver region, regular intestinal functioning, bathing, etc. The fact that the bile is apt to stagnate during pregnancy explains why gallstone affections are so common in women who have borne children. A sensation of oppression in the liver region is a premonitory symptom of pregnancy toxicoses, especially of eclampsia. In case of the latter, the ferment in the placenta causing the intoxication and further impairing the already seriously injured liver requires immediate removal of the placenta, the source of the ferment production. Delay is dangerous after the eclampsia is once certainly differentiated from hysteria and epilepsy. It is not only necessary to terminate the pregnancy, he asserts, the placenta must be got rid of as soon as possible. It is important, however, to refrain from forcible measures that might detach some villous elements and force them into the maternal circulation, and the placenta must be carefully examined to see that no scraps have been left behind. As anesthetics injure the parenchymatous organs, this factor of further impairment of the liver must be avoided so far as possible, using only the minimum of chloroform or, better still, of ether, in case there are no symptoms of bronchitis or incipient pulmonary edema. When eclampsia develops first after delivery the toxic substances absorbed from the involuting uterus or from the intestines may be responsible for the overburdening of the already incompetent liver, or the condition may be the result of retention of some scraps of the placenta. He adds a warning in respect to the different way in which the normal and the starving organism reacts to drugs, especially to anesthetics. The cell protoplasm is in a very unstable condition on account of the lack of nourishment, and he believes that ignorance or neglect of this fact has done great harm in cases of uncontrollable vomiting of pregnancy in which anesthetics—especially morphin—were heedlessly given. Narcotics should be used with great caution in hyperemesis patients, and avoided altogether as much as possible. It is extremely important in hyperemesis to watch the functioning of the liver and also the elimination of albumin, acetone and indican in the urine although the latter is not conclusive like the levulose test of liver functioning—functional disturbances preceding the organic, as a rule. By these means it may be possible to detect the onset of aggravation of the condition, and to avert the fulminating form of hyperemesis. The discovery of complete insufficiency on the part of the liver is the index of impending danger. The accumulation of the autochthonous toxins from the destructive process in the liver impairs in turn the kidney functioning to complete insufficiency.

96. **Cancer of the Vulva.**—Teller writes from Olshausen's clinic at Berlin to report 36 cases of carcinoma of the vulva, with the later history of the patients. Recurrence was observed in 16. He reviews this material from various standpoints, stating that it emphasizes the necessity for radical removal of all connected lymphatics and glands with the carcinoma. An operation was done for a second recurrence in 6 cases and for a third in 2.

Zeitschrift für klinische Medizin, Berlin.

LXIV, Nos. 5-6. Last indexed, Jan. 25, p. 324.

98 Peculiar General Affection Involving Principally the Musculature and Integument. R. Dietschy.
99 Changes in the Larynx in Acromegaly. (Kehlkopfveränderungen bei Akromegalie.) L. Neufeld.
100 *Nodose Periarteritis. H. Benedict.
101 *Pathogenesis of Paroxysmal Hemoglobinuria (e frigore). W. A. Choroschilow.
102 Physiology of the Metabolism of Chlorin and Its Connection with the Elimination of Water and Curve of Weight. (Physiologie des Chlorstoffwechsels.) O. Grüner.
103 Action of Preparations of Iodin and of Spermin on Adrenalin Arteriosclerosis. F. Schrank.
104 Agglutination of Colon Bacteria. E. Mayer.
105 Research on Levulosuria. W. von Moraczewski.
106 Experimental Formation of Antidiastase. A. Schütze and K. Braun.
107 Historical Sketch of Benzaldehyd Color Reaction in the Urine. (Benzaldehyd-Farbreaktion im Urin.) A. Pappenheim.
108 Importance of Molecular Concentration of Fluids for Their Absorption. (Bedeutung der molekularen Konzentration von Flüssigkeiten.) W. Zangemeister.

100. **Nodular Periarteritis.**—Benedict adds another to the twenty cases on record of this affection, and summarizes the main points in this material. The age of the patients ranged from a few months to 53 years. Fifteen of the patients were males. As a rule, the disease affects previously healthy persons, although syphilitic antecedents were known in a few instances. Rheumatic pains are sometimes the first symptoms, but severe anemia soon follows, with a dropsical tendency, and in about half the cases a tendency to jaundice. Pains and tenderness in the limbs are also evident, but the principal changes are in and around the arteries, and these give rise to a multitude of symptoms, as various organs are affected by the insufficient blood supply from the altered arteries. The affection generally proves fatal in three or four months, although cases of spontaneous relative recovery have been observed. In one case the fatal termination occurred in ten days,

in others not until after a year and a half, and the patient personally reported has been under supervision for three years. Differentiation is possible only with histologic examination of one of the nodules. There seems to be a marked tendency for the arteries to rupture, causing aneurisms and free extravasations of blood, as the blood pressure becomes abnormally high. In conclusion, he reviews the points that differentiate this affection from others resembling it in some points. Mercury and potassium iodid have given good results in some cases. In the personal case, potassium iodid was given after the patient had showed a pronounced tendency to a spontaneous cure, and it did not seem to have much to do with the continuous improvement, although Benedict adds that he would always give mercury and the iodids a trial in such cases.

101. **Pathogenesis of Paroxysmal Hemoglobinuria.**—Choroschilow has had a case of paroxysmal hemoglobinuria under observation for three years. His research has convinced him that the trouble is not due to autointoxication, nor to disturbance in the metabolism or nervous system, as some authors have surmised, but that it is rather a special affection of the red corpuscles, probably the work of some anomaly or affection of the blood-forming organs. The red corpuscles seem to be made with some defect which renders them particularly sensitive to cold, while healthy red corpuscles are comparatively resistant to the influence of cold. Marked improvement is sometimes observed, equivalent to a complete cure lasting for a long time. In this and in a second case potassium iodid proved apparently beneficial. The second patient, a man of 23, had a history of syphilis, but had never had malaria. The first patient, a man of 32, had a single, brief attack of malaria twenty years before, with a suspicion of syphilis. In both patients the attacks of hemoglobinuria followed exposure to cold; even cool summer weather was sufficient to bring them on. Vasoconstricting drugs seemed to have no power to arrest or abort an attack.

Gazzetta degli Ospedali, Milan.

December 22, 1907, XXVIII, No. 153, pp. 1603-1618.

109 *Efficacy of Amyl Nitrite in Arresting Tuberculous Hemoptysis. (Nitrito d'amile nella cura delle emotisi tubercolari.) A. Braga.
110 Koplik's Spots as Sign of Measles. (Sintomo di Koplik nel morbillo.) B. Nicola.
111 Reliability and Harmlessness of Ocular Reaction to Tuberculin. (Oftalmoreazione alla tubercolina.) G. Dameno. Id. Paronzini, in No. 156.
112 *Spinal Anesthesia. (Rachistovainizzazione.) R. Cinaglia.
113 Study of Population in Malarial Focus. (Influenza della malaria sui movimento della popolazione in Aiello e in Terrati.) F. Sollmena.

December 29, No. 156, pp. 1635-1650.

114 Diabetes Mellitus. E. de Renzi. Clinical lecture.
115 Case of Spinal Apoplexy Following Severe Chilling. F. Bambac.
116 More Rapid Course of Experimental Tuberculosis After Preceding Diplococcus Infection. G. Romanelli.

January 5, XXIX, No. 2, pp. 9-24.

117 Treatment of Tuberculosis with Maragliano's Serum. Monti.
118 Diagnosis and Treatment of Venereal Ulcers. C. Ventura.
119 Technic of Thoracentesis. (Toracentasi pneumatica.) V. Fontana.
120 Sodium Sulphate in Dysenteric Enterocolitis in Infants. A. Ciccarelli.
121 The Paralysis of Osteomalacia. G. Bassi.
122 Spontaneous Cure of a Primary Suppurating Echinococcus Cyst in Left Lung. E. Piperno.
123 Lumbar Puncture in Chronic Hydrocephalus. (Idrocefalo cronico e puntura lombare.) A. Gasparini.

109. **Amyl Nitrite in Tuberculous Hemoptysis.**—Braga has used amyl nitrite fifteen times in seven cases of hemorrhage from tuberculous lungs, and each time has been impressed with the prompt action of the drug and its efficiency in these conditions. The hemorrhage was arrested as if by magic; blood ceased to accumulate in the bronchial passages, and thus the evil effects of its decomposition were avoided. Five or six drops of amyl nitrite on a wad of cotton were inhaled, and the hemorrhage ceased at once and did not recur in the majority. The inhalations were repeated several times afterward during the day. It proved effectual, even in cases in which no other measure had given relief. He supplemented the nitrite by the slower acting action of an enema of gelatin to which calcium chlorid had been added, with fluid extract of hydrastis internally. Since this technic has been adopted no patient has succumbed to hemoptysis, and whenever it appears it is speedily controlled

112. **Spinal Anesthesia with Stovain.**—Cinaglia reviews the various mishaps that have been published in connection with spinal anesthesia, and reports two cases in which it was followed by intense headache and cramps, persisting for ten days in one case. Severe pains resembling sciatica were noted in another patient; they have persisted for several months to date with brief intermissions. Another patient had paralysis of the rectum and bladder for several months after the operation with pains in back and abdomen and in the legs. The symptoms have gradually subsided and a complete cure is anticipated soon. He remarks in conclusion that spinal anesthesia is superior to all other technics, although it is still far from ideal; he advises its application only in the cases in which it is absolutely necessary, with correct technic and dosage, thus avoiding accumulation of statistics which throw discredit on a method which gives fine results under proper conditions and which may prove the best of all when further perfected.

Hygiea, Stockholm.

December, 1907, LXIX, No. 12, pp. 1171-1282.

124 Study of Growth of Tubercle Bacilli in the Kidneys in Tuberculous Nephritis. (Tuberkelbakteriernas växttopografi i njuren.) G. Ekehorn.
125 Mercury Snuff in Treatment of Syphilis. (Kvicksilfer vid behandling af syfilis.) C. Cronquist.
126 Study of Pulse and Blood Pressure and Appearance of Albumin in Urine After Foot Races. K. A. E. Fries.
127 Acute Morphin Poisoning in Ten-day Infant. A. Kaijser.
128 Circumcision from the Historical and Medical Standpoints. (Omskärelsen från kulturhistorisk och medicinsk synpunkt.) C. M. Fürst.
129 Physical Development and Health of Public School Children. I. Norinder.

Norsk Magazin for Lægevidenskaben, Christiania.

December, 1907. LXVIII, No. 12, pp. 1361-1480.

130 Five Unusual Cases of Cesarean Section. E. Rode.
131 *The Human Relics Found at Oseberg, Dating from the Days of the Vikings. (Osebergskibets menneskeknokler fra den yngre jarnalder.) G. A. Guldberg.
132 Scrofula. C. M. F. Sinding-Larsen.

January, LXIX, No. 1, pp. 1-220.

133 Importance of Trauma in Origin and Development of Tuberculosis. (Traumaets betydning for tuberkulosens opstaaen og udbredning.) Id.
134 Ocular Reaction to Tuberculin. (Oftalmoreaktion.) K. Thiis.
135 Clinical Importance of Infiltration in Muscle and Connective Tissue. (Muskel- og bindevævsinfiltraters kliniske betydning.) F. Grøn.

131. **The Oseberg Human Relics.**—Guldberg gives an illustrated description of the human bones found at Oseberg in 1904, dating from about the eighth century. The bones are evidently parts of two female skeletons buried with much ceremony; near them were the skeletons of about twenty horses and a number of dogs and pigs. Some of the horses had been decapitated. The human bones show pathologic processes, one a general tendency to osteoplastic growths, as shown in the hyperostosis of the frontal bone, knees and vertebræ, while the other skeleton shows asymmetry and various defects.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Diseases of the Heart. By Professor Th. v. Jürgensen, Tübingen; Professor L. Krehl, Greifswald; and Professor L. von Schrötter, Vienna. Edited, with Additions by George Dock, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, University of Michigan, Ann Arbor. Authorized Translation from German, under the Editorial Supervision of Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Pp. 848. Cloth. Price $5.00. Philadelphia: W. B. Saunders Co., 1908.

Theory and Practice of Hygiene. By J. Lane Notter. Revised and largely rewritten by R. H. Firth, Lieut.-Colonel Royal Army Medical Corps. Third Edition. Cloth. Pp. 993. Price $7.00. Philadelphia: P. Blakiston's Son & Co., 1908.

The Pyonex: Its Theory and Practice. By W. B. Rule, M.R.C.S., L.R.C.P. Cloth. Pp. 572. Price, $3.00. London: John Bale, Sons and Danielsson, Ltd., 1907.

Biennial Report of the Board of Managers of the Springfield State Hospital of Maryland. Paper. Pp. 90. Baltimore: Sun Book and Job Printing Office, 1907.

Eleventh Biennial Report of the North Carolina Board of Health. Paper. Pp. 165. Raleigh: E. M. Uzzell & Co., 1907.

Report of Trustees of Bellevue and Allied State Hospitals. Paper. Pp. 24. New York: Martin B. Brown Co., 1907.

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Original Articles

OPERATIVE TREATMENT OF CANCER OF THE RECTUM.*

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In the communication which it is here my privilege make before this Association I wish to do no more an mention very briefly the case report and then proed to discuss at greater length the question of the erative treatment of cancer of the rectum and the arings which the operation described may have on it.

In the spring of 1903 there was admitted to the Royal ictoria Hospital in my service a man, aged 23, who had for arly five years been suffering from a tuberculous proctitis. left iliac artificial anus practically cured the condition, but the expense of great scar narrowing, so much so as to conitute an obstruction. This condition defeated several attempts closure of the artificial anus, and ultimately, so to speak, rced on me the idea of a total excision of the bowel from the tificial to the natural anus, though with preservation of e sphincter, together with implantation of the descending lon into the anus, which last was to be accomplished by e cutting of the mesocolon.

The natural objection, *a priori,* was that the blood pply would be too seriously damaged to permit of y such maneuver, yet on looking closer into this estion I became convinced that such need not be the se. The anastomoses between the middle and left lic and between the left colic and the sigmoid arteries e so free by way of the communicating loops situated ar the mesenteric border of the bowel that, as I beved, one need only take care to spare these loops in e ligation of the mesosigmoid and mesocolon; that is, e need only make sure of ligating the arteries close their origin from the inferior mesenteric and the ood supply would be assured.

I then looked through the literature and found that ümmell[1] of Hamburg had performed the operation on o occasions, De Quervain[2] once and Treves[3] once.

Therefore, after doing it on several cadavers, I felt stified in proposing it to the patient, who willingly nsented.

Operation.—July 5, 1905, the operation was carried out. need not describe the procedure at this point; its essential tails were as just indicated; they are described in the someat fuller article published in the Transactions of the Section Surgery and Anatomy.

Postoperative History.—The patient died of shock twelve hours later. This unfortunate result was not due to the operation as an operation, but rather to avoidable conditions—a weak patient, too painstaking a ligation of the mesorectum, making a long and slow operation; and finally afterward the omission of stimulation, especially intravenous saline, owing to an unfortunate misunderstanding. The postmortem showed no sign of a failure of circulation in the bowel brought down.

This has been my only experience in the performance of this operation and, though unsuccessful, it taught at least the lesson, as shown by the postmortem, that the descending colon with the splenic flexure could be so loosened from its posterior attachments as to be capable of being brought down to the anus without endangering its blood supply. This was a mere confirmation of Kümmell's experience previously related and of De Quervain's.

Lately, however, the idea has been strong in my mind that the principle involved possessed a very definite application to the operative treatment of cancer of the rectum.

The line of thought, elaborated in what follows, was briefly this: The results of the operative treatment of rectal cancer are poor; a wider removal of possibly infected glands than has usually been practiced is necessary. This will necessitate resecting the bowel at least from the level of the promontory. To bring, in spite of this, the proximal end of the bowel down to the anus, in order to escape the *bête noire* of an artificial anus, it will be necessary to mobilize the sigmoid or what is left of it and, on necessity, the descending colon also, by cutting the supporting structures. Can this be done without endangering the blood supply of the bowel brought down?

There is here no time to enter on any discussion as to the comparative value of the various types of operation in common use, nor can I summarize even briefly the published results. These are considered in the unabbreviated article. Speaking generally, I need hardly fear contradiction of the statement that the immediate mortality is high and the ultimate results poor.

In endeavoring to form a judgment on the merits of rival operations in this field there are three chief points to keep in mind: First, the immediate operative mortality; second, the preservation of fecal control; third, most important of all, the permanency of cure. On these points we have now a large body of statistics which are as usual more or less fallacious. In a general way, however, one is justified, I believe, in drawing certain conclusions.

If a slight dogmatism might be forgiven for the sake of brevity I would venture to make my own confession of faith with regard to this matter. I would divide rectal cancers into two classes, from the standpoint of operability: 1, Those which are situated in the anus or so close to it that a properly wide removal must needs sacrifice the sphincter; 2, all those above this in which the sphincter can be saved. It is only of the second class that I wish here to speak. It includes not only the high cancers of the rectum but also those of the middle or ampullary portion.

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* Read in the Section on Surgery and Anatomy of the American dical Association, at the Fifty-eighth Annual Session, held at lantic City, June, 1907. The article is here abbreviated, espelly in its statistical portion. The complete article appears in Transactions of the Section and in the author's reprints.

[1] Arch. f. klin. Chir., lix, p. 555.

[2] Rev. Méd. de la Suisse Romande, Dec. 20, 1901.

[3] Lancet, Jan. 29, 1898.

In the first place the surgical principle, which alone in these days is applicable to the removal of cancer, is that of a block dissection of tumor and glands, including not alone the palpably involved glands but also those which belong to the same lymph territory and are "suspects." With regard to cancer of the rectum, Gérota[21] has shown that the glands which immediately drain it run up to, and often a little above, the promontory of the sacrum. In operating for cancer of the rectum it is imperative to remove all these glands, and naturally with the glands must go the bowel also, in the mesentery of which they lie. With the access given by the sacral opening which does not extend above the third sacral foramen (Fig. 2) it is difficult, if not impossible, to remove the glands that lie above this point and which may extend as high as, or even above the promontory. Therefore, on this basis the sacral operation is *ab initio* incomplete and consequently unsurgical; and it can hardly be doubted but that this fact is to a certain degree responsible for the frequency of recurrence in rectal cancer.

This is, to my mind, the fundamental objection to the Kraske operation. So true is this that Kraske himself, the father of the operation, at the Twenty-ninth German Surgical Congress, roundly declared himself in favor of the combined abdomino-sacral operation, to the end of a more thorough removal of the disease, for the stated reason that the sacral operation alone was followed too regularly by recurrence. The corollary is that only from the abdomen, or at least with the help of an abdominal incision, can a really thorough eradication of the dependent gland territory be made. In this point the abdomino-perineal operation is right in principle.

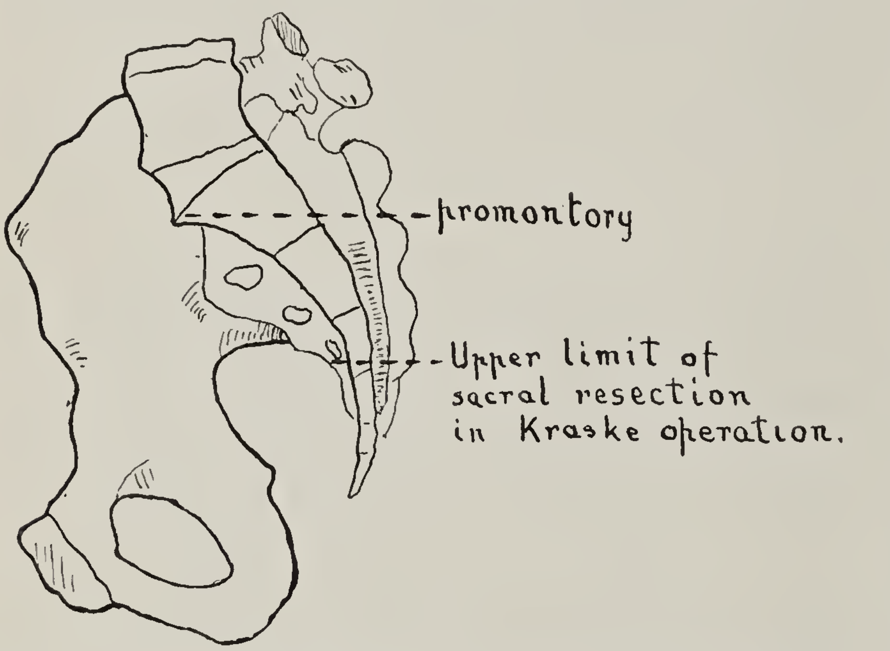

Fig. 2.—Showing how poor is the access obtained through the sacral opening for the removal of high tumors and of the rectal glands which extend up to the promontory. (Tracing of Fig. 167, vol. 1 of Spalteholz-Barker Anatomy.)

In the second place, it being granted that the bowel and the glands must be removed as a routine procedure from the level of the promontory, it becomes evident that the proximal end of the bowel will frequently be too short to pull down to the distal stump or to the anus, or, at least, that if brought down it will be under a tension such as to invite necrosis. Constantly throughout the literature of the sacral operation one meets the mention of this difficulty and the consequent falling back on a sacral anus, or, if united, the occurrence of necrosis and fistulas. As to the effect of tension, any pull on vessels narrows their caliber, and Rehn has shown that in bringing the upper rectum or sigmoid down under tension there is a very decided pull on the superior hemorrhoidal artery; and if the pull be great the inferior mesenteric itself may become kinked. It is conceivable also that the superior hemorrhoidal is easily compressed against the projection of the promontory if the bowel is brought taut across the latter. In an excision a year and a half ago by the vaginal route the bowel, which I had brought down from about the level of the second sacral to the anus under very slight tension, underwent necrosis for the last inch or more. Other reasons which have issued from certain injection experiments detailed below will be mentioned later.

The sacral operation, moreover, as already said, is apt to damage sphincteric action by cutting its nerve supply. Even Hochenegg and Kraske secured fecal control only in half of their sacral cases in which the continuity of the bowel was restored. For these main reasons I believe that the sacral operation as a type procedure should be abandoned.

The Quénu-Mayo operation effects an ideally wide removal under the best conditions of asepsis, and in that sense is surgically perfect. Nevertheless, it is exposed to two objections, of which the first is its routine establishment of an artificial anus. To sacrifice deliberately in every case all hope of the natural evacuation of the bowels will always seem to most of us a sad confession of failure; nay more, a distinct step backward. One may be ready to admit that a good iliac anus with a sigmoid trap and an intermuscular insertion may be a very comfortable thing, but the patient will rarely take that view of it. To him it is nearly always the worst kind of a *pis aller*. One of Reverdin's[22] patients, it is true—a lady in whose case he had been obliged to establish a permanent left iliac artificial anus several years previously—remarked to him one day: "Je ne comprends pas que le bon Dieu ne nous ait pas mis le derrière devant; c'est bien plus commode." An observation of a truly Gallic nature, difficult to turn into proper English. Against this, however, might be set the opinion of a patient of mine, likewise a Frenchwoman, who has had a perfectly functionating artificial anus for two years past, yet maintains that she would much rather be dead and pass no stools than alive and pass them as she does. This more truly represents the general opinion. Indeed, Mayo naively remarks that "for sentimental reasons a large number of patients elect the posterior operation even after careful explanation."

The second objection to the abdomino-perineal method lies in the fact that, at least in men, its operative mortality is so high, even in expert hands. That of the sacral operation was due rather to infection than to shock; that of the combined method may perhaps be due rather to shock than to infection. And the shock, as I believe, is due not alone to the extra time needed or the extra blood lost, but also, as Crile has shown, to the extra wounding of sensory nerves. The severity of the ordeal is seen in the results reported by Quénu and Mayo. If past masters in the handicraft of surgery like the Mayo brothers, working, moreover, together in this operation for greater speed, lose so many as the result of the operation, how many will the less expert man lose? An exception might perhaps be made of the female cases in which, according to Ito and Kunika, the operative mor-lity has been reduced to 9 per cent. In these, hower, the first objection remains valid.

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[21] Arch. f. Anat. u. Physiol. (Pflüger), Anat. Abtheilung, 1895.

[22] Bull. et Mém. de la Soc. de Chir., Paris, xxiii, p. 409.

Reasoning in this way one comes naturally to an ideal. irst, complete block removal of the bowel with its lands, beginning above and starting at least at the level f the promontory (that is, usually through the junction f rectum and sigmoid, according to the older anatomists, or through the middle or the lower third of the pelic colon, adopting the phraseology of Poirier and the ontinental anatomists), but preferably even a little igher, and extending down to well below the growth, he only exceptions being possibly those tumors situated ither at or very close to the sphincter. Second, the reservation of sphincteric control where the growth does ot invade or abut on that muscle, and the re-establishment of the natural course of fecal evacuation. Third, he lessening of the operative mortality. There are here wo problems from the operative standpoint: 1, To remove the bowel high for the sake of thoroughness, and, n spite of that, to bring down the upper segment to the nus for the sake of fecal control; 2, to do this with he least danger of shock, sepsis and other causes of arly mortality.

It is with regard to the first of these two problems that desire to present a certain small amount of practical ork.

In a general way the operations reported by Kümmell, e Quervain, Treves and that here recounted demontrated the possibility of bringing the bowel from just elow the splenic flexure or even the transverse colon own to the anus, without tension and without endangerng its blood supply. The point, however, is expressly mphasized by Kümmell and de Quervain that the sigmoid and the upper rectum are far less able to be mobilized and brought down than is the bowel above. In the words of Kümmell:[24]

> We were forced to believe (by certain cases of bowel necrois) that the circulatory conditions in the rectal and sigmoid ortions of the bowel when these were freed from their mesenteric attachments, were extremely unfavorable, and that the ollateral paths were insufficient to afford the necessary nutriion.

Kümmell's advice in a general way was not to depend on the preservation of blood supply in the sigmoid lexure when it had to be mobilized by cutting its mesentery, but rather to go higher and trust only to the lescending or even the transverse colon. And this is xactly what De Quervain[24] carried out, obeying this ounsel.

Now in the case of rectal or low sigmoid cancer t is evident that, though it is necessary to remove owel higher than is usually done for the sake of emoving possibly infected glands, it will still be desirable to remove no more of it than really is necessary; r, speaking specifically, it will be desirable to save s much of the sigmoid flexure as does not need to be emoved on account of there being suspicious glands n its mesentery; and this for the sake of its easier ringing down as well as for the avoidance of unnecesary operative work.

I believe that the injection experiments now to be decribed demonstrate that while the procedure advised y Kümmell is not only possible but also advisable in ertain rare cases of disease extending from the anus up o the descending colon or splenic flexure, it is quite nnecessary to go to such lengths in the case of rectal or igmoid cancer. We shall revert to this question later.

The bowel being cut through, say, at the level of the promontory, the question, therefore, is, can the sigmoid in all cases be brought down to the lower end or to the anus? Or are we obliged, as Kümmell and De Quervain say, to resect the sigmoid, too, and bring down the descending colon in order to be more sure of the blood supply? In many cases the sigmoid loop is so long that the former can be done with very little trouble. In many others, however, with a sigmoid loop which is short, either congenitally so or as the result of the contracting effect of cancer,[25] this will be impossible. These cases in the past have been given a sacral or an iliac anus, or the bowel has been brought down under tension with consequent necrosis.

I may say at once that I believe it will be found possible in practically all cases, whether the sigmoid, that is in particular, the pelvic colon, be short or long, to bring the cut end of the bowel down and pull it through the everted lower segment without tension. Mechanically the task consists simply in cutting the structures that hold the upper end up. These are the peritoneum, the superior hemorrhoidal and the two or three sigmoid arteries, together with the areolar tissue that forms the mesosigmoid and the upper end of the mesorectum, and also the band of the peritoneum and cellular tissue which binds the upper part of the sigmoid, i. e., the iliac colon, close down on the psoas in the basin of the false pelvis. If the cutting of these structures be still insufficient to allow the sigmoid and iliac colon to come down to the anus it would be necessary to free the descending colon. The difficulty in doing this lies in the fact that this part of the bowel possesses a mesocolon only in about 20 per cent. of cases; in all the rest it is bound to the posterior wall of the abdomen rather firmly by the peritoneum which covers only about two-thirds of its circumference. This, of course, is its chief support. If one succeeded in loosening it, one might still be obliged to cut the left colic artery or even the inferior mesenteric itself before being able to get the bowel down to the anus without tension.

It is plain that there may occur the necessity of very extensive cutting of the mesentery with its vessels, involving a large portion of the direct arterial supply to the bowel. What then are the limits to which one could go in this way without running any risk of causing circulatory necrosis?

EXPERIMENTS.

In order to determine this experimentally I ligated in a series of cadavers the arteries in question in various combinations and then drove in an injection from the thoracic aorta. I also operated on two animals.

The protocols run as follows (it should be noted particularly that in all the experiments ligatures were placed and the mesocolon cut as far from the mesenteric border of the bowel as possible):

1. *Body of an Infant.*—Ligatures placed on the superior hemorrhoidal artery and on all the sigmoid arteries at their common root. The injection was then made from the thoracic aorta and the injection material (starch and red lead in water) can be traced as far as the end of the sigmoid loop (Fig. 3).

2. *Body of an Infant.*—Ligation of inferior mesenteric artery near its origin; additional ligatures placed on the left colic and three sigmoid arteries at their origin. Injection. The

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[24] Arch. f. klin. Chir., xliv, 1892.

[25] Schuchardt (Centrabl f. Chir., 1900, No. 28, Beilage) has emphasized the fact that in most cases of tuberculosis and of syphilis of the rectum or sigmoid, and in many cases of cancer of this region, the bowel becomes gradually shortened, and that this shortening may be very great, so much so as to obliterate the sigmoid loop. Witness the case reported at the beginning of this paper.

skiagram in Figure 4 shows the result. There was an exceptionally free collateral circulation established in this case—from the middle colic right down to the terminal branches of the superior hemorrhoidal by way of the mesenteric border loops. It is probable, however, that the injection found its way by a short cut, which had escaped ligation, into the superior hemorrhoidal and that the collateral circulation was not by anastomosis with the lowest sigmoid. The mesentery with the blood supply up to the splenic flexure might here have been cut for mobilization without ill effect, if ligatures were placed as in this specimen.

3. Body of an Adult.—The superior hemorrhoidal and the sigmoid root were tied. The injection penetrated to the lower end of the sigmoid and very slightly into the rectum.

4. Body of an Adult.—Ligatures placed on the left colic, the sigmoid root and the superior hemorrhoidal arteries. Injection from the thoracic aorta; the injection penetrated nearly but not quite to the bottom of the sigmoid loop.

5. Body of an Adult.—In the fifth specimen (Figs. 5 and 6) the operation subsequently proposed as the type procedure, was carried out. The bowel was resected from about the middle of the pelvic colon opposite the promontory to within two inches from the anus, the portion removed measuring 10 inches after preservation in formalin. The proximal end was freed by ligating the superior hemorrhoidal and the sigmoid vessels at their root and dissecting off the iliac colon (fixed portion of the sigmoid) by blunt stripping from its bed in the iliac fossa. In addition (although this was quite unnecessary for the purpose of bringing the bowel down to the anus, abundant slack having already been obtained), the whole descending colon was mobilized (as usual, there was no mesocolon) by cutting the serosa on its outer side from pelvis up to splenic flexure, and then stripping it bluntly from the posterior wall. In this way it could be brought very easily over to the middle line. The bowel end was thus brought down and pulled through the lower fragment, projecting about two inches outside the anus; and while in this position the body was injected from the thoracic aorta. As the skiagram (Fig. 6) shows, the circulation is fully maintained right to the end. The loosening of the descending colon in particular by blunt stripping of it across to the middle line had not interfered in the least with its blood supply, nor had it cut vessels of any consequence in the retrocolic fatty and areolar tissue, inasmuch as there was no exit of the injection fluid in this region.

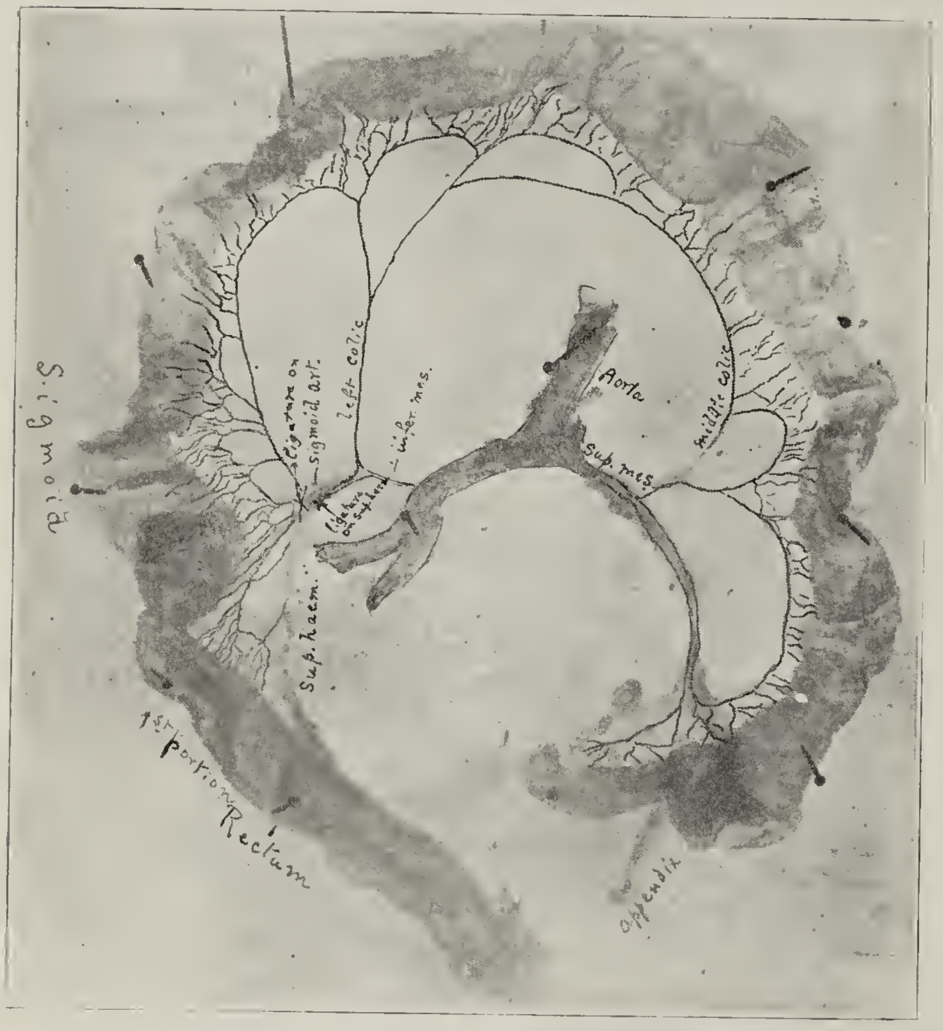

Fig. 3.—Skiagram. Ligature of sigmoid and superior hemorrhoidal arteries near their origin at points marked X, followed by injection from thoracic aorta. The bowel is viewed as from behind. The arterial network stands out in the skiagram because of the red lead in it. Note how amply the sigmoid has been supplied from the left and middle colic arteries by way of the large border loops; also how the supply diminishes steadily in the border region between the lowest sigmoid artery and the superior hemorrhoidal, which corresponds to the first portion of the rectum according to the classic description, that is, from the promontory to the third sacral vertebra. The anastomoses with the superior hemorrhoidal are poor. Although the latter vessel seems to show in the skiagram, as an irregular, patchy line, it was in reality not injected; its appearance is due to a ridge of mesentery inclosing the vessel accidentally smeared with the injection fluid. Outlines of the arteries injected heightened with india ink to guard against their possible disappearance in the process of large reproduction.

This experiment in particular, together with the previous ones, seemed to me to prove that the fears of Kümmell and De Quervain as to the insufficiency of the collateral blood supply to the sigmoid when the arteries of the mesosigmoid are tied, were without foundation, although quite justified in the case of the first portion of the rectum, that is, the lowest portion of the pelvic colon. There are but two danger zones that have presented themselves in these experiments: 1, The zone of anastomosis between the lowest sigmoid and the uppermost superior hemorrhoidal branches. Here the anastomosis is poor as compared with that of the blood supply to the bowel above this point, and in the experiments the injection rarely penetrated to any extent into the upper rectum if the superior hemorrhoidal were tied. This artery runs a long course from its origin in the inferior mesenteric over the promontory and down to about the third sacral vertebra before it bifurcates into its terminal lateral branches. In this long course, as I have verified in a series of dissections, it gives off but one or two vessels, and these comparatively small ones, to anastomose with the lowest of the sigmoid branches and form a mesenteric border loop. The poverty of communication is seen in the illustrations (Figs. 3 and 4).

It is altogether likely that the reason for the constant tale of necrosis and fistulas as complications of the Kraske operation lies in the fact that the bowel is very apt to be cut off about this region in the sacral operation, and that in order to bring it down to the lower end its mesentery or the retrorectal tissue, containing its blood supply, is cut too close to the bowel in the effort to free it. This partial interference with blood supply in a region already but poorly nourished, comparatively speaking, together with the slight tension under which in many cases the bowel is pulled down, suffices probably to induce a certain amount of necrosis in the upper fragment in those cases which develop fistulas after circular suture.

One further contributing factor, as I believe, lies in this, that the superior hemorrhoidal in its course over the promontory does not lie close to the bowel but far back in the lumbo-sacral root of the mesentery of the pelvic colon, approaching the rectum at an angle, like the string of a bow, and ultimately becoming closely applied to the rectum only at the third sacral vertebra. Consequently the mesentery of the pelvic colon as it approaches the rectum must be cut very far back from the bowel and very close to the sacrum if the superior hemorrhoidal is to be preserved. Being severed, as it nevertheless frequently must be in the freeing of the bowel, the circulation has to depend on the one or two small anastomotic branches communicating with the lowest sigmoid branches above the point of ligation, and these are apt to be insufficient. Moreover, they, too, may be cut in freeing the bowel because they come off from the ain artery low down, not far from the bifurcation. This ould make the circulation still more precarious.

The second danger zone is that of the anastomosis beween the superior and the middle hemorrhoidal termials. It is less certain and less important, and I omit rther discussion of it here for lack of space.

6. *Body of an Infant.*—Ligature of the inferior mesenteric tery, and also of its branch, the left colic, with cutting of the esentery as far as the division of the left colic, leaving a oad flange of it attached to the bowel. Removal of the sigoid and rectum, then injection. The injection filled the terriry of the left colic very freely down to the cut end of the scending colon.

7. *An Adult Cat.*—Resection of the rectum, descending colon d part of transverse, with invagination of the transverse to the rectal stump. The circulation was maintained.

8. *Dog (terrier).*—Excision of two and one-half inches of e descending colon with ligature of the inferior mesenteric tery and of the meso-colon up to the colica media. End-tod suture. Death two days later from bursting of stitches d evisceration. At postmortem circulation to both segments the bowel well maintained.

Several injections were also made after tying off the ferior mesenteric artery in dogs and cats that me to postmortem. This showed uniformly a ry free collateral circulation from the middle lic artery by way of the border loops into the ferior mesenteric district. Morestin[26] ligated uring life the inferior mesenteric in five dogs, nd found that the circulation was constantly -established without the least difficulty.

There is a reasonable degree of parallelism beveen these animals and man in respect to the lood supply, but not in respect of the ease with hich the transverse or descending colon may be rought down to the anus, because in the cat and og the descending colon and rectum possess a ry free mesocolon, and the sigmoid loop is abnt. In any case these extensive resections and gations did not disturb the blood supply of the owel brought down.

The experiments as a whole showed that one ight cut off the whole arterial supply of the deending colon, sigmoid and rectum, and still nd the circulation maintained as far as the wer end of the sigmoid at least, provided only at the vessels were ligated far back from the owel so as to leave a broad flange of mesocolon ntaining the important anastomotic loops of e mesenteric border.

In view of these facts is seems justifiable to sert that the cancerous rectum may be removed its whole extent from the promontory downard, with the whole territory of the anorectal Gérota) glands; that the upper segment by emloying a proper method of mobilization may evertheless in all cases be brought down to and rough the anal segment without tension and ithout danger to its blood supply; and that by at fact the necessity or the advisability of a permanent tificial anus disappears, save for the cases that come to eration during obstruction and the inoperable ones in hich obstruction threatens, and short circuiting is imossible. It is probable that for the first class of rectal ncers, those cases in which the sphincter has to be sacriced in removal, an iliac anus may be preferable to a erineal one without control.

OPERATION PROPOSED.

On the basis of these facts I would like to summarize the details of the operation which to my mind fulfills best the indications of the proper operation for cancer of the rectum, and which I would venture to propose as the normal procedure. It is with some hesitation that I do so because there is still lacking the application to the human, save in so far as the experience related at the outset of this communication may bear on the matter. Yet I hope that this experience, such as it is, together with the results of the cadaver injections and the general surgical principles involved, may be considered sufficient justification for venturing to bring these views of the question before the profession even in this unfinished stage. The *raison d'être of* the method lies in the proof given here, in so far as it is proof, that the circulation in the sigmoid is well maintained under circumstances of extensive mobilization.

The operation may be thus described: The tumor is supposed to be situated somewhere between the pelvic floor and the promontory, so that the sphincteric apparatus, including the levator ani, remains intact after resection of the bowel. As an anesthetic one might use lumbar anesthesia by way of nerve blocking for the avoidance of shock in so far as this depends on the cutting of sensory nerves. To what extent, however, it is permissible to use lumbar anesthesia with the Trendelenburg position long maintained I am unable to say. The latter is important for work in the pelvis. A preliminary colostomy is undesirable, inasmuch as it might

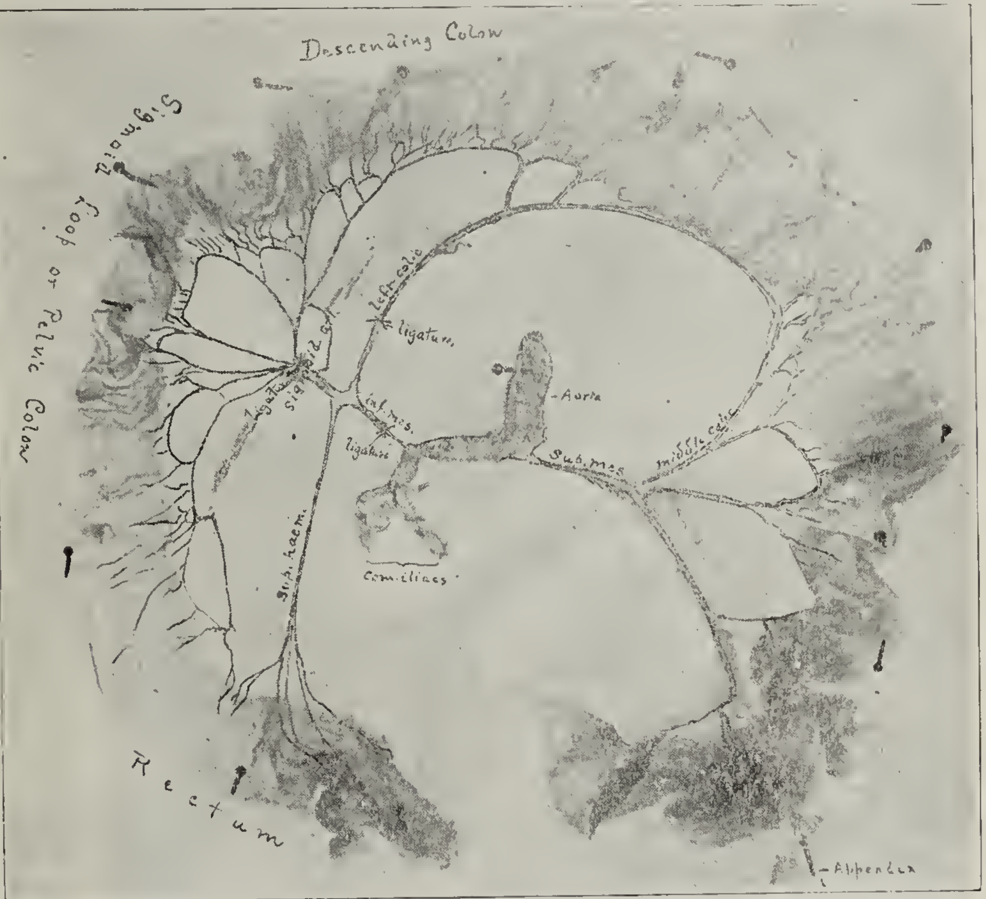

Fig. 4.—Skiagram. Ligature of the inferior mesenteric at its root; also of its branches, the left colic and the four sigmoid arteries near their origin. The subsequent injection coming by way of the superior mesenteric, in particular the middle colic, filled the whole territory—descending colon, sigmoid and rectum—that had presumably been cut off by the ligatures of the arteries mentioned. Note, however, how the supply to the first portion of the rectum, from promontory to third sacral vertebra (the latter marked by the bifurcation of the superior hemorrhoidal) becomes comparatively poor and how little anastomosis there is of the sigmoid with the superior hemorrhoidal. The latter vessel would almost certainly not have been injected here if it had not been for a small collateral running in between the ligatures on the inferior mesenteric and the sigmoids, which escaped ligation; this led almost directly into the superior hemorrhoidal. The outlines of the arteries have been heightened with india ink as far as the mesenteric border for reason given.

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[26] Bull. Soc. Anat., Paris, 1893.

interfere with the free mobilization and descent of the descending colon on necessity. If experience should prove its advisability, it would best be done not as a preliminary but at the close of the operation when all the bowel that was necessary had been brought down.

Whatever the anesthetic employed, the abdomen is opened through a median incision, and the amount of involvement estimated. If inoperable, the least harm has been done the patient. If operable, the patient is placed in the Trendelenburg posture, the incision enlarged, the sigmoid loop is pulled out of the pelvis, and it is determined at what lowest point it may be cut across. This will depend on the extent of glandular involvement. Even when no glands are palpable the bowel must not be cut through at any level lower than that of the promontory, for the glands in its mesentery are in suspect territory up to that point. But if the glands higher up, in the mesosigmoid or along the iliac or the inferior mesenteric arteries, be involved, and if the operator consider that this fact is no sufficient bar to an attempt at radical operation, then it will be necessary, probably, to cut through the bowel higher up in the flexure. Just how high will depend on the width of the mesosigmoid, which may safely be left after removing widely the glands mentioned.

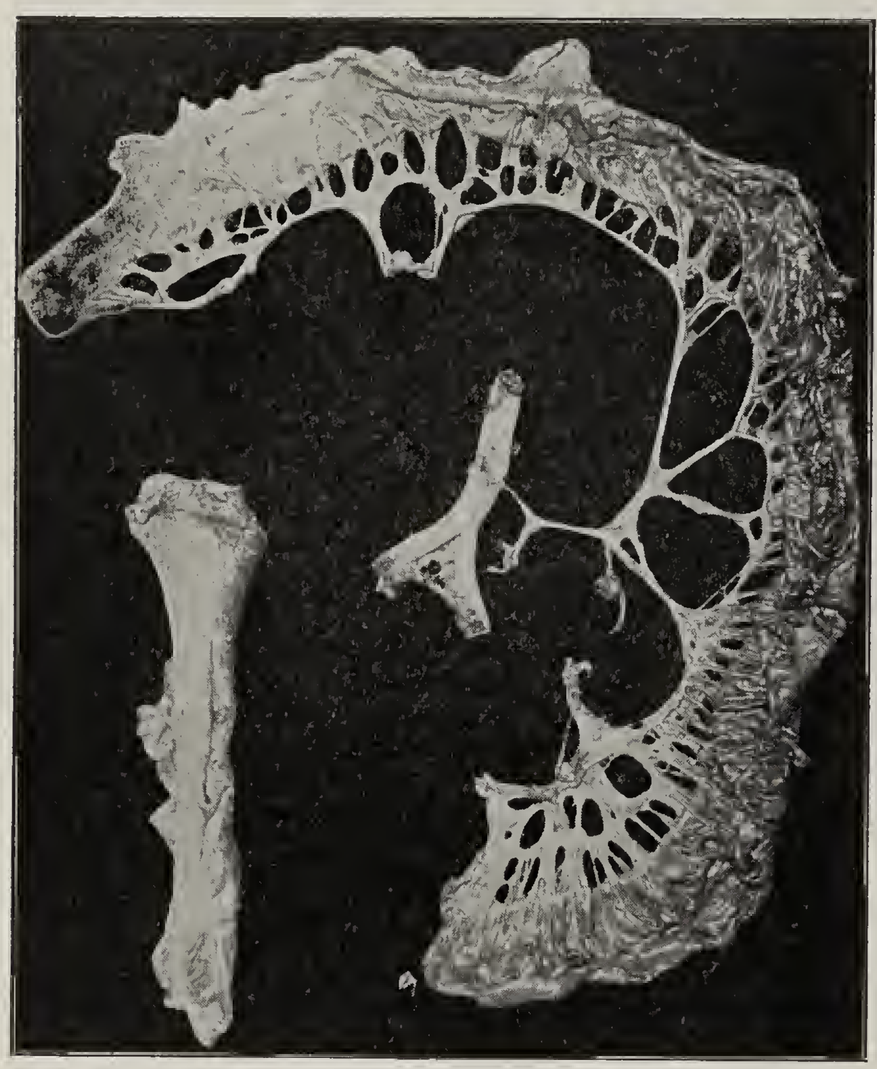

Fig. 5.—Photograph of specimen of which Figure 4 is a skiagram of a portion. Showing bowel cut through in lower third of sigmoid and in right half of transverse colon; also the portion of sigmoid and rectum excised, which measured ten inches after preservation in formalin.

One need not fear to remove the bowel high up for the sake of thoroughness; the higher one goes in the sigmoid flexure the more certainly is the blood supply maintained when one comes to cut the mesentery for mobilization; and, on the other hand, one can always get sufficient mobilization, even if one be forced to detach the whole descending colon to do it. Nevertheless it is manifestly better to save as much of the length of bowel as possible.

At the point chosen the bowel is crushed with an angiotribe, doubly ligated in the furrow, cut between, the ends cauterized, and each end inturned with a purse string suture.

The lower segment is then pulled forward taut toward the pubis, thus putting on the stretch the superior hemorrhoidal artery which runs in the lumbo-sacral root of the mesentery of the pelvic colon. This is doubly tied, as also the vein, and is cut between. The peritoneum is now cut with button-pointed scissors on either side of the rectum down to the peritoneal reflection in the cul-de-sac, and there transversely across. The bowel with the growth can now be peeled off with all the fatty and areolar tissue behind it from the hollow of the sacrum down to near the tip of the coccyx; this according to Chalot, Kraske, R. F. Weir, J. B. Roberts and others, will cause but slight bleeding, and the necessity for mass ligature may be quite avoided. It was remarkable how in the operation on the cadaver after proceeding as described, the sacral hollow was not invaded by the injection fluid. It seemed as if one might confidently expect in the living but very little arterial bleeding at any rate. Possible venous bleeding might easily be stopped by packing. It has been advised to tie the middle sacral at the promontory. This is easily done and might be of some advantage, as it sends a few small branches to the rectum as well as supplying in part the retrorectal tissue. Yet in one cadaver, in which I ligated it, the injection fluid penetrated it from below very freely through anastomosis with the lateral sacrals. The advantage therefore is doubtful.

In front the rectum can be peeled off from the basfond of the bladder without great difficulty. By this time one has got close down on the pelvic floor, and, in the case assumed, one is far enough below the growth to cut across the bowel at this point; that is, about two inches above the anus. One is still in many cases above the middle hemorrhoidal vessels, which may very well not need tying. If it be necessary to go a little lower, it is not difficult to isolate, still from the abdomen by blunt dissection, the lateral expansions of the pelvic aponeurosis which enclose the middle hemorrhoidal vessels, and which are so resistant as to be called by Poirier the lateral ligaments of the pelvic rectum. These can then be ligated easily from above. The rectum, with all the contents of the sacral hollow inside the aponeurosis which covers the branches of the iliac vessels and the sacral plexus—neither of which one need see at all in the operation—is now freed.

At this stage of the operation I would prefer to cut the rectum across just above the levator ani muscle and accept the risk of infection. This, with careful packing, with clamping or ligating, and with cauterizing, need not be great.

The lower segment is then to be pulled outside the anus, turned inside out. This is best done by an assistant, the table being lowered to near the horizontal, and the thighs held semi-flexed and abducted. He must stretch the sphincter, then pass three or four pairs of volsellum forceps up and grip the bowel at different points of the circumference, from the mucous surface through all its coats, and so by pulling evert it.

Meanwhile the operator proceeds with the mobilization of the upper segment in the manner already described. Ball[27] has said that if the sigmoid loop be not longer than six inches, it will be impossible to bring down. This I have demonstrated to be erroneous. he operator may strip the iliac colon from the iliac ssa and may cut one or all of the sigmoid arteries, or en the inferior mesenteric itself; and will thus in all ises, as I believe, be alble to bring the upper end to ie anus without tension. Under these circumstances ie blood supply will be maintained by the superior esenteric. Having mobilized the bowel sufficiently, it simply brought down, telescoped through the everted wer fragment, reopened by removing the temporary urse-string suture, the ends sutured and the whole invaginated.

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[27] British Med. Jour., March 7, 1903.

I believe that the method by which the upper segent is telescoped through the lower and is held in that osition permanently by stay sutures to the anal marin, whether the mucosa of the lower segment be moved or not, is inadvisable, for the reason that ie broad flange of fatty mesentery purposely left n the upper segment will always be apt to interre with proper union and so favor the developient of a fecal leak when the bowel retracts omewhat, as it must always do. End-to-end nion outside the anus, imitating Maunsell's iethod; great care not to include in the suture uch of the mesentery behind the line of union r fear of interference with the blood supply at ie edge; and, finally, absolute lack of tension that the bowel brought down lies loosely in the icral hollow and is not pulled across it like the ring of a bow—allowing for a subsequent reaction of one to two inches—these ought to be ie essentials in guarding against the failures of rculation or of asepsis.

Drainage of the pelvis had best be employed r a few days through an incision between anus nd coccyx. In the pelvis the cut edges of the eritoneum may be united to the sides of the owel brought down in order to prevent hernia f the coils of small bowel under the latter, and close off the peritoneal cavity. The abdomen finally closed without drainage.

CONCLUSION.

This purely abdominal operation I would proose as the normal procedure for cancers situated ithin the limits mentioned, the chief arguments eing that by judicious mobilization the upper egment can in all cases be brought down and ined to an intact sphincter. The great adantage would be the avoidance of the distressing rtificial anus in all cases save the inoperable and bstructed ones. Further, inasmuch as the hincter and levator have not been cut through t all, nor the coccyx and sacrum removed, the elvic floor is intact and one may expect normal hincteric action in all cases. Such a gain would e enormous. In addition to this, there are the dvantages: first, of a thorough removal as a outine procedure, no matter how long or how ort the sigmoid bowel, of the entire gland-bearg district, from which we may hope for better ermanent results; second, of a greater economy f blood, and less cutting of sensory nerves, than hen the sacral or perineal operation is added, nd consequently less shock with. presumably, a lower nmediate mortality; and third, of a preservation of the elvic floor and the sacrum, intact, which will add to he comfort of the patient.

THE MAGNESITE SPLINT. A NEW PERMANENT SURGICAL DRESSING.

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Some ten months ago I began a series of experiments with the object of improving our present methods of surgical dressing by obtaining a hard, durable, coaptative dressing which would be easily penetrable by the Roentgen ray. My studies have taken me into the literature of various processes of a purely mechanical nature, and my adaptation of a reaction employed in the arts and but slightly known to general chemists to the usages of surgery has been a difficult matter. My work has at least given me a wholesome regard for the existing method, for the use of plaster-of-Paris as a permanent surgical dressing has so many points of superiority that it has replaced all others.

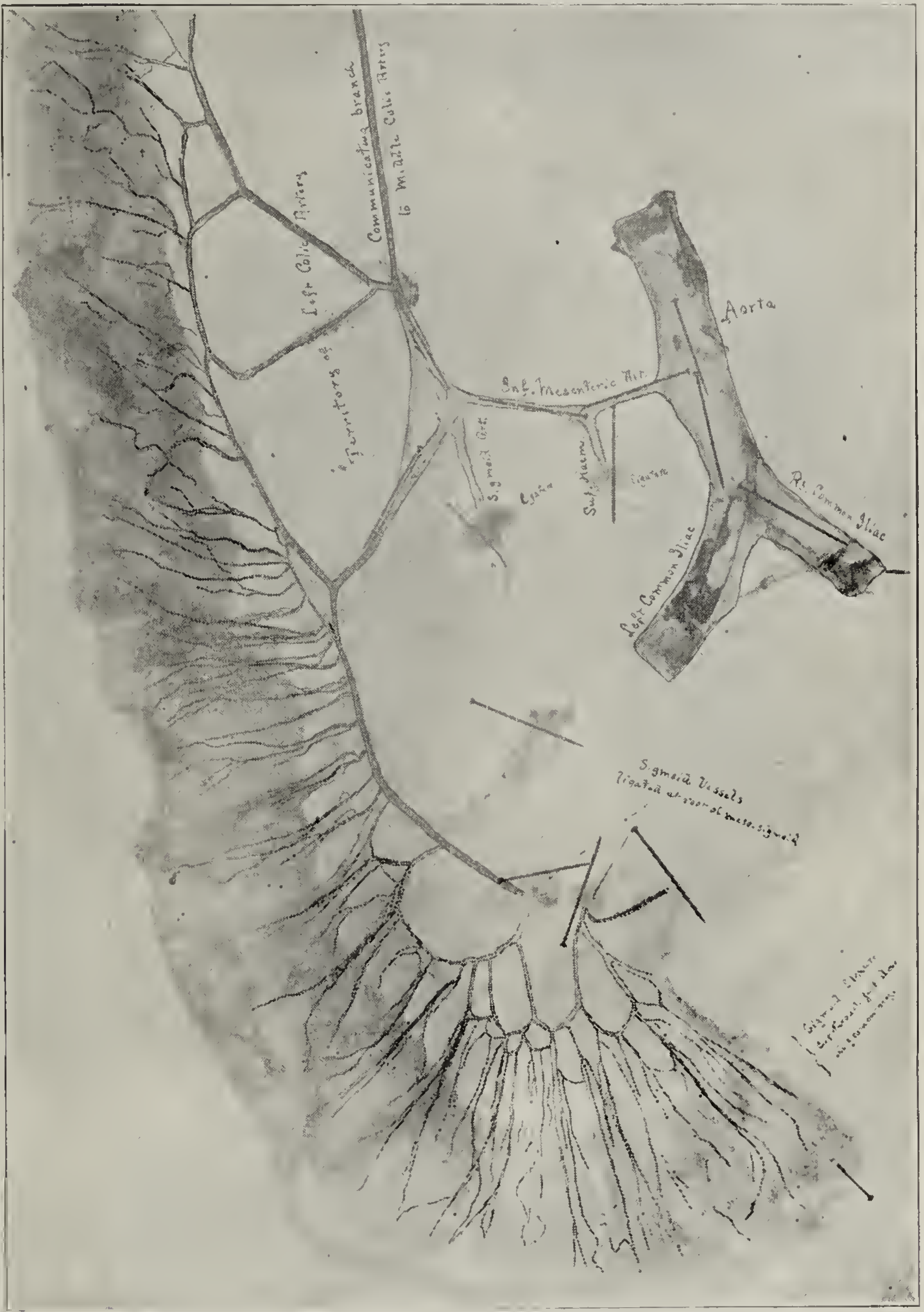

Fig. 6.—Skiagram. Bowel viewed from behind. Outlines of arteries heightened with india ink for reason given. Resection of bowel from just above the promontory (about middle of pelvic colon) to within two inches of the anus. Mobilization of sigmoid and whole descending colon, with ligation of the superior hemorrhoidal and the sigmoid vessels (save one which is either sigmoid or a branch of the left colic). Injection from the thoracic aorta after bowel had been brought down and pulled through the anal portion, projecting to the extent of two inches. Note the richness of the anastomosing loops along the mesenteric border and the complete preservation of the blood supply to the very end. Compare this with the poor blood supply to the first portion of the rectum when the superior hemorrhoidal has been cut, as is frequently done in the Kraske operation, in which the attempt is usually made to save this part of the rectum.

The general employment of this compound in surgery has been a slow and gradual process. It also was borrowed from the mechanic arts and, while its present application seems very simple, nevertheless it has taken years to develop the technic. Certainly its universal use has marked an important advance in the treatment of fractures. The advantages of an accurate coaptative dressing in fractures of the limbs are so great that one who has once learned to handle plaster will certainly prefer it to padded splints of wood or tin and the badly-fitting manufactured splints of the same materials. Plaster-of-Paris, however, is far from being an ideal material, and the general use of the *x*-ray has but added to its faults.

THE X-RAY IN DETERMINING RESULTS.

The Roentgen ray penetrates plaster-of-Paris with difficulty, and while in some cases it is possible to secure a satisfactory radiogram or make a good fluoroscopic examination, the method is far from being advantageous as a routine measure. The benefits to be derived from the Roentgen ray, not only in the diagnosis of bone lesion but in the accurate reduction of bone fragments, can not be overestimated. In oblique fractures, and where palpation is interfered with by thick muscle, the surgeon is only too glad to avail himself of this help, either by direct manipulation of the fractured limb before the ray, after the manner advocated by Bickham and others, or in checking his result after a permanent dressing has been applied.

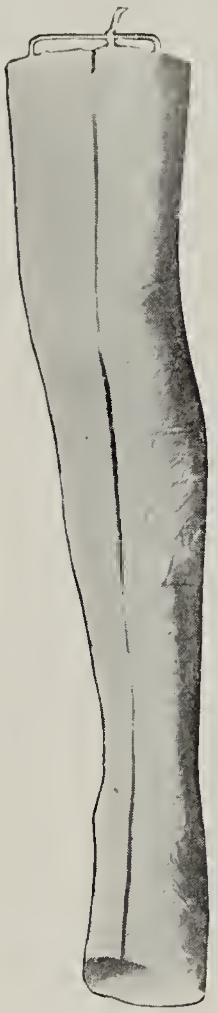
Figure 1.

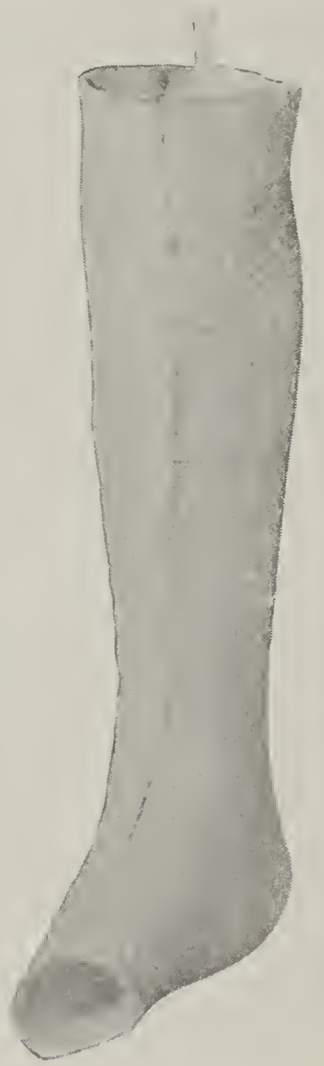
Figure 3.

Fig. 1.—Rigid magnesite splint for adult foot, leg and thigh. Weight, 2 pounds.

Fig. 3.—Magnesite splint for adult foot and leg. Weight, 1 pound.

The poor results obtained by those surgeons who rely on digital sense and measurements in the reduction of fractures are known to every radiographer. I have several times been much chagrined at the evidence which a well-taken radiogram has given me in instances i which I believed I had achieved a brilliant result b digital manipulation. While poor approximation ma give good functional union in fractures of the middl third of the humerus, a fracture of the ulna and radiu at the same point, with improper reduction, will generally result in a partial loss of function. Careful reduction is not only necessary, but the maintenance o this reduction is most essential. Hence a fluoroscopic examination after the cast has been applied is a sourc of great satisfaction, the surgeon being able to assure himself that slipping of the fragments has not taken place.

In the search for a compound which would answer my purpose I conducted experiments with water-glass, starch, dextrin and the many substances which have been recommended in the past but which are now not usually employed. I found them all unsatisfactory. Plaster-of-Paris is far superior in that hardening consists in a definite chemical reaction, a crystalline salt being formed.

PLASTER-OF PARIS.

In order to appreciate the subject more fully it will be necessary to consider briefly the preparation of plaster-of-Paris. In making this product gypsum is ground to a fine powder and then calcined in kilns. The industry is carried on extensively in several Parisian suburbs, hence the name. At a temperature of 80 C. (176 F.) gypsum ($CaSO_4.2H_2O$) begins to part with its combined water. An increase of temperature causes desiccation to proceed with greater rapidity, and for manufacturing purposes the best results are obtained at a temperature of 110 to 121.5 C. (230 to 250 F.), desiccation being carried on until about three-fourths of the water has been expelled ($2CaSO_4H_2O$). If the temperature be raised to 249.8 C. (480 F.) the time of hardening of the plaster is greatly prolonged, and at a still higher temperature it loses all power of again absorbing water. The setting of plaster-of-paris is due to its uniting again with water to form gypsum, which becomes a crystalline mass. This setting can be facilitated by heat

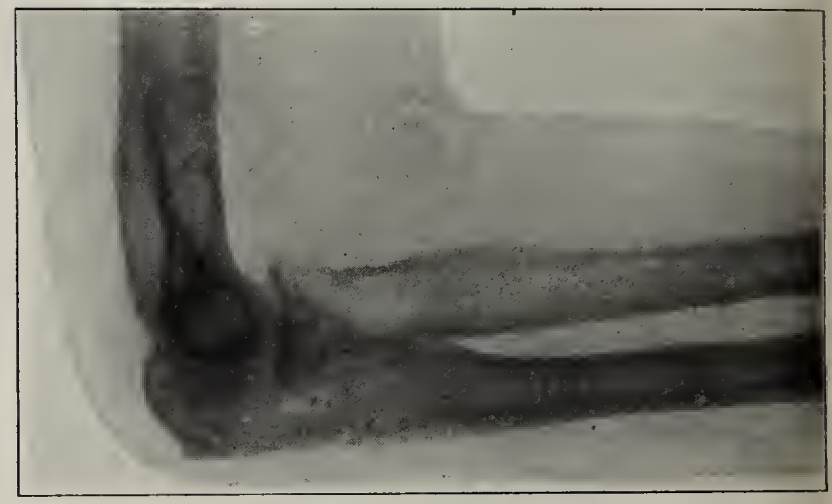
Fig. 2.—Elbow radiographed through heavy magnesite splint.

Fig. 4.—Very strong magnesite splint for hand, forearm and elbow; made from 5½ yards of 3-inch bandage. Weight, 12 ounces.

or by the use of salt or alum. It is accompanied by slight expansion and the evolution of heat. Unfortunately there are few substances which possess this power of recrystallization; analogous reactions are afforded by the oxichlorids of zinc and of magnesium.

It is generally recognized by physicists that the penetrability of the Roentgen ray for metals is in inverse proportion to their atomic weights. The non-metallic substances with which the metals are combined do not seem to influence this proposition. The atomic weight of calcium is 40, that of zinc 65 and of magnesium 24. For this reason one could conclude that the penetrability of magnesium compounds would be much greater than that of calcium.

MAGNESIUM OXICHLORID.

It was Sorel who in 1869 first called attention to the fact that the oxichlorid of magnesium had the remarkable power of setting like plaster-of-Paris when mixed with water. He found that the reaction produced a material much harder and more durable than ordinary plaster, so hard in fact that it was capable of taking a polish. The resulting compound showed great tenacity; it could be mixed with fifteen or twenty times its weight of other dry powders without losing this power of setting when water was added. Practically the reaction is accomplished by making a strong solution of magnesium chlorid into a thick paste with magnesium oxid. The mass soon hardens and sets and is found to contain an oxichlorid of magnesium ($MgCl_2.5MgO$) associated with a varying quantity of water of crystallization, the amount of water depending on the temperature at which the reaction has taken place. The practical value of the reaction was quickly appreciated and numerous companies were formed for its manufacture. The first patents on the process soon followed its discovery. At the present day it is used considerably, under a great variety of trade names, for the manufacture of flooring, wainscoting, etc.

For this purpose magnesite, native magnesium carbonate, is employed. It occurs in Austria and Greece in extensive deposits, and is also found in California. The magnesium carbonate is first crushed and then calcined at a temperature of 800° to 900° C. in rotary pans. Carbon dioxid begins to be given off at 600° and this is apparent by a slight ebullition on the surface. Practically the work is done in a rough way and no attempt is made at uniform temperature. Heating is continued from eighteen to twenty-four hours, the carbon dioxid being thrown off slowly. If the temperature is carried too high the power of setting with magnesium chlorid is lost. This substance is mixed for commercial use with about six parts of sawdust or sand and then made into a thick paste with a strong magnesium chlorid solution, a strength of 22 Beaumé being generally employed.

ADAPTATION TO SURGICAL USE.

The adaptation of this reaction to surgical use has not been easy; some portions of the process are protected by patents, while others are trade secrets. Information has been meager and hard to obtain and my knowledge has been derived piecemeal from many sources. It is not necessary for me to tabulate my various experiments, but it will suffice to give simply the practical results of the method. It must be remembered that we are dealing with a reaction quite different from plaster-of-Paris. For instance, in the latter we use table salt or alum to hasten the reaction, while with the magnesium preparation salt is practically inert and alum slows the setting instead of hastening it. It has been found that the stronger the solution of magnesium chlorid the quicker the reaction, but here again caution must be observed, for this is a deliquescent salt and must, therefore, not be present in excess.

The magnesia of the drug stores, both the magnesia usta and the magnesia ponderosa, can not be employed. They are prepared by thorough ignition of the magnesium carbonate and do not set when magnesium chlorid solution is added. Dry heat is a most efficient aid in promoting the rapidity of the reaction. In a general way we may say the greater the degree of heat employed the quicker the final result, although at very high temperatures the plaster will sometimes crack. It does not become brittle by heating as is the case with plaster-of-Paris. Like plaster-of-Paris a slight expansion occurs in the setting of this magnesium compound. Chemical combination is also accompanied by the evolution of a small amount of heat.

The term magnesite as applied to this method is a misnomer, but I have used it for lack of a better. Its chemical name is too long, and I have found that my confrères prefer to call the product the magnesite dressing or magnesite splint. I have employed both the California and the imported magnesite and my results are equally good with either. The California magnesite is calcined by the Magnesia Products Company, West Berkeley, Cal. The imported variety is manufactured by the Concordia Chemische Fabrik auf Actien, Stassfurt, Germany, and is obtained through a local firm. Inquiry will disclose commercial houses employing the reaction in every large city, so there should be no difficulty in obtaining the material.

APPLICATION.

Bandages of crinoline are impregnated with the calcined magnesite by means of a plaster-of-Paris bandage machine. I prefer a width of three or four inches and a length of three yards. A stock solution of commercial magnesium chlorid is prepared. This should have a specific gravity of 1.250 (28.8 Beaumé) and is made by dissolving 20.44 parts by weight of magnesium chlorid in 16 parts of water. In my work the best results have been obtained in this strength. If any sulphates are present in the solution they should be precipitated by barium chlorid, as the reaction is rendered slower by their presence. A little of this solution is poured into a small container and the bandage immersed in it until bubbles cease to rise. The surplus solution is then squeezed out and the roller applied smoothly, directly on the skin or over sheet wadding, as the surgeon may prefer; the magnesite cream is worked in with the hands avoiding if possible the use of any additional solution. Dry calcined magnesite is then added and rubbed about until the moisture is well taken up; the finished cast will "weep" if magnesium chlorid is present in excess. If this occurs it can readily be remedied by rubbing on a little dry magnesite. For ordinary work two layers of bandage will be all that is required. The beginner is almost certain to make his splints of this material too thick. A little practice will suffice to show what great rigidity may be obtained in a very thin layer.

SETTING.

The setting of all cements is divided into two portions, a superficial setting, which may be defined as that state in which the compound is of sufficient hardness to maintain its shape, and the final setting, which marks the end of the reaction. I have found the final setting of magnesium oxichlorid to be a little more rapid than that of plaster-of-Paris. My observations have been made on blocks of materials of equal volumes and under the same conditions. It is in its rapid superficial setting that plaster-of-Paris greatly excels. I have felt that if as rapid a superficial setting could be obtained with the magnesium compound we would have an ideal material, and I have devoted much time in endeavoring to obtain such a result. My labors have thus far been futile. Experiments with an electric furnace have been conducted, varying degrees of temperature in the calcination of the magnesite being employed but without success. Combinations with other ingredients have been tried, but where a quick superficial setting was obtainable it was at a great loss of tensile strength.

A fairly rapid superficial setting may be obtained by the use of heat, but when it is imperative to secure a quick setting, as in some fractures, I prefer to cover my magnesite dressing with a muslin bandage and then apply over this a thin layer of rapidly-setting plaster-of-Paris; on the next day this superficial plaster and the muslin bandages are torn off, leaving a hard, permanent cast. The magnesium oxichlorid reaction has been regarded, commercially, as a very tricky one. Bad results generally are due to low degrees of temperature and the experimenter will soon find that he gets much better results at body heat than at temperatures below that point.

ADVANTAGES.

It remains but to sum up the advantages of this magnesite dressing over that of plaster-of-Paris when used alone.

Penetrability.—The Roentgen ray penetrability as compared with plaster-of-Paris has been estimated by taking equal thicknesses of the set plasters, placing them side by side and radiographing them. As near as can be judged by color, the penetrability of the magnesium compound is about twice as great as that of the calcium. As we can procure the same rigidity with casts of from one-half to one-third the thickness, we may say that the penetrability of the magnesium preparation is from four to six times that of plaster-of-Paris. Not only in fracture work is this of great advantage, but also in the treatment of bone tuberculosis. In this condition, progress may be watched by radiographing through the dressing, thus avoiding disturbing the healing parts by removal of the splint.

Hardness.—We have no means of estimating hardness accurately; deductions can only be made by a careful comparison of the magnesite and plaster-of-Paris dressings. In equal thicknesses the magnesite splint is much harder and firmer, and it is only necessary to repeat that magnesium oxichlorid is used in constructing flooring to emphasize this point. By employing a knife with a file edge I find no difficulty in cutting it. As an aid in cutting, hydrochloric acid may be used, but I have not found this often necessary.

Tenacity.—This compound is extremely tenacious, as is indicated by Sorel's statement, that it may be mixed with twenty times its weight of inert substance without losing its setting qualities. In thin layers it is also quite elastic, which is certainly a great advantage. It is not brittle and does not chip and break along its edges as does hard plaster.

Weight.—Volume for volume, the magnesium compound weights 1.3 to 1 of set plaster-of-Paris, yet the same strength can be obtained in so much thinner layer that my casts are much lighter. In Colles' fracture in adults I have used magnesite splints, extending from the fingers to the elbow, which weighed but three ounces. This great decrease in weight over the old method i much to the advantage of the patient.

Moisture.—Plaster-of-Paris casts break down and become soggy when exposed to moisture, as about a fenestrum where an open wound is being treated, for plaste is somewhat soluble in water. Moisture has apparently no effect on the magnesium compound.

In conclusion, I wish to express my thanks to Dr. Harry M. Sherman, head of my department in the university, for many suggestions derived from his long experience in handling plaster; also to the members of the faculty of the College of Chemistry at Berkeley who have given help in the chemical questions involved.

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THE VALUE OF AN ABSOLUTELY VEGETARIAN DIET IN PSORIASIS.*

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Although psoriasis is one of the most clearly defined and well recognized of all diseases of the skin, and has been the subject of much study, clinically and microscopically, we are still in the dark as to its true nature and etiology; moreover, good observers are by no means all agreed as to whether it is a local disease of the skin or one of internal origin. Certain it is that no definite cause has yet been established.

The appearance and character of the individual lesions have time and again suggested a parasitic origin, but as yet no micro-organism has been demonstrated by which the eruption can be produced artificially; nor, on the other hand, has any one constitutional state been shown to be always productive of the eruption. Certain observers have, therefore, characterized it as a local affection of the skin itself, a misbehavior of its cellular elements, even as epithelioma is recognized as such.

But there are many facts and features of the disease which point to its not being a purely local disease of the skin, but show that it is due to some underlying constitutional state or condition which at one time or another favors the development of the lesions on the skin. Not to lay too much stress on the clinical observations of many in regard to the connection of psoriasis with rheumatism and gout, hereditary or acquired, or the appearance of the eruption after vaccination, the exanthemata, debilitating illnesses, prolonged lactation, etc., there are some peculiar features which can not be ignored. Thus, the intermittent character of the eruption, often without treatment, shows some change in the individual which, even on the theory of a microbic origin of the separate lesions, causes the omnipresent micro-organisms to have effect. Also the well-known proclivity of the eruption to appear at certain seasons of the year, at which we know that the diet and mode of life vary greatly, points to a systemic change or modification of the metabolic processes favoring the eruption.

One of the most striking facts in regard to the production of the eruption of psoriasis is that relating to, e subject of this paper. Almost twenty years ago, at e First International Dermatological Congress,[1] held Paris in 1889, in a "Clinical Study and Analysis of ,000 Cases of Psoriasis," I stated that "excessive meat-ting will also increase this disease, which will freuently yield with much greater rapidity, under the me treatment as before, when the amount of meat ken is lessened, or when it is entirely cut off," as I ad observed in private cases for some years. In 1895, om a clinical study of 366 cases of psoriasis in private ractice,[2] I made the same statement, adding "I have considerable number of psoriatic patients who have ken no meat, or only a very little fish and white meat f poultry, with the result of being free from the erupon for a long period of time."

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* Read before the Sixth International Dermatological Congress, New York, Sept. 9, 1907.

In 1896 I brought the subject of "The Restriction of eat in the Treatment of Psoriasis" before the Third nternational Congress of Dermatology,[3] and stated at:

> Free indulgence in meat is very apt to aggravate greatly the uption of psoriasis, whereas its restriction, especially the oidance of beef and mutton, including extracts, strong soups, c., will aid materially in its removal; furthermore, their connued avoidance will, I believe, contribute very greatly to a moval of the cause of the eruption, and assist in effecting a rmanent cure of the disease. . . . I have careful notes many cases where the improvement has been most marked soon as the stringent diet has been rigidly observed, and so notes concerning many patients who have for several ars maintained the same, with the most manifest gain as gard to a recurrence of the eruption.

Following up the matter since that time, I finally ated last year[4] (1906) at the American Medical Assoation, in a study of 2,100 cases of psoriasis, over 500 which were seen in private practice, that:

> For many years I have placed numerous psoriasis patients a strictly vegetarian diet with most excellent results; and ese results are corroborated by the fact that now and again, hen one has broken through the regulations, he or she has ported a recurrence of the eruption. I make the diet absotely vegetarian, not even allowing eggs or fish, or milk as a verage with eating, and sometimes I have even excluded ffee and tea with advantage, and of course all distilled and rmented drinks.

RELATION OF VEGETARIAN DIET TO PSORIASIS.

The bearing of the relation of an absolutely vegerian diet to psoriasis is understandable if one watches telligent patients in private practice, over a number years, with careful and repeated note-taking and udy of their metabolic processes; especially when this tter is effected by means of frequent and complete uantitative analysis of the urine in all possible aspects, hile psoriatic patients are commonly considered to be perfect health they will constantly be found to exibit assimilative disturbances, especially along the line faulty nitrogenous metabolism and diminished (or t times greatly increased) elimination of the purin roducts. The variations which may be observed in the rine from time to time are most striking, often varying the same patient from a limpid, pale secretion to one a very high specific gravity; in one instance this ached 1.040 (no sugar), and an acidity, as measured olumetrically, of almost four times the normal, with .5 per cent. of urea, over double the normal amount.

Time does not permit of any elaborate consideration of the physiologic chemistry of nitrogenous metabolism as affected by a purely vegetable diet, especially as this is a practical paper based on clinical facts, but very brief mention may be made of the scientific basis for my observations.

It has been shown that the urinary discharge of uric acid does not by any means correspond with the amount of ordinary nitrogenous food ingested, but that:[5]

> 1. Uric acid is formed in the body by the disintegration of the albuminous substances of the tissues, especially of the nuclein or nucleins.
>
> 2. The excretion of uric acid becomes increased or diminished by all factors (diseases, medicines, poisons, etc.) which give rise to a more rapid or slower disintegration of the cellular elements of the body, and especially of the leucocytes.

Taylor[6] has demonstrated that a diet rich in nucleins, such as sweetbread, more than quadrupled the excretion of uric acid, while a heavy proteid diet hardly increased it at all; and, moreover, under an exclusively vegetable diet it was still above that found in a normal mixed diet, without coffee, while the addition of coffee more than doubled the output of uric acid. Under a carbonaceous, nitrogen-free diet it fell to 78 per cent. of normal. It is not, therefore, the much discussed element of uric acid which we have to consider, but rather the entire nitrogenous metabolism.

In the long and carefully conducted experiments of Taylor he found that under a heavy proteid diet the total excretion of nitrogen was increased almost 50 per cent., and the amount of urea passed was also almost 50 per cent. above that excreted under a normal diet. Under a vegetable diet, however, the nitrogen eliminated was reduced almost 50 per cent., as was also the urea; and finally, on a purely carbonaceous, non-nitrogenous diet, the nitrogen output and the urea were not one-quarter that passed under normal diet, with or without coffee—the latter was found to more than double both the amount of the purin bases and the uric acid.

It is now pretty well established that in health the daily excretion of uric acid is a fairly constant quantity, depending on the formation and destruction of leucocytes; also that it varies in certain diseased states, and may be increased by anything which increases the leucocytes in the blood, while in leucocythemia it has been found eight times the normal amount. Foods containing large amounts of nuclein also augment it, although ordinary proteids do not, except as they increase the leucocytes. In other words, the production of uric acid is not much affected by changes in diet.

The matter is very different, however, in regard to other outputs of nitrogen, urea, etc., of which it is stated that 73 per cent. of that ingested escapes by the kidneys. The amount of nitrogen in the urine is found to vary very definitely according to the amount of nitrogenous food taken, as has been shown by many observers.

THE URINE AS AN INDEX.

While the studies which have been made on the urine of patients with various diseases of the skin do not as yet throw the light which we could desire on the etiology of such maladies, we know enough to show that alterations in the urine, of important character, are constantly found in connection with psoriasis and some other skin affections. Among hundreds of carefully made volumetric analyses I have found in the urine of untreated psoriatic patients a greater acidity (two, three or even four times the normal), a higher specific gravity (1.030 to 1.040 being not uncommon), and increased urea (even to double the normal amount), evidences of faulty nitrogenous metabolism, or, rather, of an excessive intake of highly nitrogenized foods; as yet we know very little as to the effect of faulty metabolism of carbonaceous elements on the urine.

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[1] Trans. First Internat. Cong. Dermatol. and Syph., Paris, 1889, 892.

[2] Trans. Med. Soc. State of N. Y., 1895, p. 151.

[3] Trans. Third Internat. Cong. of Dermatol., London, 1896, 734.

[4] The Journal A. M. A., Nov. 17, 1906.

[5] Levison: Uric Acid Diathesis, etc., Engl. translat., London, 1894.

[6] Amer. Jour. Med. Sci., August 1899, cxviii, p. 141.

Knowing the effects attributed to faulty nitrogenous metabolism on other structures of the body, it is natural to suppose that prolonged errors of this nature would produce some injurious effect on the skin; and working on this hypothesis for many years I am convinced by clinical observation that psoriasis has its foundation in errors in regard to the passage of nitrogenous elements into and out of the body. How far back in the system this erroneous nitrogenous metabolism extends can not be stated, for the urine is only the index as to how more occult processes are carried out. Whether Haig's view as to the retention of uric acid in the system is correct, or whether by imperfect oxidation in the tissues of the body other irritating compounds of nitrogen are formed, need not particularly concern us; the main fact to recognize is that, probably from improper diet and other causes, imperfect anabolism and catabolism of the proteids take place, and in some way either excite the skin to wrong action or render it susceptible to other causes of disease.

It would lead us still further away from the practical purpose of this paper if we attempted at all to trace the causes or methods by which this faulty nitrogenous metabolism takes place, for, indeed, a good deal of it is involved in mystery. We know that the life processes of the body are carried on by oxidation, and it is quite understandable how, by a lowering of the oxygenating powers of the system, imperfect oxidation of the proteid molecules occurs. While this process of oxidation is going on all the time in every part of the organism, it is, of course, the blood which is the active agent, both in furnishing the requisite oxygen, in various combinations, and in carrying away in turn the more or less imperfectly oxydized products of catabolism. It must be remembered, too, that it is from the arterial blood current that the kidneys seize such waste products as they may be able to handle. It is recognized also that this blood current represents the results of the final efforts of many vital organs, each contributing its quota of result in the interchange of external elements with vital tissues; and also the removal of effete or waste primary elements, in various combinations, after they have accomplished their purpose in the organism.

OTHER TREATMENT NECESSARY.

While I am strongly advocating an absolutely vegetarian diet in psoriasis, therefore, I wish emphatically to declare that this is only one element in the treatment of the disease—although perhaps the most important one. In order to obtain the best results there is constant need of careful medical supervision in order to secure the proper working of the economy in all directions, and internal and external medication are called for as necessity arises.

I know that with all that has been said in regard to the absolute avoidance of meat, many are ready to reply that some years ago exactly the opposite plan of treatment was advocated, namely, an exclusive or almost exclusive meat diet in psoriasis; this fact has been so frequently alluded to in text-books and current literature that it necessary to devote a few words to it.

EXCLUSIVE MEAT DIET IN PSORIASIS.

In 1867 Gustav Passavant of Frankfort, Germany, i an open letter to Prof. F. V. Hebra,[7] reported his ow case of psoriasis of twenty-five years standing. Afte trying for many years all known external and interna treatment, with but temporary benefit, he states that h was soon free of psoriasis and from an accompanyin catarrh, after entering on an almost absolute meat die including soups, pork, fats, cod liver oil, milk, and bacon and practically no vegetables or bread. He advise against any amount of vegetables, wine, beer, coffee an tea or spices. He cites one case of squamous eczem also relieved by this treatment.

There are a number of points in connection with thi brief report which quite invalidate any importance whic might be attached to it. First, Dr. Passavant does no mention if possibly he used any treatment, external o internal, in connection with the diet; then he does no state if the improvement in his condition lasted an length of time, or if he had any return to the eruption either under the diet or without it. He refers also t only one other case, and that of eczema, which was benefited by this plan of treatment.

Finally, Hebra,[8] to whom Dr. Passavant addressed his open letter, ridiculed the claim made, some years afte its publication, and, as far as I can find, there has bee no subsequent corroboration in literature of the correctness of the claims of Passavant that psoriasis can b cured by a meat diet. Surely if there were any truth in it some proof would be forthcoming in the forty years which have elapsed since its publication. On the othe hand, there are abundant, though brief, allusions in literature in regard to the injurious effect of excessive meat-eating in psoriasis.

More attention has been given to this matter than is perhaps warranted, but as the statement of Passavant is so often called up whenever the subject of diet in psoriasis is referred to, it is thought worth while to analyze the subject and refute the error, once for all. My personal experience in regard to the effect of diet on psoriasis extends over more than twenty years, as has been already stated.

EXPERIENCE WITH VEGETARIAN TREATMENT.

In analyzing the notes of 565 cases of psoriasis observed in private practice I find that about one-half of the cases were seen in consultation, or for but a short period, and, of course, many others only at intervals. But of those cases which were observed long and frequently enough to understand their true condition and observe the results of treatment over a long period, I find that there were forty in whom a more or less vegetarian diet was observed, and from a dozen to twenty patients who carried it out strictly, and from whom conclusions can be drawn. The limits of this paper do not admit of the presentation of the histories of individual cases.

During the earlier years the restriction was less severe and related mainly to the abstinence from beef and mutton; and even these patients noticed a marked change in the character and severity of the eruption, and often attributed a relapse to indulgence in the prohibited articles.

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[7] Archiv. f. Heilkunde, 1867, p. 251.

[8] Lehrb. d. Hautkrankheit., 1874, i, p. 352.

But of late years I have made the diet much more riet, excluding entirely all animal food, even strong ups, poultry, eggs and fish; and I have had a number patients for years on an absolutely vegetarian diet, ly allowing butter, but not milk as a beverage, and in me cases I have excluded tea and coffee.

The effect of this cutting off the supply of animal niogenous food has been very remarkable and striking many instances (a considerable amount of nitrogen still supplied by certain vegetables, as the legumes and tmeal). Patients continually notice the change in the lor and character of the eruption, it paling and beming less scaly, and even entirely disappearing in me weeks, with absolutely no local treatment.

In a number of instances this diet has been given to tients who had long been under my care, even for ars previously, and the patients and myself have been ll able to judge of the result of this radical change in e mode of life; and we have watched with great intert the often rapid improvement in the eruption, under ecisely the same treatment as before, except that I mmonly suspend local measures.

This treatment has been given to patients at all periods life, from 9 to 78 years of age, and, as has been ated, has been carried out with varying degrees of lelity. The note has been repeatedly made that when ere has been a neglect of the dietary element there s been a recurrence of the eruption, which again elded rapidly when stringent measures were enforced.

On the other hand, there have been a number of pants who have faithfully pursued this plan of treatent, in whom a long existing psoriasis has remained sent and who, having become accustomed to the diet, y that they have lost the desire for animal food and ill not touch it again.

This plan of treatment has been tried on some of my tients in the New York Skin and Cancer Hospital ith evident benefit, but naturally it is very difficult to rry out effectually such a measure for a long time in is class of patients. In one very striking case, hower, in a young woman aged 33, who had been repeatly in the hospital with most aggravated psoriasis, of any years' duration, the eruption, which covered alost the entire body and assumed a general exfoliative ndition, disappeared entirely under an absolutely vegerian diet and large doses of nitric acid, with no local eatment. She remained afterward many months in e hospital free from eruption, and when she went out e was seen occasionally, still faithful to treatment d free from eruption.

The oldest patient, a man 78 years of age, who had vere psoriasis all his life and had been some years der observation, showed a very remarkable improveent as soon as he was persuaded to follow this diet, me five months ago, and old thickened patches have most disappeared.

It is not always easy to convince patients of the value this treatment, and to secure that they shall carry it an absolute vegetarian diet with perfect strictness r a sufficient length of time or permanently; and it ill often require no little insistence, as well as intellint aid on the part of the physician, in order to effect e result desired. But after an experience with it for enty years I know that it can be effectually accomished, at least in a certain proportion of intelligent pants in private practice, and I have a number who are ally enthusiastic on the subject and have been so for any years. If from carelessness or necessary causes, as in traveling, visiting, etc., the rules of diet are transgressed and there should be some little return of the eruption, this has yielded to a very strict observance of the dietary restrictions, with other proper treatment, better than occurs with the latter alone.

Little need be said in regard to the general subject of a vegetarian diet, for abundant experience has shown its value under many conditions of health and disease. The opinion is, I believe, gaining ground both among the medical profession and the laity that far too much meat is eaten by those who can get it; and in London, certainly, the practice of vegetarianism is increasing, as is evidenced by the large number of well-patronized restaurants which make this a specialty; these are also increasing in New York City.

In my experience patients have felt remarkably well, when this was rightly directed and carried out, and in numerous instances I have found distinct and steady gain in weight in the spare, and loss of weight in the obese, when tested repeatedly on the same scales.

Finally I wish to emphasize the fact that while an absolutely vegetarian diet is advocated in psoriasis, I believe that it has its limitations, and must be directed with care and intelligence; but that in proper cases it can control the eruption and prevent its recurrence I am confident. I wish also again to make clear that patients with this eruption at times will require in addition the most varied treatment, internal and external, in order to accomplish the quickest and best results. How internal remedies act can not yet be fully stated, but in the light of our present study they probably have their action in improving the metabolism of nitrogenous substances.

531 Madison Avenue.

ATYPICAL TYPHOID FEVER;

ITS PART IN PREVENTIVE MEDICINE, AND ITS DIFFERENTIAL DIAGNOSIS FROM ESTIVO-AUTUMNAL MALARIA.*

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ANCON, CANAL ZONE.

There is a class of continued fevers met with in the southern portion of the United States and in Panama, and no doubt in many other portions of the world, that are resistant to quinin; they are too long in their course to be malaria fever. They are too mild in their symptoms and too short in their course to meet the clinical requirements commonly expected of typhoid fever.

I shall discuss this class of fevers under three heads. I shall attempt, first, to prove that these fevers are typhoid fever; second, to show the important part they play in the spread and continuance of this disease, and third, give the differential points between them and malaria fever.

These fevers divide themselves into three groups or varieties, the second of this group being by far the most frequent and also most important. We have, first, a fever that continues for about one week, irregular in its course, the temperature rising scarcely above 100 F. It has no symptoms except some bronchitis and a little malaise.

Second, a fever that continues from seven to ten days, with a temperature which may reach as high as 102 F. or more. There may be few or no symptoms in this class, but there is generally headache, bronchitis, some reddening and coating of the tongue. The patient is willing to keep his bed. The appetite remains good, and abdominal symptoms are absent.

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* Read before the Nashville Academy of Medicine, Oct. 1, 1907.

Third, a fever ranging from normal temperature to 100 degrees F. or a little above and continuing for two weeks or more. In this class of fevers we have all the usual symptoms of the typical typhoid fever. There is low muttering delirium, sometimes wild mania; a red, pointed tongue, tympanites, and retention of urine.

After the close of defervescence there is nearly always a second rise of the temperature lasting a variable length of time and corresponding to the second rise or "febris carnis" in the more typical cases.

These three groups are fairly representative of this interesting class of fevers. As stated in the beginning, the second group of these fevers is by far the most important. It occurs most frequently; it gives the greatest difficulty in differentiating it from malaria fever. It is nearly always accompanied with bronchitis, sometimes severe. One lobe of the lung may be dull on percussion, and suppressed breathing may be noted on auscultation. The bronchitis disappears early with free mucopurulent expectoration. Where malaria is not prevalent it is easy to mistake these cases for acute bronchitis or sporadic influenza, and no doubt this is done in many instances where typhoid fever is not epidemic.

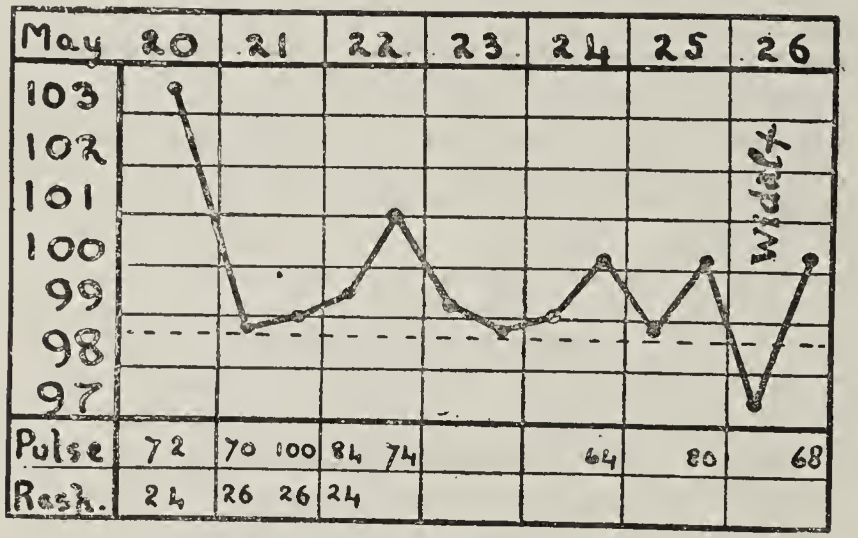

Fig. 1.—Temperature chart of Case 2, Class I, showing curve during first week of illness; during the rest of the illness the temperature was practically afebrile.

I am fully convinced that these fevers are typhoid fever: Because their numbers always increase as the number of the typical typhoid fevers increase; they occur in the same houses and same surroundings from which we meet or receive the typical cases; they frequently relapse, and the relapse may be, and often is, more severe than the initial attack; they give about the same proportion of positive Widal reactions as the typical cases, as I shall show later. And, finally, I have had occasion to see two postmortem examinations here on this class of cases which showed beyond any further question that they are typhoid fever—one died in relapse,[1] one from perforation.[2]

While the fevers of this class are very characteristic, they can not be placed in a category to themselves. As already remarked, they seem to hinge on the typical forms as is shown by the severe relapses that sometimes occur. And it is my opinion from a long observation in the southern United States and here that they are often the forerunners of the severer forms rather than the result of a decrease in the virulence of the specific agent.

The morphologic changes that take place in the ileu and other structures, in the most of such cases as thes we can assume only by inference. That we have merel a slight reaction going on in Peyer's patches and th solitary follicles, with slight swelling of the mesenteri lymph nodes which early tends toward resolution, i reasonable to suppose.

It is not at all necessary that all cases should go o to necrosis and sloughing, for typhoid fever like an other specific disease, depends for the severity of it symptoms on the amount of the infection present, th virulence of the infectious agent, and the resistance o the host. Hence we may and do have this fever varyin in its symptoms between wide extremes; from merel fever with no symptoms up to subsultus tendinum, com vigil, simulation of cerebrospinal meningitis, to thos dying within a few days with the overwhelming toxemia with merely a slight hyperplasia in the intestinal trac to account for the onslaught.[2]

But in spite of these reasonable conclusions, when i comes to diagnosing these mild, irregular fevers as typhoid fever, it takes courage to do it in the face of th commonly-accepted belief of this disease, and we al doubt and hesitate even when all the evidence is in ou favor.

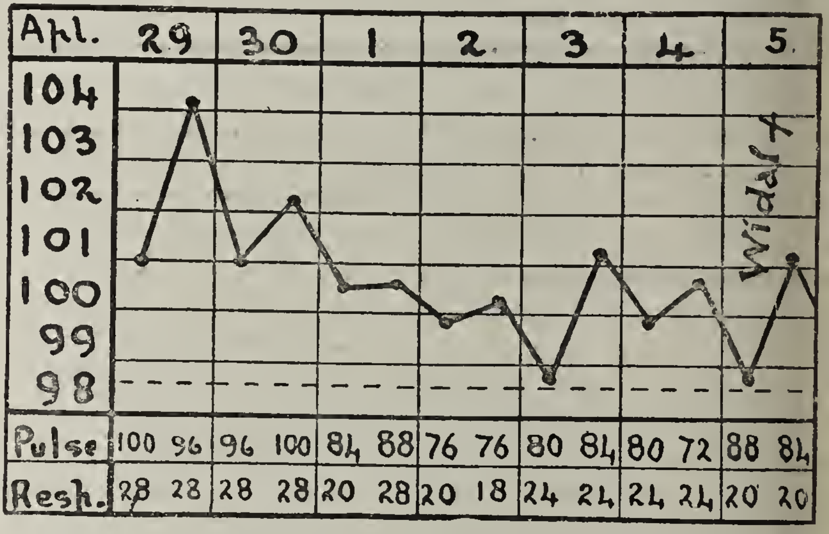

Fig. 2.—Temperature chart of Case 3, Class II, showing curve during first week of illness; after this time the temperature was practically afebrile.

This tendency to doubt, this tendency to hesitate, o even not to diagnose at all, does no harm in most cases so far as the patient himself is concerned, but with reference to the welfare of the community it becomes indeed a serious matter.

In these irregular cases every opportunity is present for the spread of the disease. They are usually unrecognized as typhoid fever and no effort is made toward disinfecting the patients excreta; they are not reported to the sanitarian, and nothing is done toward general sanitation about the patient's surroundings. Contamination occurs and there is then but one result—an epidemic. Thus these cases become the root from which this disease springs perennial and are almost solely responsible for its continuance.

In April, 1905, we had the first known case of typhoid fever in the Canal Zone since the American occupation. This case appeared among some recruits in the United States Marine Corps at Camp Elliott, Empire. From there it spread to some contiguous labor camps, Lirio and Gold Hill, thence to the towns of Empire, Las Cascadas and Bas Obispo, in these instances following the course of the watershed. In the meantime sporadic cases began to come from towns on the Panama side of the Culebra divide, where it was not possible to spread

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1. Records Pathol. Lab., Ancon Hospital, 1906.
2. Records Pathol. Lab., Ancon Hospital, 1907.

m the water supply. With this case and such im- rted cases as may have come on the Isthmus from ne to time the disease has spread until in April, 1907, ery camp and town from Panama to Colon was send- g to the hospitals its quota of cases of typhoid fever. d this occurred in the face of one of the best equipped itary corps to be found anywhere. The reason for is state of affairs was simply that practically 30 per t. of all the cases were passing through our hands gnosed "clinical malaria fever."

I know there are records of chronic "typhoid carriers" at can spread the disease for an indefinite time and ese no doubt contributed to our epidemic, but they e of small account when compared to this large per- ntage of atypical typhoid fever, undiagnosed and un- ported. This is a class of cases that accounts for the idemics of small towns and cities; causes it to follow large bodies of soldiers; the spread in labor camps, d to continue endemic in most of the large centers of pulation.

Typhoid fever is a preventable disease and should in ne, like typhus fever, become extinct. This can never until physicians widen their conception of what con- tutes typhoid fever and, instead of always expecting e typical, diagnose and treat, from a sanitary point view, all continued fevers as typhoid fever until they e proved to be something else.

I shall now take up a few case reports and afterward alyze two hundred cases studied for use in this paper, show what proportion these irregular forms bear to e whole in a series of average severity.

This study was made on negroes from the West India lands. The time stated as the beginning of their ill- ss is when they found themselves no longer able to rk. On account of their color no observation of rose ots could be made.

CLASS I.

Case 1.—*History.*—E. F., Barbadian, aged 20, illness began ght days before admission with pains in arms and legs. ysical examination negative. Stools showed *Ascaris* ova; ine, albumin 3 per cent.; blood, negative for malarial para- es. Widal test positive on twenty-first day after admission.

Case. 2.—*History.*— J. H., Barbadian, aged 25; on the Isth- s six months. Present illness began four days before admis- n with dizziness and headache, slight cough and bronchitis. ysical examination negative. Blood negative for malarial rasites; urine, negative; stool contained the ova of Uncin- ia and Ascaris. Widal test positive seventh day after admission. Figure 1 shows temperature curve for first week after admission; through the rest of the illness the temperature was afebrile.

CLASS II.

Case 3.—*History.*—L. C., Barbadian, aged 26; on the Isthmus twelve months; second illness. Illness began five days before admission, with fever, headache and vomiting. Physical examination negative, except tenderness over spleen. Blood, negative for malarial parasites; urine, negative; stools negative. Widal test positive seven days after admission. Fourteen days after discharge patient returned to hospital with a severe relapse lasting over twenty-eight days. Widal test again positive. Figure 2 shows temperature curve for first week after admission; through the rest of the illness the temperature was afebrile.

Case 4.—*History.*—A. H., Barbadian, aged 19; on the Isthmus five months. Present illness began five days before admission with chills, fever and sweats, dizziness, headache and cough. Physical examination negative. Blood positive for malarial parasites (infection heavy—estivo-autumnal rings and young tertian). Urine showed a trace of albumin with a few granular casts. Ova of *uncinaria, ascaris, tricocephalus dispar* with ciliated monads in stools. On the fifth, sixth ninth and eleventh days after admission the blood was negative for malarial parasites. On the eighth day after admission the Widal reaction was negative; on the tenth day suspicious and on the twelfth day positive. Figure 3 shows temperature curve for the entire course of the illness.

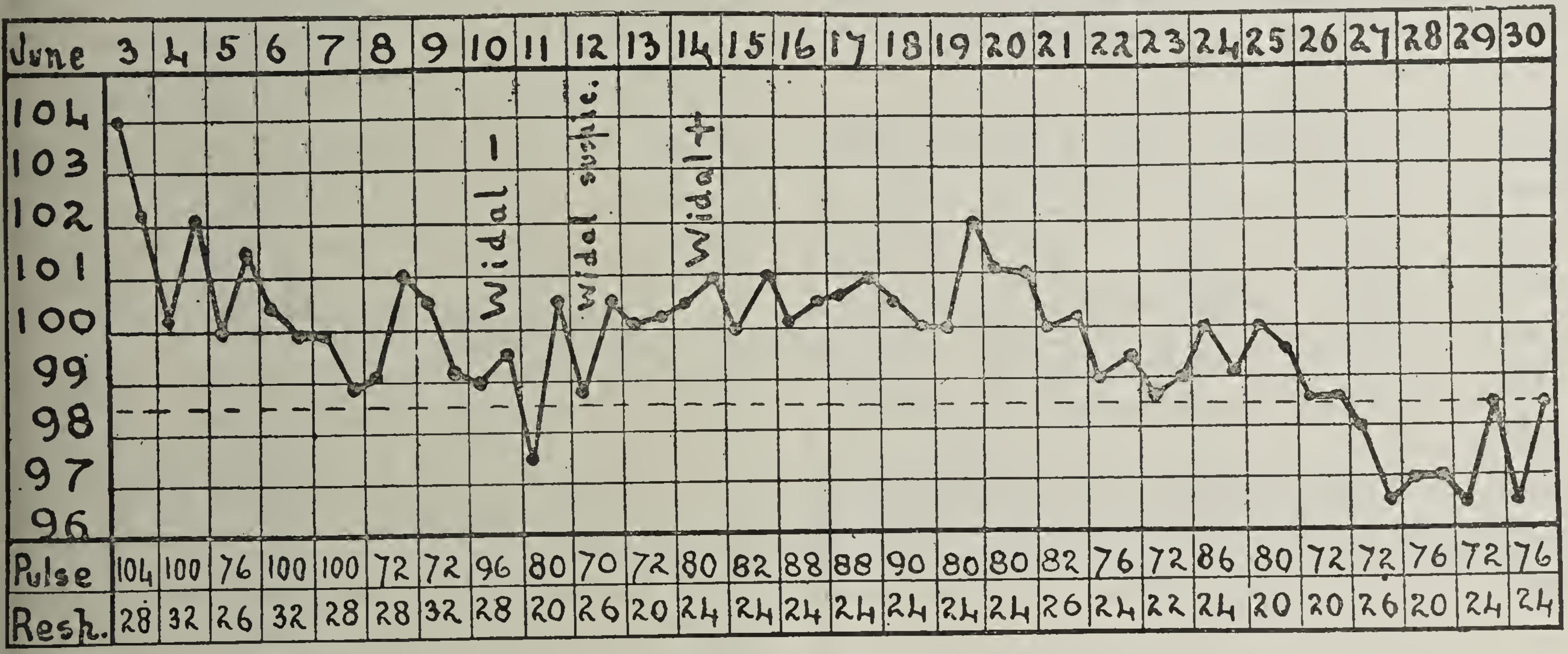

Fig. 3.—Temperature chart of Case 4, Class II, showing curve during entire course of illness.

Case 5.—*History.*—J. A., Guadeloupe, aged 35; on the Isthmus one month. Illness began three days before admission with headache, fever, vomiting, pain in abdomen and cough. Examination of the lungs disclosed sibilant râles over the entire area. The spleen was enlarged and tender; heart and liver were negative. Blood was negative for malarial parasites. Urine, albumin 3 per cent.; stools contained ova of *ascaris* and *tricocephalus dispar.* Patient died at 7:20 a. m. eighth day after admission. Pathologic diagnosis: typhoid fever with perforating peritonitis. Figure 4 shows temperature curve from the time of admission until death.

CLASS III.

Case 6.—*History.*—J. G., Grenadan, aged 22. Illness began three days before admission, with cramp in the bowels. Examination of the lungs disclosed friction and bronchial râles over both bases. Heart had a hemic murmur at apex. Urine negative; stools contained the ova of *Uncinaria* and *Tricocephalus dispar.* Blood was negative for malarial organisms; hemoglobin 46 per cent.; fourth day after admission leucocyte count was 17,000; fifth day 20,000; ninth day 9,000. On the ninth day the Widal reaction was negative; on the tenth day suspicious and on the twelfth and fourteenth days Widal reaction positive. Figure 5 shows temperature curve in the case.

Case 7.—*History.*—W. I., Barbadian, aged 26; on the Isthmus six months. Present illness began seven days before admission with fever and headache. Physical examination negative. Blood positive for malaria. Abdomen tympanitic; retention of urine. Patient in stupor with muttering delirium; unable to answer questions. Widal reaction positive on the second, third and fifth days, respectively, after admission. Twenty-six days after admission sudden pain in the abdomen with sharp rise in temperature. Operation for perforation showed volvulus. Relapse followed. Throughout the course of the disease the temperature was practically afebrile, except when volvulus occurred.

On analyzing 200 cases we note 64 atypical cases, or 32 per cent. of the total. The deaths were 24, or 12 per cent. Of the complications there was intestinal hemorrhage in 3, perforation in 3, phlebitis in 3, gangrene from phlebitis in 1, acute suppurative endarteritis (aneurism) of common iliac artery in 1, malarial parasites 8 per cent.

The Widal reaction was positive in 58 per cent., negative suspicious in 8 per cent. and negative in 31 per cent.

In 27 cases the Widal test was requested one time, in 12 cases the Widal was requested twice, in 19 cases no Widal tests were requested. Of the 64 atypical cases Widal reaction was positive in 53 per cent., negative suspicious in 10 per cent. and negative in 36 per cent. In 11 cases no Widal was requested.

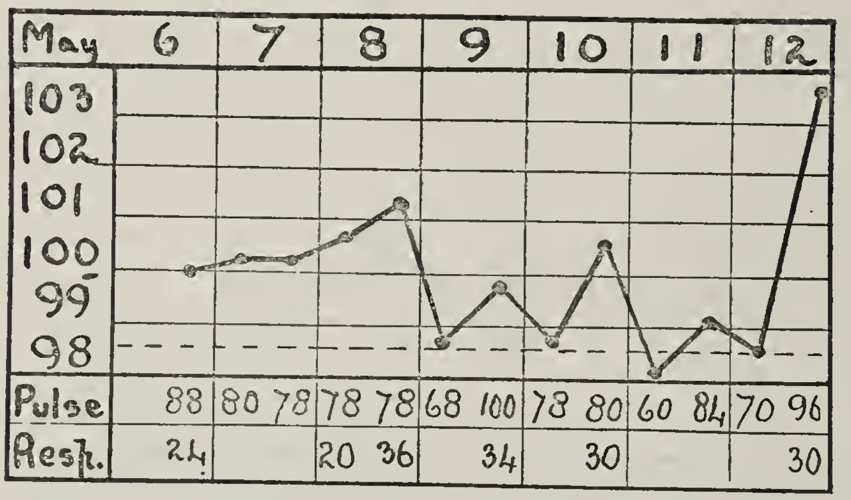

Fig. 4.—Temperature chart of Case 5, Class II, showing curve from time of admission until death.

It is of special interest to note the striking ratio of positive Widal reactions in these atypical cases to those in the whole series.

This at first glance is apparently a low percentage of positive Widal reactions, but I am sure this is as high as can be expected in average institutional work and much higher than need be expected by the general practitioner. There are so many undetermined factors in the phenomenon of Widal's test that the physician need not hesitate to make a diagnosis in the absence of a positive when the symptoms of the disease are present.

To illustrate: Five severe clinical cases of typhoid fever in which blood cultures have been made and followed up by Widal's, in our usual way, give results as follows: 3 cases showed *Bacillus typhosus* in pure culture; 2 cases showed *B. paracolon* in pure culture.

The Widal tests were: Case 1, *B. typhosus,* 2 Widal tests made; 2 positive. Case 2, *B. typhosus,* 3 tests made; 1 negative, 1 positive, 1 negative. Case 3, *B. typhosus,* 9 tests made; 1 negative, 1 positive and 7 negative. Case 4, *B. paracolon;* 10 tests made; 1 negative. 2 positive and 7 negative. Case 5, *B. paracolon;* 10 tests made; all negative. These negatives and positives are in the order as named here.

Hence, we see how easily a slight delay or even change in date might have modified the entire result.

MALARIA.

It is now necessary to make a brief review of malaria fever. The quartan and tertian need not be considered here, as they have no bearing on the diagnosis of typhoid fever. I shall then consider only the quotidian or remittent form. We use the form "estivo-autumnal" here and sometimes the simple "malaria fever." I shall speak of it in what follows as "malaria fever."

Malaria fever is one of the most widely known of all diseases and perhaps is the most common disease met with, and, paradoxically, it is apparently the least understood. The symptoms attributed to malaria fever are as varied as the idiosyncrasies of the observers. There is only one definite demand made of it, and that is that it shall have a reasonably short duration.

We have been slowly learning malaria since Laveran's discovery of its parasite, and as our knowledge increases we are constantly limiting it within narrower and narrower bounds.

We have found here that no disease is free from its complications, except such diseases as have a high leucocytosis, and it is frequently present in the earlier stages of this class of diseases. We have found also that any affection, more or less trivial itself, may complicate malaria and therefore modify its normal symptoms and course, in any degree in proportion to the gravity of the complication. These facts are perhaps not sufficiently well known, and observers when finding the parasites present in the blood have been content to assume that all symptoms present were caused by the malaria organisms. Thus it is that this disease has given the impression of such an infinite variety.

The fact is malaria fever is extremely definite in its febrile course. Its fever is characteristic, and to a close observer it is a striking phenomenon; its daily remissions, its daily exacerbations, within a fairly definite time, and its symptoms also vary with its fever and in like proportion.

And the reason: The cause of malaria fever, unlike the cause of typhoid fever, produces no organic lesions, and all its clinical symptoms must depend on certain stages of the developmental cycle of its parasite. As is well known, the organisms pass through this cycle in a fairly definite time, it must follow that the clinical manifestations correspond to this phenomenon. The amount of the infection or the gravity of the same seems to in no wise cause it to vary from this general law.

I begin the next step in this paper with much trepidation. I am fully mindful of the enormous weight of the authorities that are against what I shall further have to say. Laveran,[3] Manson,[4] Thayer[5] and many others believe and teach that if estivo-autumnal malaria fever be long neglected or indifferently treated the parasites will develop in such rapid succession as to make the fever a continued one. It is as reasonable to expect the tertian or quartan to do the same thing under similar circumstances, but no one claims more in a tertian or quartan than a doubling. Why then should we expect an estivo-autumnal to vary its phenomenon to any greater degree?

The charts I have seen to illustrate this hypothesis will not bear very close analysis. They have nothing n proof of the diagnosis except the presence of malaria parasites, and the presence of the parasites does not prove anything positive, except the fact of malaria as a complication. We can show thousands of charts of diseases, such as typhoid fever, yellow fever, measles and, in short, anything that had not a normal high leucocytosis that had malaria parasites in the blood, and even those that had a leucocytosis frequently had malaria parasites present in the early stages of the disease.

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[3] Encyclopedie Scientifique des aide Memoire du Paludisme.
[4] Tropical Diseases, 1905.
[5] Lectures on the Malaria Fevers, 1897.

That crop after crop of these parasites having different ages may develop one on the other is a perfectly reasonable hypothesis. But that they do not do this is one of the especially marked peculiarities of malaria. There can be no worse forms or greater infections than those that cause death, and yet they follow the law of periodicity, as shown by temperature charts of patients that have died here of malaria fever.

From our experience here and the records of this institution, I fail to find any verification of the accepted teaching. And it seems to me that if there is any place in the world where malaria would show itself to the worst advantage it would be on the Isthmus of Panama. We have the conditions here to produce it; we have ignorance and prejudice among these people to deal with; we gather in those who are unable to have the proper care in their illness, but so far the Isthmus has not produced any cases corresponding to this teaching. We have continued fevers here with malaria parasites in the blood, many of them, but those of this class that go to autopsy show the lesions of typhoid fever, and those that recover show a sufficiently large percentage of positive Widal reactions to satisfy my mind that we are really dealing with typhoid fever or its next-door neighbor, para-typhoid.

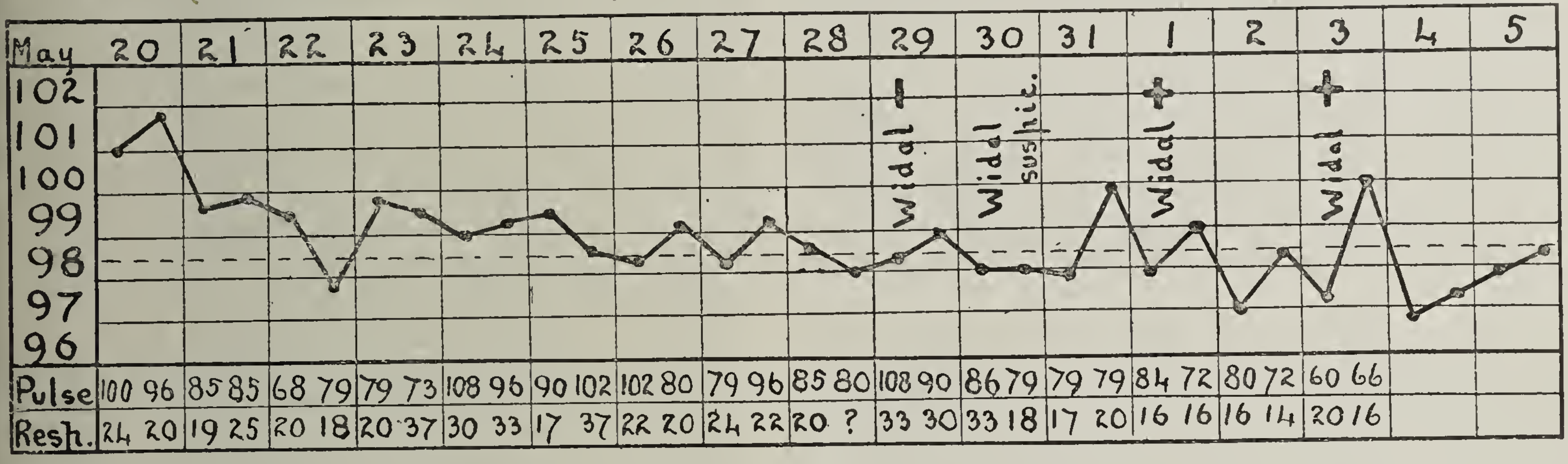

Fig. 5.—Temperature chart of Case 6, Class III, showing curve during entire course of disease. Note the results of tests for the Widal reaction.

I will now take up the analysis of five hundred cases of estivo-autumnal malaria fever treated in this hospital. Each case showed on admission the presence of malaria organisms, and in a few cases some complications were noted on the case histories. The varieties of the parasites, whether pigmented or non-pigmented, is not often stated; however, the non-pigmented is most frequently seen. This will show the length of the febrile period of cases when properly treated. All fevers are considered normal only when they have remained normal until discharged from the hospital. Thirty grains of sulphate of quinin in solution is the usual daily dose in ordinary cases; this is increased by mouth or hypodermatically or by intravenous injections as the urgency of the case may indicate. Two hundred of the cases are in natives and West India negroes, 140 are in white Americans and white Europeans, 160 are mixed. By making such a division it is expected to give a fair average, as it includes acclimated, partially acclimated and non-acclimated.

The results are: One case lasted 11 days. The fever continued 5 days after admission, then an intermission of 3 days, and a second rise for 3 days, making in all eleven days of fever. Seven patients had fever from 7 to 8 days; 5 patients had fever 6 days; 27 patients had fever 5 days; 214 patients had fever from 3 to 4 days; 233 patients had fever from 1 to 2 days; 13 patients had no rise of fever after admission.

We see by the foregoing analysis of 500 cases that the longest period of time a fever may last under quinin is eight days. Six of these seven cases running from seven to eight days showed complications, and this raises a doubt in my mind about the one remaining case, especially as we find only five cases continuing six days. Of cases of sufficient severity to cause death the longest period of time from admission until death was four days, twelve hours and forty-five minutes. The average length of time after admission until death has been about thirty-seven hours.

This is conclusive proof that malaria fever, if at all amenable to treatment, yields promptly, and that if not amenable it is even more prompt in causing death.

We may state then as a medical axiom: A fever which fails to yield to full doses of quinin in five days, although malaria parasites are present in the blood, is not simply and solely malaria fever, and the physician must look further for its cause.

In summing up typhoid and malaria fever from these analyses and the causes we see little or nothing in common between them, and there is no reason why there should be. The cause of the symptoms in malarial fever is an extremely simple process, while the cause of the symptoms in typhoid fever is a peculiarly complex one.

Typhoid fever may be remittent, but it shows no tendency to periodicity in these remissions. In the third or fourth week of the disease, however, in most cases we have a perfect quotidian remittent fever. But if typhoid fever is seen first in this late stage it then presents all the classical signs of the disease and will give little or no trouble in making a diagnosis. On the other hand, if malaria is seen for the first time late in the disease, when the patient is not moribund, the result will be entirely the reverse. There will be extreme restlessness, pain in the back and legs, severe vomiting, and often uncontrollable hiccough. Delirium may or may not be present. Emaciation in uncomplicated malaria is never present. Lastly, if we can not separate our symptoms satisfactorily we have left us the unscientific but sure therapeutic test—quinin.

When a fever, therefore, continues unyielding five days to full doses of quinin and shows no physical signs or demonstrable bacteriologic cause other than malaria parasites, it is perfectly safe to assume it to be typhoid fever.

Subsequently such a fever may prove itself to be tuberculosis, early liver abscess (in the tropics) or a febrile syphilis, etc. But such a contingency will be rare except for miliary tuberculosis—I have made this mistake five times in 205 cases. If we do err, however, our error will be on the side of safety both for the patient and for the community as well.

SUMMARY.

These irregular fevers are typhoid fever.

Their chief interest and importance is from a sanitary point of view. They are beyond doubt the most dangerous of all forms of typhoid fever as spreaders of the disease.

Their diagnosis is difficult because of our erroneous ideas of what symptoms we expect in order to conclude a clinical diagnosis. The word "typhoid" suggests to our minds a certain state or condition—which any disease may show if it continues a sufficient length of time —and this is one of the chief causes of our error in diagnosing typhoid fever.

Early diagnosis and prompt reports are our only safe method of preventing this disease. We can not wait for classical symptoms of typhoid fever, nor on the long and tedious confirmation by Widal test.

On account of the widespread prevalence of typhoid fever, therefore, any continued fever, no matter how mild or irregular its course, which has no physical findings for its cause or which shows no demonstrable bacteriologic findings by the ordinary methods, should be diagnosed as typhoid fever until time proves it to be otherwise.

These conclusions are not based alone on the few facts cited in this paper, but in addition to these on an experience of three years in this institution, where the admissions have already reached into the thirty thousands; where in every medical case the microscope begins the diagnosis and is brought to bear from time to time as the case may indicate, and where, lastly, when the patient has finished with all earthly things, the diagnosis is concluded on the postmortem table and in the pathologic laboratory with the microscope.

OBSERVATIONS ON THE FAILURE OF THE RADIAL PULSE WHEN THE ARMS ARE ELEVATED.

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DENVER.

The phenomena about to be described are so easily elicited and, at times, are so obtrusive in the routine of clinical examination that it is impossible they should have altogether escaped the attention of observers. Yet, with the exceptions noted below, I can find no definite account of the subject and am convinced that it has, at least, not become a part of general knowledge. A rather prolonged study of the facts involved has shown that their explanation demands careful consideration; and in view of the lack of crucial evidence as to their full meaning an attempt will be made in this essay to distinguish as sharply as possible the objective facts from their interpretation.

THE METHOD OF EXAMINATION AND THE GENERAL RESULTS OBTAINED.

In a considerable proportion of persons, one or both radial pulses may fail at the wrist when the arms are passively stretched above the head. In carrying out the experiment the subject under observation should be seated comfortably, with the mind passive and the body erect. The observer stands opposite and gently clasps each wrist of the subject by circling it with the thumb and forefinger, using the middle and ring fingers to palpate the respective radial pulses.

The arms of the subject are now lifted by the observer until they occupy approximately a vertical position. During this maneuver the pulse of the subject is steadily palpated, and if it undergoes no marked change the subject is told to breathe deeply; this modification of respiration frequently induces pulse changes not apparent under ordinary conditions. Following are the chief results that may thus be obtained: 1. In relatively few persons the pulses become more distinct when the arms are raised. 2. In the majority of people the pulses weaken, and the blood pressure in the radial arteries evidently falls under these conditions. In my observations the merely weakened pulse was classed with the strong; only cases in which the pulse completely failed under both fingers applied to the artery were considered pulse failures. 3. In a considerable proportion of persons one radial pulse, usually the left, completely disappears when the arms have been elevated to a certain angle, say 60° above the horizontal. Lowering the arms gradually, the lost pulse returns; but it is at once seen that the phase of respiratory movement controls the pulse status, for the pulse only returns, first, either during the movement of inspiration or that of expiration, becoming fully restored only when the arms are brought still lower. In the other arm the radial pulse may also completely fail when the member has been raised to a position more nearly approaching the vertical than was necessary in the first case. 4. Frequently, though the pulses remain during quiet breathing with the arms extended upward, if the respiration be deepened one or both pulses may completely fail, the failure usually being limited to a single phase of respiratory movement. A pulse which has remained during quiet breathing may, as the result of a single deep breath, afterward fail in ordinary inspiration or expiration. 5. The respiratory and other characteristics of pulse failure in the same person usually remain the same, even over intervals of many months; but in different subjects the completeness and rhythm of the pulse failure as regards the respiratory cycle manifest every conceivable variety. Thus, the pulse in either elevated wrist may remain absent throughout both phases of gentle respiration, or it may fail except at the beginning of inspiration or only at the end of expiration, or the failure may cover apparently any portion of the respiratory cycle, though evidently being initiated by extremes of inspiration or of expiration. When the respiration is deepened pulse failure is usually accentuated, but, on the contrary, deep breathing not infrequently restores the pulse, and usually markedly strengthens it in the phases of no failure. 6. In exceptional instances, the radial pulses in the elevated wrists disappear in opposite phases of respiration; for example, the right radial pulse may fail only in inspiration, while, during these same observations, the left radial fails only in expiration. Somewhat more frequently, during a prolonged experiment, the respiraory phase of a pulse failure may become reversed; that s. the pulse which failed in inspiration in an early observation may be lost only in expiration later on. Such results are comparatively rare, but especially important from a theoretical point of view. 7. No matter how obvious the phenomenon of pulse failure under the conditions described, when the subject assumes the supine position with the arms held vertically upward, the pulse always remains strong at the wrists. Even when, in a subject sitting upright in a rocking chair, the pulses fail obviously in the elevated wrists, the radial arteries again begin to beat when the subject leans slightly backward, say at an angle of 20 degrees from the vertical. In leaning forward, however, the pulse, lost in the upright posture, does not return.

ABSTRACT OF EXPERIMENTAL DATA.

My records are founded on observations made on 410 different persons, including normal individuals as well as subjects of various disorders, acute and chronic. In many instances the same person was repeatedly studied at successive intervals during a year's time and under different conditions of physical well-being. Of the 410 individuals studied 208 were males and 202 females. Arranged according to the decades of life, 9 cases were in the first, in 44 per cent. of which one or both radial pulses failed when the arms were raised; 42 in the second, with 69 per cent. of pulse failures; 131 in the third, with 55 per cent. of failures; 88 in the fourth, with 50 per cent. of failures; 62 in the fifth, with 40 per cent. of failures; 43 in the sixth, with 19 per cent. of failures; 27 in the seventh, with 7 per cent. of failures; 3 in the eighth and 1 in the ninth, with no failures. As regards the results of the observations: In 225 persons, 55 per cent., there was no complete pulse failure in the elevated wrists under any condition of respiration. In 60 persons the results were variable, the pulse occasionally failing in one or both radials, but again reappearing. In the remaining 125 persons there was always a loss of the pulse in one or both radial arteries during a portion or the whole of the respiratory cycle; that is, at least occasional pulse failure occurred in 45 per cent. of the persons placed on record. This proportion is probably too high, since, naturally, a certain number of cases were recorded when it was noticed that they belonged to the category of "pulse failure," which would not otherwise have been noticed. As to other results of the observations: The pulse failed in the right radial artery alone in 38 cases; in the left alone in 78 cases; in both arteries in 66 cases. The pulse failure occurred during inspiration only in 52 cases; during expiration only in 6 cases; during both inspiration and expiration in 124 cases.

PHYSIOLOGIC AND PATHOLOGIC STATES WHICH DETERMINE PULSE FAILURE.

In a given normal individual the constitutional peculiarities which determine failure of the radial pulse when the arms are raised are more or less permanent; the same characteristics in the pulse may be detected month after month. Nevertheless, there are found in the same person marked variations in the completeness of the reaction according to the "physiologic tone" of his organism. The more vigorous the state of health the less inclined is the radial pulse to fail under the conditions indicated. Thus, in a hospital interne who had been closely confined to ward and laboratory work for many weeks, one or both radial pulses disappeared completely, first, in expiration, then throughout the respiratory cycle, as the arms were gradually elevated above the horizontal. Later on, the duties of this interne took him out of doors; his general appearance betokened increased physical vigor, and after several months of the more hygienic life there could be elicited relatively slight signs of pulse failure. Healthy young women serving as hospital nurses are apt to manifest pulse failure in the elevated wrists, especially when more or less run down after a prolonged service. On the other hand, in persons examined because they seemed to represent types of vigorous health I have rarely found marked evidence of pulse failure.

In acute febrile conditions, the patients sitting in bed, it is extremely rarely that the pulses fail when the arms are elevated. During convalescence, however, pulse failure is often detected. In general, it may be said, any abnormal outflow of nervous energy inhibits pulse failure. Thus it often occurs that when the wrists of a subject are raised and a pulse is found to disappear, the beat at once returns if the subject laughs or becomes agitated in any way. As will be more specifically mentioned later, nervous impressions may overcome the influence of gravity; thus, the radial pulses which fail when the arms are raised easily without stretching the tissues of the shoulder joint, may at once return when the hands are pulled somewhat forcibly upward.

There seems to be a peculiarly close relation between valvular heart disease and the pulse failure under discussion. In cases of heart disease with broken compensation I have never found the radial pulse to disappear when the arms are raised; this has been found true in a case nearing a fatal termination with a maximal arterial pressure about 90 mm. Hg. In cases of valvular heart disease, not marked by arteriosclerosis, in which compensation is good, the pulse, in my experience, nearly always fails more or less completely when the arms are raised. On several occasions I have had the opportunity of studying these pulse reactions both in patients undergoing their first attack of endocarditis and in those passing through the cycles of broken and restored compensation incident to chronic heart disease. The conclusion seems unavoidable that acute cardiac inflammation or break in the compensation of cardiac defects inhibits a tendency to pulse failure which is otherwise marked in cases in which inflammation is allayed and compensation is restored. This point is dwelt on because, whatever the true interpretation of the pulse failure, it is a matter of profoundly practical importance to the clinician, who is guiding a patient through an attack of acute endocarditis, to command some reliable sign of such reestablishment of physiologic coordination as will justify permission for the invalid to indulge in physical exertion. The most extraordinary instances of pulse failure that I have encountered have been in persons who had formerly been subjects of bronchial asthma or were enjoying more or less respite from the paroxysms. During an asthmatic attack the pulse does not fail. An abstract of a few of many notes made on two appropriate cases may better illustrate the point.

CASE 1.—Mr. W., aged 35, has suffered from asthmatic paroxysms for ten years. Improved since coming to Colorado two months ago. Dry bronchial râles are heard throughout the chest, and there is percussion dulness at the apices. While the patient is suffering from a slight asthmatic seizure, the radial pulses remain when the arms are raised. Some days later the pulmonary signs and the subjective symptoms are improved. The patient sits on a chair and his hands are lifted above the head. The radial pulses remain during gentle breathing, but with somewhat deepened respiration both pulses disappear throughout the phase of inspiration; the arms are lowered until the hands rest on the knees, and the pulses still continue to fail during deep inspiration. On a later date the left radial pulse fails in the same way during gentle inspiration, while the right radial persists even throughout deep respiration. During the phase of expiration the pulses are much larger than normal.

Case 2.—Miss I., aged 18. Suffered from asthma all her life until she came to Denver two years ago, since when she has been free from attacks. Patient's lungs practically normal. Sitting in bed, the left radial pulse fails during ordinary inspiration, when the arms are depressed about 45 degrees below the horizontal (the forearm being bent at the elbow and held vertically). When the arms are raised to an angle of about 50 degrees above the horizontal both radial pulses fail throughout ordinary respiration. When the patient lies supine, the arms being held vertical, both pulses return strongly.

These are simply somewhat exaggerated examples of similar results obtained in other cases, both normal and pathologic. Of definite anatomic conditions which interdict the described pulse failure, extensive arteriosclerosis is the most constant.

Evidence will be given later on for the belief that the persistence of the pulse in debilitated subjects of arteriosclerosis is a sign that the sclerosis involves the splanchnic arteries. In certain of such cases the arterial hypertension can be controlled by the administration of nitrites and in others not. In the former class, when arterial blood pressure has been lowered by nitrites, the pulse weakens much when the hands are raised, in the latter not.

PHYSICAL AND PHYSIOLOGIC CONDITIONS WHICH DETERMINE PULSE FAILURE IN THE ELEVATED ARTERIES.

1. *Influence of Gravity.*—As already noted, when sitting erect a person may lose the radial pulses when his arms are raised to a variable angle above or even below the horizontal; but when the supine position is assumed and the arms are sustained in a vertical position, the pulses return strongly at the wrist. It seems obvious that gravitation of the blood must be the ruling factor in this difference. Striking evidence of the influence of gravity on maximal arterial blood pressure is presented by Stevens,[1] who found that in a healthy man lying on his side the maximal blood pressure taken in the upper arm averaged 112 mm. Hg, as against 155.5 mm. in the lower arm. In the present work many experiments were made to determine the influence on the elevated radial pulse of gravitation of blood into the abdominal vessels or the lower limbs. A chair was constructed whose seat could be raised to any desired height above the floor and which was supplied with an adjustable back rest. To the front edge of the seat was hinged a board nearly two feet in length. In carrying out an observation the subject was seated on the chair, with feet hanging free or resting on the floor, with the thighs inclined downward. The arms of the subject were now lifted by the observer and the occurrence of pulse failure remarked. While the results were being noted an assistant raised the free end of the swinging board, thus lifting the feet of the subject to the level of the pelvis, the thighs inclining somewhat upward. The observer at the same time noted any change undergone by the pulse in the elevated radials. Observations carried out in this manner showed no constant results; in some persons the pulse in the elevated wrists failed more readily when the legs were dependent than when raised; in others the reverse was the case. Often change in level of the legs had no special influence on the radial pulse. Marked alteration of pulse rate on changing the level of the legs was noted in but one instance, as follows:

Case 3.—Mr. H., aged about 32. Seated, legs hanging free. Wrists held up, forearms vertical and arms about horizontal; the right radial pulse fails completely except for two beats at the beginning of inspiration; the left radial pulse remains unchanged; its rate is 100 per minute. The legs are now raised; the respective pulses remain as before, but the rate of the left radial drops to 82. The legs are again lowered; the right radial pulse becomes stronger for a moment and then returns to its former condition; the rate of the left radial rises to 96.

No demonstration could be clearer that the pulse rate *per se* has nothing to do with the pulse failure under discussion.

Observations carried out on subjects in a standing as compared with a sitting position showed a slight but not decided excess of pulse failure in the former posture. It may, therefore, be concluded that gravitation into the vessels of the lower extremities plays no important part as a cause of failure of the elevated radial pulse.

It might naturally be concluded, even without the important teachings of Leonard Hill,[2] that simple gravitation into the abdominal vessels would amply account for loss of pulse in the elevated radial arteries. That the problem is not so simple is obvious for the following reasons: 1. In the supine position the pulses do not fail with the arms vertical. 2. Mere gravitation should affect nearly equally the two pulses, whereas it is common for one pulse to fail completely while the other remains strong. 3. It occasionally occurs that both radial pulses completely fail when the wrists are held at about the level of the eyes; if this effect were produced by mere gravity there should be a coincident anemia of the brain, which would provoke obvious symptoms. I have observed, on the contrary, that when dizziness supervenes as the result of deep respiration, pulses which had failed tend to return during the nervous disturbance.

In my experiments it was attempted to estimate the effect on pulse failure of drainage into the abdominal vessels by compressing the abdomen. With the subject sitting upright and his back well supported, a pillow was laid across the abdomen and kept in place by a strap, the free ends of which were held by an assistant standing behind the chair. At the word of command the strap was drawn tight and the pillow firmly pressed against the abdomen; the observer in the meanwhile, of course, noted any changes in the character of the elevated pulses. When pressure is applied to the abdomen in this manner the radial pulses, which may have weakened or failed in the suspended wrists, usually grow stronger, or return if absent; on the contrary, there is a weakening of the pulses when the abdominal pressure is released. When the pressure is applied the pulse rate may suddenly drop ten or more beats in the minute due, no doubt, to vagus inhibition excited by the heightened arterial pressure. It has been noticed that even the constriction from the waistband of a garment may interfere with the disappearance of a pulse which is manist when the abdomen is free. The conclusion, from umerous observations, was that compression of the abomen tends to restore a pulse which has failed, and hat sudden release of the pressure is followed by a eakening or failure of the pulse. Nevertheless, the ffects on the radial pulse of compression or decomression of the abdomen seem quite insufficient to support the conclusion that the sole cause of pulse failure n the elevated wrists is hydrostatic drainage into the bdominal vessels. It is barely possible that variations n the tension of the abdominal wall may account for ome curious results, already mentioned, of changing the nclination of the body. When, namely, a favorable subect sits in a rocking chair, with the body erect and the rms held up, one or both radial pulses fail completely. s the subject leans gradually backward, the arms at the ame time becoming more nearly vertical, the pulses eturn when the axis of the body has reached a slight nclination, estimated as not more than 30 degrees from he vertical. As the erect posture is resumed the pulse r pulses again fail and continue absent with a forward nclination of the body much greater than the angle at which they were restored in leaning backward. These esults suggest the inquiry as to whether there is not specific coordination between the tension of the abominal wall and splanchnic vasomotor activity in the ense that they increase and decrease together. It has een noticed, in persons whose pulses fail when the arms re raised, that an attack of abdominal neuralgia temorarily does away with the phenomenon.

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[1] Blood Pressure and Pulse Rate as Influenced by Different Positions of the Body. The Journal A. M. A., October, 1904.

[2] Influence of the Force of Gravity on the Circulation of the Blood. Jour. Physiology, xviii, 15, 1895.

It might reasonably be expected that persons with bviously small blood mass, or showing abnormally low legrees of maximal arterial pressure, should characterstically fall within the class of those whose radial pulses ail when the arms are raised. But such is not the case. Thus, in bed-ridden consumptives, in patients who have ot yet recovered from the effects of profuse hemorhages, in others whose maximal blood pressure falls elow 100 mm. Hg, it has frequently been found that he elevated radial pulses remain undiminished. In cases nanifesting high blood pressure associated with arterioclerosis it is, indeed, the rule for the radial pulse to ersist when the arms are raised. It is not uncommon, owever, especially in cases having compensated heart esions, to find the pulse to fail under the conditions noted when the maximal blood pressure ranges as high s 140, 160 or even 190 mm. Hg. It is difficult to coneive how the mere lifting of the hands should drain rom the radial arteries a blood column supported by so great a general maximal arterial pressure. I was led, herefore, in a previous communication[3] to assume that levation of the arms produced an increase in general rterial pressure which was overcompensated by reflex dilatation of the splanchic vessels through the excitement of a reflex arc of which the depressor nerve was he afferent channel. A sifting of all the experimental data shows that this generalized hypothesis must be abandoned; but that it contains an element of truth is evidenced by some of the following observations:

Levy[4] thinks that the strength of the heart can be estimated by the effect on blood pressure caused by clamping the femoral arteries. The result of such compression is to raise arterial pressure, after a latent period of two or three minutes, in cases having strong or normal hearts, but not to change or even to lower the pressure when the hearts are weak. In a number of my experiments in which the femoral arteries were compressed during palpation of the elevated radial arteries, the results were usually negative, but there was at times marked accentuation of failure of the radial pulse. The same result occasionally accompanies compression of one brachial artery; the other arm being raised, its radial pulse may then fail more readily.

Positive and curious results frequently attended the following procedure: The subject being seated, his arms are elevated and the character and degree of pulse failure in one radial artery is noted. While this arm is held suspended the other arm is slowly alternately lowered and raised, the changes in the elevated pulse being meanwhile recorded. In a considerable minority of subjects in which the pulse is lost in an elevated wrist, the pulse failure is distinctly more pronounced when the other arm is raised, and vice versa, as is illustrated by Case 3:

Case 3.—Mr. H. The hands are lifted until the arms are inclined about 30 degrees above the horizontal. Both radial pulses fail throughout ordinary respiration except for two beats in inspiration. When the left arm is held suspended, the left radial pulse returns and is strong when the right arm is lowered, but weakens much or fails altogether when the right arm is raised.

In a still smaller proportion of cases, especially in debilitated subjects, just the reverse effects are obtained, namely, a pulse which is subject to failure when one arm is elevated becomes stronger when the other arm is raised and vice versa.

These results, taken altogether, seem to indicate that slight variations in arterial blood pressure perceptibly affect the mechanism on which pulse failure depends and, indeed, in the direction of accentuating that failure under conditions which probably increase general arterial pressure.

THE RELATION OF THE RESPIRATORY MECHANISM TO PULSE FAILURE.

No physiologic fact is more easily demonstrated than the intimate relations between pulse or blood pressure and respiratory activity. Nevertheless, the extensive literature which has been founded on this subject has failed to offer satisfactory solutions of many of its problems. Griesinger[5] appears to have been the first to have described the disappearance of the pulse during inspiration in a patient afflicted with "mediastinitis" and to have designated the phenomenon as "pulsus paradoxus." Later Riegel[6] and Sommerbrodt,[7] in communications not accessible to me, maintained that the pulsus paradoxus is only the exaggeration, under peculiar conditions, of a physiologic phenomenon.

Physiologic demonstration of the relations existing between pulse and respiration is sometimes attempted through experiments attributed to Valsalva and to J. Muller, respectively. In the former, at the end of a deep inspiration, the mouth and nose are closed and then a forced effort to expire is made. The result is a temporary rise in blood pressure, with increase in frequency and diminution in size or even complete failure of the pulse. In the latter experiment, at the end of expiration mouth and nose are closed and a forcible inspiratory movement is made. The effect is a lowering of blood pressure, with, usually, an increase in the size of the pulse, though later the pulse may, it is said, disappear.[8] In radiographic observations carried on by Dr. S. B. Childs and myself it has been clearly demonstrated that in the state of modified inspiration described the heart and lungs are greatly engorged with blood as compared with their state during the modified expiration. Clinicians and physiologists, as a rule, seem to have no difficulty whatever in explaining any modification of pulse volume which is associated with respiratory activity, by assuming it to be due to variations in the capacity of the vascular bed of the lungs.[9]

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[3] Experiments on Venous Blood Pressure and Its Relation to Arterial Pressure in Man. The Journal A. M. A., Oct. 20, 1906.

[4] Ueber Kraftmessung des Herzen, Zeitsch. f. klin. Med., 1906, lx.

[5] Quoted in Hermann's Hdb. d. Physiologie, iv, 297.

[6] Riegel, Berliner klin. Wochensch., 1876, No. 26.

[7] Sommerbrodt, Ebenda, 1877, No. 42.

There are several reasons why the results of my observations can not be explained in such a simple manner, notwithstanding that many of the most striking examples of pulse failure were exhibited by the subjects of more or less extensive pulmonary tuberculosis, with the attendant modifications of respiratory mechanics.

1. The removal of a considerable mechanical obstruction to the blood circuit in the lungs produces no such effect on the pulse as should be expected under this hypothesis. Thus:

Case 5.—A lady, aged about 43, had carried a massive left-sided pleural effusion of inflammatory origin for a number of days. Just before aspirating more than two quarts of serum, the left radial pulse, with arms elevated, weakened and at times failed with deep inspiration. After a week the left pleural cavity had refilled. Before aspirating about two quarts of serum, the left radial pulse fails in deep inspiration. Just after aspiration, the process lasting about half an hour, the left radial pulse is smaller and it fails at times in ordinary inspiration; then, later, it does not fail even in deep inspiration; later, for a while, the left radial pulse fails in ordinary and deep expiration, and then returns.

Case 6.—Mr. D., aged 61. Considerable arteriosclerosis. Patient in fair general condition, but afflicted with an enormous abscess of the liver. In the sitting position the liver flatness reached the level of the third costal cartilage. With the arms raised, the radial pulses remain both before and after aspirating a quart of pus.

These facts recall the results of experimenters who have found that a very large proportion of the pulmonary blood circuit may be blocked without affecting the systemic blood pressure.

2. In a certain small proportion, about 1 per cent., of cases in which the pulse failed in the elevated arm, it could not be detected that the failure occurred preferably in one rather than in the other phase of respiration.

3. Very frequently the pulse failure occurred during gentle respiratory movement, and occasionally a pulse so lost would be strongly restored by vigorous breathing.

4. In different cases the same respiratory movement would have opposite effects on the pulse; in one person the pulse or pulses would fail preferably during inspiration and in another they would return strongly in inspiration and fail throughout expiration.

5. Frequently a pulse which with a low elevation of the arms would fail during one phase of respiration, at a higher elevation would be lost through both phases.

6. Although, as a rule, the respiratory phase of pulse failure in the same individual remained constant during observations made at intervals of many months, in a certain proportion of persons the pulse which failed preferably during inspiration on one occasion failed easier in expiration on another. It has even been found, though rarely, that, during the same respiratory cycle, one radial pulse would fail in inspiration, returning in expiration, while the other pulse would fail in expiration and return in inspiration. In a former communication[3] I showed that in many individuals it was eas to demonstrate an inspiratory inrush of blood into th peripheral veins, presumably due to an inspiratory dilatation of the corresponding arterioles. It would seem as if the two phenomena must be related; however, th inspiratory swelling of the veins occurs both in the recumbent and in the erect postures, while pulse failur is only found, in my experience, in the latter.

SUMMARY AND CONCLUSIONS.

It seems to me that the foregoing observations demonstrate in a striking manner the intimate relations of th nervous mechanisms concerned in respiratory and vascular movements, and the influence of the gravitation o the blood mass thereon. In the upright posture the blood tends to settle in the capacious channels of the splanchnic vascular bed. As pointed out by Leonard Hill[2], the "head-up" position in four-footed animals may lead to extraordinary lowering of blood pressure in the carotid arteries and presumably to critical anemia of the brain. But in man there has been developed a compensatory reaction, undoubtedly chiefly vasomotor, by means of which the vessels of the dependent parts of the body, especially, probably, the arteries of the splanchnic area, contract under stimulus of the upright posture and maintain a fairly uniform distribution of the blood mass.

No physiologic coordination can be conceived that is more important than this to the welfare of the organism as a whole. It is to be expected, therefore, on *a priori* grounds, that minor compensations having the same general purpose should here and there disclose themselves. When the radial pulse fails in a wrist which is raised above the level of the head, the result may be due either to passive drainage of the blood from the artery, followed by a purely local contraction of the arterial wall, or to active vasomotor contraction of the vessel under the stimulus of gravity. As touching the former view, Bayliss[10] has shown that peripheral arteries freed from their nervous connections respond to variations of internal pressure by contracting as the pressure rises and dilating as it falls. It is difficult to see how these results can explain the facts presented in this paper. Sifting the great number of observations bearing on this subject, the latter explanation seems to be the only possible one. In other words, according to this view, pulse failure in the elevated radial artery is a sign of vasomotor activity and belongs to the series of physiologic compensations. It is comprehensible as such, if we presume that contraction of the radial arteries helps to maintain blood pressure in more vital tissues by diverting the blood stream from less sensitive organs. It has often been observed that pulse failure which is obvious in the elevated wrist at the beginning of a series of observations, is not evident later on. That is, the pulse failure mechanism seems subject to fatigue. Excitement or emotion which increases the total outflow of nerve energy tends to inhibit the pulse failure. In general, in perfectly normal individuals who are in vigorous physical condition, the radial pulse is maintained when the arms are raised. In the same class of persons when more or less debilitated by confining occupations or subnutrition, the pulse often fails. In an acute febrile disorder the pulse usually remains when the arms are

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[8] Description of Experiment by Reichert: Amer. Text-Book of Physiology, i, 1900, p. 452.

[9] Witness, for example, Sir Jas. Barr's admirable address, Lancet, Aug. 25, 1906, 481.

[10] The Reaction of Blood Vessels to Alterations of Internal Pressure. Jour. of Physiology, xxvi, 29, 1901.

sed; during convalescence, especially with the estab-
iment of compensation in cardiac disease, the pulse
en fails. Numerous observations seem to show that
se differences in the reaction of the pulse do not de-
nd on the amount of blood volume or the degree of
ximal arterial pressure. It is not only conceivable
t probable that signs of physiologic compensation
ich are absent during robust health or active disease,
ould become manifest when the normal vital energy
reduced or when, as a result of disease, the efforts of
ysiologic adjustment must become more strenuous to
aintain the needful outflow and normal distribution
the blood mass. The older writers[11] in this field were
one to attribute the *pulsus paradoxus* to mechanical
terference with the normal blood flow, basing their
sition on the frequency with which the phenomenon
tends pathologic adhesions between the mediastinal
sues. The facts that have been rehearsed seem to
dicate that mechanical abnormalities within the chest
ay only indirectly cause pulse failure by exaggerating
rtain reflexes which under perfectly normal condi-
ons are masked.

As already stated, failure of the elevated pulse does
t seem to occur in persons showing signs of general
teriosclerosis. The thought may not be far amiss that
is constant organic tendency of later life may in itself
a compensation which, by diminishing the distensi-
lity of the vessels under the hydrostatic pressure of the
ood, may more or less substitute that constant and
cessary redistribution of the blood mass which has
come impossible to a senile vasomotor apparatus.

FINAL RESULTS OF CONSERVATIVE SURGERY OF THE TUBES AND OVARIES.

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It is an every-day experience in medical literature to
ead a surgeon's report of a series of "successful" oper-
tions. The surgeon expresses therein usually a feeling
f satisfaction with the results of his work. Are the
atients and family physicians equally content? What
ratification or satisfaction is it to a woman to appre-
iate that she has escaped with her life, after a serious
peration, only to discover that she continues to be an
nvalid or possibly a cripple? How many of these pa-
ients who have been "successfully" operated on pass on
o the family physician, to the neurologist, or perhaps
o the next surgeon for further attention? And how
nany of such patients would not rather have sent their
lessings from the next world to their surgeon had he
ailed in noting a "successful" result and spared them
he tortures of postoperative invalidism?

The older one grows in the practice of medicine and
surgery the less is he apt to be carried away by the bril-
iancy of mere figures. The operator in surgery is, after
ll, only an artisan like the tailor or bricklayer with the
dditional equipment of a man educated in his special
ine. His specialty necessarily implies a thorough knowl-
edge of anatomy and surgery as well as a cool head,
steady nerve and an immense reserve stock of courage
and backbone. If he does his work beautifully, skill-
fully and gracefully he becomes, in addition, the artist. But the man who combines the qualities of a good diagnostician, careful thinker, artisan and artist is, after all, the best surgeon. Thus the average house surgeon to-day can point to a series of a dozen or twenty operations for appendicitis done neatly, quickly and, perhaps, without mortality. Yet he needs the experience of many mistakes in diagnosis as well as errors of judgment before he can be rated as a first-class surgeon.

From this rather pessimistic viewpoint have I tried to approach the subject in hand—namely, the true value of the conservative surgery of the adnexa. I have made little use of the literature of the subject and have tried to avoid being carried away by general impressions. Individual experiences extending over a period of many years have been the basis for the present study.

It is only proper to state at this point that the question of danger to life played a small rôle in this series of operations. In fact, in the hands of the average surgeon, in a properly equipped hospital, the mortality rate after this kind of work should be very low. In the collection of 160 cases of which I have records one patient died after operation and a second one is at present quite sick and in the hospital under the care of my successor to the service, Dr. S. W. Bandler. It is a good rule to study one's unsuccessful results in order to guard against the possibility of future error, and I shall describe these two cases at this point:

Case 1 (Group 3).—*History.*—A young married woman, aged 28, was referred to me by Dr. M. Cisin. On opening the abdomen a large tubo-ovarian abscess was discovered in the left side. It was ruptured during the subsequent enucleation and removal. The right tube was the seat of a purulent salpingitis and was amputated at the horn of the uterus. The ovary on this side was normal, and, in order to give the patient a chance to overcome the existing sterility as well as to retain the menstrual function, it was attached to the right uterine cornu. The broad ligament gap was brought together on each side with sutures in such a manner as to keep the uterus from falling backward. The extensive adhesions to the omentum and intestines were carefully separated and the diseased appendix was removed. Because of the escape of pus from the left tube ruptured during the operation the wound was drained. At the close of the operation the pelvis was clean and dry. The same evening the patient passed into a state of collapse which was attributed to postoperative shock. Under stimulating treatment she rallied. The wound being drained and little blood having appeared in the dressing, we were entirely misled in estimating the true condition of affairs. Several days passed before the secondary hemorrhage which had taken place was recognized, and, as the patient had emerged from the shock and her pulse was of fair quality, there was no indication for a secondary operation at this time. The wound was opened sufficiently to allow of the free escape of the blood accumulation. In the course of weeks, this case reduced itself to a purulent discharge through the abdomen and the patient passed through an attack of septic pleuropneumonia. After a valiant battle for life she finally succumbed to chronic sepsis and slow exhaustion at the end of ten weeks.

Case 2 (Group 3).—*History.*—A young married woman, 31 years old, sterile. After preliminary curettage and drainage of the uterus, an abdominal section was made. The omentum, densely adherent to the anterior parietal peritoneum, was carefully detached. The right ovary was buried in firm adhesions so that during delivery it was severely mutilated and torn into two fragments. The right Fallopian tube was probed and its canal proved to be completely obliterated; it was therefore amputated at the horn of the uterus on this side. The half of the ovary which was still in the depths of the pelvis was sutured so as to check bleeding. The detached half was sewed to the horn of the uterus. On the left side the diseased obliterated tube was amputated at the uterine cornu. No attempt was made to tear this ovary out of its lodgings. The appendix was removed and the wound was drained. A condition of suppuration developed for which it was decided to make a vaginal counter-opening. Through an oversight in preparation the bladder was not emptied according to routine, and, in making a counter opening through the lateral vaginal fornix, the bladder was inadvertently injured; so that the patient, besides her abdominal sinus, is now the unfortunate possessor of a urinary fistula which will probably require another operation for its cure.

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[11] Cf., Hermann's Hdb. d. Physiologie, iv, 297.

With the exception of the two cases above narrated, all of the others were discharged from the hospital as "cured." Of these 158 cases I regret to say that I have been able to examine and to secure subsequent reports from only 85, the others having passed out of my horizon, so that nearly one-half of my work in conservative surgery of the adnexa is at present beyond my reach.

The history of conservative surgery of the pelvis dates back a long time. Thus the evacuation of pelvic abscesses, or adherent pus tubes, per vaginam or rectum or through the abdominal wall, was practiced by surgeons in the early days. The curved, sharp-pointed bistoury having been plunged into the abscess, the blade was washed, or possibly only wiped dry, and returned to the trousers pocket. As for pelvic hematocele, which we now know to be regularly the result of ectopic gestation, we learn that Ruyschk of Amsterdam alludes to it as far back as the year 1737, and that in 1831 Recamier opened into one under the impression that he was opening a pelvic abscess. How comparatively seldom to-day do we treat pelvic collections of blood or pus by simple incision and drainage? And yet conservative surgery of this kind still has its appropriate place.

THE BEGINNING OF ASEPTIC SURGERY.

Then followed the period in which tubes and ovaries were needlessly sacrificed because surgeons found that the introduction of asepsis reduced the mortality of intraperitoneal operations. With what degree of pardonable pride did not the surgeons of twenty years ago allude to their "successful" work in this direction? It was the neurologist and the general practitioner who called a halt to this form of malpractice. Dr. A. Jacobi was at that time quoted as having said that he preferred to see most of these ovaries in the abdominal cavities of women than in the surgeon's jar. The result of this reaction was sudden and decisive, so that to-day it is, indeed, rare to meet a surgeon who is willing to sacrifice healthy or micro-cystic ovaries for the cure of dysmenorrhea, hysteria and epilepsy.

If the gynecologist deserves to have a place in surgery at all—and this seems to be denied him by certain large hospitals and by some of the best general surgeons—it is because of much of the work done in this particular branch of pelvic surgery. It is not the purely mechanical part of his work which justifies the gynecologist to pose as a specialist. It will be conceded that every good surgeon should be able to do this kind of work equally well provided his opportunities for gaining experience occur often enough. It is in the laboratory, in the clinic and in the operating room that the student devoted to diseases peculiar to women gets his advantage over the general practitioner of medicine and over the general surgeon. The result is a clearer insight into diagnosis, a better judgment as to the proper course to pursue, and greater familiarity and facility in the technical details of gynecologic operations.

About ten or twelve years ago leading gynecologists conceived the idea of substituting conservative surgery of the adnexa for the radical work then in vogue, the object being not to reduce the mortality rate but to reduce the morbidity after operations on the tubes an ovaries. One of the best of these early papers was wri ten by Pozzi, and in it he describes the technic of con servative surgery of the ovaries—a technic practicall adopted by all operators to-day. The conservative su gery of the tubes owes its chief impetus to America gynecologists—chiefly to the writings and work of th late Dr. A. P. Dudley. In developing this kind o work operators banished the old mass ligature, which by compressing nerves in the constricted tissues, was re sponsible for much of the postoperative suffering s often met with under the older methods of dealing wit pedicles. Silk ligatures, which used to be followed fre quently by sinuses of the abdominal wall, were similarl discarded, so that most operators now use catgut exclu sively.

THE OVARY.

The ovary presents a large field for conservative work when it is the seat of cystic disease. The microcysti ovary, as pointed out by Welch of Baltimore and W Gill Wylie of New York, is not in itself a pathologic lesion of sufficient importance to justify the opening o the abdomen. If the abdomen is opened, however, fo other reasons and such ovaries are discovered the cysts may be punctured with a needle or, as the German operators prefer, with the point of an actual cautery (ignipuncture) so as to destroy thoroughly the cyst wall. As a rule, all of the cysts will not be reached by either method, but, as the lesion is ordinarily insignificant, this need cause little regret. Another method to attack such ovaries, particularly when there is reason to feel that they are the seat of abnormal internal tension, is to split the cortex or bisect the ovary and prick the little cysts seen in each segment. That tension in an ovary is relieved after bisection there can be no doubt, but often it will be necessary to suture the two halves together again in order to control oozing of blood, which, to my mind, nullifies the advantages of the operation. For this reason in recent years I have at times reduced the size of swollen micro-cystic ovaries by exsecting a longitudinal segment, like a slice from a watermelon, and then have stitched the wounded surfaces together.

The large unilocular or multilocular ovarian cysts, reaching to the size of a cocoanut, football or larger, were formerly subjected to complete removal. To-day, thanks to the labors of Boldt and some German operators, it has been proven that enough ovarian tissues can be found at the base of these tissues to leave a functionating ovary of greater or lesser size. The tumor is circumcised and cut out at its base, where usually some healthy-looking ovarian tissue will be recognized, which can be left. No ligation of vessels is necessary. The remnant of ovarian tissue is now sewed in such a manner that its raw surfaces are brought in close apposition. I have known large tumors of both ovaries to be treated in this manner in which menstruation subsequently followed its normal course.

The smaller ovarian cysts, ranging in size from a hazelnut to a plum, are either developments from a Graafian vesicle or a corpus luteum. When their contents are hemorrhagic they are known as hematomata. Ordinarily they can be exsected with the sac intact, or the tumors can be incised and the sac wall drawn out with forceps or scraped off with the knife. In either case a few stitches readily obliterate the bed of the cyst. Some operators like to turn in the peritoneal coat of the ovarian wound with Lembert sutures, but I regard this as an unnecessary refinement.

Ovaries which have undergone fibroid degeneration are seldom amenable to conservative surgery. At least I have never met any which could be thus treated. Malignant disease of the ovaries contraindicates any attempt at conservatism. Ovaries in juxtaposition with pus tubes or purulent pelvic collections can safely be left undisturbed or may be subjected to partial exsection. These ovaries, if not the seat of the abscess at the time of operation, seldom, in my experience, give rise to trouble later. If they are involved in a suppurative process and form part of a tubo-ovarian abscess they should ordinarily be removed. Exceptionally they may be attacked through the vaginal route. On a number of occasions I was able to incise and drain ovarian abscesses through a vaginal incision. In such cases it is likely that a certain amount of healthy ovarian tissue was left.

THE FALLOPIAN TUBES.

The desirability of applying conservative surgery to pus tubes is open to question in my mind. I know that, per vaginam, I have frequently left such tubes after incision and packing. I have followed one case for twenty years in a woman who subsequently was never sick and gave birth to a number of children. Kelly and Boldt, who make use of this plan in very young women, concede that such cases may require secondary operations from time to time. Hence, where I have my choice, my practice is in favor of total and complete ablation of pus tubes down to the horn of the uterus. Experience with secondary operations for infected stumps has driven me o this position.

Although it is possible to save tubes and cure hematomata by pelvic incision and drainage, I seldom make he effort to attack cases of ectopic gestation, which is he usual underlying condition in these cases, excepting by laparotomy and the removal of the pregnant tube.

When, however, the Fallopian tube is twisted or elbowed as a result of pelvo-peritonitis it can be restored o its shape by simply breaking it away from its adheions. When the outer half or less of the tube is the eat of hydrosalpinx it can be removed, leaving the inner portion to be attached to the ovary. I have never seen n ectopic pregnancy to follow such attachments, alhough this has been one of the objections to the proedure. Intra-ligamentary cysts can often be safely atacked and cured by vaginal incision and drainage, alhough it is best to remove them intact from above.

In doing plastic work on the tubes and ovaries the ube is amputated in what appears to be healthy strucure at the proximal attachment of the hydrosalpinx (or erhaps otherwise diseased and obstructed tube). A ound, probe or wire is passed along the lumen of the ubal stump until it enters the uterine cavity. If this roves to be obliterated there is no object in further atempts at plastic work and it is well to amputate the tump down to the horn of the uterus. Should a canal e demonstrable the open end of the tubal stump is plit toward the uterus a distance of about a half inch nd the mucous lining is sewed to the peritoneal coat with a half dozen fine catgut stitches. The ovary, or a ealthy portion of it, after having received proper surical attention, is attached by its smooth, uninjured urface to the peritoneal surface of the tube at the ewly made ostium. If these precautions are not taken here is reason to believe that the whole work is in vain nd that the new opening made is subjected to permaent occlusion. The plastic work, properly done, gives he patient a new chance for overcoming an otherwise opeless barrier to impregnation.

Exsection of tubes or portions of tubes for the purpose of inducing sterility is not, properly speaking, to be regarded as conservative surgery. There are, however, clear indications for its performance and I have had occasion to resort to the procedure a number of times. A segment of each tube is caught between two ligatures and exsected. It has rarely happened after this was done that a new connection formed to permit of the union of an ovum with a spermatozoon—never in my own cases.

THE PELVIC PERITONEUM.

Finally we meet with cases in which, with or without lesions of the tubes and ovaries, the chief pathologic changes have involved the pelvic peritoneum. These changes are ordinarily dependent on the puerperium or occur after abortions, gonorrhea or tuberculosis. The management of pelvic adhesions is often very unsatisfactory. Under early postoperative mobilization as advised by Ries, Boldt and myself, I believe that reformation of such adhesion is prevented. Under most conditions they can be separated or broken up in a fairly satisfactory manner. In certain cases there is considerable risk of injuring the intestines, tubes or ovaries while digging the adnexa or uterus out of dense adhesions. Where the ovaries or tubes run the risk of great damage during delivery it is wiser to proceed with their complete extirpation, as my experience leads me to believe that the retention of such mutilated or damaged adnexa only too often threatens the ultimate comfort and health of the patient and leads to secondary operations for their final removal.

In quite a few cases, however, it is possible to release the adnexa from surrounding adhesions and to preserve them in whole or in part for purposes of plastic work. Where adhesions are visible it is well to work with the aid of the sight and fingers, using ligatures when necessary, particularly when dealing with the omentum. When the integrity of the intestinal wall is threatened I prefer to leave bits of tissue, like the wall of a cyst or abscess sac, as I regard an injured intestine as one of the most serious complications of an operation. In many cases, however, it is possible to release more or less completely the adnexa from adhesions and to preserve them intact without subjecting them to enough damage to demand their removal. In the case of adhesions deeply situated in the pelvis a line of cleavage will usually be discovered by the experienced finger and the adnexa brought up for inspection. One must work often by the sense of touch, and I advise slow, gentle manipulation with the palmar surface of one or two fingers.

Total extirpation of both tubes and ovaries implies three things: 1, Cessation of menstruation; 2, hopeless sterility; 3, nervous breakdown from the sudden onset of the menopause. Whether or not one is inclined to accept the views of the French authorities who claim that the ovaries secrete a juice which is necessary for the normal state of the female economy and the sudden removal of which tends to disturb the balance of the sympathetic nervous system and to produce various disturbances, the fact remains that in the normal climacteric the menopause is reached in a slower and much more gradual fashion. The system seems to be prepared, in the normal course of events, for a cessation of menstruation by the gradual and physiologic atrophy of the ovaries. But in the artificial menopause induced after operation the storm bursts suddenly and the entire nervous system is shocked with its violence.

Hence conservative surgery of the adnexa has for its main objects: 1, The removal of diseased tissues; 2, the relief of various forms of disturbances and suffering; 3, the preservation of menstrual function; 4, the possible overcoming of pathologic conditions which are responsible for sterility; 5, the avoidance of the collapse symptoms resulting from the sudden onset of the menopause; 6, the prevention of senile atrophy and changes which take place about the vulva and vagina and shorten the enjoyment of sexual life in many cases.

A COMPARISON OF CONSERVATIVE AND RADICAL CASES.

Over conservative methods, radical adnexal surgery has the advantage of positively removing all of the pathologic tissues (and frequently much more than necessary), giving the patient on the whole a better guarantee against subsequent operations. It does not guarantee immunity from postoperative pain because adhesions are still possible and nerve inclusions can not always be avoided. Those who remove the uterus regularly with the diseased adnexa also submit their patients to a greater operative risk, and I am satisfied that this organ is only too often thus unnecessarily sacrificed.

Conservative surgery, on the other hand, aims at saving healthy tubes or ovaries in whole or in part and never sacrifices the uterus. Besides removing the tissues which are distinctly diseased, it aims at preserving the menstrual function. It occasionally overcomes the obstacles to impregnation. It always inhibits the local and general results of the sudden menopause.

For the purposes of better study I have divided my work in this field arbitrarily into three groups of cases: Group 1, in which one tube or a portion of one tube was removed; and also incision and drainage of a tube. Group 2, in which ovaries were bisected or punctured and cysts exsected; also incision and drainage of an ovary. Group 3, in which adhesions were broken up with or without plastic conservative surgery of the tubes or ovaries. The three groups comprise 160 cases, of which 26 belong to the first class, 44 to the second, and 90 to the third class.

To judge properly postoperative morbidity one must be in possession of plenty of facts. Hence only multiplied experiences of numerous operations can determine percentages with any degree of fairness. The operator who sees his patient subsequent to operations will adjudge the result as satisfactory if he finds the pelvic organs in good condition and functionating, the abdominal scar firm, and the general nutrition of the patient good. The family physician, however, listening to postoperative tales of distress dependent on nervous or gastrointestinal derangement and exerting every endeavor to relieve the patient of a persistent dysmenorrhea or dyspareunia, will be apt to take a more pessimistic view of the "successful" operation.

Looking at my work from my own viewpoint and asking the thoughtful reader to make full allowance for the "personal equation" inevitably present, I beg to submit the following observations on postoperative morbidity.

In Group 1 (conservative work in 26 patients on the Fallopian tubes) I have noted unsatisfactory results in two cases. One of these patients a year later was suffering from a pelvic inflammatory mass which could be distinctly felt. In the second case the patient required a secondary laparotomy for the removal of an infected stump left after the first operation. One of the patients in this series of cases died suddenly of a cancer of the rectum which does not reflect on the propriety of the operation previously done by me.

In Group 2 (conservative work on 44 patients on the ovaries) six patients had good reason to complain o postoperative suffering. A distinct pelvic mass was present in one case and a secondary operation was required in another.

In Group 3 (conservative work in 90 patients with adhesions of tubo-ovarian disease) I have notes of sever unsatisfactory results. In three cases of this group the patients presented pelvic inflammatory masses, subsequent to operation, which caused much suffering. Four patients required secondary operations. The two cases alluded to in the early part of this paper belong to this group.

Although the total number of secondary operations done in my cases after conservative surgery amounts to only six cases, I readily concede that this figure is contestable on the ground that I lost sight of a certain number of my patients after they left the hospital. Some of these patients possibly required secondary operations elsewhere at some subsequent period. As six patients required secondary operations in the cases which I was able to follow it may be fairly assumed that six others were submitted to similar operations in the other half lost from view. Thus I infer that the maximum necessity for secondary operations after conservative adnexal surgery does not exceed 7 per cent.

WHAT IT MEANS.

Too much stress can not be laid on the importance of reaching some conclusions in this matter, for it is in regard to the guarantee against secondary laparotomy that radical adnexal surgery has a distinct advantage over conservative work. If investigations by other operators, based on careful and positive observations, should prove that the morbidity after conservative adnexal surgery is so great as to require an unwarranted number of secondary operations then the advantages of preserving ovulation, menstruation and possible fecundity are clearly outbalanced by the inconvenience, if not actual danger to life, of a secondary laparotomy. The results which my own experiences thus far have reached, however, point the other way.

The general health of patients was noted in eighty-five cases at periods of time varying between one month and twelve years after operation. Of these thirty-five women were seen within six months from the time of operating, and in these the postoperative morbidity reached the highest percentage. While it is possible that many of these women seen within this period of time ultimately went on to perfect recovery, it is just as logical to assume that others remained more or less permanent invalids and had to submit to further operative intervention. Taking all in all, I estimate the postoperative morbidity after conservative surgery of the adnexa to be about 23.5 per cent. In other words, I believe that three out of four of these women are cured or left free from important symptoms attributable to the pelvic structures.

That many women who keep complaining for the first six months or year after operation gradually pass into an improved condition or perhaps become so accustomed to their ailments that they cease to complain is a frequent experience in the domain of surgery. Of fifty cases examined by me after the lapse of six months from the time of the conservative operation only 18 per cent. were regarded as ill enough to require treatment. We must, therefore, never hastily advise secondary operations. I have numerous notes in my history books of swollen ovaries" or "pelvic exudates" following operaions which disappeared entirely in the course of time.

To attempt to specify the exact value of conservative dnexal surgery in relieving preoperative symptoms is very difficult task.. For after all, many of these sympoms are purely subjective or relative. What may be escribed as a burning sensation in the pelvis by one oman will be regarded as intolerable torture by anther. Thus the amount of pain which the individual oman actually suffers will often be in direct proporion to the development of her nervous system or imagiation. Similarly, suffering ascribed to dysmenorrhea, enorrhagia or dyspareunia will be carefully estimated y the discriminating medical attendant with these posibilities in view.

Postoperative menstrual disturbances were noted foureen times in sixty-six cases. They consisted of metorrhagia, amenorrhea of different grades, and dysenorrhea. They occurred in Group 1 twice, in Group three times in Group 3 nine times. Whether 21 perent. represents the exact truth in regard to the estimate f postoperative menstrual disturbances I leave to other ivestigators to determine.

The most difficult symptom to estimate after a pelvic peration in women is pain. I have reached that stage n which I listen to the patient's talk of pain and try o determine approximately its value by judging how uch of a disturbing factor it is on sleep, on appetite, n general comfort and in interfering with nutrition. ence it is that complaints of pain after operation I equently take *cum grano salis;* and this may account r the fact that in 80 per cent. of my postoperative obrvations I regarded the pains as being insufficient to flect on the value of the original operation.

THE CURE OF STERILITY.

When in the freshness of virgin enthusiasm I took up astic adnexal surgery I had before my mind's eye the illiant results of W. K. Polk and others in overcoming at hopeless form of sterility resulting from lesions of e tubes, ovaries and pelvic peritoneum. I felt that ere was logic in the statement that the lumen of a storted Fallopian tube could be restored to its normal liber and that portions of healthy ovary could be atched to stumps of repaired tubes so that the impregted ovum would have a fair chance of migrating via e newly-created channel into the uterus for lodgment d further development. It is, therefore, with a erin feeling of disappointment that I find notes of only elve cases—or 7.5 per cent.—of subsequent pregncies. I think that this represents more clearly the uth than any of my other postoperative observations these cases. As I have been peculiarly attracted to e study of every phase of sterility in women and its anagement I have regularly asked my patients after eration to report in the event of subsequent impregtion and childbirth. Still it will be conceded that en this small percentage of successes is a triumph of hich modern surgery has good reason to be proud.

Is conservative surgery of the adnexa only a passing aze or fashion to be wiped out of existence by newer edical or surgical methods? Is it open to better chnic and improvement? Or is it to drop out of ght as an experiment which has not stood the test of ne only to yield to its older rival—the complete reoval of diseased adnexa? I think not. It seems to that with a mortality rate which, in good hands, ould be very low and with a morbidity rate (requiring occasionally a secondary operation) of one in four, the methods of conservative surgery of the adnexa have come to stay.

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REPORT OF ONE HUNDRED AND SEVEN CASES OF CANCER TREATED WITH THE ROENTGEN RAY, WITH COMMENTS THEREON.*

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Although the number of cases of cancer which I report is not large, yet they represent the work as it has turned up in my Roentgen ray practice. To appreciate properly the value of the *x*-ray treatment one must realize the vast difference between different cases of cancer from a clinical standpoint. Microscopically they are all more or less the same in structure, but clinically they vary from the almost inactive superficial sore, a slight degree removed from a senile keratosis, to a large growth associated with a general carcinosis.

THE NEED OF DISCRIMINATION.

By laymen, and occasionally even by physicians, all cancers are placed in the same class of malignancy. If the *x*-ray fails to heal one case of cancer their whole faith in the efficacy of that treatment of cancer is weakened; on the other hand, there are those who hearing of the *x*-ray healing one case will jump to the conclusion that all cases should be healed by the ray. It is only possible, therefore, to approach an estimate of the value of the ray by having a large number of cases and dividing them into classes which are more or less similar and susceptible of comparison.

By the study of the results of the treatment of a large number of cases so classified a fairly accurate estimate of the value of the ray can be determined. Should the surgeons furnish us with a similar classification of cases, treated by their methods together with the results, the value of the ray could then be determined as compared with surgical methods.

I have divided the cases into six classes, according to the extent of the involvement. Many senile keratoses were healed with the ray, but they were not considered carcinomatous and hence are not included in this classification. Senile keratoses should be looked on with suspicion and considered as pre-cancerous conditions. They not infrequently develop into well-defined squamous-celled carcinomas. In the same class of pre-cancerous conditions are moles which occasionally become irritated. These conditions when ulcerated heal quickly under the influence of the Roentgen ray. The unirritated mole does not yield so readily.

I have not used the term epithelioma because all carcinomas are tumors of epithelial cells, and only the loose use of the term has by custom restricted its meaning to that of a squamous-celled carcinoma, or epidermoid carcinoma, or, as it is commonly called, a skin cancer.

Growths resulting from keratoses are usually, if not always, squamous-celled carcinomas. Some growths resulting from moles are squamous-celled carcinomas and some are composed of endothelial cells. Such endotheliomas, particularly the pigmented ones, should be strictly classed with sarcomas. On account of their clinical character, however, I have classed them with the carcinomas. In some of the cases a microscopic examination of the tissues was made; in others there was no such examination, because the gross appearance and the clinical history was sufficient to establish the diagnosis without question.

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* Read before the American Roentgen Ray Society, Oct. 3, 1907, Cincinnati, Ohio.

THE VARIOUS CLASSES.

The first class includes those lesions on the skin surface advanced beyond a keratosis, having a thick scale, covering an ulcerated area of long standing, with the history of growing more rapidly of late; and also those growths with elevated margins and ulcerated centers growing steadily, having started usually from a mole or papilloma.

The second class includes those growths which originally began as those of the first class but had reached a more advanced stage and invaded the subcutaneous tissues, either leaving in their wake a deep ulcerated and sloughing area or by the rapid proliferation of malignant cells had given rise to a large protuberant or rose- or cauliflower-like mass.

The third class includes the extensive recurrent and metastatic growths in the deep structures. The original growth may or may not have been on the skin.

The fourth class includes the carcinomas on the mucous membranes.

The fifth class includes the primary carcinomas of the breast.

The sixth class includes the recurrent carcinomas of the breast.

SKIN LESIONS.

In Class 1 fifty-three cases were treated and fifty-two healed. In the one not healed the treatment was interrupted by an attack of pneumonia. During the attack there was renewed activity of the growth which had begun to improve. Later, when the *x*-ray treatment was begun again, the growth did not seem to respond to treatment and excision was advised and done. There has been no recurrence, three and one-half years afterward. In four cases there was a recurrence, all of which healed again with the ray and are now healed.

In five cases the patients have died, but they did not show any evidence of recurrence up to the time of their death, from one to three years after the treatment. In nine cases the patients have not been heard from since their discharge, but there is good reason to believe that I would have heard if there had been any recurrence. The remaining thirty-five cases are still healed, having had no recurrence. The first case was healed four and one-half years ago. The average number of exposures was sixteen and the average duration of treatment was five weeks. The largest number of exposures was forty-six and the smallest four. The longest duration of treatment was twelve weeks and the shortest was six days.

The question of recurrence, which is of so great importance, depends simply on the thoroughness of the treatment; that is, whether or not all the malignant cells have been destroyed. If in any form of treatment a single malignant cell is left remaining that cell will proliferate and give rise to the gross reappearance of the growth. If the ray has destroyed so many of the cells that the growth has been reduced to a mass invisible to the eye the ray will undoubtedly destroy the remaining cells if its destructive influence be continued.

Many of the cases healed without producing any reddening of the surrounding tissues, or what might be called an inflammatory reaction. The typical manner for such a growth to heal is to have the scab over it become thicker and thicker, dryer and dryer, the edges loosening and finally the scab comes off, leaving a smooth healed epithelial surface almost without contraction or scarring. Sometimes several scabs will form before healing is complete. In other cases suppuration occurs beneath the scab, under which circumstance the scab is removed and the area disinfected with a strong antiseptic ointment. A fresh scab is then allowed to form and remain. My experience is that patients do better when the growth is exposed to air and sunlight than when it is covered with dressings and ointments. However, discretion must be exercised. In cold weather dressings may be desirable.

THE DOSAGE.

To bring about healing in the ideal manner one must know well his apparatus in order to give just the desired dosage. A dosage should be given that in ten days would not be quite sufficient to produce an erythema. This effect is then kept up until the growth heals. In many instances the patient being in a hurry, it is desirable to shorten the time under treatment. To accomplish this the duration of single exposures is lengthened and the frequency is increased, and a slight dermatitis is purposely brought about. The disadvantage of this is the discomfort and anxiety of the patient on account of the dermatitis, even though it be slight. The degree of the dermatitis and the time it will develop and last can be foretold with a great deal of accuracy. Such prognosis makes a very favorable impression on the patient, especially when the dermatitis has faded.

Unless the influence of the ray is kept up until the growth is completely destroyed the malignant cells will require a renewed activity, which is more active and more difficult to bring under subjection again. One difficulty an *x*-ray operator has to contend with is the irregularity of some patients in coming for treatment. In many of the cases reported the number of exposures would have been much less and the duration shortened but for this difficulty.

SKIN LESIONS WITH SUBCUTANEOUS INVOLVEMENT.

Class 2 is composed of cases of advanced superficial carcinomas. Practically all of the patients had previously undergone some other form of treatment, which was either primarily unsuccessful or followed by a recurrence. Seventeen cases are in this class. The average number of exposures was forty-nine and the average duration of treatment was five months. The longest duration of treatment was twenty-two months, with seventy-nine exposures. In this case the growth involved a large part of the face and nose, exposing the maxillary antrum. There was a disappearance of all active evidence of the disease with temporary healing.

The largest number of exposures in an individual case was ninety-three, extending over nine months. The case was one of a large protuberant growth on the back of the wrist; the place healed. About three years later there was a slight recurrence, which healed again under the influence of the ray. Now, four years later, there is no evidence of malignancy. The epithelium over it is thin and sensitive, with a tendency to be scaly.

A very decidedly unfavorable idiosyncrasy was apparent in two cases, Nos. 9 and 15; the ray seemed to ggravate the malignant process. On the other hand, ase 12 showed a marked favorable idiosyncrasy. This as the case of an old man 86 years old, in whom there as a large excavated area just anterior to the ear. It ad been growing for ten years, but more rapidly in the st few months. It was an apparently hopeless case. oved more by sympathy than by expectation I gave m, in two days, a dosage about sufficient to produce a rmatitis. I told him if there was any improvement return in two weeks. To my surprise he came back. continued the treatment in four series at intervals of o weeks. In three months the place had healed. No posures were given after the skin had healed over, hich if it had been done would probably have prevented e recurrence that took place six months later.

The results of the treatment of this class of cases are follows:

Two were unimproved.

Four were improved.

Five were healed temporarily, that is, there was a disappear- ce of the malignant process, followed by a recurrence.

Six were permanently healed, that is, there has been no evi- nce of the malignant process in them up to the present time.

LESIONS OF THE DEEP STRUCTURES.

The final results of the treatment of the cases in the ird class are not very encouraging, unless they be com- red with the results in other forms of treatment. Life n in many instances be greatly prolonged and ren- red much more comfortable. There finally comes a ne when the *x*-ray will not even relieve the pain. e case (No. 7) is of interest; it was one of recurrent owth following paste treatment to the eyelid which stroyed the eye. There was a hard mass in the naso- ntal region. I gave a very unfavorable prognosis be- use the hard mass of the recurrent or metastatic owth was adherent to the nasal and frontal bones. I d looked on the involvement of a bone, or the exten- n behind a bone, as hopeless so far as destroying the owth with the ray. After nearly a year's treatment mass had disappeared, and for the last nine months have been giving one exposure a week to prevent a urrence. There has been no recurrence and the place apparently in good condition.

The results of the treatment of the nine cases in this ss are as follows:

ive were unimproved.

wo were temporarily improved.

n two cases there was a disappearance of the growth; in one which there was a recurrence, but the other has remained ap- ently healed twenty months since the beginning of the treat- nt.

CARCINOMAS OF THE MUCOUS MEMBRANE.

In Class 4, of carcinomas on mucous membranes, there re ten cases. Five were on the lower lip. In one the atment was discontinued after eleven exposures ex- ding over one month with no improvement. In the er four cases the number of exposures varied from to sixty-five, extending over periods varying from weeks to six months. In each case there was more less improvement but without complete healing. They re all finally excised and since then there has been recurrence. Now I always advise excision for wths on the lip.

There were three cases of carcinoma involving the gue, floor of the mouth and the glands of the neck l one case of carcinoma of the rectum, all of which e unimproved and the patients finally died. In one e of carcinoma of both tonsils the patient was slightly benefited temporarily by the relief of pain and diminution in the size of the growth on one side. The growth, however, then progressed and terminated fatally.

PRIMARY CARCINOMA OF THE BREAST.

Class 5 consists of three cases of primary carcinoma of the breast. In Case 1, a female, aged 26, there was an extensive involvement of the mammary gland but without ulceration. After eight exposures extending over a period of eight days I declined to give further *x*-ray treatment and insisted on a radical operation, which was done. The patient died of a recurrence and metastasis about four months later. Microscopic examination of the tissue removed at the operation showed disintegration of the cells in many of the alveoli.

The second case was that of a female, aged 37, who had a tumor in the upper outer quadrant of the left breast. It had been steadily growing for eight months. After ninety exposures extending over a period of ten months the tumor had shrunken to a slightly perceptible indurated mass. There has been no recurrence to the present time, three years later. Of course there is some doubt as to the real nature of the original tumor, as no microscopic examination was made.

In the third case, a female, aged 59, had an indurated mass covered by a scab two-thirds of an inch in diameter on the outer part of the left breast puckering the surface. It had grown slowly for nine years, but recently more rapidly. A gland in the neighboring axilla was perceptibly enlarged. After fifteen exposures given in one month a dermatitis was produced which soon subsided, accompanied by a disappearance of the indurated mass and smoothing of the surface. The axillary gland was also reduced, but not completely. Twenty-six months later a recurrence appeared similar to the original growth. It has again disappeared under *x*-ray treatment. There was considerable pain accompanying both the original and the recurrent growth, which was promptly relieved in both instances.

Notwithstanding the results of the treatment of the cases in Class 5, I would advise the use of the knife in all primary tumors of the mammary gland because of the uncertainty and the difficulty in reaching deep-seated malignant cells with the ray, as evidenced by the results in the cases in Class 2 and Class 3.

RECURRENT CARCINOMAS OF THE BREAST.

In the cases of Class 6, or the recurrent carcinomas of the breast, much may be expected in prolonging life and rendering the patient more comfortable. Of the fifteen cases treated three were unimproved. Seven cases showed great improvement by the reduction of the growth and relief of pain. In five cases there was a complete disappearance of evidence of the disease. In three of these five the disease made its appearance again within a year. In the other two there has been no recurrence up to the present time, two and one-half years and four months, respectively, afterward. The recurrences might perhaps have been prevented, or at least have been warded off for a longer time, had the treatment been continued after the disease had apparently disappeared.

APPARATUS AND METHOD OF TREATMENT.

As to the apparatus and the manner of applying the treatment, I have in my laboratory two static machines and three coils, with mechanical electrolytic and mercury interrupters, all of which have been used at times, although my preference is for the coil with the mercury interrupter. An old seasoned tube is desired. I do not use therapeutic tubes for radiographic work. A milliameter and a Benoist penetrometer are constantly used. The milliamperage in the tube circuit is from three-fourths to one milliampere. The distance of the anticathode from the skin varies from six to ten inches in superficial cases, and from ten to sixteen inches in deep cases. The duration of single exposures varies from ten to twenty minutes. No screens or filters have been used except to protect parts not intended to be exposed. In some of the worst cases methylene blue, combined with strychnin and arsenic, has been given internally, as recommended by Dr. Jacobi, and I think with benefit.

From a review of all the cases it is evident that practically all the cancers commencing on the skin surface are curable in their early stages by the Roentgen ray. Much benefit can be expected even in the advanced stages from the *x*-ray treatment. Cancers on mucous membranes and primary cancers of the mammary glands are to be excepted.

Of the recurrent growths that have come under my observation the recurrences after *x*-ray treatment have been as superficial as the original growths, whereas the recurrences after pastes and surgical methods were deeper and of more active malignancy.

In conclusion, one can not but be impressed with the profound importance and necessity of the prompt recognition and treatment of pre-cancerous and cancerous conditions. In their early stages they can practically all be completely and permanently eradicated by the influence of the ray in a simple, short and painless manner without leaving a scar and without any danger to the individual.

The cause of cancer is unknown, and consequently its prevention is impossible. To check the increasing ravages of this dreaded disease the only hope lies in its early recognition and prompt destruction. This latter can be accomplished in cancers originating on the skin, which constitutes so large a proportion of them all, by as sure a specific as there is in the range of therapeutics, and that specific is the Roentgen ray.

Clinical Notes

SOME MODIFICATIONS OF THE TECHNIC OF THE OPSONIC INDEX TESTS.

A PRELIMINARY REPORT.*

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It is generally conceded that even if the opsonic test is eventually proved to be of great value as a diagnostic aid and as a guide to therapeusis, its somewhat tedious and exacting technic restricts its use to those who are especially trained in laboratory work, or to those who have assistants so trained. I have recognized the necessity of simplifying, if possible, this technic, thus rendering it more useful to the investigator, even if it is not made so that the average clinician can use it.

Wright has held the opinion that the leucocytes from one individual are equally as good phagocytes as those from any other person. This may be true. But it rather looks reasonable to suppose that the white blood corpuscles might be influenced by blood conditions, as for instance, an acute toxemia, and hence would not functionate in a normal manner. At any rate, the mixing of blood serum with washed corpuscles often very noticeably alters the normal relation of the number of corpuscles to the amount of serum.

CORPUSCLES AND SERUM FROM SAME INDIVIDUAL.

The thought suggested itself to me that if there could be added to the blood some substance which would prevent the clotting of the blood and which would not interfere with the phagocytic action of the leucocytes, or the sensitizing influence of the opsonin, the opsonic index of a blood could be obtained by using the serum and corpuscles both from the same blood and in their normal relation. This would reduce very materially the amount of labor connected with the tests and would also eliminate one or two of the possible sources of error. Plasma and corpuscles would be used then instead of serum and corpuscles which are used according to Wright's method.

In casting about for chemicals which prevent coagulation there have been considered the following: Hirudin, sodium citrate, sodium oxalate, magnesium sulphate and sodium fluorid. Not all of these have been tried. Sodium citrate, sodium oxalate and hirudin, it has been shown, can be used for this purpose. In the comparatively few tests made it is believed that a mixture of equal parts of the isotonic solutions of sodium citrate and sodium oxalate gives the best results. It has been proved that these salts, used in the proportion of one part of salt solution to four or five parts of blood, prevent the clotting of the blood. Accurate dilutions were made in each case by means of small pipettes made in the proper size and marked off in the desired divisions. The diluted blood was then placed in small vials, which were tightly fitted with rubber corks and which had previously been sterilized. The tests were made as soon as possible after drawing the blood.

Further work only will prove or disprove the practicability of this method. It has been found that these salts successfully prevent coagulation; that they do not interfere a great deal with the phagocytosis (just how little the interference is, has not been satisfactorily ascertained), and that blood so prepared contains a sufficient number of leucocytes in the smears on the slides. As it is necessary to have a large number of observations on this point to establish its value, if it has such, it is hoped that other investigators will test the suggestion.

LABELING THE BLOOD CAPSULES.

The blood-collecting capsules are labeled by attaching a small piece of adhesive plaster on which is written the name of the person from whom the blood was taken. It is rather difficult to write legibly with a glass marking pencil on the small glass tube, and there is even a great likelihood that what is written will be partially or completely erased by the handling. This method the author has also found very handy for labeling the small capsules which are used by Wright.

BACTERIA EMULSIONS.

All who have been making the opsonic tests have experienced some difficulty with the emulsions of bacteria. The tubercle bacilli are perhaps the most troublesome. Bacteria settle out of a salt solution quite readily and the tubercle bacilli agglutinate very readily so that e shaking of a settled out emulsion suspends a great imber of clumps. This necessitates a preparation of emulsion each time a test is to be performed. Twitch- l and Kleghorn thought the extracting of the mucilagous material of the bacilli with ether might sufficiently duce the adhesiveness of the bacilli to cause an emulon to remain stable for a longer period than otherwise. ut they soon abandoned this method and prepared their spensions each time, as does Wright by grinding the cteria with a little salt solution in a mortar for half hour or longer in order to isolate the individual ornisms.

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* From the Physiological Laboratory of St. Louis University.

* The preliminary report is published now, because I shall be unable to carry on much laboratory work for a few months.

It can readily be seen that it is of extreme importance have a stable emulsion of bacteria, one which can used one time after another without the danger of e bacilli settling out and forming clumps. I suggest e following method: The bacteria are thoroughly turated with small amount of $\frac{M}{4}$ sugar solution in a ass mortar for an hour or more.[1] The water lost by aporation is then replaced and the mixture is centrifalized in order to throw down the clumps of bacteria. ie suspension is then returned to the mortar and pulrized acacia is added during trituration until a thick icilage is prepared. This mucilaginous suspension bacteria is placed in a test tube, the end of which is n drawn out to a long narrow neck and sealed. This paration is then sterilized. Such an emulsion has n in use for several weeks. It has not been found solutely unchangeable, but it does not settle out very preciably in the course of a few weeks. It is neces- y to have the emulsion of such a concentration that can be diluted as many as five, six or more times, in ler to get the proper suspension of bacteria. The cosity of the original emulsion is so great that it inferes to some extent with the phagocytic action of leucocytes. This is reduced to nearly a minimum five or six dilutions. If it can be shown that this ulsion remains practically constant for long periods time it may be possible by performing the tests each ie under exactly the same conditions (i. e., of temature and time) that control experiments need not carried out each time. Once every few days or weeks y be often enough for the control tests to be made.

MIXING THE BLOOD AND BACTERIA.

he mixing is done by taking equal parts of the blood . the bacteria emulsion in the long pipettes, on which placed the blue marks. It has been found that an inary glazed porcelain chemical testing plate makes ood surface on which to mix the blood and bacteria ilsion.

hc mixture is then withdrawn into the tubes, which then sealed and incubated at 37 C. (98.6 F.) for nty minutes. If it is found that controls are not essary it will be important that the temperature of incubator and the time of incubation are precisely same each time.

PIPETTE BULBS.

t is often troublesome to find pipette bulbs small igh to fit the caliber of glass tubing used for pipettes. ave solved the problem by taking the proper sized -walled tubing and plugging one end with a small e of cork and a little sealing wax. By having these inches long they are more easily manipulated than ie ordinary bulb.

MAKING THE SMEARS.

These are made, as advocated by Wright, by the drawing of a drop of blood from one end of a slide to the other by means of the edge of another slide. In order to get a good smear the most important point is to have a smearing slide with the proper edge. This is arrived at only by trying till one is found and then preserving it.

LABELING THE SLIDES.

Most men number the slides with a glass marking pencil. This is apt to be unsatisfactory, as during the passage of the slide through the fixing reagents, the stains, the flame and the water, the mark is very liable to become removed. This difficulty I have obviated, however, by marking the slide on the underside and then placing over the mark a small piece of adhesive plaster. The pieces of adhesive were at first placed on the upper side of the slide and the number was placed in ink on the plaster, but sometimes the stains nearly obliterated the number. The other method has proved to be entirely satisfactory.

FIXING AND STAINING THE SMEARS.

Since each tube of the blood contains a small amount of mucilage a very little heat suffices to fix the smears. This is a saving of time over the corrosive sublimate fixing method.

When only three or four smears are to be prepared at once it is easiest to stain them separately. If a large number are being prepared I have found it convenient to have a small beaker for the fuchsin stain in which the slides can be placed in the vertical position. The beaker is small so that not a large amount of stain is necessary. The stain is kept warm by setting the beaker in a water bath with the water heated nearly to boiling. The beaker of stain can be used, if it is kept tightly covered, for a large number of stainings. This method is not of much advantage unless twenty or more slides are being prepared at once. The slides are decolorized with sulphuric acid and counterstained by methylene blue in alcoholic solution. It was also tried to stain the bacteria with fuchsin before they were mixed with the leucocytes, but this was not tried often enough to know whether or not it could be made to work.

SUMMARY.

By way of conclusion let it be said that it is hoped that some of the suggestions offered in this article will be found by other investigators to materially reduce the tediousness of the technic of the opsonic index tests. The points in which modifications of Wright's technic are made are as follows:

1. Washed corpuscles may not be necessary; the corpuscles and plasma of each individual's blood that is to be tested are used in their normal relationship by the addition of a solution which prevents clotting.
2. Bacterial emulsions are made fairly stable by mixing with acacia. This is apparently an important point.
3. Pipette bulbs may be made by plugging one end of proper sized thin-walled rubber tubing.
4. The fixing of smears may be done by a very little heat on account of the presence of the acacia.
5. The slides may be numbered on the under side, over which a piece of adhesive plaster is placed, and the blood capsules can be easily marked by using the adhesive and then writing on it. This is a decided improvement over the blue pencil labeling.
6. The staining with carbolfuchsin may be done in a small covered dish set in a water bath.

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[1] I have found that an isotonic sugar solution does not have uch an effect on the activity of the opsonins as that of sodium ld. These experiments are yet to be published.

CASE OF TEMPORARY INSANITY FOLLOWING THE INGESTION OF LARGE QUANTITIES OF WHISKY AND CAFFEIN.

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Mr. J. S. L., aged 52, came under my care, Aug. 19, 1907, with a diagnosis of insanity, which then existed.

Physical Examination.—A tall, well-nourished man, station good, pupils equal and of normal reflex; patellar reflexes slightly exaggerated; tremor of the tongue and hands; tongue heavily furred; temperature normal; heart and lungs normal; urine acid, sp. gr. 1.025; no sugar and no albumin.

Personal History.—Is married, father of three children; has had all the diseases of childhood; no venereal history. An immoderate user of alcohol at indifferent times; has been in institutions twice for so-called insanity. It is well to say here that he committed himself once to get away from liquor, but went to his business every day from the asylum, and was committed once for alcoholism by two physicians.

Mental Examination.—The patient is delusional; believes his wife is murdered; can not be reasoned out of this; thinks he is a great man, and that he is the only one who has the ability to talk with God by shuffling his feet, through which members he receives the messages; believes he is master of mental telepathy; thinks he can talk to any one at any distance by this method. His delusions, which apparently arise from the illusions and hallucinations of sight and hearing which seem rapid and continuous, are chiefly of a religious nature. He is suspicious and distrustful; his chain of communication through unseen agencies, and his anger at being doubted lend color to monomania. He is very voluble of speech, which is clear and distinct.

As his mental condition cleared up so quickly on his two previous commitments, in fact within a few days, the question at once arises whether this man was ever insane in the true meaning of the word, or if he simply had a confusional condition arising from over-stimulation. A careful examination of the following account of himself will do much to clear up some difficult points in his case, which is unusual from the apparent gravity of his mental condition, also from the fact of the short duration of his symptoms, and that he knew all the time he was not himself, and that he was under the control of something which he could not understand. He gave a clear history of consuming 2½ quarts of Scotch whisky in four days. He was not drunk at any time, but realized that he must stop, which he did at once, and began taking caffein as a bracer, so that in a short time he had taken the best part of two bottles and soon began to get happy. I now give the exact story of himself as he remembers it:

Previous to this time I had not used liquor for two years, but I had reached a state where I could not go any further. I had a severe neuralgia and began by drinking whisky moderately, and drank harder and harder, so that in four days I had taken about 2½ quarts of Scotch whisky, and stopped short; but I felt the reaction, and began taking caffein as a bracer and soon commenced to feel good. So I took a trolley ride to Willow Grove, and I commenced to hear peculiar noises in the bumping of the wheels, which soon began to say things. This interested me, and I wondered what it meant. I asked the motorman if he also heard these noises and, of course, he said he did not. I stayed for the concert at Willow Grove, and had this same experience coming back, only the noises were more marked and the forward motor began talking to the backward one, telling each other to "hold up." The motors held a long conversation. They talked about their work and they would say, "Let up," "let her go," etc. I now believed there was something more in electricity than most people knew. I thought it contained peculiar spirits. After I got off the car, I heard them still talking as far as my ear could reach. I then went home and took more caffein and thought I would take another ride, as I enjoyed this one so much. It was raining, and I had the same experience in this car also. Coming home I bought more caffein. This night I had vague ideas that I could talk to others at a distance. I was then approaching such a condition that I could hear words in running water, and while the words were there, I could not talk for any length of time as I lost the trend of conversation, and then I tried the gas and got the same result there. Now I began to get messages through the air; from the locomotive whistle, for instance, and more so from its puffing. I slept well that night, and the next day went to Willow Grove again and found that each individual motor had a different tale to tell, and this was the first day that I was able to hold a distinct conversation with them. My whole idea then was to test out the motors. Some of the motors would be profane, some vulgar, and some very religious, and I talked with these motors that day and I got good results and their advice was very good. Even when the motors would talk in a crude manner, their suggestions were good.

Early in the evening I got into communication with people at a distance. This was brought about from the fact of my trying to get into communication with my wife, who was away and as I did not know where she was, I could not reach her but I got into communication with a woman in New York whom I did not know, but who knew my wife and she told me my wife was not in my circle. She told me she was at the Engleside, at Beach Haven, and she told me a great deal more I was receiving these messages through my feet, and she told me I could call up anyone. So I then got into communication with a strange woman in Boston, who told me I could talk with my sister in Brooklyn, and I talked with her for about two hours when she shut me off. I heard no distinct voices in that conversation, but my power being so great, I thought I would try other things now. Then I felt that I could talk to the departed. I tried it and found that I soon got in communication with my father who died a year ago. This was extremely exhilarating and delightful. He told me he was very happy, and made many suggestions, and asked me to collect all his old books and papers and give them to a certain library.

I was in a state of ecstasy; never felt so well in all my life I felt as if I had become very powerful from a psychic standpoint. I now talked with my mother, and thought she had returned to earth again. She told me that Heaven was divided and subdivided, and soon space became annihilated. She told me where I could find her, and at last, becoming very tired, I felt that as this power might leave me, I would write out the general results of the evening. I did not feel excited, but took a bath and went to bed.

I slept from 3:30 a. m. until 9 a. m., and took more caffein on awakening, and I thought I would try my powers again as soon as I awoke, which I did. I shuffled my feet and asked if anyone wanted me, and found I was in communication with the woman in New York, who put me in communication with my wife, who told me she would be home at 8 o'clock that night that she would see me, and that I should go to Willow Grove again that afternoon. I now took more caffein. I got my breakfast on Chelten avenue, and took the number of the cars I rode in, and made note of the different motors and found I could talk with each individual motor, and the motors talked back and forth to me and about me and told me all about my previous life. All day long at Willow Grove I questioned whether this thing could be or not. I then began to get emotional and would shed tears very easily. I had no fears whatever. I went out into the old picnic grounds and shuffled my feet and asked for advice and it came from God saying to me, "Go home at once." There was no distinct sound in these voices, but after drinking lots of black coffee I started for home and as soon as I got into the car the motor began to talk to me again. So I made up my mind that I would take my wife to hear this curious thing on the following day.

I got home about 7:30 p. m., and cooked supper for my ife. I took more caffein and called her up, but she told me he was in a railroad accident at Jenkintown. I waited and till she did not come, and asked again on calling her up if nybody would like to speak to me, and the voice said "Yes," nd it was God himself who spoke to me this time and told e my wife was dead. I then became troubled and depressed, nd looked out of my south window. I beheld the most beautiul sight I ever saw in my life. The whole southern skies were ull of bright angels singing to me. I now began to feel deressed again, and thought all had gone to pieces, and shuffling y feet I called up God at once, and asked him what I should o, and he told me to take Dr. C. to the police station and et my wife's body. I called Dr. C. over the telephone. He ame to see me but would not go with me, and God kept telling e "stick at him, stick at him," and the next thing I knew was in the station house, and believing I was in the hands f God, I gave up very quietly, but still I carried on my ental telepathy, whenever there was any sound to do so ith, and the messages came to me as if by wireless telegraphy. told the police to do what they pleased with me as I was in he hands of God and he would take care of me.

I remember having a hearing and also that the judge ould not let me talk. A doctor examined me, and I said little him and he little to me. I still felt all right, and still elieved in what I had seen and heard, and continued to do so r several days, when I began to question things. They did ot now appear to me as facts, as I found I could corner me of these voices, but I still had one mighty guiding spirit f another sphere, and this one led me to believe I was to e the controlling spirit of this sphere, but not yet, as I was ot yet purified, and it would happen only when that sphere nd this earth were in conjunction. I now began to question ill more as to whether these things were facts, or whether I ad been fooled. My mind began to clear up quickly, and soon came to the conclusion that my condition had been the sult of the caffein and the whisky.

This man's mental condition began to clear up a few ays after being admitted to the almshouse, and in about n days or less he was in a condition to laugh at his elusions, illusions and hallucinations, all of which he ill remembers well, as can be seen from the above acunt of himself, which he gave me six weeks after his scharge.

We now come to the question as to the probable diagosis of this case, and before arriving at any conclusion is well to remember that although this man used alcool immoderately at intervals, he did not have mania à tu at this time, for the following reasons: His hallunations and illusions were mostly of an exceedingly easant character. He would eat well, whereas patients ith mania à potu do not; and he did not have terminal ania. Now, let us consider a person with delirium emens. He apparently did not have this condition ther because his hallucinations were pleasant; he did t see snakes and other horrible things; he was not pressed, but, on the contrary, extremely happy; his in was not cold and clammy; his temperature was rmal; pulse 80 and of good volume; his muscles were t weak; he had none of the characteristic fears, and was not noisy.

Let us look at the physiologic action of caffein in large ses on the brain. According to Bartholow, who has fuller account of its action than I can find elsehere, it causes, at first, drowsiness, but this is very ickly followed by wakefulness, excitement, muscular emor, mental confusion, hallucinations and delirium. here cerebral effects soon terminate in deep stupor, but is is probably the result of exhaustion. We now have peculiar mental state, which would seem to be a contion of mental confusion arising in an apparently normal man from overstimulation, first by alcohol and followed by caffein. There seems to be little doubt that most, if not all of this man's peculiar symptoms arose from caffein poisoning. Dr. I. P. Willits, who saw this case in consultation with me a number of times, also believed his condition to be the result of the action of caffein in overwhelming doses on an already overstimulated brain.

The treatment consisted of isolation, active purgation with magnesium sulphate, a liberal, non-stimulating diet; rather large doses of sodium bromid, with hypnotics, at bed-time, seemed to work well. Liberal quantities of water were given and, finally, suggestion was tried, which in this case seemed to help the patient. As to the amount of caffein consumed: On the first day he took a six ounce bottle of a certain preparation which contained more than one grain of the hydrobromate of guarana to the dram. The second day he took a six ounce bottle of another preparation, each dram of which represented one grain of caffein citrate and 1/100 of strychnin sulphate, so that more than 100 grains of caffein were taken in two days. As the hydrobromate is more active than the citrate, it is little wonder that this man had such vivid mental pictures.

PHAGOCYTIC WORK PERFORMED BY THE KIDNEY CELL OF THE FROG.*

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While *Rana pipiens* was being utilized for class study in our laboratory abnormal conditions were observed in the left corpus adiposum. The normal corpus consists of an irregular mass from which arise several finger-like processes which may branch. The color is yellow and the blood vessels show prominently on the surface. The whole structure is attached to the anterior end of the kidney by a membrane. In origin it is probably derived from the same kind of cells as those that constitute the kidney; and in the adult its blood vessels pass through the kidney, there being none that pass directly from the corpora to the dorsal aorta.

The abnormal corpus was reddish in color and roughly rectangular in shape. There were but two processes arising from the central mass. The central mass was 15 mm. long, 9 mm. greatest width.

A microscopic study of this corpus revealed the presence of numerous blood corpuscles in various shapes. The blood corpuscles were so numerous that the finer structure of the corpus could only be made out with difficulty. Evidently a hemorrhage had occurred of sufficient size to distend the corpus out of all ordinary shape. A further examination of the frog, with a view to determining the cause of this hemorrhage, showed a small collection of blood on the dorsal side of the cœlome just beneath where the ilium joins the last vertebra. The ilium had been broken and probably the breaking caused the hemorrhage.

The fat cells in the corpus were of various shapes and much scattered. There were numerous nuclei in the connective tissue which were dividing amitotically with no increase in size after. This process is similar to karyorrhexis in human degenerating tissue.

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* Contribution from the Zoological Laboratory of Syracuse University. The full report of this case will appear with eight drawings in the *Anatomischer Anzeiger*.

A study of the kidney of this animal showed the presence of numerous plasma-staining bodies in the lumen and in the cytoplasm. It was rare to find any with a nucleus, but occasionally one would be found in the lumen. The kidney cells were apparently engulfing these bodies. In some places they filled the cell. The effect on the kidney cells was profound. The nuclei were not as numerous and lacked distinctness when compared with normal cells. The cell walls between adjacent cells were largely absent and numerous vacuoles were present in the cytoplasm. The degeneration of the red blood corpuscles begins in the corpora adiposa and is completed in the kidney.

The animal was normal so far as observed and was kept for several weeks with many others in an aquarium before being killed. It is impossible to be sure that the kidney cells would have succeeded in their task of removing all of these blood corpuscles.

That different cells of the body may assume this phagocytic rôle is not unknown, but so far as I have been able to consult the literature, I find it unusual for the kidney cells to assume this rôle and that it has not been previously reported for the frog.

PERIPHERAL OBLITERATIVE ENDARTERITIS.*

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NEW ORLEANS.

This condition, while not common, is yet met with sufficient frequency to warrant a careful study of the cases coming under observation. It generally attacks men in the most active period of their life, between the ages of 25 and 40. No cases, so far as I have been able to find in the literature, have been reported in women. Several cases have been studied with sufficient thoroughness to furnish a good illustration of the pathology.

Case 1.—Man, aged 38, single; a carpenter; has had all the diseases of childhood. He has also had gonorrhea; he drinks alcoholics moderately, but has been a cigarette "fiend" for twenty years.

History.—April, 1905, the toes on the left foot began to burn, became red and when he walked they cramped and drew up. This condition continued until about November. When he was at rest he did not suffer, but the burning commenced immediately on moving. During November an ulcer appeared on the plantar surface of the fourth toe at its base, and a little later a red blotch appeared on the dorsum of the foot. Shooting pains then commenced running from the leg into the foot. These were very severe; at first they occurred only during movement, but later they were constant day and night, preventing sleep and any kind of rest. The patient became emaciated to an extreme degree. About January, 1906, dry gangrene occurred in the fourth toe, and almost at the same time in the great toe. These toes were amputated; the wound at the base of the great toe refused to heal, and an ulcer formed. About six weeks later this was dissected out, but the wound still refused to heal, the only effect of the operation being to lessen the pain, which now became bearable, and the man was able to get some sleep and to recover some of his former good physique. After a short period the pains began to increase in severity until he was again forced to seek surgical relief, and entered the hospital Feb. 17, 1907. A thorough examination, including urinalysis, revealed nothing of interest, except in the arteries of the affected limb, the pulse in the dorsalis pedis and posterior tibial not being perceptible to the finger; in the other limb both could be felt and were apparently normal.

Operation.—Feb. 18, 1907, under general anesthesia, Dr. Matas did a modified Lisfranc operation to test the condition of the tissues at this point, the patient not agreeing to a higher amputation. Very few vessels were encountered which required ligation, although the tissues assumed a healthy pink when the constrictor was removed. The wound was closed with a few silkworm gut sutures and an appropriate dressing applied. The patient was rudely awakened from the postanesthetic sleep by violent lightning-like pains darting down the limb into the wound; these continued with short intermission throughout the day, subsiding by night, except when the patient attempted to go to sleep, when they would return with increased severity. These pains banished sleep for four days and nights, then they began to subside and short naps were possible. Some elevation of temperature (103 F.) occurred on the second day. On the third day when the wound was dressed it was found infected; this condition cleared up under moist antiseptic dressings. The temperature dropped to normal by the seventh day and the wound healed by the sixteenth day. The shooting pains in his limb persisted up to a short time before his leaving the hospital, gradually growing less severe.

Result.—He left the hospital well, March 22, and was last seen in the latter part of September, 1907, and reported no further trouble.

M. Panas,[1] Paris, reported one case: The patient, aged 35, of nervous temperament (with gouty father and nervous mother), had lancinating pains in the upper extremity, which ceased after three months, to occur in the lower extremity. Several red spots appeared on the left leg, followed by gangrene of the left toes, which progressed to adjacent parts of the sole of the foot, requiring amputation at the middle of the leg, as all the arteries of the foot seemed obliterated. After amputation, the pain continued unabated in the stump and occasionally on the other side. Many remedies were tried without avail until sodium salicylate was used, which put an end to the suffering. Examination of the amputated member showed, in addition to vascular lesions, alterations in many fibers of the anterior tibial nerve.

M. A. Laveran,[2] Paris, reported the case of a man, aged 26, who contracted malaria in Madagascar in 1884. He was very ill for several weeks. He had dysentery and malaria in Tonkin in 1889, and was ill for several months. In 1890, the first symptoms of phlebitis of the left leg occurred, followed by endarteritis; there was some albuminuria. He suffered severe pain for months and was unable to put the limb on the floor. Amputation below the knee was done in 1892. The same trouble occurred on the opposite side, requiring amputation in 1893.

ETIOLOGY.

The etiology of this condition is not clear. It is possible that there may be predisposing causes in some cases, such as an underlying constitutional taint, syphilitic or gouty, preparing the vessels to respond to irritating causes. Exposure to cold may also create a predisposition. The long-continued intoxication with any substance capable of producing arterial irritation or vasoconstriction may produce the condition; such substances are alcohol, tobacco, lead, uric acid; acquired syphilis or renal disease should also be considered.

In the case I report, it is highly probable that the excessive use of tobacco for many years was an active factor in producing the condition.

Chronic malarial infection may indirectly become a factor; malaria and Reynaud's disease are not infrequently associated. In one of the cases reported from the French press, the long-continued and repeated atacks of malaria may have caused the renal disease and is may have brought about the arterial trouble.

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* A contribution from the surgical clinic of Tulane University.

[1] Endartérite oblitérante. Bull. de l'Acad. de Méd., 1894.

[2] Observ. d'endartérite oblit. avec gangrène des extrém. inf Bull. de l'Acad. de Méd., 1894.

PATHOLOGY.

The process is a progressive one, proceeding from the eriphery toward the trunk, the artery being gradually estroyed until only a fibrous cord is left, resembling e remains of the ductus arteriosus.

Amputation does not always arrest the trouble, the rocess continuing in the stump until a higher level is ached.

As the process advances there is first a peripheral rombus lining the walls of the intima; this is usually hanneled, and the blood in a much diminished stream nds its way through this channel; as the disease progresses, this is finally closed.

The thrombus is not at first closely adherent to the essel walls, but becomes so later. It is of the laminated ariety, such as is found in aneurisms, and can frequently be dislodged or withdrawn from the vessel ends; metimes it is several inches in length, and the central annel, when it has not yet closed, can be demonstrated r its entire length. In addition, the arteries undergo diminution in size, sometimes being much reduced, ith their coats much diminished in thickness, but othwise normal. Later, as the process advances, they beme fibrous. Embryonic tissue develops from the walls f the vessels and aids in the obliterating process. No lcareous deposits have been reported in any arteries amined. The veins undergo similar changes, generly commencing somewhat later than the arteries.

In only one case was any change noted in the nerves, hich was reported in the history.

TREATMENT.

The lancinating pains are usually the first symptoms at prompt the patient to seek medical relief. All atmpts to relieve them or to bring about an improvement in the area of diminished circulation have proved ilures. The remedies and methods that have been used e legion. Heavy doses of opiates only slightly obtund e pains.

Salicylates, except in the case reported, in which they lieved the after-pains in the stump, have proved of no ail. Their early use in cases that are detected before e pains occur and in which the circulation is beginning to be restricted, may prove of some value, espeally in those cases in which gout, uric acid or its connors are a predisposing or exciting cause.

Amputation is the only method that has afforded reef, and it should be done sufficiently high to secure unfected arteries, capable of nourishing the flap and beond which the disease is not likely to progress.

Improved Technic for Prevention of Ophthalmia Neonatorum. H. Hellendahl has an article on this subject in the *Med. linik,* December 1. He is inclined to attribute to faulty hnic the failures and inflammation sometimes resulting m the instillation of silver nitrate. All this could be prented by a dropper that would safely deposit one drop and ly one drop in the eye. He uses for the purpose a fused be containing 0 5 c.c. (7.5 grains) of a 1 per cent. solution of ver nitrate. The tip of the tube is broken off and it is verted in a capilllary pipette into which some cotton has en loosely pushed down to fill the entire tip and allow a little il to project below. The cotton soaks up the fluid and a op slowly gathers on the projecting wisp below, whence it n safely be dropped into the eye.

AN EPIDEMIC OF INFANTILE DIARRHEA, APPARENTLY CAUSED BY THE BACILLUS PYOCYANEUS.

THOMAS B. COOLEY, M.D.
DETROIT.

This epidemic, which occurred among the babies in the Woman's Hospital and Infant's Home of Detroit, seems worth reporting, not only because of the relative rarity of this bacillus as a cause of infant diarrhea, but also because of the probable means of spreading the infection, and some unusual clinical features of the disease compared with other reported cases of infection by the same organism.

The babies affected belonged to three groups: (1) The older ones, between 1½ and 2½ years, who were able to walk, to eat some solid food and who were in the playroom during the day. (2) The comparatively healthy bottle-fed infants in the nursery. (3) Those who by reason of sickness or malnutrition needed especial care and were kept by themselves in the infirmary.

The milk given these children comes from two sources. The older children, and the better nourished of the younger ones, receive milk from a dairy which furnishes a very fair grade of Jersey milk, while the more delicate children are fed on formulas made up with milk from the Walker-Gordon farm. The babies are cared for by nurses in the training school, and by women who have been delivered in the hospital and who pay for the care of themselves and their babies by doing such of the hospital work as they can.

On October 12 one of the older children, who was fed on the Jersey milk, bread and cereal, and cared for chiefly by his own mother employed in the hospital, developed diarrhea, without fever and with no special prostration or loss of appetite. There was nothing remarkable in the stools, and at the time no special attention was given to the case. The child quickly became better under routine treatment, but had various relapses, and as he was later found to be suffering from the same infection as the rest it is probable that his was the first case.

On October 24 another one of the older children in the playroom had diarrhea, which again was not severe, and without fever. On November 4 three more of the playroom children were affected. These cases were so mild that the children remained at play, and my attention was not called to them by the interne until a week later. On November 5 one of the infirmary babies had a similar diarrhea. On November 7 and 9 two more of the older children developed diarrhea, and on November 16, 17 and 18 eighteen babies, including all but one of the six infirmary babies, became ill.

At this time it was evident that we had to do with an epidemic resulting from some specific infection, and that this was not an infection of the milk, because babies receiving milk from the two different dairies, prepared in different ways, were simultaneously affected. It was clear, however, that the infection was conveyed by the nursing bottles, because none of the breast-fed infants were sick. It seemed certain, therefore, that the infection was transferred to the nipples by the hands of the women who changed diapers and fed the babies. Accordingly, such measures as were possible were taken to avoid this.

The sick children were segregated so far as possible, extra nurses were put on, and instructions were given that no one was to go from one child to another without thorough cleansing of the hands, and that no article was to be used for any two children without a sterilization between. There was not, however, vacant space enough to admit of thorough sterilization of the rooms, even if this had seemed advisable, nor was the force of nurses large enough so that we could dispense entirely with the services of the untrained women; and to the utter inability of these latter to understand the necessity of and carry out thorough cleanliness, in spite of strict instructions, is probably due the fact that between this time and December 16 the epidemic spread gradually to ten other babies, so that eventually all but one of the artificially-fed children were sick. No breast babies were infected; but one who was weaned during this period, owing to failure of the mother's milk, had a mild attack.

As soon as it became evident that there was a common infection efforts were made to discover the infective agent and its source. Stains were made of fresh smears from many of the stools, and the facilities of the Detroit Clinical Laboratory being placed at my disposal, Dr. Sill, the superintendent of the laboratory, and myself made careful studies of cultures from nine typical cases. In the cultures it soon developed that in six of them the predominating organism was a bacillus of rather varying form, producing a shiny and sticky growth on agar and forming rapidly an intense blue-green pigment. This pigment gave the chemical reactions of pyocyanin, and inasmuch as the predominating organism in the other three was a bacillus of the same morphologic characteristics, but without pigment formation, we should have been convinced at once that the *Bacillus pyocyaneus* was the cause of the infection, had it not been that in a number of the smears made from fresh feces the principal organism, except the colon bacillus, was what appeared to be a large, deep-staining coccus, usually occurring in pairs, and much time was spent in trying to isolate this from cultures. We found later, however, that our strain of pyocyaneus, grown on glucose agar, tended to assume this same coccus form, so that we felt justified in assuming that we were dealing with a pyocyaneus infection throughout.

Clinically, these cases presented no constant or characteristic features, except that of a very obstinate diarrhea, difficult to check and tending to recur on every effort to feed the babies during convalescence. The stools varied greatly in appearance. In the older babies they were often white, of about the consistency of thick cream; in the younger ones they were more often grass green or dark green, small, and occasionally but not constantly containing mucus. In two very severe and protracted cases, which finally recovered, mucus was constant and tinged with blood. Green stools were usually colored with bile pigment, but a number of stools showed around the edges what seemed a very typical coloring with pyocyanin. The cultures which proved to be the best pigment-producers came, however, with one exception, from perfectly white stools.

Fever was not the rule. It occurred in only ten out of thirty-seven cases, and did not go above 102.6 in any case. In two of the ten cases it was due, partly at least, to complicating otitis media, which subsided in one case without paracentesis. In the other case the fever disappeared after the operation. In two other cases the fever appeared during convalescence and seemed to be due to inanition.

A symptom common to many, especially of the smaller babies, was great abdominal distension. Two children showed temporarily quite decided edema, without nephritis. Vomiting was a symptom in only one case.

With most of the older and stronger children, as has been said, the disease was mild, but prone to relapse. In the younger ones movements were more frequent, though seldom very numerous, and prostration was greater. Emaciation was rapid in most of the prolonged cases, owing to inability to assimilate any food. Appetite was well retained by nearly all and thirst was quite marked.

There were nine deaths in all. Of these six were among the feeble infirmary babies, already badly nourished, one of whom had also a gonorrheal ophthalmia. Of the other three, originally stronger, one died in convulsions attendant on an acute otitis media, one was a baby only 4 weeks old, and the other had a very prolonged and obstinate case with several relapses. Autopsies were held in four cases and no definite lesions were found anywhere, profound emaciation, with anemia of all the tissues, being the characteristics. The intestines showed a few hyperemic patches, but were mostly pale, collapsed, and in no case ulcerated. Cultures from the heart's blood and spleen were sterile. The findings in all four cases were practically those of death from starvation.

The treatment used varied according to the age of the child and the severity of the case. The mild cases among the older children did well on calomel and starvation for a day, followed by dilute boiled skim milk. All the children had calomel at the start and occasional doses of castor oil later, and all the severe cases had colon irrigations twice daily, usually with salt solution, though tannin was used with good results in the case of the two children who passed a good deal of mucus. Bismuth was used when stools were very frequent, and opium occasionally, as seemed necessary.

Feeding of the smaller babies after the initial starvation was very difficult and unsatisfactory. The very sick ones took nothing well, but did better on small amounts of dextrinized meal than on anything else; with some of them this had to be continued for several weeks, sometimes alternating with broth. Sour skim milk prepared with pure cultures of the lactic acid bacillus was not a success with any, nor was albumin water or any of the dried milk preparations well borne, except that some took malted milk well when convalescence was established. Barley gruel did not do so well as the dextrinized meal.

Diarrhea from infection with the *Bacillus pyocyaneus* is by no means unknown, and isolated cases and small epidemics have been reported by Escherich, Nobécourt, Kosse Lesage, Thiercelin, Meunier and others. Most of the reported cases, however, differ from those I have described in that sudden high fever and other signs of severe toxemia have been present, although general infection by the *B. pyocyaneus* has not been observed. The pistach-green color of pyocyanin seems to have been more common in the stools in these other cases than in mine.

The *B. pyocyaneus* is not found normally in the child's stool, but is found occasionally on the skin and in the feces of the healthy adult, as well as in certain suppurative lesions. I have been wholly unable to discover where it may have come from in these cases.

TWELVE YEARS' EXPERIENCE IN TREATMENT OF SYPHILIS BY INTRAVENOUS INJECTIONS OF MERCURY, ARSENIC AND IODID OF SODIUM.

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I was glad to see the article by Dr. G. Frank Lydston[1] garding the intravenous injection of mercury in syph-is. My own experience with this method during the ast twelve years has been so satisfactory to both pa-ents and myself that I only resort to internal medi-tion or ointments if the patient is so situated that he n not see me as often as I find necessary, or in cases inherited syphilis in small children.

MERCURY.

I have never used so large an initial dose of the bi-hlorid (¼ to ½ gr.) as Dr. Lydston, but as a rule ave gone up gradually from 1/20 or 1/15 of a grain ⅓ or ½ grain. In a few cases with initial doses of om 1/8 to 1/6 grain of the drug I have seen intense astrointestinal disturbance, nausea, vomiting and loody mucoid diarrhea, the patient at the same time uffering intensely from pain and extreme prostration.

While the syphilitic can undoubtedly stand more ercury than the non-syphilitic, still the individual sceptibility varies so much that I believe, and that is y experience, that one is on the safe side if he starts ith a small initial dose and increases the amount rap-lly. Especially is this caution indicated in cases of ephritis or arteriosclerosis. In severe cerebral or spinal isturbance I do not hesitate to use large initial doses.

Iodid of sodium can be used intravenously when indi-ted in fairly large doses of from 10 to 30 grains. It not irritating as the potassium salt and not so trouble-me and painful as are intramuscular injections of dopin. I have never used or heard of any one else jecting the iodid intravenously; but I have been using for years, and with proper precautions I have found of great assistance in patients who refuse to or can t take it internally.

ARSENIC.

At first I used Fowler's solution in combination with ercury, having had good results with Donnovan's so-tion internally, but later I used cacodylate or sodium, ving as much as 3 grains at a dose. I found that the philitic did better, and I attributed it to the fact that e remedy was indicated on account of the anemia om which all syphilitics at first suffer. I was very uch, pleased, therefore when I saw the report of Dr. aul Salmon[2] of the Metchnikoff Laboratory, followed Dr. O. Lassar's[3] report of cases of syphilis cured by e intramuscular injections of atoxyl (meta arsen ani-n) in large doses—from 7 to 16 grains.

While I had thought arsenic as assisting the mercury great value, it had in reality acted as a specific when ed in large doses.

I tried atoxyl in 1905 when it first appeared on the arket, but had procured either a poor specimen of ug or had boiled it too long while sterilizing it, thus composing it. At least in cases in which I used the oxyl it acted badly. The patients complained of chills, ver, nausea and pains all over the body. I therefore returned to the cacodylate of sodium. Recently, however, I secured a fresh supply, and by boiling the solution barely a minute I have had no bad effects from its use. Care should be taken, however, as a too prolonged use of atoxyl has been followed by severe manifestations of arsenical poisoning owing to accumulation.[4, 5] Thiosianamin in combination with arsenic, mercury and iodid of sodium in tertiary syphilis is indicated in those cases in which there are gummatous deposits, as it softens the scar and the pathologically infiltrated and thickened tissue, thus increasing the blood supply to this tissue and permitting the other drugs to penetrate and act on it. In 1905 Felix Mendel[6] of Essen prepared a solution of thiosianamin and salicylate of sodium, which he called fibrolysin. As this preparation, however, formed a precipitate when the bichlorid of mercury was added, necessitating two injections, I experimented and found that by adding the thiosianamin to the bichlorid of mercury and iodid of sodium solution and boiling I obtained a clear solution, to which I then add the atoxyl or cacodylate of sodium. I use from 1 to 3 grains of the thiosianamin at a dose.

This combination acts rapidly in tertiary syphilis, especially in cases in which there are gummatous deposits in the brain or spinal cord. Recent cases of syphilitic locomotor ataxia, and most cases of tabes, which, according to Erb[7] and other authorities, are caused by syphilis, if taken early react promptly and can be permanently cured. Even in cases of some years standing when there has not been too degenerative sclerosis the patient can be greatly improved and sometimes cured.

In tertiary cases especially, my experience is that it is best to commence with small doses of mercury and it is to be remembered that an attack of gastric crisis in a case of tabes must not be attributed to the medicine.

It is preferable in using the injection to select a vein at the elbow. Chronic syphilitics, fortunately, as a rule, have large thick veins owing to the well-known effects of the syphilitic virus on the walls of the blood vessels. Tie a bandage above the bend of the elbow, let the patient extend the arm rigidly and close the hand firmly. Wipe the skin over the vein with a mixture of ether and alcohol, freeze with ethyl chlorid and insert needle. It is best to use a large Leur glass syringe, so that one can draw the blood into the syringe and mix it with the solution, thus forming an albuminate which is less apt to irritate the walls of the veins. Remove bandage, let patient open the hand, and inject slowly, drawing the blood back into the syringe two or three times so as to mix it well with the contents, and so as to be sure that it has not caught in the walls of the vein. Should a few small bubbles enter the circulation it will do no harm.

In conclusion, I wish to say that in a previous practice of thirteen years in treating syphilitics I have never had the quick results that I have had since using intravenous treatment. If this treatment is carried out faithfully syphilis is cured more rapidly and permanently, there are fewer relapses if any, less mercury is used, and hence less bad effects on the system of a medicine, which, however useful and indicated, is still a metallic poison foreign to the body cells. The patients seldom lose weight; on the contrary, on account of the large doses of arsenic, they are apt to gain weight and hence are in better spirits and less subject to fits of depression.

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[1] THE JOURNAL A. M. A., Nov. 16, 1907.
[2] Compt. Rend. Hebd. de la Société de Biologie, 1907, No. 10.
[3] Berl. klin. Wochschr., June 3, 1907.
[4] Comptes Rendus Hebdomadaires, 1907, No. 13.
[5] Münchener med. Wochschr., May 30, 1905.
[6] Therap. Monatshefte, February, 1905.
[7] Krankheiten des Rückenmarks.

A NEW TEST FOR THE DIFFERENTIAL DIAGNOSIS OF APPENDICITIS.*

IRA CARLETON CHASE, A.M., M.D.
FORT WORTH, TEXAS.

I am not unmindful of the assurance I display in announcing a new test for the differential diagnosis of appendicitis. The test is but a more rational method of applying abdominal palpation, resulting from a better understanding of the cause of the pain produced in an inflamed appendix by abdominal compression. I have found the procedure so simple and satisfactory that I hope it may prove so to others. I have applied to it the term "cecal distension test" as expressive of the procedure.

DESCRIPTION OF THE TEST.

The patient is best placed on a hard, low bed or table. The knees should be flexed and two pillows placed under the head and shoulders, giving a dorsal semirecumbent position, rendering the abdomen flaccid for the most satisfactory abdominal compression. The surgeon stands on the patient's left, facing the feet. The palmar surfaces of the fingers of the right hand are placed under the patient's left inguinal region and the fingers of the left hand used to reinforce the right. Deep pressure is then made backward, slowly drawing the fingers deeply and forcibly upward under the left costal arch. This procedure is intended to compress the lower portion of the descending colon and force its gaseous content into the transverse, and thence to the ascending colon. The pressure being maintained with the fingers of the left hand, the right hand is then removed and placed over the upper portion of the descending colon, or better over the transverse colon, and the fingers are quickly and forcibly depressed. A gaseous compression wave will travel across the transverse and down the ascending colon and on arriving at the cecum will produce cecal distension, yielding a typical sharp pain in the right iliac fossa, if inflammation of the cecum or appendix be present.

PRINCIPLES OF THE TEST.

The diagnosis of pathologic conditions in the abdomen is peculiarly difficult because of the impossibility of direct palpation or examination of individual organs. If traction at will could be made on an inflamed tube, gall bladder or appendix, an exact diagnosis could be better made. Whenever any inflammation exists about the cecum an abnormal amount of gas collects in the colon. This is not usually transferred to the small intestine, owing to the sufficiency of the ileocecal valve. The compression of this colonic gas and the descent of a gaseous compression wave into the cecum produces a sudden motion of the inflamed area, exactly as though a cord were attached.

There may be some differences of opinion as to the exact cause of the pain. After much study, with operative and postmortem examination, I have reached the following conclusions: Distension of the bowels or appendix does not cause pain. Pain is rather relieved, as the visceral distension from toxemia increases during the course of intestinal diseases. Neither is pain relieved by rupture of the appendix, which would often render distension of that organ impossible. As distension increases, both pain and muscular action decrease. For this reason, the pain of an inflamed appendix seems inseparably connected with motion or muscular action. Dull aching or throbbing pain in appendicitis may be caused by swelling and peritoneal tension. The typical cramp-like pains of appendicitis are probably due either: (1) to tetanic contractions of the muscular walls of the ileum or appendix, compressing the nerves, like a cramp in the leg, or (2) to peristaltic or other visceral motions, pulling on sensitive adhesions. In case of the test, the increased intracecal tension might induce counterperistalsis in the ileum, which would be transferred to the appendix; or peristalsis might be induced in the appendix by sudden cecal distension independent of peristalsis in the ileum, or distension movement might pull on sensitive appendicular adhesions—we know that an adherent inflamed appendix is much more painful than a free one. In any case the pain is due to distension motion or to induced peristalsis. Pain by direct compression at McBurney's point is probably produced by similar colonic motion, or peristalsis, rather than from actual palpation of the appendix.

APPLICABILITY OF THE TEST.

The cecal distension test, if carefully carried out, will demonstrate conclusively, I believe, the presence or absence of active inflammation in the cecum or appendix by the typical colicky pains usually following in the right iliac region. If the pain during the attack has been reflected to the pelvis, gall bladder, epigastric or umbilical region, the induced pain is also likely to radiate there.

Diseased conditions of the small intestines, stomach, gall bladder, kidney, ureter, bladder, ovary, tube, etc., may simulate typhlitis and appendicitis, causing tenderness and pain at McBurney's point, but in my experience they do not respond to this distension test, unless secondary inflammation has invaded the walls of the cecum or appendix. This test is of particular value when rigidity and tenderness on the right side make a direct palpation painful or impossible.

Whether the upper portion of the descending colon or the transverse colon be used for the production of the compression wave will depend on circumstances. Fortunately in the diseases under consideration the stomach is usually empty and the transverse colon is readily located by percussion. When the colon is loaded with fecal matter, or assumes the V form, hanging downward toward the symphysis, or the small intestines are much distended, or the abdominal wall abnormally fat, or the rigidity and tenderness have extended to the left side, the application of the test will have to be varied. Often the method will then consist merely of a vigorous massage of the left colonic region in an antiperistaltic direction. The procedure I have outlined, I find, gives the most satisfactory compression in the majority of cases. It is usually better to induce the compression wave at the transverse colon rather than under the left costal arch, as in this way more of the descending colon can first be compressed and one is surer of striking the transverse colon than the deeply situated splenic flexure.

HISTORY OF THE TEST.

Some three years ago I visited a woman on the second day after an operation for acute appendicitis. Her abdomen was slightly distended and she was complaining of pains, which, she said, were exactly like those suffered before the operation, and expressed some doubts as to her appendix having been removed. As soon as ie rectal tube was passed she expelled a large amount gas, and the pains never recurred. At this time I ad under observation a young woman with a history of epeated attacks of pain and tenderness in the right iac fossa. After her attacks a localized tenderness ould remain for days, during which time it was almost npossible to move her bowels. She at one time took even compound cathartic pills, followed by large doses salts and oil, with little or no effect. Enemas proved kewise inefficient. On one occasion I resorted to abominal massage. She was too tender to endure manipution over the right half of the abdomen, and the best at could be done was a deep massage of the left half. was during this treatment that I discovered that a ertain manner of pressing on the left side induced a pical sharp pain in the right iliac region. I conuded that this procedure produced cecal distension milar to the condition existing when postoperative gas ains occur.

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* Read before the North Texas Medical Association, Fort Worth, Texas, December, 1907.

Since that time I have been accustomed to mention my students in lectures on the cecum and appendix ie effect of distension and motion of these organs when iflamed. In my practice I have applied the test to a rge number of cases, but have been slow to appreciate ie test as a distinct and reliable procedure.

The general principles of the test are not new. The ain often produced at McBurney's point by pressure ver the region of the gall bladder has by some been elieved to be due to compression of the colon. There re few surgeons who are not familiar with the sharp ain over an inflamed appendix often produced by aking gradual deep pressure in any part of the abdoien and suddenly removing the hand. The pain is aused by sudden visceral readjustment on release of ressure. The cecal distension test is but an elaboration f these ideas, and there is probably no surgeon who as not at some time unconsciously used the test and icited pain thereby.

Soon after my early observation I failed to get a esponse to the test in the case of a boy apparently sufering from appendicitis—a diagnosis made by another ractitioner. The boy later fell into my hands with a ght lumbar sinus and died two years later with tuberilous sacroiliac disease of the right sacroiliac articulaon. Whenever I operated for appendicitis in the abence of this distension test, I have either failed to reeve the patients of their typical pains or found other onditions which explained their suffering. In one ase was revealed a duodenal ulcer which simulated ppendicitis in most differential points except the disension test. In another case a small intraligamentous yst of the right broad ligament explained the absence f reaction to the test in what seemed an appendiceal ffection. I have recently obtained a positive reaction two fulminating cases of appendicitis, with early angrenous perforation, which demonstrates that the ain produced by the test is not due to gaseous disten on of the appendix.

DESCRIPTION BY A CONTEMPORARY OBSERVER.

I had partly written this paper, intending to present at the next session of the American Medical Association, and had sent in another title for a paper to be ead at this meeting of the North Texas Medical Association. On Nov. 5, 1907, I received my weekly number f the *Centralblatt für Chirurgie*, published October 6, in Breslau. In this number was a brief paper by ovsing of Copenhagen, entitled "*Indirectes Hervorrufen des typichen Schmerzes an McBurney's Punkt*" ("Indirect Production of Typical Pain at McBurney's Point"). I immediately wrote the secretary of this association and announced the title of this paper to insure the earliest presentation of my ideas. To speak of my work as original, after the publication of Rovsing's article,[1] would be embarrassing were there not so many men present who have known of my work and to whom I have for the past few years explained the principles of the test. Rovsing and I have been working on the same idea. He has had a better operative opportunity to observe the phenomena than have I. My conceptions of the principles underlying the test and the methods of applying it, however, seem to me more exact and practical.

NEW CHLOROFORM DROPPER.

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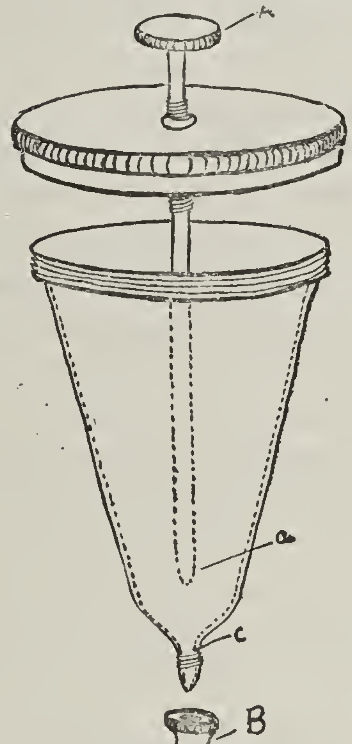
NEW ORLEANS.

The chloroform dropper here illustrated has given me much satisfaction. It is a metal container, non-leakable and unbreakable. It is always ready for use by simply turning the screw A slightly to the right. The flow of chloroform or ether can be regulated in this manner so as to yield from two drops per minute to a steady flow, if so desired. The cap B prevents leakage when the bottle is being refilled. The needle valve a fits into the opening c. The whole bottle can be used with one hand, leaving the other hand free. There is no danger of the stopper falling out and deluging the patient's face with a shower of chloroform or ether.



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[1] A translation of Rovsing's article was presented with this paper when read, but as a review has already appeared in The Journal, Nov. 30, 1907, p. 1882, it is not here reproduced.—Ed.

Surgery and Internal Medicine.—Moore, in *Colorado Medicine*, calls attention to the fact that the practice of surgery has become so attractive to graduates in medicine during the last two decades that their best energies are given to its study, with the results that in many cases internal medicine is neglected, and that medical colleges are graduating "specialists" instead of physicians in the true sense of the term. Many young men leave college, he declares, with the fixed idea that as surgeons they are fully equipped as internists. This idea, however, is generally eliminated by experience.

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[*For other information see second page following reading matter.*]

SATURDAY, FEBRUARY 22, 1908.

CONGESTED POPULATIONS.

Many citizens, and a number of important societies in New York City, have joined its health and charities departments in calling attention to the evils coincident on the overcrowded condition of some of its districts. A committee on congestion of population has been formed, and a campaign is preparing similar to that which the Charity Organization Society has been waging against tuberculosis. The public at large will thus learn, by means of maps, charts, models, moving pictures and lectures, and the educative facilities which the lay press so willingly affords, of the evils which densely-populated districts must suffer, and of the consequent baneful results on the community in general. All great cities should surely profit by a consideration of the proposed demonstrations, for the municipal conditions which have occasioned them obtain generally, though in perhaps lesser degree, throughout these United States.

A paper by Dr. W. H. Guilfoy[1] on "The Death Rate of the City of New York as Affected by the Cosmopolitan Character of Its Population," which he read at the annual meeting of the American Public Health Association in October, 1907, will certainly serve as a basis for important and fruitful discussion. The difficulties with which the metropolitan sanitary authorities have to contend may be gauged by Dr. Guilfoy's observation that in a community of four and a quarter millions there are 1,750,000 foreign-born people who are especially likely to affect the general death rate, because the languages, customs and habits of fully four-fifths "are so dissimilar in all respects to the requisites established by the authorities for the making of a sanitary member of the body politic."

It is little wonder, then, that although the death rate in New York City has been steadily decreasing for nearly a score of years, it has during the last few years "marked time" in its progress toward an expected lower level.

Some of the reasons why this death rate has not been progressively lowered in recent years have no relation to immigration. For instance, the native American negro section, the "San Juan Hill" in New York City, invariably exerts a cumulative effect on the mortality rates. This region is inhabited almost entirely by negroes, and the death rate among them is 38.56 per 1,000—that of the city at large being 18.35. The tuberculosis death rate is here three and one-half times the average for the entire city; only the Chinese quarter exceeds it in this respect.

When we consider that throughout the registration area in the United States every other adult negro is found to have died from tuberculosis, and also that each advanced consumptive emits daily his billions of bacteria, we must apprehend an infection which must make its influence felt throughout all strata of the population. This danger of infection is an ever-present menace to the health of the city, and it is the merest justice to compliment the metropolitan health authorities on the amazing fact that the tuberculosis death rate during the last twenty years has decreased nearly 50 per cent.

In New York City the "Russian-Polish block" is probably the most densely populated region in the whole world; not in Pekin, nor Bombay nor any other old-world city is there such congestion. Nevertheless the death rate here is low, for the Jewish people, who almost exclusively inhabit it, have a tremendous racial vitality. Though not necessarily abstinent, they are temperate in the use of alcoholic stimulants. They have no drink problem, such as almost every other section of our American people must grapple with. They are also most careful regarding the food stuffs, particularly the meats, which they ingest. And these are good reasons, among others, why the Jewish race is less prone than many others to tuberculosis. Not only this, but the Jewish race, during the forty centuries of its existence, must have acquired a comparative immunity to tuberculosis, in contradistinction to the negro and the Indian, who in comparatively recent times have had to cope with this disease, and who succumb to it in such pitifully great numbers.

The whole of the evil does not lie precisely in overcrowding. In a great city which is well sewered, and in which the huge tenements are built according to sanitary principles, many more people can live in health than was formerly the case in much smaller communities. Cities in which health and tenement-house departments are effectively administered are to-day not necessarily "man-consuming." The great cities, indeed, are coming to vie with rural districts in their low death rates. The more insalubrious regions seem now to be the smaller cities and towns where modern sanitation has not yet attained its fullest development. For example, in New York State the metropolis has a birth rate of 30.7, as compared with a birth rate of 22.3 in other cities above 100,000; its death rate of 18.3 compares very well, therefore, with the death rate of 15.1 in these other cities. And cities ranging in population between 50,000 and 100,000 also compare unfavorably with New York City, for with a birth rate of 26.2 they have a death rate of 18.2.

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[1] Medical Record, Jan. 25, 1908, p. 132.

EUGENICS.

It is rather interesting to find that the question of ising a better breed of men and women should have me up for discussion, in its most recent phase, not fore a medical or anthropologic society, but before the nerican Breeders' Association. The breeding of cattle a money question. Therefore very definite informa- n has been sought with regard to it, and very impor- nt and still more promising results have been secured the application of certain principles derived from the owledge attained by many forms of investigation and e collection of statistics. The subject of the produc- n of better men and women was brought before the merican Breeders' Association by Professor Alexander raham Bell, the inventor of the telephone, who for any years has been interested in certain social ques- ns, especially those relating to the condition of the af and the result on the next generation of the con- nguinity of parents as regards the production of deaf d blind children. We called attention a little over a ar ago[1] to the fact that Professor Bell had been in arge of the collection of the statistics for the last cen- s with regard to this interesting subject and that his nclusions from a large mass of carefully collated fig- es were rather startling. He found that between ree and four times as many deaf and blind children d been born of the marriages of first-cousin parents an from the ordinary run of unrelated married people.

In his talk on eugenics, the science of the improve- ent of the races, Professor Bell called particular atten- n to the fact that the improvement of the human race pends largely on two important factors—heredity and vironment. In the American Breeders' Association e question of heredity is most important. Bell argued at as human beings possess intelligence and a desire at their offspring may be fully up to the average of e race in every particular, it is only knowledge of the nditions required for the production of better children at is needed in order to bring about this eminently sirable result. He is ready to confess that our sta- stics up to the present are utterly inadequate to enable to draw any definite conclusions in the matter. The gures that we have seem to show that about 3 per cent. the defectives among the population of the United ates are the offspring of consanguineous unions—to ke only one and a very simple phase of the problem of genics, but this is no proof that marital consanguinity the direct cause of the defects, for we have no sta- stics that show the proportion of the whole population ho are the offspring of consanguineous marriages.

In a word, Professor Bell makes an appeal for the col- ction of statistics by trained men who are interested d who have the opportunity to secure the definite de- iled information so desirable in these matters. While direct appeal is made, the expression of such a desire would seem to be aimed more at the medical profession than at any other class of people in the community. Physicians are certainly in a position to secure much valuable information of this kind. As a body we are deeply interested in the improvement of the health, mental as well as physical, of the human race (and, of course, also of the happiness of the greatest possible number). It has been the constant endeavor of the profession in recent years to decrease the death rate and to increase the length of life. Not a few have been suspicious that the keeping alive of many individuals who, in the ordinary process of natural selection, would have disappeared before their productive era began, has been a source of injury rather than of benefit to the race, though it has brought about a great increase in the population. We are securing survivals to a much greater degree than before, and now it becomes a duty to secure, so far as it is possible, the origin of members of the race who will be worthy of survival. After all, the most important problem in evolution is not so much the survival of the fittest as the origin of the fittest.

This new practical science of eugenics, then, which in the last decade has begun to attract so much attention from sociologists and anthropologists, deserves to have the benefit of some of the best thinking and careful observation and collection of statistics on the part of the more intelligent members of the medical profession. The problem that Professor Graham Bell set before the American Breeders' Association of the influence of consanguinity in the production of defectives would seem to be a simple and easy avenue of introduction to so important a work. We commend its consideration as likely to produce the next important step in the amelioration of conditions of life and in the securing of such improvement in human health as will greatly add to human happiness and, above all, decrease to a noteworthy degree the sum of human suffering.

THE PREVENTION OF SERUM INTOXICATION IN ANAPHYLAXIS.

The investigators into the mechanism of experimental anaphylaxis naturally had their attention turned to the discovery of means whereby its effects might be prevented. Thus Rosenau and Anderson in Washington tested the effects on the toxic principle in the serum of a large number of chemical agents, but without any positive results. The same conclusion in regard to chemicals was reached by Besredka[1] also, who is studying methods whereby the effects of anaphylaxis may be prevented. He shows, however, that the toxic principle in the serum that kills sensitized guinea-pigs may be attenuated and even destroyed by heat, the higher the temperature the greater the destruction. Heat has the same effect also on the sensitizing principle in the serum. Both the toxic and the sensitizing properties are reduced to a minimum in serum heated to 100 C., while repeated exposure of the serum to 56 or 60 C. diminishes its toxicity very markedly. Whether antitoxic serum may be heated in this manner sufficiently to destroy the toxic principle, but without too great injury to the antitoxin is doubtful indeed.

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[1] Report of United States Census Bureau; editorial in The urnal, Sept. 1, 1906, p. 689.

[1] Ann. de l'Inst. Pasteur, 1907, xxi, p. 950.

Besredka finds, too, that in sensitized guinea-pigs all the usual phenomena of hypersusceptibility may be prevented by ether narcosis. If the second dose of serum is injected intracerebrally, as the muscles undergo relaxation from the ether the toxic effects usually produced fail to appear and after sleeping about half an hour the animal awakens without having presented any of the visible effects of anaphylaxis. If an animal so treated is given a new dose on the following day no reaction results—it is immunized. Neither morphin nor extract of opium has the power to prevent the symptoms of anaphylaxis in sensitized guinea-pigs. Whether or not the prompt induction of ether narcosis in human beings that appear to be passing into the stage of active intoxication following injection of antidiphtheric or other serum would have any effect on the course of the intoxication might well be put to test if opportunity to do so presents itself.

No doubt special efforts are being made in many laboratories to devise means to deprive serum of the toxic principle that may cause such profound disturbances in susceptible individuals, and we cite the results just given as examples of what has been achieved.

INFECTIOUS DISEASES AND GALLSTONES.

The view that gallstones are formed chiefly on account of local disturbances in the gall bladder rather than because of changes in the composition of the bile as secreted by the liver, which was so ably championed (by Naunyn), has now come to be generally accepted as correct, and all the more recent studies of the etiology of gallstone formation seem to support this idea. Especially in connection with typhoid fever, gallstones have been found to result from acute inflammation of the gall bladder, and Halstead obtained a history of typhoid in one-third of his patients operated on for gallstones. Thanks to numerous careful studies of the bile in typhoid, and in cases of cholecystitis and cholelithiasis, the important rôle of the typhoid bacillus in the etiology of gallstone formation has come to be generally recognized, but the relation of other acute infectious diseases to cholelithiasis has been less considered.

In an interesting paper Dr. Helen Baldwin[1] reports a study of the bile obtained from 225 autopsies, with results which indicate that probably typhoid is by no means the only febrile disease that is likely to cause cholecystitis and subsequent formation of gallstones. In no less than seventy-two of these cases the bile was found to be abnormal; in seventeen there were evidences of an early stage of cholecystitis; fourteen contained bilirubin-calcium calculi, and forty-four contained free cholesterin, either as gallstones or granular and crystalline deposits. Among the 225 cases in this series were fifty-one in which the cause of death was some acute infectious disease, and in one-third (seventeen) of these there were characteristic changes in the bile which were not noted in patients who died of chronic disorders. The bile in these cases presented a purulent appearance, due not to leucocytes, but to great numbers of epithelial cells desquamated from the mucous membrane of the gall bladder; at the same time the bile is generally acid and contains somewhat increased quantities of cholesterin. This condition was observed in typhoid, pneumonia and other acute infectious diseases, which also are sometimes accompanied by thick, muddy bile full of desquamated epithelium and granular masses of cholesterin; pneumonia was by far the commonest cause of death in the cases in which these changes were noted in the bile. Likewise deposition of cholesterin within the cells still attached to the walls of the gall bladder occurs particularly in acute infectious diseases. On the other hand, deposits of bile pigment occur chiefly in the gall bladders of old patients with chronic diseases.

It would seem that in all acute infections, especially pneumonia, as well as typhoid, the mucous membrane of the gall bladder suffers considerably from either the infecting bacteria or their products, an actual cholecystitis often being present. Extensive desquamation of the epithelial cells results, and in case these are not freely washed out of the gall bladder they disintegrate and produce cholesterin, thus serving as a starting point for gallstone formation. It would be interesting to learn in how large a proportion of patients with gallstones a history of previous infectious disease other than typhoid can be obtained. We may call attention to the relation between appendicitis and gallstones which the surgeons speak of as being significantly frequent; surely in appendicitis, as in typhoid, the location of the liver and gall bladder on the portal system, where the bacteria of these two infections are carried, offers the best possible opportunity for biliary infection. However, the connection between the bacterial origin of gallstone formation and the great preponderance of cholelithiasis in women does not seem to be apparent.

RAILROAD ACCIDENTS.

The *Accident Bulletin* of the Interstate Commerce Commission for July, August and September, 1907, presents a picture of death and injury which is no more creditable to the American railroads than its predecessors, since there were 1,339 killed and 21,724 injured during the three months. A table is given showing the nature and cause of 49 prominent train accidents, 31 collisions and 18 derailments, involving 141 deaths, 641 injuries and $732,709 damages. The total dam-to cars, engines and roadway by the three months' dents amounts to $3,605,696. Among the causes gned, the most frequent pertain to the behavior of persons in charge of the traffic and include errors the part of train dispatchers, telegraph operators, ductors and train crews as well as failure of in- tors to discover broken rails, etc. The failure is in working of the human machine and may result er from psychic causes, as carelessness, or from sical weariness, from too long hours. In three cases engineman was asleep, and the reason assigned in cases was continuous duty for seventeen hours. In er cases the accident was due to failure to remem- meeting place, carelessness in reading orders, failure leliver orders or carelessness in giving, transmitting receiving orders. For the accidents due to physical austion there is an evident remedy, and it should applied so that no employé could give as an excuse t his long hours of labor had made him unable to rd properly the interests in his charge. For the ects attributed to carelessness the remedy is not so lent, but the causes of such carelessness open a field psychologic study with a view to determining ther or not the liability to such errors on the part mployés can be previously determined by psychologic estigation and their occurrence prevented. Is any ning of the subconsciousness possible so that such sons shall automatically respond to signals and carry orders, even if conscious supervision should fail? h a solution of the problem may be impracticable, it seems worth investigation.

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[1] Jour. Biol. Chem., 1908, iv, 213.

DICAL ORGANIZATION AND THE PLAGUE IN SAN FRANCISCO.

'wo weeks ago, in commenting on the address of Dr. ndall, we illustrated some of the benefits that may ue, not only to the profession, but also to the public, n energetic and well-directed use of the weapon ed in our hands by organization. San Francisco is affording another illustration, though in a some- it different sphere, of the same public benefits. It is iously of the utmost importance that every place that or is likely to become, a center of plague infection uld be rendered rat proof so far as possible. The anization of the profession in San Francisco, we n, has enabled it to make a marked advance in that ection. The officers of the Medical Society of the te of California have taken up the matter, appealing ectly to the various interests and classes of people, by this means already nearly every branch of indus- in the city has been reached, through special meet- s going on throughout the entire day and evening. February 11 addresses were given at a meeting of school teachers of the city which are said to have duced results the next day. Many prominent busi- s men are devoting a large amount of time to the k. Each industrial line is asked to select a commit- to work under and to report to the society's executive nmittee. The manner in which the work of exter- ating rats and of rendering the city untenable for m has been taken up is encouraging. An appeal ough the pocket is always effective, and there are always many who can be reached through no other channel. The dread of quarantine is also undoubtedly a powerful lever. These motives are materially aided, however, by the moral and intellectual influence of general appeal and instruction on a large scale. The manner in which the medical profession of San Francisco has proved equal to this emergency is highly creditable. In this instance the matter is of more than local interest, for the continuance of San Francisco as a plague center would eventually without doubt become a menace to the entire country.

ANOTHER "NON-MEDICAL" THERAPY.

We do not remember to have noticed before this time a new school of "non-medical" therapy, the advertisement of which, clipped from January *Success*, a correspondent forwards to us. It is called mechanotherapy, and offers an income of from $3,000 to $5,000 a year, on a six months' course, "equal to college course," and it can be taught by mail. It is asserted to be "more comprehensive than osteopathy" and to be "endorsed by physicians;" also we regret to have to state that the new "college" hails from Chicago. Also, of course, the mechanotherapist is to be dubbed a "doctor." Its principal advantages, judging from the advertisement, appear to be that it is "easy to learn" and offers "vast opportunities for social and financial betterment"—for its practitioners, of course. We are not informed as to where the patient comes in. But that is doubtless a mere detail of altogether secondary importance.

POISONING BY PICRIC ACID.

Picric acid has proved such a satisfactory dressing for burns and scalds that it has come to be widely used of late years for that purpose. Internally, the picrates may be used in doses of from 9 to 15 grains a day (Erb), and the possibility of the absorption from a burned surface of enough to produce toxic symptoms is usually disregarded. That this may occur, however, is shown by a case recently reported by Meurice.[1] A girl of 14 had sustained a second degree burn, the diameter of the lesion being not more than an inch and a half, and within twenty hours of the application of a solution of picric acid she developed headache, vertigo, nausea and vomiting. Picric acid was recovered from the urine, which was brownish in color, and contained methemoglobin and abundant albumin. The symptoms gradually cleared up after the removal of the dressing. It is evident that the possibility of an idiosyncrasy for picric acid should be borne in mind.

THE NEW CHINESE MEDICAL QUALIFICATIONS.

While some of our medical college professors are deploring the length of time now required to obtain a medical qualification, it is well to note what is the ideal of the awakening Orientals on this subject. In the specifications for the course of study in the projected medical college at Peking, according to U. S. Consul W. T.

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[1] Annales de la Société de médecine de Gand, 1907, p. 166.

Gracey, three years are to be given to traditional Chinese practice, followed by six years of modern western medical studies. At the end of these nine years, if the candidate passes his examinations, which are specified to be thorough, three years' more of study and trial practice will be required before he is qualified—all this in addition to a certain required literary grade. Evidently Chinese prejudice will not permit the entire abandonment of the old ways and there will therefore be much to unlearn during the six years of scientific western training, but a discriminating knowledge of the time-honored methods—superstitious and trivial as they may be—will hardly be a handicap to the Chinese physician, and it is easy to conceive how, in many ways, it may be an aid to his professional success. The length of time and high requirements for qualification will doubtless prevent any superfluity of members of the new type of Chinese physician.

Medical News

CALIFORNIA.

Fire in Hospital.—At a fire which occurred in the laundry of the French Hospital, San Francisco, January 6, three employés lost their lives, but all patients were saved by the bravery of the nurses and internes, who remained at their posts of duty. Damage of $50,000 was caused by the fire.

Smallpox.—San Mateo has erected tents in the corporation yard for the care of the five smallpox patients in the town.——In and near Fresno 18 cases of smallpox have recently occurred.——The board of health of San José reports that the smallpox situation is well in hand.——Smallpox is reported near Woodville and Poplar.

Hospital Notes.—The new Red Cross Guild Hospital, San Mateo, was dedicated with impressive ceremonies, January 23. The hospital contains an operating room, five rooms for patients, the necessary living rooms for nurses, etc.——To put the Rideout home, Marysville, in proper shape for the needs of the Memorial Hospital $5,000 is required. Of this sum the physicians of the city have subscribed $1,000.——Dr. James J. Hogan is about to erect a hospital building in Vallejo, to cost about $30,000, and to accommodate about 30 patients.

December Deaths.—During December 3,484 deaths were reported, which includes several hundred which occurred in November and before, but were included with December returns. Chief among death causes were: Tuberculosis, 503; diseases of the circulatory system, 483; pneumonia, 375; diseases of the nervous system, 324; violence (including suicide), 308; diarrhea and enteritis, 206; cancer, 186; nephritis, 176; typhoid fever, 80; diphtheria, 50; influenza, 18; scarlet fever, 12; bubonic plague, 9; malarial fever, measles and whooping cough, each 6; and smallpox, 1.

Personal.—Dr. R. S. Lanternman has resigned as coroner of Los Angeles County.——Dr. Fred T. Bicknell has been elected president; Dr. Everett R. Smith, vice-president; Dr. William W. Hitchcock, treasurer, and Dr. Walter Lindley, secretary, of the California Hospital, Los Angeles.——Dr. George S. Hartness has been appointed health officer of Stockton.——Dr. and Mrs. Albert Abrams, San Francisco. have returned from Europe.——Dr. Wood C. Baker has been elected president, and Dr. Franklin M. Seibert, secretary, of the San Mateo board of health.——Dr. Gayle G. Moseley, Redlands, has been elected president of "The Settlement," an institution for the care of poor consumptives.

Ill and Injured.—Dr. John H. Soothill, Anderson, has been seriously ill with pneumonia.——Dr. Henry Gibbons, Jr., San Francisco, dean of Cooper Medical College, was seriously injured in a collision between his automobile and a street car, February 4. Fortunately no bones were broken, but he suffered from shock and numerous contusions of the head.——Dr. Hubert N. Rowell, Berkeley, who has been seriously ill with septicemia, due to an operation wound, is convalescent.——Dr. Herman J. Schlageter, San Francisco, member of the board of health, was seriously injured February 8, by being run down by a street car, and is now under treatment at the Lane Ho pital.——Dr. D. C. Strong, San Bernardino, was operated on f appendicitis February 4, and is doing well.

Illegal Practitioners Fined.—Lee Wai, a Chinese herbalist San José, charged with practicing medicine without a licens is said to have pleaded guilty January 25 and to have bee fined $100, which was promptly paid.——Charles Steele, Lo Angeles, claiming to be an "East Indian doctor," charged wit practicing medicine without a license, is said to have pleade guilty February 3, and to have been fined $100 and to hav paid the fine.——John Baker, Los Angeles, charged with prac ticing optometry without a state license, is said to have bee found guilty and to have been fined $50 February 3.——To Shee Bin, a Chinese "herb doctor" of Los Angeles, charged wit practicing medicine without a state license, is said to have bee found guilty February 1, and to have been fined $180. H filed a notice of appeal.

GEORGIA.

Society Meetings.—At the annual meeting of the Clark County Medical Society, held in Athens, January 3, the following officers were elected: President, Dr. Isham H. Goss Athens; vice-president, Dr. W. D. Carter, Wintersville; secretary-treasurer, Dr. J. Peebles Proctor, Athens; censor, Dr S. S. Smith, Athens, and delegates to the state medical association, Drs. Isham H. Goss and J. Charles McKinney, both o Athens.——At the annual meeting of the Floyd County Medical Society the following officers were elected: President, Dr James C. Watts, Rome; vice-president, Dr. Isaac Sewell, Cave Spring; secretary, Dr. W. Littell Funkhouser, Rome; treasurer Dr. William De Lay, Rome; censor, Dr. Robert M. Harbin Rome, and delegate to the state medical association. Dr. Ross P. Cox, Rome.——The Habersham County Medical Society at its annual meeting, held in Mount Airy, January 4, elected the following officers: President, Dr. J. W. Crawford, Cornelia vice-president, Dr. R. B. Lamb, Demorest, and secretary-treasurer, Dr. Oliver T. White, Mount Airy.——At the annual meeting of the Thomas County Medical Society, held in Thomasville, January 2, the following officers were elected: Dr. Henry A. Vann, Boston, president; Dr. D. Christopher Montgomery Merrillville, vice-president, and Dr. Ferguson, Thomasville, secretary.——At the annual meeting of the Bartow County Medical Society, held in Cartersville, the following officers were elected: Dr. Robert E. Adair, Taylorsville, president; Dr. William C. Griffin, Cartersville, vice-president; Dr. Tanner Lowry, Euharlee, secretary-treasurer, and Dr. Fred V. Turk, Stilesboro, delegate to the state society.

ILLINOIS.

Money for Hospital.—By a collection in the Evanston churches February 9, about $5,000 was realized for the Evanston Hospital.

Personal.—Dr. John R. Webster, Monmouth, completed his fiftieth year of practice February 19, when he was a guest of honor at a large dinner party.——Dr. Edwin A. Weimer, Pekin, was seriously injured in a runaway accident February 10.

Hospital Notes.—The Sisters of St. Margaret have completed plans for the erection of a new hospital building at Spring Valley to cost from $15,000 to $20,000.——Plans have been made for the new brick isolation hospital for Peoria. to replace the building recently burned.——St. Francis Hospital, Evanston, during 1907, treated 275 patients, of whom 93 were charity patients, 84 part-pay patients and 98 pay patients.

Smallpox.—The schools of Lewistown have been closed on account of the presence of smallpox.——A case of smallpox was discovered February 2 in Lincoln.——Several cases of smallpox, diagnosed as chickenpox, have been discovered in Lacon. Schools, churches and places of public gatherings have been closed.——There were 60 cases of smallpox reported to the city board of health of Springfield during January; 19 houses are under quarantine, and 5 patients are being cared for at the Isolation Hospital.——South Bartonville reports 2 cases of smallpox.——Three new cases of smallpox were reported in Rockford, February 6.——The smallpox situation at Peoria is reported to be improving.——On February 16 smallpox was reported at the University of Illinois.

Chicago.

Smallpox.—Three new cases of smallpox were reported February 10; one from the South Side, one from the North Side, and one patient reported at the health office.

Milk Dealers Fined.—On February 7, 19 milk dealers were fined by Municipal Judge Sadler in sums varying from $5 to $25; of these 17 were accused of selling milk below the stand-required by law, and two of keeping insanitary milk ts.

rsonal.—Dr. Frank Billings and daughter sailed for the iterranean February 18.——Dr. Henry W. Berard was as- ted and robbed of a watch and $40 in currency January 27. Dr. John J. Mahoney slipped and fell on an icy pavement, his home February 12, breaking his right leg below the

INDIANA.

spital News.—Williams Hospital, Lebanon, was opened for ection January 9. The hospital has been enlarged and re- eled and now contains 22 rooms. It is expected that ar- ements will be made by the city council for the care of hy charity cases by the hospital.——An order of Catholic rs has started a hospital at Gary. Four of the houses ntly completed by the steel company have been trans- ed into a temporary hospital, pending the building of a anent structure. The institution has at present accommo- ons for 35 patients.——The Sisters of St. Joseph have d for bids for the construction of a modern hospital at nsport, to cost from $90,000 to $100,000.

sease and Death.—The Bulletin of the Indiana State Board ealth for January, just issued, reports as follows in regard isease and death in the state for the month: Influenza the most prevalent disease. In the corresponding month year bronchitis was the most prevalent. There was very influenza in January, 1907. The order of prevalence of in diseases was as follows: Influenza, pneumonia, bron- s, tonsillitis, rheumatism, scarlet fever, measles, diph- ia, typhoid fever, pleuritis, smallpox, chickenpox, diarrhea, ipelas, intermittent and remittent fever, whooping cough, mmation of the bowels, dysentery, typho-malarial fever. peral fever, cerebrospinal meningitis, cholera morbus, chol- infantum.——The total number of deaths was 3,200, valent to an annual death rate per 1,000 of 14. In the cor- onding month last year there were 2,938 deaths, a death of 13. Of the total number of deaths, 374, or 12.4 per ., were under one year of age, and 961, or 31.8 per cent., 65 years old and over. Consumption was as active as l, causing 391 deaths, of which 333 were of the pulmonary . In the corresponding month last year there were 349 hs from consumption. Typhoid fever caused 51 deaths; theria, 30; scarlet fever, 9; measles, 7; whooping cough, pneumonia, 462; diarrheal diseases, 30; cerebrospinal men- is, 6; influenza, 176; puerperal fever, 12; cancer, 113, and ence, 195. Although smallpox prevailed extensively, there no deaths caused by it.

IOWA.

berculosis Hospital Opened.—The State Hospital for Tu- ulosis at Iowa City is completed and almost ready for pancy. Patients who are financially able are expected to a small sum for board and treatment. Those unable to will be treated free of cost, the charge being borne by their ective counties.

ections.—At the annual meeting of the Dubuque County ical Association, held January 14, the following officers elected: President, Dr. James Alderson; vice-presidents, Albert H. Blocklinger and Franklin Reyner, Epworth; sec- ry, Dr. H. G. Langworthy; treasurer, Dr. Lily Kinnier; gate to the state society, Dr. Alanson M. Pond; censors, Isaac S. Bigelow, John C. Hancock, Frank W. Wieland, librarian, Dr. John S. Lewis, all of Dubuque.——At the an- meeting of the Hardin County Medical Society, held in Falls, January 13, the following officers were elected: ident, Dr. William M. Morton, Iowa Falls; vice-presi- , Dr. William E. Marsh, Eldora; secretary, Dr. William Whitney, Eldora, and treasurer, Dr. James W. Thornton, ley.

KANSAS.

ciety Meetings.—At the annual meeting of the Sumner ty Medical Society, held in Wellington, January 9, the wing officers were elected: President, Dr. John J. Sippey, Plaine; vice-president, Dr. Walton H. Rea, Oxford; sec- ry-treasurer, Dr. Thomas H. Jamieson, Wellington (re- ed), and censor, Dr. Frank G. Emerson, Wellington (re- ed). The society passed resolutions recommending the rner of the state to appoint Dr. G. L. Millington, Well- on, a member of the State Board of Medical Examiners, rsing him as a very able representative of the homeopathic ol and fully competent in every way to discharge the es of the office. At the annual banquet which followed the meeting, Dr. Francis M. Owens, Argonia, president of the society, officiated as toastmaster.——At the annual meeting of the Montgomery County Medical Association, held in Independence, the following officers were elected: Dr. Howard M. Casebeer, Independence, president; Drs. George M. Scaeat, Cherryvale; Ira B. Chadwick, Tyro; Gardner J. Bigelow, Caney, and Mary S. Martin, Coffeyville, vice-presidents; Dr. Walter C. Chaney, Independence, secretary; Dr. William E. Youngs, Cherryvale, treasurer, and Dr. Enoch C. Wickersham, Independence, censor.——At the annual meeting of the Barton County Medical Society, held in Elmwood, December 22. Dr. Edward N. Atkin, Olmitz, was elected president; Dr. J. Sutherland, Great Bend, vice-president; Dr. Edward C. Button, secretary, and Dr. Reginald H. Meade, Great Bend, delegate to the state society. ——At the annual meeting of the Reno County Medical Society, held in Hutchinson, December 27, Dr. Cornelius A. Mann, Hutchinson, was elected president; Dr. Alexander H. Bressler, Nickerson, vice-president; Dr. William F. Schoor, Hutchinson, secretary (re-elected); Dr. George R. Gage, Hutchinson, treasurer, and Dr. Hunter J. Duvall, Hutchinson, censor (re-elected). ——At the annual meeting of the Neosho County Medical Society, held in Chanute, December 27, the following officers were elected: President, Dr. James B. Edwards; vice-president, Dr. Andrew M. Davis; secretary, Dr. Ralph A. Light; treasurer, Dr. John C. Lardner, all of Chanute; censor, Dr. Ralph C. Henderson, Erie, and delegates to state society, Drs. Ralph A. Light and James B. Edwards, both of Chanute.

MAINE.

Hospital Notes.—The new wing of the Eastern Maine Insane Hospital, Bangor, is near completion, and the tuberculosis building is expected to be ready early in the spring.——The Old Town Hospital Company has been incorporated to erect and operate a hospital in Old Town.

Elections.—At the annual meeting of the Maine Academy of Medicine and Science, held in Lewiston, January 7, the following officers were elected: President, Dr. Charles E. Williams, Auburn; vice-presidents, Prof. A. W. Anthony and Dr. H. E. E. Stevens, Lewiston, and assistant secretary, Dr. Edwin F. Pierce, Lewiston.——At the annual meeting of the York County Medical Society, held January 9, the following officers were elected: President, Dr. Charles W. Pillsbury, Saco; vice-presidents, Drs. Roland S. Gove, Sanford, and Clarence E. Thompson, Saco; Dr. Clarence F. Kendall, Biddeford, secretary; Dr. Harry L. Prescott, Kennebunkport, treasurer, and Dr. Edward C. Cook, Ogunquit; Drs. Harry A. Weymouth and Jesse D. Haley, Saco, censors.——At the annual meeting of the Penobscot County Medical Society, held in Bangor, the following officers were elected: President, Dr. Harry Butler, Bangor; vice-presidents, Drs. Stuart E. Phelps, N. Sullivan and William P. McNally, Bangor; secretary, Dr. Bertram L. Bryant, Bangor, and treasurer, Dr. Harold H. Crane, Bangor. ——The Maine Association for the Study and Prevention of Tuberculosis has been organized in Portland, with Drs. Seth C. Gordon, Irving E. Kimball, John W. Whidden and Stephen H. S. Weeks as the medical incorporators.

MARYLAND.

Alumni to Meet.—The annual meeting and dinner of the University of Maryland General Alumni Association will be held in Baltimore, February 27.

Personal.—Dr. Isaac R. Trimble, Baltimore, is reported to be seriously ill in St. Joseph's Hospital with septicemia, following an operation.——Dr. William E. Wiegand, Baltimore, has gone to Cuba for a month.——Dr. Charles M. Ellis has been re-elected president of the Elkton National Bank.

Accidents.—In Baltimore during 1907 there were 3,737 accidents reported, 361 of which proved fatal; 76 were suicides; 101 attempted suicides, and 534 sudden deaths; more than 700 had falls; 52 were automobile accidents; 129 cases of dog-bite; 16 baseball injuries; 3 heat prostrations, and 28 gas asphyxiations.

Hospital Notes.—The South Baltimore Eye, Ear and Nose Hospital is to erect a hospital building at 1211 Light Street. ——The Locust Point Social and Improvement Association urges the establishment of an emergency hospital in the vicinity of Locust Point, where, on account of the numerous factories, railway tracks, etc., accidents frequently occur.

MASSACHUSETTS.

Bequest.—By the will of the late Lucy Emily Carr, Somerville, $5,000 is bequeathed to the Somerville Hospital.

Scarlet Fever.—Wakefield reports 6 cases of scarlet fever. During the first 19 days of January 64 cases of scarlet fever were reported in Worcester and the Isolation Hospital is filled to overflowing.

Association of Boards of Health.—The annual meeting of the Massachusetts Association of Boards of Health was held in Boston, January 30. The program consisted of papers on the prevalence and the proper attitude of boards of health toward venereal diseases, and a committee was appointed to consider the matter of diminishing the spread of syphilis and gonorrhea. The following officers were re-elected: Dr. Henry P. Walcott, Cambridge, president; Drs. Samuel H. Durgin, Boston, and Charles V. Chapin, Providence, R. I., vice-presidents, and Dr. James C. Coffey, secretary.

Compulsory Vaccination.—A bill has been introduced into the legislature making it unlawful for any board of health, board of education or any other public board to compel vaccination of any child or person of any age, or make vaccination a condition precedent to the attendance at any public or private school either as pupil or teacher. This bill will be opposed by the legislative committee of the Massachusetts Medical Society.

Council Meeting.—The winter meeting of the council of the Massachusetts Medical Society was held in Boston, February 5, Dr. George W. Gay, Boston, president, in the chair. The report of the committee to consider the providing of legal counsel for members of the society accused of malpractice was accepted and will come up for adoption by the society at the next regular meeting in June. The committee on state and national legislation reported that it was inexpedient to form a North Atlantic Branch of the American Medical Association. The same committee reported that it had enlisted the cooperation of the Massachusetts Bar Association in the matter of expert testimony. A bill had been introduced in the Massachusetts legislature providing that the court may appoint from a list of accredited experts, nominated by medical organizations, the experts in a given case. This does not alter the rights of either side to engage additional experts of its own. It was voted to recommend to the governor the reappointment of Dr. Edwin B. Harvey, Boston, as secretary of the State Board of Medical Examiners. Dr. Stedman advocated that the Boston insane hospitals be placed under the charge of the state and it was voted to recommend this action to the legislature. The committee on medical diplomas reported a list of colleges suitable for recognition by the state society, and whose diplomas should be accepted as required by the by-laws on admission of candidates.

Personal.—Dr. Patrick E. Hurley, Holyoke, has been elected city physician.——Dr. William L. Richardson, Boston, has been appointed a trustee of the Perkins Institution and Massachusetts School for the Blind.——The board of health of Fitchburg was organized February 5 with Dr. Alfred O. Hitchcock, chairman, and Dr. Atherton P. Mason, bacteriologist.——The State Mutual Life Insurance Company, Worcester, has elected Dr. Thomas H. Gage, consulting medical director; Dr. Albert Wood, medical director, and Dr. Homer Gage, associate medical director.——Dr. Amasa E. Paine has been re-elected vice-president, and Drs. Samuel J. Gruver, Jesse H. Averill and Arthur L. Beals, members of the executive committee of the Brockton Hospital.——Dr. Hosea M. Quimby, superintendent of the Worcester Insane Hospital for 18 years, has been granted a long leave of absence and will spend the remainder of the winter in southern California.——Dr. Emile Poirier has been appointed a member of the municipal advisory board of Salem.——Dr. Charles E. Inches, Boston, will spend the balance of the winter in Paris.——The mayor of Quincy has appointed Dr. William G. Curtis inspector of milk.——Dr. Benjamin R. Symonds has returned to Salem after a two months' vacation.

MICHIGAN.

Personal.—Dr. Mortimer Willson has been re-elected president of the Port Huron Hospital and Home Association.——Dr. Murdock M. Kerr, Laurium, has been appointed examining surgeon for the Calumet, Houghton and Sault Ste. Marie companies of the Michigan National Guard.

New Hospital.—The Van Dusen Hospital addition now almost completed, will, it is said, make that the finest hospital building in the state. It is a part of the Michigan Hospital for the Insane, Kalamazoo, and will be used as a receiving ward for female patients. The building will be used as a receiving ward for female patients. The building will accommodate 100 patients and the necessary attendants.

Hospital Notes.—To end the evils arising from the so-called secret lying-in hospitals in Detroit, Dr. J. Henry Carstens proposes the establishment of a general municipal hospital with a lying-in section.——During 1907, 297 patients were treated at the Port Huron Hospital, 187 of whom were private-room, and 110 ward patients. In 1906, 241 patients were cared for, showing a gain for the year of 56 or about per cent. During the year 17 deaths occurred.——The la Charles Baer, Port Huron, made a deathbed bequest of $2.0 to the Port Huron Hospital, the interest of which will turned into the Free Bed Fund.

MISSISSIPPI.

State Hospitals.—The new hospital and dormitory building for the East Mississippi Insane Hospital, Meridian, which wi accommodate more than 200 patients, are almost ready fo occupancy.——The latest reports of the Mississippi Insan Hospital, Jackson, show that there are 1,300 patients unde treatment.——The establishment of a state charity hospita at some central location in Mississippi, as recommended b the Mississippi Medical Association, will be brought to th attention of the legislature at this session, and it is hoped t secure the establishment of this hospital at Jackson.

Society Meetings.—At the annual meeting of the Warre County Medical Society, held in Vicksburg, December 11, th following officers were elected: Dr. George Y. Hicks, president; Dr. Edgar F. Crowther, vice-president; Dr. Sydney Johnston, secretary; Dr. Vincent Bonelli, treasurer; Dr. Hume H Haralson, delegate to the state society, and Dr. Ewing F. Howard, censor, all of Vicksburg.——At the annual meeting of the Tri-County (Copiah, Pike and Lincoln) Medical Society, held in Brookhaven, December 10, the following officers were elected: Dr. James A. Rowan, Wesson, president; Drs. C. H. Rice, Summit; John T. Butler, Brookhaven, and Joseph M. Cashings, Hazlehurst, vice-presidents, and Dr. Dudley W. Jones, Fernwood, secretary-treasurer. The society placed itself on record as favoring a tuberculosis sanitarium in connection with the proposed state hospital.——At the annual election of the Perry-Greene County Medical Society, held December 16 at Hattiesburg, the following officers were elected: Dr. Joseph J. Stevens, president; Dr. Louis H. Howard, vice-president; Dr. S. Lewis Knight, secretary-treasurer; Dr. W. R. Thomas, censor, all of Hattiesburg, and Dr. Prentis A. Carter, New Augusta, delegate to the state association.——At the annual meeting of the Union County Medical Society, held in New Albany, the following officers were elected: President, Dr. W. A. Whitten, Keownville; vice-president, Dr. J. H. Windham; secretary-treasurer, Dr. Samuel E. Eason, New Albany, and censor, Dr. G. Fred Cullens, Wallerville.

NEW JERSEY.

Atlantic City Hospital Benefited.—A variety show by the women of Atlantic City several weeks ago netted $1,050 to the City Hospital to fit up the new buildings.

Personal.—Dr. Sylvan G. Bushey of Camden was stricken blind as a result of influenza February 12. It will probably be some time before he regains his sight.——Dr. Harry Jarrett, Camden, is reported to be critically ill with pneumonia.

Communicable Diseases.—The epidemic of diphtheria at the Rahway Reformatory is said to be checked. There have been 230 cases, but no deaths.——The churches and schools of Dorchester and Leesburg, which have been closed on account of diphtheria, will probably reopen this week.

Antivivisection.—At a meeting of the State Humane Society, in Newark, February 7, a bill was introduced and approved to prevent the indiscriminate vivisection of animals for the sake of science. The society desires to have it known that its members are not opposed to vivisection entirely, but believe that certain restrictions should be instituted to save animals pain or suffering. The bill would also make it unlawful for vivisection to be performed for the purpose of discovering something that has already been proved.

NEW YORK.

Smallpox.—Within thirty-six hours 4 cases of smallpox developed in Newburgh. One of the victims is principal of a school which has 800 pupils, and the board of health has ordered the school closed.——Smallpox is now prevalent in Kingston, Walden, Wappingers Falls, Fishkill and Pleasant Valley. In at least one case the exposure was from Kingston, and the health board there has been severely censured for allowing the patient to leave the town.

Typhoid in Peekskill.—Twenty-five cases of typhoid have developed in Peekskill within a week, making a total of 75 persons who are ill with the disease.——The State Board of Health is inspecting the watershed in the town of Cortland.——Men employed by New York City on the new aqueduct have been living along the streams and the state authorities are promoting a general clean-up. As no other sources of contagion have been found, it is believed that the epidemic is due to a polluted water supply.

Money for Hospitals.—The German Hospital Society received $8,000 from the aid society of the hospital Christmas day.——The entertainment at the New Circle Theater for the benefit of the Jewish Hospital for Deformities and Joint Diseases netted $3,500 for the charity.——The late Dr. John Ordronaux, whose estate is valued at about $300,000, left $3,000 to the Temporary Home for Children at Mineola; $6,000 to the New Amsterdam Eye and Ear Hospital, New York City; $6,000 to the New York Cancer Hospital; $6,000 to the Nassau Hospital Association for the endowment of a bed; $6,000 to the Jamaica Hospital; $6,000 to the Flushing Hospital; $6,000 to the Mary Hitchcock Hospital; $5,000 to the Little Sisters of the Poor; $6,000 to the Marton Hospital, Taunton, Mass.; $3,000 to Columbia University, and $5,000 each to the destitute blind of New York City, Children's Aid Society, and the Industrial Christian Alliance of New York City.

To the Medical Profession of New York.—There are now in the New York legislature not less than three bills relating to vivisection. There is also one relating to optometry. Will you not write at once to your representatives in the legislature, both senator and assemblyman, urging opposition to these measures?

The antivivisection bills, as they are called, are the work of the Antivivisection Society, and the desire is to prohibit animal experimentation. The claim is made that all animal experimentation is unnecessary and that the various discoveries of science made possible by this method of investigation have not been productive of good to humanity. This claim is proved incorrect by a plain statement of the facts from men of education, intelligence and scientific attainment, professors in our various colleges, and scientists generally whose very names are synonymous with honor and integrity. They clearly show to any unprejudiced mind the inestimable value to humanity of the work which has been done, and is being done, along this line. The statement has been made that at present no restriction whatever is placed by law on animal experimentation, whereas the fact is that there is now a law on the statute books which restricts the work to properly equipped institutions. If there have been isolated cases of violation of this law which have gone unpunished, the blame should be placed on those authorized to secure the law's enforcement. The claim that great cruelty is inflicted on animals in these scientific experiments is denied absolutely and entirely, by those in charge of experimental work in the state of New York. There is really no reason for any enactment of a new law on this subject, and this should be made clear to the members of the legislature. The optometry bill is the old measure, and should be defeated. This bill defines the practice of optometry as the measurement of the powers of vision and the adaptation of lenses for the aid thereof, all without the use of drugs. This bill gives authority to opticians to do a work, and at the same time prohibits the employment of the means necessary to do it. It authorizes opticians to adapt lenses to eyes for defects of vision which may be due to diseases either in other parts of the body or in the eyes themselves. Such measures while improving vision for the time, may be the cause of deferring proper treatment until blindness or even death result. To determine when defects of vision are due to defects in the eyes, or to diseases, requires the ability to make a differential diagnosis, and this knowledge can only be acquired, according to the laws of the state of New York, by four years' study in a medical college. Possibly some restrictions ought to be placed on the work opticians should do, but to give them the power this bill would confer, would be to expose the people of the state to perils the members of the legislature can not have knowledge of unless we inform them. The members of the legislature are honest, sincere men, and desire to do what will be in the interest of the state. They listen with courtesy to the expressed opinions of the medical profession, and it will require conclusive evidence on the part of opticians and others to convince them that any of these bills are necessary, or even safe, if we in good faith urge disapproval of them. Will you not, therefore, at once do what you can in aiding us in defeating these measures, by writing the members of the legislature, that they may be able to act intelligently?

Frank Van Fleet, Chairman Committee on Legislation.

New York City.

Hospital for Deformities and Joint Diseases.—The first annual report of this institution shows that 1,212 patients sought relief and received 9,471 treatments.

Harvey Lecture.—The seventh lecture in the Harvey Society course by Prof. Otto Folin, Harvard University, at the New York Academy of Medicine, Saturday, February 22, at 8:30 p. m., is on "Problems of Chemistry in Hospital Practice."

Medical Inspection of Public Schools.—Dr. Darlington, health commissioner, in answer to Dr. Maxwell's criticism of the inspection of the public schools, declares that it is unjust and unfair. Dr. Maxwell wishes this inspection taken from the health department.

Death Rate Still Decreasing.—The death rate for the week ended February 8 was 18.92 per thousand, as against 20.33 for the same week in 1907. Pneumonia dropped to 268 deaths, as compared with 343 for the same week last year. Deaths from heart disease increased to 191 as compared with 162 last year.

Champe Andrews' Successor.—A. C. Vandiver has been elected counsel to the Medical Society of the County of New York, vice Hon. Champe Andrews, and has retired from the professional staff of the district attorney of New York County, and from his association with Judge Charles S. Whitman in the general practice of law.

City Hospital, New York.—Examination for internes to the house staff of this hospital will be held on March 27 and 28 in New York City. The City Hospital has a large general service with about 800 beds, comprising all branches of medicine, and the length of service is eighteen months. All applications for the position should be addressed to the chairman of the examination committee, Dr. Smith Ely Jelliffe, 64 West Fifty-sixth Street, New York.

Consumption Exhibit.—This exhibit at the Metropolitan Life Building has been visited by more than 100,000 people in a little over one month. Early in March it will be transferred to the Natural History Museum. Tenement-house blocks in miniature are shown and in one block in particular it is shown that 2,781 people live, and that there is not one bathtub in the entire block. Nearly 500 rooms are dark and without light or communication with outside air.

Scholarships and Fellowships.—The Rockefeller Institute for Medical Research purposes to award during the year 1908-1909 a limited number of scholarships and fellowships for work to be carried on in the laboratory of the institute in New York City in the following branches: Experimental pathology, bacteriology, medical zoology, physiology and pharmacology, physiologic and pathologic chemistry and experimental surgery. They are open to men and women, properly qualified to undertake research work; are granted for one year, and the values range from $800 to $1,200 each. It is expected that applicants for scholarships and fellowships will devote their entire time to research work. Applications accompanied by credentials should be in the hands of the secretary, Dr. L. Emmett Holt, 14 West Fifty-fifth Street, not later than April 1. The announcement of appointments will be made about May 15, the term of service beginning preferably October 1.

OKLAHOMA.

Society Meetings.—The Central Medical Association of Oklahoma met in Enid, January 14, and elected the following officers: President, Dr. John H. Barnes, Enid; vice-presidents, Drs. Antonio D. Young, Oklahoma City, and Edward D. Ebright, Carmen; secretary-treasurer, Dr. Arthur B. Cullom, Hennessey, and censor, Dr. Reuben P. Tye, Chickasha. The next annual session will be held in Oklahoma City.——At a meeting of physicians of Washington County, held in Bartlesville, January 16, the Washington County Medical Society was organized with the following officers: President, Dr. George F. Woodring, Bartlesville; vice-president, Dr. M. Grant Wyatt, Dewey; secretary, Dr. Fred Sheets, Bartlesville, and treasurer, Dr. Joseph G. Smith, Ochelata.——Physicians of McIntosh County met at Crowder City and organized the McIntosh County Medical Association with the following officers: President, Dr. George E. West, Eufaula; vice-president, Dr. Bascom J. Vance, Checotah, and secretary, Dr. Alexander B. Montgomery, Checotah.——At the annual meeting of the Carter County Medical Society, held in Ardmore, January 14, Dr. Robert S. Willard, Brock, was elected president; Dr. Ballard, Lone Grove, secretary, and Dr. Thomas S. Booth, Ardmore, delegate to the state society.——At the annual meeting of the Lincoln County Medical Association, held in Chandler, Dr. Walter G. Bisbee, Chandler, was elected president, and Dr. William H. Davis, Chandler, secretary-treasurer.—The Hughes County Medical Association was recently organized at Wetumka with Dr. Alexander M. Butts, Holden, president; Dr. Ira W. Robertson, Dustin, vice-president, and Dr. Henry A. Howell, Holdenville, secretary-treasurer.——The Atoka-Coal County Medical Society was recently organized at Atoka, to succeed the old Twenty-third District Medical Association, with the following officers: President, Dr. W. A. Logan, Lehigh; vice-president, Dr. John B. Clark, Coalgate, and secretary-treasurer, Dr. Leonard S. Willouer, Atoka.——The Wagoner County Medical Association has been organized with the following officers: President, Dr. William E. Floyd, Coweta; secretary, Dr. George W. Ruble, Wagoner, and censors, Drs. J. M. Williams, Wagoner; Coffman, Porter and A. E. Corder, Coweta.——The Jefferson County Medical Society was organized at Waurika, January 14, with the following officers: President, Dr. D. A. Wilson, Waurika; vice-presiaent, Dr. Joseph M. Stephens, Hastings; secretary-treasurer, Dr. Arthur R. Lewis, Ryan; censors, Drs. Clinton M. Maupin, Waurika; Derr and John W. Browning, Geary, and delegate to the state society, Dr. L. J. Cranfill, Loco.

PENNSYLVANIA.

Bequest.—A bequest of one-tenth of an estate of $40,000 is made to the Allentown Hospital by the will of the late W. B. K. Johnson.

Society Elections.—At the annual meeting of the Armstrong County Medical Society, held Dec. 10, 1907, the following officers were elected: President, Dr. Joseph D. Orr, Leechburg; vice-president, Dr. Joseph M. Steim, Kittanning; secretary, Dr. Jay B. F. Wyant, Kittanning, and treasurer, Dr. Thomas M. Allison, Kittanning.——At the annual meeting of the Berks County Medical Society, held Dec. 10, 1907, the following officers were elected: President, Dr. S. Banks Taylor; vice-presidents, Drs. Irvin H. Hartman and William W. Livingood; secretary, Dr. Ira G. Shoemaker; corresponding secretary, Dr. George W. Overholser; treasurer, Dr. Seymour T. Schmehl; librarian, Dr. Frank G. J. Runyon; curator, Dr. Harry L. Rentschler, and trustee, Dr. James R. Gerhard, all of Reading.——At the annual meeting of the Blair County Medical Society, held Dec. 26, 1907, the following officers were elected: President, Dr. Elmer E. Neff, Altoona; vice-presidents, Drs. Samuel C. Smith, Hollidaysburg, and Joseph D. Findley, Altoona; secretary, Dr. John D. Hogue, Altoona, and treasurer, Dr. William S. Ross, Altoona.——At the annual meeting of the Pittsburg College of Physicians, January 16, the following officers were elected: President, Dr. George C. Johnston; secretary, Dr. Gregg A. Dillinger, and treasurer, Dr. Ewing W. Day.——At the annual meeting of the Huntingdon County Medical Society, held January 9 in Huntingdon, the following officers were elected: President, Dr. Charles B. Bush, Orbisonia; vice-president, Dr. George W. Simpson, Millcreek; secretary and recorder, Dr. Howard C. Frontz, Huntingdon; treasurer, Dr. George G. Harman, Huntingdon, and censors, Drs. Rudolph Myers, Huntingdon; Charles Campbell and Andrew B. Brumbaugh, Huntingdon.

Philadelphia.

College of Physicians' New Home.—The contract for the erection of a new home for the College of Physicians was awarded January 28. The building will cost $300,000, and is to be erected at Twenty-second and Ludlow Streets. It will be a two-story fireproof brick and stone structure, 110x150 feet, containing a museum, lecture hall, library, laboratory and portrait gallery. It is said that the work of erection will be started at once.

Diphtheria.—One of the public schools in the northeastern portion of the city was ordered closed, February 10, by the secretary of the board of education, because several of its pupils were ill with diphtheria. The classes were dismissed and the pupils notified to return the next day, when the work of disinfecting the building should be completed.——Four students who were found in the Reformed Episcopal Theological Seminary and the family of the sexton who occupies quarters in the seminary building were quarantined by the board of health, February 12, because the son of the sexton has diphtheria.

Health Report.—The total number of deaths for the week ended February 15 was 623, an increase of 25 over the number in the previous week. The principal causes of death were: Typhoid fever, 19; scarlet fever, 5; diphtheria, 10; influenza, 6; erysipelas, 7; consumption, 79; cancer, 22; diabetes, 6; apoplexy, 10; heart disease, 68; acute respiratory diseases, 109; enteritis, 16; cirrhosis of the liver, 5; appendicitis, 6; acute nephritis, 5; Bright's disease, 50; accidents, 19; suicide, 5; premature birth, 10; congenital debility, 10; old age, 12, and marasmus, 1. There were 270 cases of contagious diseases reported, with 34 deaths, as compared with 257 cases and 33 deaths, reported in the preceding week.

Bequests.—A provisional bequest of a portion of an esta of $40,000 to St. Vincent's Maternity is contained in the wi of the late Bridget Reilly.——The will of the late Alexande Crawford makes a contingent bequest to the Episcopal Hos pital of $10,000. This sum is to be used to maintain a bed i memory of the testator's wife. The same will bequeaths $7,300 to the Northern Dispensary and $3,000 to the Sheltering Arms Mission.——The will of the late Adelina S. Tryo bequeaths $1,000 each to the Rush Hospital for Poor Consumptives, St. Christopher's Hospital and the Kensington Hospita for women.——A bequest of $25,000 to the Frankford Hospital to be applied to permanent improvements is contained in the will of the late Williams H. Burns.

Health Bureau Changes.—Dr. Joseph S. Neff, director of Public Health and Charities, announced the following promotions and appointments on February 12:

Bureau of Health—Dr. Seth M. Brumm appointed assistant medical inspector, vice Dr. Charles W. Karsner, resigned. Municipal Hospital—Dr. J. Earl Ash promoted from second assistant resident physician to first assistant, vice Dr. Seth M. Brumm; Dr. Edward T. Clement promoted from third assistant resident physician to second assistant; Dr. John T. Adylotte promoted from first assistant to resident physician on the non-salaried staff to third assistant on the salaried staff; Dr. J. Roy McKnight promoted from second assistant resident physician on the non-salaried staff to first assistant; Dr. Charles J. Swalm promoted from third assistant resident physician on the non-salaried staff to second assistant. Philadelphia General Hospital—Dr. Henry D. Jump appointed registrar; Dr. Herman Schwatt appointed outdoor physician for the Sixteenth and Seventeenth wards, and Philadelphia Hospital for the Insane—Dr. Charles S. Potts appointed member of the Advisory Board.

Donations and Bequests.—The board of managers of the Hospital of the University of Pennsylvania acknowledges the following donations during 1907 for the endowment of free beds and has placed appropriate tablets in the hospital acknowledging the same: Donation of $9,590 from the estate of John Joseph Alter for a free bed in memory of John Joseph and Louise Alter; donation of $5,000 from Susan D. Keim Savage for a free bed in memory of George deB. Keim; donation of $10,000 from the estate of Mary Cheves Dulles for two free beds in memory of the donor; and donation of $5,000 from William Gorman for a free bed in memory of Richard and William Lewis Wistar.——A provisional bequest from an estate valued at $150,000 is contained in the will of the late George W. Warner for the Pennsylvania Hospital for the Insane, Episcopal Hospital and the Pennsylvania Institution for the Instruction of the Blind.

Medical Schools and the U. S. Pharmacopeia.—At an informal conference, called by Prof. Joseph P. Remington, of the Philadelphia College of Pharmacy, of the teachers named below in the medical schools of this city, the following resolution was passed:

> *Resolved,* That it is of the utmost importance for accuracy in prescribing, and in the treatment of disease, that students of medicine be instructed fully as to those portions of the United States Pharmacopeia which are of value to the practitioner, and that members of the medical profession be urged to prescribe the preparations of that publication, and, further, that this resolution be forwarded to the medical and pharmaceutical journals and to the teachers of medicine and therapeutics in the United States.
>
> James Tyson, M.D.
> John H. Musser, M.D.
> John Marshall, M.D.
> Horatio C. Wood, Jr., M.D.
> J. W. Holland, M.D.
> H. A. Hare, M.D.
> James C. Wilson, M.D.
> E. Q. Thornton, M.D.
> John V. Shoemaker, M.D.
> Seneca Egbert, M.D.
> M. C. Thrush, M.D.
> I. Newton Snively, M.D.
> February 3, 1908.

Health Bureau's Work for December.—The report of the Division of Medical Inspection shows that the number of inspections made, excluding schools, aggregated 3,952. The inspectors ordered 715 fumigations and examined 64 cases for special diagnosis. The total number of visits made to the schools was 4,624, and 556 children were excluded from attendance. They made 132 injections of antitoxin, collected 418 cultures and performed 208 vaccinations.—The report of the division of milk inspection shows that 3,304 inspections were made, including 190,172 quarts of milk. Of this number, 984 quarts were condemned; 13 inspections were chemical and 989 were microscopic.——The report of the bacteriologic laboratory shows that 1,714 diphtheria cultures and 416 specimens of typhoid blood were examined, 973 specimens of milk and 156 specimens of sputum were also examined and 3,716,400 units of antitoxin were distributed.——The division of Vital Statistics reports 2,143 deaths and 2,600 births.

Tuberculosis.—A number of the city churches will follow the example of St. Stephen's Protestant Episcopal church in establishing tuberculosis classes under the auspices of the Pennsylvania Society for the Prevention of Tuberculosis. Other churches that will take up the work are the Centenary Methodist Episcopal Church, the Protestant Episcopal Church of the Crucifixion, St. Patrick's Catholic Church, St. James Episcopal Germantown Unitarian and the Church of the Holy Trinity.——In accordance with an invitation issued by the Pennsylvania Society for the Prevention of Tuberculosis to the several labor unions of the city, a number of representatives of these unions attended a meeting of the society in the College of Physicians, February 8. It is the desire of the society to form some compact with the local labor unions to cooperate with them in obtaining sanitary conditions to prevent the spread of the disease.——Through the efforts of the members of Junior Auxiliary No. 2 of the White Haven Sanatorium Association, $410.87 was turned into the association February 7. This money is being used to build a children's department at the sanatorium.

Society Elections.—The following officers of the Medico-Legal Society of Philadelphia have been elected: President, Dr. William Ruoff; vice-presidents, Joseph Savidge, Esq., and Dr. Samuel P. Gerhard; secretary, Dr. William T. Hamilton; treasurer, Dr. George M. D. Peltz, and censors, Drs. Francis J. Kelly, William D. Robinson and James Wolfe, Esq.——At the last meeting of the Philadelphia Pediatric Society, the following officers were elected: President, Dr. J. P. Crozer Griffith; vice-presidents, Drs. Herbert B. Carpenter, J. Claxton Gittings and Charles A. Fife; treasurer, Dr. Howard Carpenter; secretary-recorder, Dr. Maurice Ostheimer.——At a meeting of the Samaritan Hospital Medical Society, January 25, the following officers were elected: President, Dr. Collier H. Martin; vice-presidents, Drs. G. Morton Illman and William A. Steel, and secretary and treasurer, Dr. Jesse A. Arnold.——At a regular meeting of the Northeast Branch of the Philadelphia County Medical Society, the following officers were elected: Chairman, Dr. William H. Morrison; clerk, Dr. Albert C. Buckley, and chairman of committee on scientific business, Dr. Elmer E. Keiser. The night meeting of this society has been changed to the third Thursday of the month.——Dr. Henry Leffmann was elected president and Dr. Benjamin F. Baer, Jr., vice-president of the Charles Dickens Fellowship at the annual meeting, February 7.

Hospital Notes.—The report of the Mount Sinai Hospital for January shows that 49 new patients were admitted. In the out-patient department 3,502 visits were paid. Of the total visits, 940 were by new patients. In the emergency ward 278 were treated, of which 35 were patrol cases. The trustees of the hospital have commissioned architects to prepare plans for a large addition. Properties north of the hospital have recently been bought and on this portion of the lot, 271x100 feet, the new wing will be built. The legislature, at its last session, appropriated $35,000 to the hospital, and efforts are being made to obtain subscriptions to double that amount, so that a four-story wing may be erected to provide a number of wards, an operating room, physicians' offices and nurses' quarters. On February 3 the Germantown Hospital purchased for $10,000 an additional plot of ground measuring 250x226 feet, on which to build an addition to that institution.——According to the monthly report of the state dispensary for the treatment of tuberculosis recently opened in this city, 170 persons applied for treatment during January.——The report of the Polyclinic Hospital for January shows that 126 patients were admitted to the institution; 1,614 new patients visited the dispensaries and 606 persons were treated in the accident department. The total number of visits made to the dispensaries aggregated 1,673.——In a general order issued by Director Clay, February 2, the Medico-Chirurgical Hospital was placed on the eligible list to receive trolley accident cases falling in the hands of the police department. The director's original order named certain hospitals to which such cases should not be conveyed by the police patrol. The names of the Polyclinic and Jefferson hospitals were added to the names of eligibles on November 27. The German, Roosevelt, Presbyterian and Mount Sinai hospitals are still under the police ban.——The report of the University Hospital for 1907 shows that the number of patients admitted was 4,089, as compared with 3,727 in 1906. The number of free patients treated reached 2,820, as compared with 2,381 for 1906. The total cost of maintenance was $206,144.34, against $205,982.28—an increase of $151.06 over the previous year, with considerably increased service.

SOUTH DAKOTA.

Personal.—Dr. Adolphe M. Giffin, Rapid City, has been appointed district surgeon for the Chicago & Northwestern Railway.——Dr. John D. Brooks, Fort Meade, sailed for Panama, December 30.

Medical Association Meetings.—The Watertown District Medical Association held its quarterly meeting in Watertown, December 19. Dr. Leslie G. Hill, Watertown, was elected president; Dr. Horace W. Sherwood, Doland, vice-president; Dr. James B. Vaughan, Castlewood, secretary-treasurer; Dr. Robert F. Campbell, Watertown, delegate to the state society, and Dr. Hervey A. Tarbell, Watertown, censor.——At the annual meeting of the Fourth District Medical Association, held in Millbank, December 14, the following officers were elected: President, Dr. De Lorme W. Robinson, Pierre; vice-president, Dr. Edward B. Taylor, Huron; secretary-treasurer, Dr. Samuel R. Wallis, Miller, and delegates to the state society, Drs. John L. Foxton, Huron, and Isaac M. Burnside, Highmore.——At the annual meeting of the Black Hills Medical Association, held in Deadwood recently, the following officers were elected: President, Dr. William G. Smith, Sturgis; vice-president, Dr. Alfred G. Allen, Deadwood; secretary, Dr. Felix E. Ashcroft, Deadwood; treasurer, Dr. Frank S. Howe, Deadwood, and censors, Drs. Adolphe M. Giffin, Rapid City, and John W. Freeman, Lead.——The Yankton District Medical Society, at its annual session, December 20, elected the following officers: President, Dr. F. Arthur Swezey, Wakonda; secretary-treasurer, Dr. Leon Beall, Irene; delegate to the state society, Dr. James Roane, Yankton, and censor, Dr. Edward T. Anderson, Platte.——At the annual meeting of the Mitchell District Medical Society, held in Mitchell, December 12, the following officers were elected: Dr. Rodell C. Warne, Mitchell, president; Dr. E. N. Wager, Bijou Hills, vice-president; Dr. Elwin F. Reamer, Mitchell, secretary; Dr. Frederick W. Freyberg, Mitchell, treasurer, and Dr. Bert Menser, Bridgewater, censor.

UTAH.

Communicable Diseases.—A dozen or more cases of smallpox have developed at Hooper.——Ogden reports 6 cases of smallpox of mild type.——Measles is reported to be very prevalent. There are more than 300 cases at Lehi, 185 at Moroni and 97 at Eureka.——Influenza is reported to be epidemic at Beaver City.——On account of the prevalence of diphtheria at Kanab and Bear River City, public gatherings of every description have been suspended.

VIRGINIA.

Fined for Non-Report.—Dr. Albert G. Franklin, Richmond, is said to have been fined $10, February 8, on the technical charge of failing to report to the health department a case of chickenpox.

New Hospital.—At a joint meeting of the hospital committees held in Bristol recently, directors for the new institution were elected, and the Kings Mountain Hospital Association was decided on as the name of the organization.

Election.—At the annual meeting of the Richmond Academy of Medicine and Surgery, Dr. Clifton M. Miller was elected president; Dr. Mark W. Peyser, secretary; Dr. W. Brownley Foster, assistant secretary; Dr. William A. Shepherd, treasurer, and Dr. Alfred L. Gray, councilor.

Richmond Deaths.—During December there were 226 deaths in Richmond, equivalent to an annual rate of 23.66 per 1,000. Chief among death causes were: Pneumonia, 43; tuberculosis, 34; organic heart diseases, 18; cerebral hemorrhage, 17; nephritis, 16, and violence (including suicide), 10.

Personal.—Drs. Cullom B. Jones, Henry R. Carter and Alfred C. Ray have been appointed members of the health board of Ashland.——Dr. Carl R. Young has succeeded Dr. William A. Strole as ambulance physician of the City Hospital, Richmond.——Dr. J. Boling Jones, Petersburg, was operated on for appendicitis at the Petersburg Hospital, January 23.——Dr. Edward E. Feild, Norfolk, has been elected a member of the executive council of the Second District Medical Society.

Tuberculosis Organization.—The state committee of the International Congress on Tuberculosis held its first meeting February 8 in Richmond. The following officers were chosen: Chairman, Dr. Charles R. Grandy, Norfolk; vice-chairman, Dr. Ernest C. Levy, Richmond, and secretary, Dr. John R. Bagby, Newport News. The chairman was empowered to appoint an executive committee to consider all matters relating to Virginia's participation in the congress. The general committee was enlarged by the election of a number of laymen, several of whom are women prominent in public work. Governor Swanson has addressed communications to the mayors of the leading cities in the state and to the heads of such institutions as have it in their power to contribute exhibits showing the progress of tuberculosis work in Virginia.

Contagious Diseases.—During December tuberculosis was reported from 71 counties; typhoid fever from 51; whooping cough from 39; diphtheria from 25; measles from 26, and smallpox and scarlet fever each from 11.——A case of leprosy has been discovered near Yale, Sussex County. The patient is a Russian woman, who has been in America about 19 years. ——Trenholm has been placed under quarantine on account of the prevalence of smallpox.——Warrants were issued January 25 for 12 women and 4 men, who refused to be vaccinated under the general vaccination order of Roanoke.——Two cases of smallpox have been discovered among the students of the Medical College of Virginia.——Smallpox is said to be raging near Bowling Green. The courts have been suspended and the public schools closed.——The high school at Palmyra has been suspended on account of the prevalence of measles.

WASHINGTON.

Hospital Notes.—It is announced that a marine hospital is to be erected and maintained at Hoquiam.——Drs. Eugene S. Clark and Dalton, Sumas, are equipping a building in the south end of the town to be used as a hospital, pending the building of a public hospital.

Urge Pardon.—The State Board of Pardons, at its session in Walla Walla, January 20, recommended an unconditional pardon for Dr. Mary A. Latham, Spokane, convicted in the Superior Court of Spokane County on the charge of arson in 1905, and sentenced to four years' imprisonment in the penitentiary.

Personal.—Drs. Charles E. McClure, Stuart V. R. Hooker and George N. McLaughlin have been appointed school medical inspectors of Seattle.——Dr. Alfred J. Helton has been appointed health officer of North Yakima, vice Dr. Thomas Tetreau.——Dr. Philip Frank, North Yakima, has been elected president of the State Board of Health, and Dr. Elmer E. Heg, Seattle, has been re-elected its secretary for the seventh time.

Illegal Practitioner Sentenced.—William M. Green, Granite Falls, is said to have been fined $50, January 2, for practicing medicine without a license.——Henry C. Karnopp, Spokane, charged with practicing medicine without a license, was fined $50, January 18, and was also ordered to return $70 in fees paid by a patient to him.——Theodore H. Wheeler, Tacoma, on January 30 is said to have been found guilty of practicing medicine without a license and fined.

Communicable Diseases.—Smallpox is reported from Castle Rock.——There are said to be 23 cases of smallpox in Albion. ——There are several cases of smallpox near Belma.——Wenatchee is reported to have about 60 cases of smallpox, the schools have been closed and compulsory vaccination has been ordered.——Scarlet fever is reported at Cheney.——The schools of St. John were closed February 1 for one week on account of the prevalence of scarlet fever.

WEST VIRGINIA.

Malpractice Suit.—In the suit against Dr. William W. Golden, Elkins, president of the state medical association, in which damages to the amount of $10,000 was asked on account of alleged malpractice, the jury returned a verdict in favor of the defendant.

Personal.—Dr. Andrew J. Noome, Wheeling, has been elected vice-president of the Ohio County Medical Society, vice Dr. Harry M. Hall, resigned.——Dr. H. Byron Baguley, Wheeling, has been made assistant surgeon general of the state, with the rank of lieutenant colonel.——Dr. John E. Cannaday, Glendale, has returned from Europe.

Society Meetings.—At the annual meeting of the Marion County Medical Association, held in Fairmont, the following officers were elected: President, Dr. Fred W. Hill; vice-president, Dr. C. W. Waddell; secretary, Dr. James W. McDonald; treasurer, Dr. William H. Sands; censor, Dr. Claude L. Holland, and delegate to the state society, Dr. James J. Durrett, all of Fairmont.——The Eastern Panhandle Medical Association, composed of physicians of Jefferson, Morgan and Berkeley Counties, at its annual meeting held in Charlestown, elected the following officers: President, Dr. William Neill, Charlestown; vice-presidents, Drs. A. Bruce Eagle, Martinsburg, and George S. West, Gerrardstown; secretary, Dr. Richard E. Venning, Charlestown, and treasurer, Dr. Francis M. Phillips, Harpers Ferry.

WISCONSIN.

Sanitarium Burns.—The Oconomowoc Health Resort, Lake Nagawicka, which is in charge of Dr. Arthur W. Rogers, formerly of Wauwatosa, was destroyed by fire January 15, with a loss of $25,000. The 25 patients in the institution were safely removed to neighboring farmhouses.

Till at Work Again.—John Till, who recently paid a fine of $50 for practicing medicine without a license, is now said to have opened an office "for the practice of medicine" at Somerset. The attorney general has directed the district attorney of St. Croix County to inquire into the matter.

Hospital Notes.—St. Mary's Hospital, Watertown, was opened to the public January 9.——The new Home for Incurables, which is being erected at Milwaukee Hospital, with the gift of $50,000 made by Mr. Frederick Layton, is nearing completion. The building will accommodate about 55 patients.

Found Guilty.—In the case of Dr. Edward C. Schnittker, charged with having caused the death of Miss Anna Severson, who died June 6, 1906, from the effects of an illegal operation, the jury is said to have found the defendant guilty of manslaughter in the second degree. In a second petition, the jury is said to have asked for leniency.

Communicable Diseases.—Diphtheria is reported to be epidemic in Washburn.——Scabies is so prevalent in one of the school districts in Stettin, near Wausau, that steps have been taken to close the school for a short time, in order to prevent the spread of the disease.——Scarlet fever is reported to be epidemic at Mygatts Corners.——Smallpox is said to be extremely prevalent on the Oneida Reservation.——La Crosse is said to have about 15 cases of smallpox, and compulsory vaccination is urged by the health officers.

Personal.—Dr. Frank B. Golley has been elected president, and Dr. Arthur T. Holbrook, secretary-treasurer, of the staff of the Emergency Hospital, Milwaukee.——Dr. Daniel B. Collins, Madison, was recently operated on for appendicitis in Madison General Hospital.——Dr. John W. Coon, formerly superintendent of the Milwaukee County Hospital, Wauwatosa, has assumed the management of the Valmora Ranch Sanatorium, Watrous, N. M.——At the annual meeting of the Wisconsin State Board of Health and Vital Statistics, held in Madison, January 29, Dr. William F. Whyte, Watertown, was re-elected president.——Dr. Frederick W. Byers, Monroe, formerly surgeon general of the state, has announced his intention of retiring from practice.——Dr. George C. Ruhland, city bacteriologist of Milwaukee, is ill with diphtheria, contracted while engaged in his official duties.

GENERAL.

Personal.—Dr. John Sayre Marshall, examining and supervising dental surgeon, U. S. Army, who has been in the East, and recently visited his friends in his former home, Chicago, has left for the Philippine Islands on a two years' tour of duty.

Hospital Ship Wanted.—The chief of the bureau of medicine and surgery, U. S. Navy has asked the House committee on naval affairs to recommend an appropriation of $1.000,000 for the construction and equipment of a hospital ship for the Navy.

Hodgkins Fund Prize.—The Smithsonian Institution announces, that in connection with the approaching International Congress on Tuberculosis, to be held in Washington, September 21 to October 12, a prize of $1,500 is offered for the best treatise that may be submitted to that congress on "The Relation of Atmospheric Air to Tuberculosis." This fund is the income of a donation made in 1891 by Dr. Thomas G. Hodgkins, Setauket, N. Y., the object of which was "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." The treatise may be written in English, French, German, Spanish or Italian. The treatises will be examined and the prize awarded by a committee appointed by the secretary of the Smithsonian Institution in connection with the officers of the International Congress on Tuberculosis. The right is reserved to award no prize, if in the judgment of the committee, no contribution of sufficient merit is offered to warrant such action. The Smithsonian Institution also reserves the right to publish the prize treatise. Further information ,if desired, will be furnished by Mr. William D. Walcott, secretary of the Smithsonian Institution, Washington, D. C.

CANADA.

Society Meetings.—The Canadian Medical Association will hold its annual meeting this year in Ottawa, June 9 to 11. Dr. Montizambert, director general of public health, Ottawa, is the president.——The Ontario Medical Association will hold its annual meeting in Hamilton, Ont., May 26-28, under the presidency of Dr. Ingersoll Olmsted, Hamilton.

Health of Winnipeg for December, 1907.—There were 10 cases of typhoid fever in Winnipeg in December; 35 of scarlet fever; 33 of diphtheria; 6 of measles; 2 of tuberculosis, with 2 deaths; 22 of mumps; 9 of erysipelas; 2 of chickenpox, and 2 of smallpox. Smallpox seems to be on the increase both in

Vinnipeg and throughout Manitoba. Outbreaks of a mild haracter have appeared in Carmen, Rossiter and Stonewall.

British Association for the Advancement of Science.—The rst occasion this association assembled in Canada was in 884 in Montreal; next in Toronto in 1897; and it will meet n Winnipeg in 1909. Already considerable progress has been nade in the arrangements for the meeting. The Dominion overnment will grant $25,000 for the entertainment, and the xpenses altogether in this direction are estimated in the neighorhood of $50,000.

Patent and Proprietary Medicines in British Columbia.— bill to regulate the sale of "patent" and proprietary mediines in the province of British Columbia is before the legislaure of that province. It provides that the formula or preeription of each "patent" or proprietary medicine shall be rinted on the outside of each bottle or package on pain of a eavy fine. The bill is to go into force August, 1908. For the rst offense the fine is to be $250; for the second, $500.

New Laboratories Opened.—The new medical laboratories uilding in connection with Queen's University, Kingston, Ont., as opened formally on the afternoon of January 14. Biology, istology, pathology, physiology and bacteriology will be acommodated in this new building. Dean Connell, in referring o the past of Queen's, stated that the faculty was established 1 1854. The Ontario government contributed $50,000 toward his new building, and the minister of education, Hon. Dr. yne, stated that he had never seen money so well spent.

Tuberculosis.—British Columbia is taking active steps to estrict the prevalence of tuberculosis. During this year the rovincial government has given $20,000 for the equipment of n anti-tuberculosis sanatorium; the Medical Society has conributed $30,000; the Canadian Pacific Railway, $10,000, and he citizens, $20,000, making a total of $85,000. A commandig site has been secured on the bank of the Thompson River, ight miles west of Kamloops, 11,000 feet above sea level, ith an average rainfall of 10 inches and a light snowfall. A irge farmhouse on the grounds has been rearranged so as to ccommodate 15 patients in addition to the superintendent, urses and others. The sanatorium was formally opened Nov. 5, 1907, and 15 patients are now undergoing treatment.——A igh mortality still prevails in Ontario from tuberculosis. Durng 1907 the division registrars reported 1,933 deaths, as gainst 1,996 for the previous year. Tuberculosis caused the eaths of 874 more persons in the province in 1907 than did mallpox, scarlet fever, diphtheria, measles, whooping cough nd enteric fever together. Having regard for the fact that 11 er cent. of the deaths in Ontario is due to tuberculosis, the ntario board of health will recommend the government to nact legislation making notification of tuberculosis compulory. In the ten years from 1896 to 1906 there have been 6,700 deaths from tuberculosis in the province. The records how that there are about 12,000 cases continually in existence hroughout the province. Dr. Forbes Godfrey, member of the egislature from Mimico, has proposed a resolution to the Onario legislature, calling for the appointment of a commission o investigate the conditions in the province with regard to uberculosis, and as to the advisability of establishing a proincial sanatorium.

FOREIGN.

Scandinavian Congress for Internal Medicine.—The Sixth orthern Congress for Internal Medicine will meet at Bergen arly in July to discuss the diagnosis of incipient tuberculosis f the lungs and functional diagnostics in general.

Celebration of the Centenary of Darwin's Birth.—The ouncil of the senate of the University of Cambridge has ecommended that the centenary of the birth of Charles Darin be celebrated by the university during the week beginiing June 20, 1908.

Koch's Lantern Talk on Sleeping Sickness.—Kaiser Wilhelm nd his wife were present at the lantern talk given by Robert och January 30, portraying his experiences in Africa and he present condition of sleeping sickness. He starts March for a trip around the world, coming to America first, as lready mentioned.

Alvarenga Prize for Work on Gastric Ulcer.—The committee n charge of the awarding of the Alvarenga prize of $200 anounces as the theme for 1909, "The Internal and Surgical reatment of Chronic Gastric Ulcer and Its Results." Competng works must be sent with name in a separate sealed envelope o Professor Strauss, Kurfürstendamm 239, Berlin W., 50. The iame of the prize winner will be announced July 14, 1909.

Banquet for Neisser.—The leading lights in the profession and the public authorities at Berlin tendered a banquet to Albert Neisser, January 31, on his return from his research on syphilis in Java. Arning of Hamburg toasted the teacher and investigator, and Ehrlich of Frankfurt toasted Madame Neisser, "the true complement" of the scientist. In his reply Neisser said that his research in Java had not led to the discovery of a curative serum or preventive vaccination for syphilis, but that it had established that mercury not only has a symptomatic action, but certainly neutralizes the toxin.

Goiter Research in Switzerland.—The *Allg. med. Ct.-Ztg.* states that of the young men enrolled in Switzerland for military service who have to be rejected on account of physical defects, more than 14 per cent. are rejected on account of goiter. The figures for 1901-1905 were 6,922 with goiter out of 40,736 rejected for various physical reasons. A committee has recently been formed in Switzerland for study of endemic goiter, to which some of the most prominent physicians in the country belong. The committee has entered on its work with special energy owing to the increasing importance of goiter in respect to the military service.

Epidemic Outbreak Resembling Plague in China.—Consul-General Fowler, at Tengchow, reports, December 21, an epidemic outbreak in that city of a disease resembling plague which has caused over 200 deaths. In some parts of the city a fatal case occurred in nearly every house, and in some instances entire families died of the disease. Death is reported as occurring within a few hours or days of the onset of the disease. The city officials have received orders to clean the city and an attempt is being made to organize paid rat destruction. The disease is said to have been introduced by laborers from Manchuria. A later telegram states that the epidemic is becoming less severe.

Deaths in the Poor and Wealthy Precincts of Paris.—The latest statistics in regard to Paris show that measles, scarlet fever, diphtheria, infantile diarrhea, tuberculosis, meningitis and cirrhosis of the liver predominate in the poorer quarters, as has also been observed in other European capitals. On the other hand, typhoid fever and cancer do not seem to be influenced by the wealth or poverty of the precinct, and congenital debility and deformities of various kinds prevail most numerously among the well to do, the middle classes and merchants showing the maximum. The *Semaine Méd.*, January 29, gives the details from the last annual bulletin published by Bertillon, chief of the vital statistics office.

New International Journal of Epilepsy.—A new international quarterly, to be called *Epilepsia*, is to be devoted to the study and treatment of this disease from the therapeutic, social and judicial points of view. It is announced as under the patronage of Drs. W. Bechterew, O. Binswanger, J. Hughlings Jackson, L. Luciani, H. Obersteiner and F. Raymond. The editorial staff includes the names of H. Claude, Paris; A. Turner, London; L. Bruns, Hanover; W. P. Spratling, Sonyea, N. Y., and J. Donath, Buda-Pesth, who is the active editor for the first year, with L. J. J. Muskens of Amsterdam as secretary. French, German and English will be the official languages. The price is not yet announced. Scheltemer and Holkema of Amsterdam are to be the publishers. Subscriptions may be forwarded through the *Journal of Mental and Nervous Diseases*, 64 West Fifty-sixth Street, New York.

Introduction of Women Nurses into French Military Hospitals.—The hospital connected with the military medical school at Val-de-Grâce, near Paris, is to be equipped with women nurses—a great innovation for France. If found to work satisfactorily, as has long been the case in England, the other military hospitals will be supplied with women nurses. The nurses at Val-de-Grâce are to be appointed by a competitive examination, and the *Presse Médicale* comments that it would be much better to have the authorities select from other institutions nurses best adapted for the purpose instead of trusting to the results of such an examination. The editorial further queries whether the military authorities aim to supply for their hospitals a picked force of high-grade trained nurses or whether they will be willing to accept nurses of the grade of maids of all work, devoted but ignorant. Such an important innovation, it says, should be managed with wisdom. The accommodations for the nursing force in the French hospitals are generally so uninviting—as most of the buildings were built so long ago—that the service has not hitherto attracted the same grade of women as in America and England, but these conditions are being gradually remedied. Germany is also introducing women nurses into some of the army and navy hospitals.

LONDON LETTER.

(From Our Regular Correspondent.)

London, Feb. 1, 1908.

Epidemic of Influenza in London.

Influenza of a virulent type is prevalent in London and the provinces. Thirty-two deaths due to the disease occurred in one week and in the three preceding weeks 28, 21 and 25, respectively. In other parts of the country and in Edinburgh and Glasgow the disease is also rife.

Delirium Tremens and Sudden Deprivation of Alcohol.

It has often been stated that it is dangerous for the subjects of delirium tremens to be deprived of alcohol suddenly, but the recently published prison statistics of England and Wales confute this. During the year, 212,000 persons were incarcerated, of whom 132 died. In the latter, delirium tremens was certified as a cause of or a condition at death in only 3 cases. Yet 63,000 persons, of whom one-third were females, were sent to prison for drunkenness. Many other prisoners were of course notorious drinkers. Among the prisoners (suddenly deprived of alcohol) 246 cases of delirium tremens were recorded, of which one-fourth occurred in females. Of these, 4 men and women were certified as insane and sent to an asylum, 159 men and 59 women had recovered, and 16 men and 6 women were discharged at the end of their term. Epileptiform convulsions were rare among alcoholic prisoners.

Dr. Hughlings Jackson and the National Hospital for the Paralyzed and Epileptic.

The staff of the National Hospital for the Paralyzed and Epileptic has commemorated the long services of Dr. Hughlings Jackson to the hospital and to neurology by placing a marble bust representing him in the hall. The "father of neurology" is now consulting physician to this hospital and to the London hospital. He is the most distinguished of that distinguished group of workers who formed the staff of this hospital a generation ago and who have built up the science of neurology in this country—Brown-Séquard, Russell Reynolds, Buzzard, Bastian, Gowers. These men have been succeeded by names equally eminent—Ferrier, Beevor, Omerod, Victor Horsley, Risien Russell and others. In the period between 1880 and 1890 the hospital was not only the center of neurologic interest in Great Britain but of neurologic progress in the world. Students from every country in Europe and from America flocked to it, as indeed they still do. Similarly, patients come to it from all over the world—even from such distances as Asia, the United States and the British colonies.

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, Jan. 27, 1908.

An Epidemic of Influenza.

The variable weather throughout this country has caused an epidemic of influenza, somewhat different in type from preceding epidemics within the last twenty years. The attack generally begins with high fever (104 F.), lasting one or two days, and terminates quickly, after three or four days, with bronchitic symptoms. As sequelæ, affections of the accessory sinus of the nose are reported. Whole families are stricken, many physicians are themselves affected and even lectures at the University have had to be suspended on account of the absence, both of students and lecturers. The mortality is not higher than usual, but the morbidity is very high. Bacteriologic examinations prove the presence of Pfeiffer's bacillus, but its virulence is markedly lower than expected.

Strike of a Medical Staff.

A remarkable strike from an unusual motive occurred recently in the Wiedner Hospital, and has led to an improvement both for the staff and the patients. The quality of the food offered to the staff has been constantly growing worse, so that finally the rations were refused. A system of "economy" was responsible for the deterioration. When the scandal became public the administrative board had to resign and it was determined that in the future the food for the staff should be subjected to an inspection by one of the staff members before being served.

Medical Life Insurance.

A movement has been set on foot to establish a special life insurance for practitioners. As now planned this would not only involve a substantial reduction of the rates for practitioners, but also an addition to the funds of the Medical Chamber for relief purposes.

Therapeutics

Lobar Pneumonia.

(Concluded from page 545.)

GENERAL TREATMENT.

There is no acute disease that needs fresh air and plenty of it so much as does pneumonia. With a whole lobe of a lung, or more, unable to respire, fresh, clean, oxygenated air is an absolute necessity. The frequency of the respirations is diminished, the heart is slowed, and the temperature becomes lowered. There should be no drafts on the patient, but the windows should be wide open; the open-air treatment of pneumonia is an unexpected success.

The same cleanliness and the same care of the mouth as is advised in typhoid fever should be carefully carried out in pneumonia. Also, in this very exhausting and rapid disease the patient should not be often disturbed when he is quietly sleeping, either for medicine or for nourishment.

No coal-tar products or other antipyretic drugs or cardiac depressants should be administered after the first twenty-four hours of pneumonia. If the temperature is troublesomely high, which it generally will not be with the proper fresh-air treatment, the patient may be sponged with tepid water. This sponging should be confined to the abdomen and extremities. The thorax should not be sponged except for cleanliness, and then with hot water. It is not necessary to sponge to reduce temperature if the fever is below 103 F., as, unlike typhoid fever, this disease does not tend to last for weeks, and a temperature above 102 F. for a few days can do no harm, or even above 103 F. for a short time.

Gentle massage of the extremities, with or without alcohol, aids the circulation, promotes the excretion of muscle toxins, and often aids in relieving the toxemia.

Pneumonia patients have been fed too much. It is unwise to push nutrition or to give large quantities, even of milk, at any one time in this disease. Indigestion with consequent flatulence and tympanites is a condition very serious in pneumonia, and any nutriment found to cause gastric or intestinal disturbance should not be given. If milk agrees with the patient perhaps there is no nutriment better, but a quart, at the outside limit, in twenty-four hours is sufficient. Two raw eggs a day, given in bouillon, in coffee, or with sherry or brandy, as seems best, furnishes the kind of albumin the patient needs. If there is but little fever the eggs may be poached, if desired. The expressed meat serum from a pound of beef should be given, in divided doses, each twenty-four hours, provided the kidneys are intact.

If the heart is doing well and there is no trouble in the other lung the drinking of plenty of water should be encouraged. On the other hand, if the heart is laboring and there is bronchitis or edema or congestion of the other lung, water should be reduced, and even the liquid diet should be scanty.

The bowels should be moved daily, often best with a small glycerin enema, but if the tongue is badly coated, a gentle saline purge should be given, using the most agreeable one.

When the blood count shows a deficient leucocytosis, some nuclein treatment has been recommended. This may be administered as a grain of nuclein two or three times a day; a two or three-grain thymus tablet two or three times a day; or, if the patient's stomach will tolerate it, yeast. The yeast used for this purpose is the upper layer of brewers' yeast, and should be administered in tablespoonful doses, in water, two or three times a day. This makes a sour drink, very pleasant to some patients, and acts as a laxative. It seems to be proved, however, that the increased number of polymorphonuclear cells caused by nuclein preparations does not quite do the work of the polymorph leucocytes caused by an infection. In septic processes, however, the yeast seems to be of value. It must not be forgotten that if any nuclein treatment is pushed it causes slight depression and some dilatation of the blood vessels. The whole subject of the nuclein treatment of infections is still open for discussion.

LOCAL APPLICATIONS.

The question of local applications to the side of the chest involved is always the subject of controversy and discussion. Though advocated by a few physicians in this country and by many in Europe, applications of ice to the chest to abort pneumonia are rarely successful and generally are not tolerated by the patient. On the other hand, the pain, in the first stage of pneumonia, is largely relieved by hot, moist applications, and less morphin is required for this purpose. In the second stage, if the expectoration is free, moist applications or poultices are not indicated, but when it seems difficult for the patient to cough up the excretion, or the cough is more or less dry, hot moist applications to the lung are of benefit, when the surroundings and care of the patient are such that the body is not allowed to get chilled while the applications are being changed. These applications may be of cloths wrung out of hot water or hot water and alcohol and covered with oil silk, or, better, flaxseed poultices bound close to the chest; these retain the heat much longer than the hot-water applications, especially if the hot-water bag is placed alongside of them. Such applications should be changed every two or three hours, and not be allowed to become cold. Poultices should not be long used in the pneumonias of children, as it is probable that they may so dilate the blood vessels of the pleura as to encourage the pneumococcus to locate there and cause an emphysema.

When the poulticing is to be stopped, the poultices should be gradually made smaller and finally replaced by dry cotton.

There are no medicinal properties in glycerin pastes. They certainly make an impervious dressing over the chest and act like a poultice, but the discomfort of getting them off and reapplying them, and the dirtiness of the treatment, should prevent such dressings being used. They can do no more good than the pneumonia jacket. Also, the pneumonia jacket is not indicated in pneumonia patients except with children who can not be carefully cared for in the houses of the poorer classes. With such patients, while the fresh-air treatment at an open window or on a balcony, if possible, is being carried out, the thorough protection of the chest, back and shoulders with a pneumonia jacket, which can be easily unpinned and the body cleansed, is advisable.

Let it be repeated that patients without much pain and with free expectoration do not need any application to the chest whatever. Also, patients with weak-acting hearts and a large amount of bronchial secretion and with low temperature should not be poulticed.

At least once a day, and better, twice or more times daily if there is profuse perspiration, the room should be warmed, and the skin of all the body, chest and back should be well cleansed with hot water or hot water and alcohol. Nothing tends more to promote sleep, to keep the skin healthy and to relieve the kidneys than such treatment. Immediately after the patient is thoroughly covered up, perhaps with a hood over the head, if it is cold weather, the fresh outside air should be again turned into the room.

THE COUGH.

The cough, in the first stage, is controlled or modified by the morphin that generally must be given for the pain. In the first part of the second stage it is often necessary to give some simple expectorant to cause the mucopus to be more readily raised and expectorated. For this purpose nothing is more efficient than small doses of ammonium chlorid, ammonium carbonate being too irritant to the throat and stomach. Whether or not this ammonium chlorid shall be combined with a sedative depends on the frequency and irritability of the cough. Generally it is not needed. If a sedative is needed the sulphate of codein is better than morphin or heroin.

℞.	gm. or c.c.		
Codeinæ sulphatis	20		gr. iv
Ammonii chloridi	5		ʒiss
Syrupi ipecacuanhæ	5	or	flʒiss
Syrupi acidi citrici	25		fl℥i
Aquæ	ad 100		ad fl℥iv

M. et Sig.: A teaspoonful, in water, every three hours.

Or:

℞.	gm. or c.c.		
Ammonii chloridi	5		ʒiss
Acidi phosphorici diluti	5	or	flʒiss
Syrupi	25		fl℥i
Aquæ	ad 100		ad fl℥iv

M. et Sig.: A teaspoonful, in water, every three hours.

If either of the above sour mixtures is disagreeable to the patient, it may be administered in Vichy or carbonated water.

As soon as the expectoration is profuse, a cough mixture is not needed, unless, later, terpin hydrate is indicated to stop the continuous bronchorrhea, the pneumonic process having cleared up.

CARE OF THE HEART.

With the fresh-air treatment of pneumonia, with the cleansing and tonic sponging of the body, with the prevention of fermentation from too much or ill-advised nutriment, with the proper daily evacuation of the bowels, and with the diminution of the amount of liquid taken if the heart shows signs of weakening, cardiac stimulants and tonics are often not needed. Alcohol should not be given just because pneumonia is present. If the skin is dry, and little nutrition is desired or taken, a small dose, as one or two teaspoonfuls of whisky or brandy every three or four hours, may be given with benefit. Its food value is considerable and it dilates the peripheral vessels, thus bringing more blood to the surface of the body and tending to promote normal perspiration, thus reducing the temperature and relieving the circulation. If, at any time, while administering such small doses of alcohol the tongue becomes dry, the pulse bounding, the face flushed, or there is the odor of alcohol on the breath, too much is being administered and it should be stopped. Many a delirium in pneumonia has been caused by whisky. Occasionally, in old patients with pneumonia with the temperature low, and a general asthenic condition present, more alcohol may be administered with advantage, but in heart failure alcohol should not be relied on, and should not be administered to meet that indication.

If the patient is strong and sturdy, and there is constant congestion of the face, much better than alcohol is a small dose of nitroglycerin, given four times in twenty-four hours, in doses of 1/200 or 1/100 of a grain, depending on its effect. This drug dilates the peripheral blood vessels and thus relieves the internal congestion, and by reducing the blood tension relieves the congestion of the brain.

If there is great dyspnea during the active stage of pneumonia, with considerable cyanosis, and the blood vessels are full and tense, venesection should again be considered. If, on the other hand, there is failure of the heart and low blood tension, the respiration is labored, and there is evident venous congestion from the failure of the right side of the heart, strychnin sulphate is indicated, and may be given in small doses by the mouth to forestall such a condition. The dose should be 1/30 of a grain every six hours, and if there is considerable heart weakness, it should be given hypodermatically at least once in twelve hours. In actual heart failure no reliance should be placed on drugs administered by the stomach. Strychnin in very large doses or too frequently repeated has done harm, and it should not be pushed. In very large doses it seems to prevent the heart from properly dilating during diastole and also seriously excites the nervous system. In other words, very large doses or very frequent doses of strychnin are harmful in pneumonia.

Though digitalis is advised by some clinicians, much harm has been done by this drug in pneumonia, and it is the general opinion that it should not be administered in this disease.

Intramuscular injections of ergot, especially if there is cerebral congestion as shown by meningeal symptoms, and especially if there is low pulse tension and failing heart, has seemed to save life. An antiseptic preparation should be used; it should be injected into the deltoid muscle under antiseptic measures. The dose is a syringeful of the fluidextract, every three hours for two or three doses, and then every six hours for several doses, to be stopped as soon as the circulation is improved. With a clean syringe and antiseptic cleanliness, abscesses are not caused, and any slight swelling and tenderness is easily subdued by a wet dressing.

Caffein, best given in the form of a small cup of coffee once or twice in the morning, with or without milk as the patient desires, provided there are no meningeal symptoms, has good action both as a cardiac stimulant and as a diuretic, and is often agreeable.

In the emergency of a sudden heart failure the hypodermic injection of nitroglycerin and strychnin and two or three injections into the muscles of a saturated solution of camphor in olive oil may tide over the condition and save life. Five drops every fifteen minutes for several times, of a solution of a suprarenal preparation (1 to 1,000), diluted with an equal number of drops of water and placed on the tongue is often of marked benefit. Such suprarenal treatment, however, should not be continued too long nor should too large doses be given, as it may cause respiratory depression. Inhalations of oxygen are also of marked benefit in such a condition.

It must be reiterated, however, that the proper carrying out of the fresh air treatment of pneumonia will generally preclude the necessity of cardiac stimulants, cardiac tonics and the oxygen tank.

If from failing heart there is edema of the well lung, the amount of liquids ingested should be greatly reduced, and to prevent hypostatic congestions the patient should be moved from side to side and not allowed to rest on the back for any great length of time.

If the secretion of the kidneys is insufficient, the tongue is dry, and in spite of the administration of plenty of water the skin is dry, a high injection of physiologic saline solution, a pint once or twice a day for a few times, is an efficient diuretic.

CEREBRAL SYMPTOMS.

There is nothing better than cold, clean air to cause sleep in pneumonia, and if the bowels are properly moved daily and intestinal fermentation is prevented so that the secondary toxins are not absorbed the patient will generally sleep. If there is actual cerebral congestion, ergot given intramuscularly as above described is the best treatment, unless the pulse tension is very high, in which case nitroglycerin and saline purgatives should be considered and one or two doses of chloral, or one or two doses of bromids may be used. If the delirium is very active, a hypodermic of hyoscin hydrobromate, from 1/200 to 1/100 of a grain, is often the most successful treatment. Morphin should not often be resorted to, as the dose required is very large, and large doses are dangerous in pneumonia. If the fever is high an ice cap to the head will do good, but again, let it be repeated, that the proper care of the bowels, the proper amount of food, the withholding of alcohol, never administering it in large doses, never pushing strychnin to the irritant point, and the open-window treatment of pneumonia will prevent cerebral symptoms.

Pharmacology

AMOLIN DEODORANT POWDER.

What It Is Claimed to be and What It Is.

Last week (page 545) we published a query and reply re garding Amolin, a "patent medicine" for which unusua claims are made, and we stated that the powder was bein examined in the Association's laboratory. The results of th analysis are given in the following report:

> The specimen submitted to the laboratory for examination is labeled "Amolin Deodorant Powder" and is stated to be made by the Amolin Chemical Company." On the label of the package it is stated concerning Amolin:
>
> "Destroys all odors of perspiration."
> "Wherever it touches it instantly deodorizes."
> "Its wonderful healing and deodorizing properties, combined with absolute harmlessness, make it infinitely superior to any preparation hitherto sold."
> "Amolin powder relies chiefly for its antiseptic, deodorizing and therapeutic potency upon a coal-tar derivative of the phenol hydrocarbon series, which differs from carbolic acid in being agreeable in odor, healthful and absolutely harmless."
>
> Examination of the contents of the package proved it to be a very fine white powder slightly unctuous to the touch, similar to boric acid or talcum, and emitting a faint odor of thymol. Qualitative tests showed the presence of large quantities of boric acid and traces of thymol. Further examination demonstrated the absence of alum, zinc salts and of other metallic constituents, usually employed in the preparation of deodorant powders. Neither did the tests indicate the presence of salicylic acid, phenol or any similar organic antiseptic except thymol. These tests were proved to be correct by the results of quantitative analysis of Amolin, which showed that approximately 99 per cent. of the powder is boric acid.
>
> The statement on the label
>
> "Amolin powder relies chiefly for its antiseptic deodorant and therapeutic potency on a coal-tar derivative of the phenol hydro-carbon series, which differs from carbolic acid in being agreeable in odor, healthful and absolutely harmless,"
>
> evidently is intended to refer to thymol. But inasmuch as Amolin contains but a small quantity of thymol, and instead consists of boric acid to the extent of 99 per cent., the antiseptic properties of the powder must be due to the latter constituent alone.

NINETY-NINE PER CENT. BORIC ACID.

In plain words this remarkable powder is practically nothing but boric acid, and furnishes another illustration of what has so often been proved, i. e., that "patent" and "ethical proprietary" medicines usually depend on some well-known drug, or drugs, in every-day use for whatever therapeutic value they possess. This particular preparation happens to come under the designation of "patent medicine," simply and only because it is advertised to the public direct, and the physician who wrote us got his knowledge of it through a patient—reversing the usual order.

BORIC ACID AND ITS QUALITIES.

Boric acid is a good thing; there is no doubt about it. It makes a splendid dusting powder; there are few, if any, better. Modify it as one may, give it an odor or a color to disguise it as one pleases, surround it with mystery or secrecy as one sees fit, it is still but boric acid with all its virtues—and limitations. Dissolved in water, it makes as good a mouth wash, as good an antiseptic solution as any of the high priced, extravagantly advertised, antiseptic lotions on the market, of which it forms the chief and most important ingredient.

Proprietaries Depend on Well-Known Drugs.

The above matter on "Amolin" should suggest to us that if we would give more thought and study to the official drugs at our disposal, we would find ourselves depending less on proprietaries. To become conversant with all of such drugs as have proved valuable therapeutic agents would not be difficult, for the number is not large. When we get down to actual facts we find that all "patent" or "ethical proprietary" medicines that have any claim to therapeutic value depend for such value on some of these few proved drugs.

This is well shown in the case of the two valuable but inexpensive drugs, boric acid and acetanilid, that form the bases of a large number of high-priced proprietaries. By disguising these well-known chemicals, through the addition of substances more or less inert, and the substitution of names that are either meaningless or misleading, the nostrum makers have been able to make millions of dollars. It is but necessary to call to mind such acetanilid mixtures as Antikamnia, Phenalgin, Labordine, Phenobromate, Sal-Codeia—Bell, Ammonol, and the large number of similar "patent medicines," to realize that this statement is no exaggeration. The results obtained by prescribing any one of these nostrums are what would be obtained by giving the contained amount of acetanilid, since the other ingredients—except the codein—have no appreciable effect.

In like manner boric acid is the principal, and in fact the only, ingredient of any value, in a large number of antiseptic dusting powders and solutions that are exploited to physicians as "ethical proprietaries." The same is true of most of the mouth washes, toilet powders, dentifrices, etc., offered to the public.

What is true of the boric acid and acetanilid preparations is equally true of practically all proprietary medicines. Could we believe the advertising, these preparations contain rare drugs and chemicals, are produced by methods requiring much skill and knowledge and are endowed with extraordinary therapeutic virtues. These fictions are invented for the sole purpose of investing the preparations with secrecy and mystery, the elements so essential to the successful exploitation of all "patent" and proprietary medicines. Stripped of misrepresentation and divested of the apocryphal virtues with which the advertiser has clothed them, we find that practically all such preparations are but mixtures of ordinary drugs, the prescription for which any physician can write and any first-class pharmacist compound.

If we would realize this, would study and use in our daily practice the drugs of proved value that are at our command, would refuse to be misled by the unwarrantably optimistic literature thrust on us at every turn and would cease prescribing preparations whose chief virtue is a catchy and easily remembered name, there would soon be a radical change in the proprietary medicine business.

Sodium Oleate in Pharmaceutical Preparations.

The recent exploitation of preparations sold as sodium acid oleate makes advisable a discussion on the composition of these compounds as well as on the close relationship existing between them and the well-known official "Castile" soap. They serve as excellent examples of the manner in which physicians are led to accept simple and well-known articles disguised by loosely applied chemical names which surround the preparation with mystery and a pseudoscientific atmosphere.

One of the earlier sodium acid oleates examined by the Council on Pharmacy and Chemistry was a preparation manufactured by *Vereingte Chininfabriken*, Zimmer & Co., Frankfort a M., Germany (Bischoff & Co., agents), as a cholagogue under the name of "Eunatrol."

This was claimed by the manufacturers to be an "acid oleate of sodium," with the formula of $(C_{18}H_{33}O_2)_3Na_2$, a pure oleate of sodium in which three atoms of hydrogen have been replaced by two sodium atoms. But no such chemical compound has been isolated or described and, according to authorities, such a compound is an absurdity. Working even on the supposition that these compounds were not acid oleates but mixtures, chemists have reported to the Council on Pharmacy and Chemistry that the claims are still erroneous as regards the composition of Eunatrol. According to the formula given by the manufacturers, the content of sodium oleate should be 68 per cent., but two chemists, working entirely independently, reported that "Eunatrol" contains 55 per cent. free fatty acid and but 39 per cent. soap, showing that the preparation lacks 29 per cent. of sodium oleate in order to conform to the manufacturer's formula. These analyses[1] have further shown that the sodium acid oleate, so-called, is simply a mechanical mixture, consisting of approximately one part of sodium oleate or soap and two parts of free fatty acid.

The conclusion drawn from the chemical analysis, namely, that the commercial acid sodium oleates are really mixtures and not definite chemical bodies, is substantiated by the statements of the foremost pharmaceutical manufacturers, who, in reply to inquiry, state that the "sodium oleate (acid)" listed in one of their catalogues was "made at the request of some physicians who wanted a sodium oleate which contained an excess of oleic acid," thus, openly and without reserve, telling the medical world that "acid oleates" are simply mixtures of soap and oleic acid. Still another firm makes open statements showing that they "use commercial sodium oleate made acid by the addition of 5 per cent. of pure commercial acid," thus adding evidence against the manufacturers who placed on the market soap and oleic acid and claimed it to be a definite chemical compound.

Sodium oleate is the chief constituent of Castile soap and for a long time has been used in that form with satisfactory results. Why, then, should we pay an exorbitant price for a proprietary substitute of a well-known official remedy which any pharmacist can dispense, simply because it bears a chemical name, high sounding, but loosely and inaccurately applied? The addition of oleic acid to the soap can have no added effect on the therapeutic value of the remedy, for as soon as the compound enters the stomach the sodium oleate is acted on by the gastric juice which gradually changes the oleate into oleic acid, with a speed depending on the solubility of the pill. As soon as oleic acid thus formed, as well as the acid originally present in the compound, passes into the alkaline contents of the intestine the reverse action begins to take place and sooner or later the whole of the oleic acid is converted back to sodium or potassium oleate, and the remedy then acts in the same way as if the soap had been administered in the first place. So "sodium acid oleate" is not only a misnomer, but misleads physicians into believing that they are getting a new compound when in reality it is nothing but soap with free oleic acid added.

Reform in Advertising.

The Harrison County (Miss.) Medical Society has adopted the following resolutions, commending the New Orleans *Morning World* for its action in throwing out all objectionable medical advertisements.

Whereas, The *Morning World*, a daily paper of New Orleans, states that it has no room for quack doctors, quackeries and fakeries, and declines to publish notices of abortifacients and abortionists, and pledges itself not to print objectionable and immoral medical advertisements; therefore, be it

Resolved, That the Harrison County Medical Society heartily endorses this action on the part of the publishers of the *Morning World*, as we do not believe that the public press should print advertisements concerning private and venereal diseases to be carried into our homes for our wives and children to read; and be it further

Resolved, That other medical societies be asked to endorse this feature of the *Morning World*, and to send copies of this endorsement to the editors of that paper, and that a copy of these resolutions be sent to the *Morning World* and to the *Mississippi Medical Monthly*.

This action on the part of the publishers of the *Morning World*, evidently undertaken spontaneously, is most commendable. The time is past when the owners of great city dailies can take the position that there is no connection between the editorial and advertising departments, or can with any degree of consistency or self-respect advocate civic righteousness on editorial pages and advertise easy and safe means of committing felonies on the advertising pages. It is to be hoped that the entire medical profession of Mississippi will lend its support and endorsement to the *Morning World*, and that this example will lead the other newspapers of New Orleans to follow the *World* into paths of decency.

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[1] In the analysis of such a mixture, as a pharmaceutical oleate, it is necessary to determine the quantity of free fatty acid, soap and free alkali. The chemists showed by direct estimation that the Eunatrol contained only an amount of combined fatty acid equivalent to only 39 per cent. of sodium oleate; by direct determination of the uncombined acid they found free fatty acid equivalent to 55 per cent. By igniting a sample of the preparation an alkaline residue was left whose alkalinity was determined and calculated as total alkali. When this, in turn, was calculated as sodium oleate, it indicated 69 per cent. of sodium oleate, and it seemed that the claims of the manufacturers were, after all, justifiable. But as the preparation was found to contain free alkali, uncombined with oleic acid, it is self-evident that such a calculation would give totally wrong results. This leaves the direct method of estimating sodium oleate as the only dependable one and leaves the result, 39 per cent. sodium oleate, as final, over the result obtained by calculating sodium oleate from the total alkali found. It is more than probable that the manufacturers based their claims on just such an inaccurate method as the one just described.

Correspondence

Ticks in Transmission of Disease—Specimens Wanted.

WASHINGTON, D. C., Feb. 12, 1908.

To the Editor:—The agency of ticks in the transmission of diseases of man as well as of the lower animals is becoming of such importance that the Bureau of Entomology, in connection with the investigation of the cattle tick, the transmitter of splenetic or Texas fever of cattle, is also taking up the study of the biology of the other ticks found in this country.

The importance of such an investigation into the life history and habits of ticks has been apparent in South Africa and in Europe for nearly a decade, but not until within the past year (with the exception of the North American fever tick), has it been the case in this country. After failure by several scientists to connect the tick with the Rocky Mountain spotted fever, Dr. H. T. Ricketts, following careful and extensive experiments, has succeeded in demonstrating that what may now be known as the "spotted fever tick," *Dermacentor occidentalis*, is the active agent in the transmission of the disease. The details of these experiments he has presented through THE JOURNAL. In this brilliant demonstration he has rendered great service to the human family. But there is still much in connection with the source of the disease that remains to be discovered. What is the source of the disease? What animal harbors the protozoan (if such it be), in its blood, etc.? The elucidation of the information needed will come with a further experimental study of the life history and habits of the ticks. We are glad to learn that Dr. Ricketts will continue his research in Montana during the coming spring and trust that his already brilliant discoveries will be added to.

The importance of the valuable studies of Dr. L. O. Howard, chief of the Bureau of Entomology; Dr. J. B. Smith of New Jersey, Dr. E. P. Felt of New York and others on the biology of the mosquitoes is now fully appreciated. In order to impress on the minds of the entomologic fraternity the importance of the study of the ticks I prepared a paper for presentation at the meeting of the Association of Economic Entomologists, held at Chicago, Dec. 27-28, 1907, in which the agency of ticks in the transmission of disease was reviewed.

The studies now being made by this bureau on the biology of the ticks, particularly as related to host relationship and geographical distribution require the cooperation of collectors from all parts of the country. The Bureau of Entomology will be glad to receive ticks from any physician, will identify them and will furnish any information desired. Because of their easy access the domestic animals have in the past furnished the greater part of the collections. While further collections from these animals are needed, extensive collections from game birds and mammals are also required. In connection with the hunting trip ticks can be collected in a pill box or in vials carried in the pocket. Some ticks leave the host as soon as the blood commences to coagulate and to capture these it has been found necessary to examine the host at once over a white surface, such as a newspaper. The ticks collected will be of the greatest value if forwarded immediately on collection, alive in small boxes, sufficient moisture being furnished by the use of green leaves or moist absorbent cotton. Ticks from different hosts should be kept separate, and data as to the locality, host, date and collector should accompany the sending. On birds, the ticks are usually found attached to the head or neck, protected by the feathers.

All material should be sent to the southern field laboratory of this bureau at Dallas, Texas, which is in charge of Mr. W. D. Hunter, under whose direction I am carrying on the work on the biology of ticks. Any further information as to collecting, etc., will be gladly furnished.

W. A. HOOKER,
Bureau of Entomology, U. S. Department of Agriculture.

Hypersusceptibility to Serum in Human Beings.

RIVERDALE-ON-HUDSON, N. Y., Jan. 24, 1908.

To the Editor:—Dr. Wiley's case of sudden death after the injection of antitoxin, in THE JOURNAL, Jan. 11, 1908, page 137, recalls a personal experience which may be of interest. In August, 1904, I was called to a case of tonsillar diphtheria. I injected 3,000 units of antitoxin into the muscles of the patient's back without any untoward effects. At the same time, as I was suffering with painful and swollen tonsils, I injected 1,000 units of antitoxin into myself as a precautionary measure, plunging the needle deeply into the muscles of the forearm. The dose for the patient had only the usual beneficial result: rapid recovery, and no disagreeable aftereffects. On the other hand, I suffered a most violent attack of sneezing, which became violent and uncontrollable, even though firm pressure was made against the upper lip and the sides of the nose, and cold compresses were placed against the face. I left the sickroom in haste, and on my way toward the drug store the nose became intensely congested and respiration through the larynx and lungs more difficult every moment. The irritation in the trachea and bronchi caused a continuous cough. On reaching the drug store I took some brandy, thinking that the increased circulation throughout the body would relieve the congestion of the nose, throat and lungs; but on account of the swollen condition of the tongue and throat, I had the greatest difficulty in swallowing it, even though it was greatly diluted. I was enduring intense pain in the nose, eyes and throat, due to the enormous congestion and irritation of the parts, and there were also burning and swelling of the scalp. When I reached home the eyelids were swollen to immense proportions, making vision almost impossible; the tongue was swollen, making speech thick; the scalp, forehead, nose, lips and cheeks were swollen and erythematous; and the conjunctivæ were injected. During the afternoon and evening the symptoms abated, as the result of a saline purge, douching of the nose and eyes with a detergent solution, and the drinking of quantities of an alkaline water, which I continued throughout the attack. After midnight I was aroused by an intense itching and burning of the entire surface of the body caused by urticaria. Applications of a solution of bicarbonate of soda did no good, and being restless, I went out of doors, thinking that the cool night air might give relief. After walking about in the open, thinly clad, for some time, I felt exhausted but little relieved. I then resorted to mopping the body with sponges dipped in alcohol, which was only partially successful, but eventually I found relief by the application of a spray of chloroform. A hypodermic injection of morphin only aggravated the condition. On the following day I called a fellow practitioner and he ordered a solution of sodium bicarbonate as an application to the urticarial wheals; this, however, increased the eruption as well as the itching; both were controlled, however, by the use of a chloroform spray. On the third day my appearance was again normal, and I was able to attend to my practice, though in a weakened condition. On returning home I was again compelled to go to bed, resume the chloroform spray and treat the injected conjunctivæ and congested nasal mucous membrane. On the fourth day the hands and feet swelled greatly, and a troublesome edema of the glottis threatened, so that preparations were made for a tracheotomy in case breathing should become entirely obstructed. By means of a hot mustard footbath, with cold compresses to the neck and the internal administration of ergot, the symptoms were relieved. Nevertheless, for two weeks after the initial attack, fresh outbreaks occurred, consisting of urticaria and swellings of various parts of the body, including the scalp. There was also purpura covering the entire body. The reaction at the point of injection in my arm was very severe, causing a painful arm and forearm, but it gradually disappeared, after four or five days, on application of acetate of aluminium, rest and elevation of the part.

I ascribe all these manifestations to the action of horse serum on a "uric acid condition." Soon after my mishap I remembered that about ten years before similar symptoms followed the injection of plain horse serum into my thigh when I was experimenting on tuberculous and syphilitic subjects and desired to ascertain the effect on a presumably healthy individual, which I considered myself to be at the time. The attack was mild and lasted only a day or two, consisting of pain and itching at the point of injection and urticaria over various parts of the body. In twelve years of practice I have seen but one other case in which there was swelling of the tongue and larynx, with thick speech at first and eventually loss of phonation. The symptoms lasted but a short time. Dr. Wiley states that his patient could never be near horses without suffering symptoms of asthma. A similar condition exists in my case, except that instead of asthma the nasal and conjunctival membranes are affected, causing sneezing and itching of the eyelids. This I attribute to the fine particles of hair and dust given off from horses and certain species of dogs.

The lessons which I learned from this disagreeable experience were: First, the beneficial effect of chloroform spray to relieve itching in urticaria; second, the bad effect of morphin in such a condition, as it undoubtedly increased the hyperemia on the surface, and intensified the burning and itching; third, the benefit of arterial contractors, like ergot; fourth, the caution required in administering horse serum to persons suffering from a "uric acid diathesis."

A. EMIL SCHMITT.

PITTSBURG, PA., Feb. 10. 1908.

To the Editor:—In the editorial on hypersusceptibility in THE JOURNAL, February 8, in the report of cases which have been in THE JOURNAL, no note is made of the fact that hypersusceptibility has been found by Otto, Rosenau and Anderson, and others, to be transmissible from mother to offspring. Would it not be worth while, in reporting these cases, to have the question of former administration of antitoxin to the mother, prior to the birth of the child, carefully looked into and recorded in the individual cases as possibly explaining the hypersusceptibility in the child.

WILLIAM CHARLES WHITE.

MOUNT STERLING, KY., Feb. 10, 1908.

To the Editor:—I have just read your editorial in THE JOURNAL, February 8, on "Hypersusceptibility to Serum in Human Beings" and had read of the cases cited in which death occurred following injections of antidiphtheritic serum.

I infer from your article that it is the opinion of those who have looked into the subject that the fatalities are due to some peculiar susceptibility in the individual to the serum of the horse, and I concur in this opinion.

I have a friend who is unable to ride or drive a horse without having symptoms and sometimes a severe attack of asthma. I have never seen any ill effects more than a simple nettle-rash, following injections of antidiphtheritic serum though I have given it to a large number of children and to a number of them twice and several times three times; a year or more intervening between the doses.

Will you kindly answer this question: Does the precipitation of the globulins from the serum and redissolving them in normal saline solution do away with this medium of the horse serum entirely? If so, would it not be well for the profession to abandon the use of the old serum and use the antidiphtheritic globulins altogether?

My understanding is that the globulins contain only or rather are the antitoxin itself. Am I correct in this?

W. R. THOMPSON.

ANSWER:—In answer to the question in the above letter we would state that so far it has not been possible to deprive horse serum by chemical means of either the sensitizing principle or of the toxic principle that produces the symptoms of anaphylaxis in guinea-pigs (see editorial). Rosenau and Anderson, in the *Jour. Infect. Diseases*, 1908. vol. v, page 85, make the following statement: "We find it interesting to compare the toxic effects on sensitized animals of untreated antitoxic serum and the precipitated refined antitoxin; bulk for bulk we found them accurately toxic. But as the same number of units can be given in half the bulk there is a manifest advantage in using the precipitated serum, as the rashes and other untoward effects of serum depend to some extent on the volume of serum administered."

Association News

COMMITTEE OF ARRANGEMENTS.

The Chicago Session of the American Medical Association—Committees in Charge.

The following Chicago physicians are the members of the Committee of Arrangements for the coming session of the American Medical Association in Chicago, June 2 to 5, 1908. For information on matters relating to the functions of the various committees address the chairmen.

CHAIRMAN: Dr. M. L. Harris, 100 State St.
SECRETARY: Dr. R. R. Campbell, 100 State St.
Dr. H. B. Favill, 100 State St., president of Chicago Medical Society.
Dr. W. L. Baum, 103 State St., president of Illinois State Medical Society.

The following members are also chairmen of the various subcommittees specified:

FINANCE: Dr. Frank Billings, 100 State St.
HALLS AND MEETING PLACES: Dr. Hugh T. Patrick, 34 Washington St.
HOTELS: Dr. L. L. McArthur, 100 State St.
RECEPTIONS AT RAILROAD STATIONS: Dr. J. H. Stowell, 103 State St.
ENTERTAINMENTS: Dr. T. A. Woodruff, 72 East Madison St.
BUREAU OF INFORMATION: Dr. J. V. Fowler, 312 Grand Ave.
CLINICS: Dr. A. J. Ochsner, 710 Sedgwick St.
SCIENTIFIC EXHIBIT: Dr. E. R. LeCount, 6026 Monroe Ave.
PRINTING, BADGES, ETC.: Dr. C. P. Caldwell, 4425 Michigan Ave.
ALUMNI MEETINGS, ETC.: Dr. R. T. Gillmore, 103 State St.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

HYPERNEPHROMA.

OSAWATOMIE, KAN., Jan. 28. 1908.

To the Editor:—Please give references to literature on hypernephroma.

B. R. RILEY.

ANSWER.—The following articles are included in THE JOURNAL indices since 1901:

- "A Case of Hypernephroma of the Kidney Complicating Pregnancy." G. M. Boyd and J. McFarland, *Am. Jour. Med. Sci.*, June, 1902.
- "Histologic and Histogenetic Features of a Medullary Hypernephroma of the Kidney." J. C. Ohlmacher, *Jour. Med. Research,* May 1902.
- "Hypernephroma or Adrenal Tumor of the Kidney." A. P. Ohlmacher, *Cleveland Med. Jour.*, March, 1903.
- "Chemical Diagnosis of Hypernephromas (Suprarenal Tumors) of the Kidney." A. C. Croftan, THE JOURNAL, Jan. 10. 1903, page 91.
- "Hypernephroma." P. Thorndike and J. H. Cunningham, *Boston Med. and Surg. Jour.*, Dec. 3, 1903; abstracted in THE JOURNAL, Dec. 19, 1903, page 1559.
- "Hypernephroma of Kidney, with Report of a Case." R. W. Hardon, *Ill. Med. Jour.*, May. 1904.
- "Secondary Manifestations of Hypernephromata." W. L. Bierring and H. Albert, THE JOURNAL, July 24, 1904.
- "Recurrent Hypernephroma in Bronchial Lymph Glands." P. Clairmont, *Archiv. f. klin. Chir.*, lxxiii, No. 3.
- "Hypernephroma as a Result of Traumatism, Nephrectomy. Recovery." G. Chandler, *New York Med. Jour.*, Sept. 3, 1904.

"Hypernephroma." W. W. Keen, G. E. Pfahler and A. G. Ellis, *American Medicine,* Dec. 17, 1904.

"A Case of Hypernephroma." W. B. Dorsett, St. Louis Medical Review, Dec. 17, 1904.

"Remarks on the Pathology of Hypernephroma." R. L. Thompson, St. Louis Medical Review, Dec. 17, 1904.

"Three Cases of Hypernephroma." I. C. Herb, *Am. Jour. Med. Sci.,* June, 1905.

"Renal Hypernephroma." P. Kuzmik, *Beiträge z. klin. Chirurg.,* xlvi, 1905-06.

"Case of Hypernephroma." W. J. Taylor, *Am. Jour. Med. Sci.,* February, 1906.

"Clinical and Pathologic Anatomy of Malignant Hypernephroma," P. Albrecht, *Archiv. f. klin. Chir.,* lxxvii, 4; abstracted in The Journal, Feb. 24, 1906, page 622.

"Case of Hypernephroma of the Kidney." J. M. Berry, *Albany Medical Annals,* November, 1906.

"Hypernephroma Renis." J. W. Bovée, *Surgery, Gynecology and Obstetrics,* July, 1906.

"A Case of Secondary Hypernephroma of the Iris and Ciliary Body." Burton Chance, The Journal, Feb. 9, 1907, page 475.

"Metastases of Hypernephroma." E. Hoffmann, *Deutsche med. Wochschr.,* xxxiii, 7; abstracted in The Journal, April 13, 1907, p. 1306.

"Hypernephroma of Kidney: Nephrectomy." I. S. Stone, *Washington Med. Annals,* January, 1907.

"Presence of Lecithins in Hypernephromata." G. Delamare and P. Lecène, *Presse Médicale,* 1907, xv, 27.

"Extirpation of Hypernephroma, Weighing 4¼ Pounds, From an Infant." W. S. Cheesman, *Annals of Surgery,* January, 1907.

"Bone Metastases of Hypernephroma." C. L. Sendder, *Annals of Surgery,* December, 1906.

"Hypernephroma of the Kidney." R. Weil, *Annals of Surgery,* September, 1907; abstracted in The Journal, Oct. 19, 1907, p. 1401.

"Hypernephroma." I. W. Blackburn, *New York Med. Jour.,* Aug. 17, 1907; abstracted in The Journal, Aug. 31, 1907, page 801.

SCOPOLAMIN-MORPHIN ANESTHESIA.

Greensboro, N. C., Feb. 1, 1908.

To the Editor:—Can you refer me to articles on scopolamin-morphin anesthesia in obstetric practice, other than those contained in The Journal? F. R. Tittle, M.D.

Answer.—The following articles dealing with scopolamin-morphin anesthesia have been published during the last year:

"Technic of Scopolamin-Morphin Anesthesia." C. J. Ganss, *Centrbl. f. Gynäkologie,* xxxi, No. 2; abstracted in The Journal, March 9, 1907, page 912.

"First Thousand Childbirths Under Scopolamin-Morphin Anesthesia." C. J. Gauss, *Münch. med. Wochschr.,* liv, No. 5; abstracted in The Journal, March 16, 1907, page 983.

"Scopolamin-Morphin in Obstetrics." Preller, *Münch. med. Wochschr.,* liv, No. 5; abstracted in The Journal, March 16, 1907, page 983.

"Technic of Spinal Anesthesia Under Scopolamin-Morphin for Abdominal and Gynecologic Operations." Penkert, *Münch. med. Wochschr.,* liv, No. 5; abstracted in The Journal, March 16, 1907, page 983.

"Deliveries Under Scopolamin-Morphin." W. Steffen, *Arch. f. Gynäkologie,* lxxxi, No. 2; abstracted in The Journal, May 25, 1907, page 1821.

"Deliveries Under Scopolamin-Morphin Semianesthesia." Articles by O. Bass and by Hocheisen, *Münch. med. Wochschr.,* liv, No. 11.

"Scopolamin-Morphin Anesthesia in Obstetrics." F. S. Newell, *Surgery, Gynecology and Obstetrics, August,* 1907; abstracted in The Journal, Sept. 14, 1907, page 969.

"Scopolamin Narcosis in Obstetrics and Influence of Drug on the Child." E. Holzbach, *Münch. med. Wochschr.,* liv, No. 25; abstracted in The Journal, Sept. 7, 1907, page 885.

"Scopolamin Analgesia in Obstetrics." A. Bertano, *La Ginecologia,* Oct. 31, 1907; abstracted in The Journal, Jan. 11, 1908, page 139.

"Scopolamin-Morphin in Obstetrics." O. P. Mansfeld, *Wiener klin. Wochschr.,* Jan. 2, 1908; abstracted in The Journal, Feb. 15, 1908, page 570.

"Scopolamin-Morphin Anesthesia in Gynecology." Emil Ries, *Am. Jour. Obstet.,* February, 1908.

U. S. DIPLOMAS ABROAD.

———, Kan., Feb. 10, 1908.

To the Editor:—In what foreign countries is a diploma from a medical college in the United States recognized as evidence to practice without an examination? S.

Answer.—The foreign countries that have had no regulations, or under whose regulations a graduate of a recognized medical college in the United States could practice without examination, are: East and West Coasts of Africa, Bahama Islands, British New Guinea, Falkland Islands, Orange River Colony, Rhodesia and Transvaal. Before deciding on any location, it would be well to correspond with the United States' consul located in that country to learn whether or not new regulations have been adopted.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Feb. 15, 1908:

Davis, W. T., asst.-surgeon, leave of absence extended five days.

Flagg, C. E. B., asst.-surgeon, assignment to duty in the Philippine Islands, revoked.

Gray, W. W., deputy surgeon general, relieved from duty as chief surgeon and attending surgeon, Department of the Gulf, and ordered to proceed to the Philippine Islands, and on arrival at Manila, to report in person to the commanding general, Philippines Division, for assignment to duty.

Shimer, I. A., asst.-surgeon, orders so amended as to direct him, on arrival at San Francisco, to report for duty as surgeon of the transport *Crook.* On arrival at Manila, Capt. Shimer to report in person to the commanding general, Philippines Division, for duty as heretofore ordered.

Hadra, Frederick, contract surgeon, sailed on the *Buford,* February 5, for Philippine service.

Cattermole, C. A., contract surgeon, ordered from Manila, P. I., to San Francisco, for annulment of contract.

Marion, G. L., contract surgeon, ordered from San Francisco, to his home, Elgin, Ill., for annulment of contract.

Slater, E. F., contract surgeon, relieved from duty at Fort Banks, Mass., and ordered to Madison Barracks, N. Y., for duty.

Kress, C. C., contract surgeon, on abandonment of Fort Reno, ordered to Fort Bliss, Texas, for duty.

Craig, E. F., dental surgeon, ordered to Fort Mackenzie, Wyo., for duty for twenty-five days.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending February 15, 1908:

Fauutleroy, A. M., P. A. surgeon, detached from the Naval Hospital, Mare Island, Cal., ordered home and granted leave for two months.

Brown, E. M., P. A. surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to report at said hospital for treatment.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 12, 1908.

Bailhache, P. H., surgeon, directed to report at the bureau for special temporary duty, on completion of which to rejoin his station at Stapleton, N. Y.

Guiteras, G. M., surgeon, directed to proceed to Port Arthur, Texas, for special temporary duty; on completion of which to rejoin his station at Mobile, Ala.

Lavinder, C. H., P. A. surgeon, granted extension leave of absence for 10 days from Feb. 14, 1908.

Foster, N. H., P. A. surgeon, directed to proceed to Ponco, P. R., for special temporary duty, on completion of which to rejoin his station at San Juan, P. R.

Parker, H. B., P. A. surgeon, granted leave of absence for 5 days from Jan. 27, 1908, on account of sickness.

Ramus, Carl, P. A. surgeon, granted leave of absence for 3 months and 23 days from March 1, 1908, with permission to go beyond the sea.

Earle, B. E., P. A. surgeon, granted extension leave of absence for 8 days from Feb. 11, 1908.

Francis, Edward, P. A. surgeon, granted extension leave of absence for 7 days from Feb. 9, 1908.

Bahreuburg, Z. P. H., P. A. surgeon, granted leave of absence for 7 days from Jan. 28, 1908, on account of sickness.

Warren, B. S., P. A. surgeon, relieved from duty at Chicago, and directed to proceed to St. Louis, and assume command of the service at that port.

Ward, W. K., P. A. surgeon, granted leave of absence for one day from Jan. 3, 1908, under Paragraph 191, Service Regulations.

Roberts, N., asst.-surgeon, granted leave of absence for 6 days from Feb. 3, 1908, under Paragraph 191, Service Regulations.

Collins, G. L., asst.-surgeon, granted leave of absence for 7 days from Jan. 28, 1908, under Paragraph 189, Service Regulations.

Mullan, E. H., asst.-surgeon, granted leave of absence for 1 day, Jan. 4, 1908, under Paragraph 191, Service Regulations.

Mullan, E. H., asst.-surgeon, granted leave of absence for 7 days from Jan. 29, 1908, on account of sickness.

Wollenburg, R. A. C., asst.-surgeon, granted leave of absence for 7 days from Jan. 2, 1908, under Paragraph 191, Service Regulations.

Bullard, J. T., acting asst.-surgeon, granted leave of absence for 30 days from Feb. 14, 1908.

Duke, B. F., acting asst.-surgeon, granted leave of absence for 20 days from Jan. 6, 1908, account of sickness.

Eakins, O. H., acting asst.-surgeon, granted leave of absence for 30 days from April 10, 1908, and excused from duty for a further period of two months, without pay, from the expiration of said leave.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for one day, Feb. 4, 1908, under Paragraph 210, Service Regulations.

Thompson, W. R. P., acting asst.-surgeon, granted leave of absence for 12 days, from Jan. 10, 1908.

BOARD CONVENED.

A board of medical officers was convened at Port Townsend, Washington, Feb. 14, 1908, for the purpose of making a physical examination of an officer of the Revenue-Cutter Service, to determine his fitness for promotion. Detail for the board: Surgeon W. G. Stimpson, chairman, and P. A. Surgeon J. H. Oakley, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 14, 1908.

SMALLPOX—UNITED STATES.

Alabama: Mobile, Jan. 26-Feb. 2, 2 cases.

California: Los Angeles, Jan. 18-25, 13 cases; San Francisco, 16 cases.

District of Columbia: Washington, Jan. 25-Feb. 1, 6 cases.

Illinois: Springfield, Jan. 23-30, 13 cases.

Indiana: Indianapolis, Jan. 26 Feb. 2, 2 cases; La Fayette, Jan. 28-Feb. 3, 1 case; South Bend, Jan. 25-Feb. 1, 1 case.

Iowa: Ottumwa, Jan. 25-Feb. 1, 1 case.

Kansas: Topeka, Jan. 18-25, 3 cases; Wichita, 4 cases.

Kentucky: Lexington, Jan. 25-Feb. 1, 1 case.

Louisiana: New Orleans, Jan. 25-Feb. 1, 6 cases, imported.

Michigan: Saginaw, Jan. 8-Feb. 1, 41 cases.

Missouri: Kansas City, Jan. 18-25, 5 cases; St. Joseph, Jan. 11-25, 18 cases.

Ohio: Cincinnati, Jan. 26-31, 8 cases; Dayton, Jan. 25-Feb. 1, 1 case.

Oregon: Portland, Jan. 18-25, 4 cases.

Pennsylvania: Williamsport, Jan. 25 Feb. 1, 1 case.

South Dakota: Sioux Falls, Jan. 1-25, 2 cases.

Tennessee: Knoxville, Jan. 25 Feb. 1, 6 cases; Nashville, 12 cases.

Texas: San Antonio, Jan .18-Feb. 1, 14 cases.

Washington: Spokane, Jan. 18-25, 8 cases; Tacoma, Jan. 8-25, 2 cases.

Wisconsin: Appleton, Jan. 18-25, 1 case; La Crosse, Jan. 25-Feb. 1, 8 cases; Oshkosh, Jan. 18-25, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, Dec. 27-Jan. 3, 32 cases, 15 deaths.

China: Hongkong, Dec. 7-14, 1 case, 1 death.

Great Britain: Edinburgh, Jan. 11-18, 4 cases; Leith, 17 cases, 1 death.

India: Bombay, Dec. 1-Jan. 7, 6 deaths; Calcutta, Dec. 14-21, 2 deaths.

Italy: General. Jan. 8-23. 70 cases; Genoa, Dec. 2-21, 4 cases.

Japan: Kobe, Dec. 21 Jan. 4, 501 cases, 138 deaths; Yokohama, Dec. 20-Jan. 14. 55 cases, 13 deaths.

Portugal: Lisbon, Jan. 11-18, 1 case.

YELLOW FEVER.

Cuba: Habana, Feb. 4-6, 2 cases.

CHOLERA—INSULAR.

Philippine Islands: Manila, Dec. 14-21, 4 cases, 4 deaths.

CHOLERA—FOREIGN.

India: Bombay, Dec. 31-Jan. 7, 1 death; Calcutta, Dec. 14-21, 51 deaths; Madras, Dec. 27-Jan. 3, 9 deaths; Rangoon, Dec. 21-28, 7 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Dec. 27-Jan. 3, 4 cases, 1 death.

Africa: British Gold Coast, Accra, Jan. 13, present.

India: General, Dec. 14-21. 3,410 cases, 2,602 deaths; Bombay, Dec. 31-Jan. 7, 9 deaths; Calcutta, Dec. 14-21, 18 deaths; Madras, Dec. 21-27. 1 death: Rangoon, Dec. 21-28, 7 deaths.

Peru: Catacaos, Jan.4-11. 4 cases; Lima, 2 cases; Paita, 16 cases; Piura, 6 cases; Trujillo, 15 cases.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Connecticut State Board of Medical Examiners, City Hall, New Haven. March 10. Secretary, Dr. Charles A. Tuttle, 196 York St., New Haven.

Connecticut Homeopathic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

Connecticut Eclectic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. T. S. Hodge, 16 Main St., Torrington.

Iowa State Board of Medical Examiners, Capitol Building, Des Moines, March 10-12. Secretary, Dr. Louis A. Thomas, Des Moines.

Massachusetts Board of Registration in Medicine, Room 15, State House, Boston, March 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

Maine Board of Registration of Medicine, State House, Augusta, March 17-18. (Note change of place from Portland.) Secretary, Dr. William J. Maybury, Saco.

Massachusetts Board Urges Amendment.

Massachusetts is one of the six states which allow non-graduates in medicine to take the examination for license to practice. In its report for 1907, the Massachusetts Board of Registration in Medicine urges an amendment to the medical practice act, requiring that every candidate for license shall be a graduate of a reputable medical college. The board clearly states that "one of the chief functions of the examining boards of the country is to uphold the medical college" and to help in "the creation of higher standards therein." Therefore, "only those who can successfully accomplish tests of high scientific work" in the medical college should be permitted to offer themselves as candidates for professional service.

Another strong argument is that some applicants, "simply from a superficial knowledge derived from medical compends, or by memorizing hand-books of answers to questions asked or likely to be asked by an examining board," may succeed in passing the usual written examination and "still be grossly unfit to assume the responsibilities of a physician." If graduation from a "reputable medical college" is required by law, the board will also be in position to protect its state from a number of medical colleges in the United States which have been found to be far from reputable.

Plea for One, Strong Medical College at Cincinnati.

President Charles W. Dabney of the University of Cincinnati, in his last annual report, takes a positive stand for higher standards of medical education. He calls attention to the progress of the science of medicine with the resultant demand for well-equipped laboratories, and for salaried teachers and investigators. He also points to the recent advances in standards by several medical colleges, whereby two or more years of university work are to be required for admission to medical study. The report continues:

"I would again urge the wisdom of providing in Cincinnati the best instruction in medical sciences in full accordance with these modern methods. All medical instruction given here at present is at the expense of the profession. The endowments and outside support are insignificant and have nearly all been given by the members of the profession. This is no more reasonable than if we were to require the present engineers to educate the future engineers, or the present teachers to educate their successors in the schools. The education of physicians is as much a public duty as the training of teachers or principals of schools. It is certainly unbusiness-like, not to say absurd, for the people of Cincinnati, to propose to dictate in matters pertaining to the medical colleges, not carried on exclusively at the expense of their professors and students, until they are prepared to provide them substantial support. What Cincinnati needs is not more medical colleges, but one great scientific institution of this modern type. It is perfectly apparent that such an institution can not be built and supported without endowments or some additional aid.

"As the first step towards this end, I recommend that this university begin by undertaking, as soon as the facilities can be provided, the scientific instruction of the first two years of the medical course in connection with its academic and scientific colleges. Provision could be made at a reasonable expense for this. At the close of this period the student could go to the regular professional college for his finishing course. A building, containing the required lecture rooms and laboratories and an appropriation of about $25,000 a year would enable us to make a beginning in this enterprise, which we should hope would in time grow into the complete modern medical school that Cincinnati so much needs."

To Prevent Impersonation at Examination.

To prevent the impersonation of a candidate by another individual at their examinations, the Iowa state board has recently adopted a ruling requiring that each applicant for license in Iowa, whether by examination or through reciprocity, shall file a recent photograph of himself with his application. Also, on the opening day of the examination each applicant will be required to hand in a photograph, which, after it has been identified, will be filed with the application. There have been cases in which impostors have made a business of passing examinations for other people for so much money. One of these individuals was heard to boast that he had passed the examinations in several states for different individuals. Such rulings as that adopted by the Iowa board will check this practice.

South Dakota Advances Preliminary Requirements.

Dr. H. E. McNutt, secretary of the South Dakota Board of Medical Examiners, reports that at the meeting of that board held Jan. 20, 1908, a resolution was adopted that after the year 1910, in addition to a four-year high school education, each candidate must have had at least one year's work in a college of liberal arts preliminary to the medical course, this year's work to include physics, chemistry, biology and modern languages. South Dakota is the fourth state to adopt this or higher requirements, the other states being Minnesota, Connecticut and North Dakota.

Iowa September and December Reports.

Dr. L. A. Thomas, secretary of the Iowa Board of Medical Examiners, reports the examinations at Des Moines, Sept. 17-19, and Dec. 10-12, 1907. The number of subjects examined in at these examinations was 8; total number of questions asked, 100; percentage required to pass, 75.

At the September examination 14 candidates passed and 11 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Atlanta Coll. of P. and S.	(1901)	79
Northwestern Univ. Med. School	(1907)	75, 80
Kentucky School of Med.	(1907)	75
Johns Hopkins Med. School	(1902)	78
University of Michigan	(1904)	84
Ensworth Central Med. Coll.	(1907)	75
Creighton Med. Coll.	(1907)	75, 76
New York Homeo. Med. Coll.	(1907)	77
Western University, London, Ontario	(1907)	76, 79, 85
University of Toronto, Canada	(1906)	77

FAILED.

College.	Year Grad.	Per Cent.
Illinois Med. Coll.	(1907)	68
Sioux City Coll. of Med.	(1907)	69, 73
Keokuk Med. Coll., College of P. and S.	(1904)	70
University of Iowa, College of Med.	(1907)	74.2
University of Iowa, Homeopathic Dept.	(1900)	66
Drake University	(1907)	68
Baltimore Med. Coll.	(1904)	71
Creighton Med. Coll.	(1906)	57
Western Pennsylvania Med. Coll.	(1905)	68
University of Naples, Italy	(1890)	69.3

At the December examination 9 candidates passed and 2 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Northwestern Univ. Med. Coll.	(1906)	89.2
University of Iowa	(1907)	76.5
Sioux City Coll. of Med.	(1907)	78.5, 79.5
Baltimore Med. Coll.	(1904)	78
Creighton Med. Coll.	(1907)	83
St. Louis University	(1906)	76.7
Western Pennsylvania Med. Coll.	(1905)	77.5
Jefferson Med. Coll.	(1907)	83.3

FAILED.

College.	Year Grad.	Per Cent.
Keokuk Med. Coll.	(1904)	72.7
College of P. and S., Kansas City, Kan.	(1901)	68.2

District of Columbia April, July and October Reports.

Dr. George C. Ober, secretary of the Board of Medical Supervisors, reports the examinations at Washington, April July and October, 1907. The number of subjects examined in at these examinations was 16; total number of questions asked, 82; percentage required to pass, 75.

At the April examination 6 candidates passed and 11 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Georgetown University	(1906)	81.2
George Washington University (1905) 85.1;	(1906)	80.9, ——*
Howard University	(1906)	75.4
McGill University, Montreal	(1895)	83.1

FAILED.

College.	Year Grad.	Per Cent.
George Washington Univ., (1905) 47.8, 67.1, 72.7;	(1906)	70.4
Howard University	(1906)	50.6
Georgetown University, (1903) 69.7; (1905) 70.2;	(1906)	73
Baltimore Med. Coll. (1900) 59.7;	(1901)	73.2
University of Maryland	(1906)	51.2

* Percentage not given.

At the examination held in July the total number of candidates examined was 35, of whom 22 passed and 13 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Georgetown University (1905) 77.4, 79.2;	(1907)	87.1
George Washington University (1906) 75; (1907) 77.3, 77.5, 78.2, 79.8, 83.7, 83.7, 86.7, 87.2, 87.6.		
Howard University (1906) 79.1, 84.5;	(1907)	84
Yale Medical School	(1904)	86.2
Baltimore Med. Coll.	(1901)	78.8
Boston University	(1907)	89.2
New York Homeopathic Med. Coll.	(1907)	97
Hahnemann Med. Coll., Philadelphia	(1907)	89.4, 93.7

FAILED.

College.	Year Grad.	Per Cent.
George Washington Univ. (1906) 72.3, 72.6;	(1907)	68.3, 72.3
Howard University (1906) 67.5, 68.5, 71.9;	(1907)	63.7, 73.2
Baltimore Med. Coll.	(1900)	63.1
Johns Hopkins Med. School	(1907)	†75.5
St. Louis Coll. of P. and S.	(1907)	73.2
Leonard Medical School	(1906)	65.2

† Failed in two branches to make necessary percentage of sixty.

At the examination held in October the total number of candidates examined was 33, of whom 25 passed and 8 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Howard University (1905) (75.3;	(1907)	90.2
Georgetown University (1906) 78.4; (1907) 79.7, 80.5, 84.8, 88.6.		
George Washington University (1905) 76.1, 80.7; (1906) 75.5; (1907) 76.3, 76.4, 77.4, 79, 80.3, 80.8, 81.6, 81.8, 84.6, 84.8, 87.3, 89.9.		
Johns Hopkins Med. School (1900) 84.2;	(1904)	79.4
University of Pennsylvania	(1902)	84.4

FAILED.

College.	Year Grad.	Per Cent.
National University, Washington	(1902)	59.2
Howard University	(1907)	72.5
George Washington University (1905) 61.1; (1907) 71.2, 72.1, 72, 73.9.		
Baltimore Med. Coll.	(1907)	58

Ohio 1907 Reciprocity Report.

Dr. George H. Matson, secretary of the Ohio State Board of Medical Registration and Examination, reports the reciprocal licenses issued by that board during 1907. The following colleges were represented:

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Howard University, Washington	(1902)	Dist. Colum.
Northwestern Univ. Med. School	(1905); (1907)	Illinois
Bennett Coll. of Ecl. Med. and Surg.	(1882)	Indiana
Bennett Coll. of Ecl. Med. and Surg.	(1906)	Illinois
Rush Med. Coll.	(1904); (2, 1906)	Illinois
Hering Med. Coll.	(1905)	Illinois
Hahnemann Med. Coll. and Hosp., Chicago	(1905)	Illinois
Coll. of P. and S., Chicago	(1904); (1905); (2, 1906)	Illinois
Central Coll. of P. and S., Indianapolis	(1905)	Indiana
Physio-Medical College of Indiana	(1904)	Indiana
Indiana Med. Coll.	(1906); (1907)	Indiana
Indiana University	(1907)	Indiana
College of P. and S., Keokuk	(1887); (2, 1898)	Iowa
Keokuk Med. Coll.	(1899)	Wisconsin
Kentucky School of Med.	(1904)	Nebraska
Medical School of Maine	(1901)	Maine
University of Maryland	(1900)	Maryland
Maryland Med. Coll.	(1901)	Maryland
Johns Hopkins Med. School	(1907)	Maryland
Univ. of Michigan (1902) Maine;	(1903); (2, 1904)	Michigan
Univ. of Michigan	(3, 1905); (1907)	Michigan
Michigan Coll. of Med. and Surg.	(1906)	Michigan
Detroit Coll. of Med.	(1903)	Michigan
St. Louis University	(1905)	Illinois
Ohio Med. University	(1907)	Michigan
Toledo Med. Coll.	(3, 1906)	Illinois
Eclectic Med. Inst., Cincinnati (1875) Wisconsin; (1893) Indiana	(1907)	Iowa
Jefferson Med. Coll. (1905) New Jersey;	(1906)	Illinois

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Requirements for Medical Legislation.

In the Kansas City *Medical Index-Lancet* for January appears an article on "State Medical Legislation" by Dr. A. H. Madry, which contains some statements that should be carefully considered. Dr. Madry says in part:

> The medical profession stands responsible for the present lack of wholesome legislation. Too little thought has been given to the definite ends and aims of medicine and the means of their accomplishment. Lack of unity on the part of the medical profession has allowed quackery and charlatanism to develop. Dr. Kendrick of the Mississippi General Assembly lays down three conditions as essential to the passage of medical laws: 1, The medical profession must agree beforehand on what it wants; 2, its action must be endorsed by the medical organizations of the state. 3, individual members of the profession must personally inform senators and representatives regarding the needs and merits of the proposed law. It is more important at present for the organized profession, individually

and collectively, to study the laws we have and the laws we need than to study a new remedy or a new theory of some disease. The world will more nearly appreciate the high altruism and humanity of medicine when the profession shall have determined on and enacted into laws those conclusions which are for the public good. Secretiveness will not procure the legislation which is needed.

The opinion of Dr. Kendrick quoted above is particularly worthy of emphasis. Until physicians themselves agree on the essential points of desired legislation, it is practically useless to expect uniformity or stability in our medical legislation. To secure these results, careful, unprejudiced study of existing conditions, not from the standpoint of the physician, but from that of the public, as well as a broad-mindedness and a willingness to surrender previously conceived ideas and cherished convictions if necessary, is absolutely essential. Far too much of our legislation reflects the personal prejudices and opinions of the physicians who drafted it.

No law can be effective or permanent that is not based on a broad and accurate knowledge of underlying conditions and on careful and logical deductions therefrom. No law can be enforced that is not supported by the people. This means that our medical laws, if they are to be enforced, must be formulated only after the most careful and exhaustive study of conditions.

A Bureau of Publicity for County Societies.

At the meeting of the Philadelphia County Medical Society, Jan. 22, 1908, Dr. J. Madison Taylor read a paper entitled, "Wanted, a Medical Bureau of Publicity for County Societies," of which the following is an abstract:

The profession of medicine is essentially an educational agency. It is still held by its nobler traditions to a dignified position of reticence. Ethical principles, somewhat restricted and vague, obtain in essence. The question should be fairly met: do these ethical limitations accomplish the objects for which they were originally devised?

The central aim of the profession of medicine is radically different from that of all other professions. Only a few individuals fail to adhere to this aim. We stand pledged to use all the powers we possess and can acquire to prevent the conditions which make our calling necessary. A secondary purpose is to cure with the utmost promptitude the baneful effects of these causes. In short, while all business enterprises endeavor to increase demand, physicians strive to prevent, to check, its growth.

Not so with the purveyors of drugs, remedial agents, waters, various appliances, and lately special foods, *et id omne genus*. The watchword of these men is not only to supply all demands, but to create demand by legitimate or artificial means. They assume to teach us and to form opinions for the public. Here is a grave peril for which we are partly responsible. To correct this, we should aid in promulgating right conceptions of the advances in medical science by the use of the public press. On this arena, with the great body of thinking people as audience, must we win or lose.

It is necessary to meet modern conditions by adopting modern methods. All opponents to the purposes and efforts of the profession use the newspapers to attract public attention. Fakers, grafters, panderers to evil amusements, vendors of disguised poisons and all the disseminators of hurtful influences employ vast sums of money through press agents. The only way to combat these destructive agencies is for organized medical bodies to establish bureaus of publicity, safeguarded by competent committees, through which information, opinions and action may be accurately and systematically supplied to the papers. The public are made fully aware of every tempting method of doing themselves harm. We, as a profession, fail to exert the counter influence which ought to impress the consciousness of those who need our protection.

Bureaus of publicity should be established in connection with all county medical societies and reliable press agents should be retained. Many reasons can be adduced why this is essential to a correct presentation of facts bearing on medical science and on the best interests of the public. Among the most important of these is the fact that all those interests which are opposed to medical ethics employ press agents. With them, it is a question of business. Good business methods demand that the public be made acutely aware of the more attractive phases of the proposition offered. These fakers have for sale goods, advice, or whatever they wish to barter for money. The chief avenue of diffusion is the daily press, through the ordinary channels of advertisement or shrewdly placed news items. It is well known that the great nostrum venders expend many millions of dollars annually through the cooperation of professional press agents. These constitute bureaus of publicity for quackery. Few organized medical bodies spend any money for popular education, to "put the people wise" on questions which it is their desire and duty to have correctly understood. Yet a large and increasing group of irregulars do spend vast sums to mislead the unwary, thereby causing incalculable damage to morality and health.

Teaching mankind systematically and accurately how to know good from evil, right interpretations of current facts, advancements in scientific knowledge of hygiene, correct living and acting, should be the undivided purpose of the medical profession. The first step is to get the real facts known, to teach the people correctly what we are doing for their welfare, to furnish information which will advance the best interests of the race.

The form and character of such bureaus of publicity should be carefully formulated. Rules to govern methods, however, should be advised promptly and repeatedly until, by intelligent evolution, consonant with experience, they shall become perfected.

Dr. John G. Clark spoke of the plans of the Board of Public Education of the American Medical Association and said that efforts were being made to disseminate information on a large number of medical subjects through magazines, agricultural papers and other publications, and that such articles will probably be printed later in pamphlet form for distribution. If an epidemic of typhoid fever occurs, the infected district can be flooded with literature, calling attention to the necessity of pure water, the danger of typhoid fever, the means of avoiding it, etc.

Dr. A. B. Hirsh said that the proposition of Dr. Taylor to establish a committee on publicity should take practical form.

Dr. Jay F. Schamberg thought that publicity departments in connection with medical societies would result in a vast amount of good to the public.

Dr. C. A. E. Codman thought that the state society should have general control of all bureaus in the state through a committee working in connection with the committee of the American Medical Association.

Dr. Taylor said that all county societies should have such bureaus as a part of their working machinery. He was aware of the work of the board of public education and assumed that local bureaus would work in harmony with state bureaus, which would in turn cooperate with the Board of Public Education of the American Medical Association.

Societies Take Up Postgraduate Work.

The following societies have taken up postgraduate work in addition to those already given in THE JOURNAL:

New Castle County (Del.) Medical Society.
Fulton County (Ind.) Medical Society.
Jackson County (Ind.) Medical Society.
Jennings County (Ind.) Medical Society.
Madison County (Ind.) Medical Society.
Barton County (Kan.) Medical Society.
Montgomery County (Ky.) Medical Society.
Carroll County (Md.) Medical Society.
Berrien County (Mich.) Medical Society.
Hall County (Neb.) Medical Society.
Twin City Club (Urichville and Denison, Tuscarawas County, O.)
Oklahoma County (Okla.) Medical Society.
Belington Club (Barbour County, W. Va.)
Philippi Club (Barbour County, W. Va.)

Action by County Societies on Nostrums.

The following societies have adopted the Kentucky resolutions, regarding the use of nostrums by physicians:

Miami County (O.) Medical Society
Hall County (Neb.) Medical Society.
Clark County (Wis.) Medical Society.
Providence (R. I.) Medical Association.
Logan County (O.) Medical Society.
Essex (Mass.) North District Medical Society.
Medical Society of South Carolina (Charleston County).
Adair County (Mo.) Medical Society.
Humboldt County (Colo.) Medical Society.
Sebastian County (Ark.) Medical Society.

Dr. Allen J. Jervey, secretary of the Medical Society of South Carolina, writes that the following action was taken by that society:

> *Resolved*, That we heartily endorse the Kentucky resolutions concerning the fight for pure drugs, which the American Medical Association has been carrying on so ably, and we recommend that the following or similar resolutions be submitted by this society to the House of Delegates of the South Carolina Medical Association:
>
> *Resolved*, That the South Carolina Medical Association heartily endorses the formation of the Council on Pharmacy and Chemistry and pledges its zealous support in the earnest and able effort it is making to free the profession and the public from the evils of the nostrum habit.
>
> *Resolved*, That in furtherance of this subject every county society in the state be requested to devote one meeting to this important subject, in order to increase the interests and secure the aid of every loyal practitioner in the state, and that the editors of the *Journal of the South Carolina Medical Association* be requested to omit from the advertising pages all pharmaceutical preparations which are not manufactured in conformity with the United States Pharmacopeia or the National Formulary, until they have been approved by the Council on Pharmacy and Chemistry of the American Medical Association.
>
> *Resolved*, That every physician in the state be urged to obtain a copy of the abridged United States Pharmacopeia and to be guided by it and by the approval of the Council on Pharmacy and Chemistry in his use of medicines.
>
> *Resolved*, That the publication of medical journals by those interested in the manufacture of nostrums be condemned and that the physicians of the state be requested not to receive them.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Ky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month.

Fifth Weekly Meeting.

Fractures of Neck of Femur.

Pathology: At small part of neck. Infraction or incomplete fracture, portion of neck, displacement, impaction. Complete, subcapital fracture, lines of fracture, displacement, impaction, deformity. At base of neck, usually mixed, lines of fracture, impaction, displacement, rotation.

Symptoms: Pain, loss of function. Swelling, obliterated inguinal fold, ecchymosis. Outward rotation, causes and degree. Shortening, causes and degree. Muscular relaxation. False motion, spreading of trochanter.

Diagnosis: (1) Age, (2) sex, (3) force, (4) shortening, (5) crepitus, (6) eversion, (7) expansion of trochanter, (8) swelling, ecchymosis and tenderness.

Pott's Fracture.

Pathology: Fracture of inner malleolus, outer lower edge of tibia, fibula, laceration of internal lateral ligament, eversion of foot.

Prognosis: Age, compound fracture, delayed union and nonunion, edema, pain.

Treatment: Immediate dressing, plaster or gutter.

Colles' Fracture.

Pathology: Usual line of fracture, anterior ligament, backward displacement, impaction and crushing, stripping of periosteum, radio-ulnar ligaments, styloid of ulna. Injury to ligaments, synovial sacs, tendon sheaths.

Prognosis: Influence of age, peri-articular adhesions, reposition, condition of lower fragment, plane of articular surface.

Treatment: Accurate reduction, obstacles to overcome, method. Form of compress and splint required.

Book Notices

Thinking—Feeling—Doing. By E. W. Scripture, Ph.D., M.D., Assistant Neurologist, Columbia University. Second Revised Edition. Pp. 261. Cloth. New York: G. P. Putnam's Sons, 1907.

To one who has not kept in touch with the development of modern psychology with its accurate methods of measurement, this book will come as a surprise that so much definite knowledge can be gained by such simple means. It should be read by every medical practitioner and especially by all who wish to perfect themselves in habits of accurate observation and examination. To the neurologist, a knowledge of simple and accurate methods for testing nerve processes would be of great value. Much may be learned as well regarding our own thought processes. For instance, in the first chapter on observation and experiment, Dr. Scripture says: "To show that everybody is prejudiced, let me ask you such questions as: Have you not some pet fad on which you are sure you are right and all the rest of the town are wrong? Are you quite sure that there is only one side to the tariff question? Are you not astounded at the fact that some people find a good side to a man you know to be utterly bad? Don't be ashamed to confess. The great scientist Faraday did. He said: 'It is my firm opinion that no man can examine himself in the most common things having any reference to him personally without being made aware of the temptation to disbelieve contrary facts and the difficulty of opposing it.'" Probably one of the greatest dangers to which members of the medical profession are exposed is that of dogmatism and intolerance for the opinions of others.

The chapters on time and action, reaction time, thinking time, rhythmic action and power and will are most interesting. The discussion of the special senses, detailing the experiments used to determine the "threshold" of each is also of great interest to the physician. By the term "threshold" Dr. Scripture means the point at which the individual first begins to be aware, through the evidence of his senses, of the existence of the object used in the experiment. For instance, in carrying on experiments regarding smell, a graduated glass tube was used, inside of which was placed a narrow strip of blotting paper moistened with the solution used in making the test. A smaller tube was arranged to slide back and forth in the larger. From the end of the smaller tube a piece of rubber tubing led to the nose. As the smaller tube was gradually pushing into the larger, the person experimented on first perceived an odor but was not able to identify it. The point at which the odor was first distinguished indicated the threshold of perception of the individual's sense of smell. The point at which the odor was recognized as a distinctive odor indicated the threshold of recognition. In this connection Dr. Scripture records some very curious facts. If two different odors are conducted by separate tubes, one to each nostril, instead of smelling a combination of the two odors, he finds that we can smell either one alternately, but not both at the same time; also that we can smell either odor in preference to the other simply by thinking about it, but that we are unable to think of the same odor steadily, our thought irresistibly turning from one to the other and thus the two odors alternate.

In an equally simple manner, the psychology of the different senses is worked out. Feelings, attention, memory, suggestion and expectation are also considered. A very interesting chapter is devoted to materialism and spiritualism in psychology, while the final chapter discusses the new psychology. This book should be carefully read by every physician who desires to be familiar with the advances made in the study of the mind, which advances, in the last twenty-five years, have been quite as striking and epoch-making as the strides made in the more material lines of knowledge.

Primitive Secret Societies. By Hutton Webster, Ph.D., Professor of Sociology and Anthropology in the University of Nebraska. Cloth. Pp. 227. Price, $2.00. New York: MacMillan Co., 1908.

One is liable to be misled by the title of this book and take it as a work bearing, at least indirectly, on present-day secret societies or fraternal orders. The adjective "primitive" in the title, however, is of more importance than "secret socie ties," for the clans, bands or tribal organizations referred to are not all secret in character, and in scarcely any respect bear any relation to present-day secret societies. The work in reality is an exhaustive study of the organizations more or less secret in character that seem to have existed among nearly all primitive races, together with a description of the ceremonies connected with the initiation into these organizations. In some instances they were organizations to which only the chiefs or the older men could be admitted; in others—and these were the great majority—they were organizations to which all males were admitted who could pass the necessary ordeals. The ceremonial rites through which the boy or young man had to pass to be accepted to full tribal relations, were cruel and harsh to the extreme, and were made so, supposedly, to prove the novice's courage and right to assume full recognition. The book has required an immense amount of research, and will be of special interest and value to the anthropologist and to the student interested in the history and development of the savage and semicivilized races.

The Operating Room and the Patient. By Russell S. Fowler, M.D., Professor of Surgery, Brooklyn Postgraduate Medical School, Brooklyn. Second Edition, Enlarged. Pp. 284. Cloth. Price, $2.00. Philadelphia: W. B. Saunders Co., 1907.

The appearance of a second edition of this book within such a short period is the best evidence of its popularity. The author gives a clear description of the essentials in the equipment of a surgical apartment of the modern hospital in a manner not covered by any of the ordinary text-books on surgery. It will prove a valuable adjunct in the instruction of operating-room nurses, and of surgical internes. It is to be regretted that no method of describing the use of dry sterile gloves is given. The preparation of the various suture materials is described in great detail. The postoperative treatment of patients is well considered, but this chapter lacks system and spacing. The chapter on "Postoperative Infection" is very thorough, considering the size of the book. No mention is made of pulmonary embolism as a cause of sudden death after operations. It would also be a good plan to warn against giving patients, on whom a laparotomy has been made, large quantities of fluids by mouth, on account of the danger of acute gastric dilatation. The book is completed by a very useful list of instruments to be used in various major operations.

La Pratique de la Médecine. Par William Osler. Professeur Royal à l'Université d'Oxford. Traduction française sur la 6e Edition Par les Docteurs M. Salomon, Chef de Clinique à la Faculté et Louis Lazard, Ancient Interne de l'Hôpital de Rothschild. Paper. Two vols. Pp. 704 and 1224. Price $5.00. Paris: G. Steinheil, 1908.

Osler's Practice of Medicine is now so well known that the present French edition calls for little comment. It is worthy of remark, however, that the translators have done their part with a lucidity and an elegance of diction not unworthy of the original author. The essential qualities of the professor, which M. Pierre Marie claims for Professor Osler, are method, perfect clarity, an acutely critical sense, and a complete mastery of the subject. To the translator also these are essential qualities, and such browsings as we have been able to make in this French edition seem to indicate clearly that the present translators are not deficient therein. Since it is to be presumed that the fact of its production indicates a demand for a French version of this standard work it is a source of congratulation that not only the author's matter, but also in many essentials his style, is presented therein.

Variations of the Bones of the Hand and Foot. By Thomas Dwight, M.D., LL.D., Parkman Professor of Anatomy at Harvard Medical School. Pp. 101. Cloth. Price, $5.00. Philadelphia: J. B. Lippincott Co., 1907.

As the author states in his preface, "the constantly increasing use of the *x*-ray has shown that the study of variations is not a scientific fad, but a matter of great practical importance." Previous to the introduction of the Roentgen ray, the variations of the bones of the extremities were matters of purely scientific interest; to-day the interpretation of skiagraphs is a matter of the greatest practical importance. The author follows Pfistzner's classification, in the main. Anomalous bones, as well as sesamoids, are carefully considered, also pathologic fusion of contiguous bones. The work contains 36 plates, each containing two or more cuts, there being in all 79 illustrations comprising photographs of articulated and disarticulated bones, showing various aspects and conditions, as well as *x*-ray photographs. The book will be of value, not only to the anatomist, but to the surgeon and the orthopedic specialist as well.

Diseases of Children for Nurses, Including Infant Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCombs, M.D., Assistant Physician to the Medical Dispensary of the Hospital of the University of Pennsylvania. Pp. 431, with illustrations. Cloth. Price, $2.00. Philadelphia: W. B. Saunders Co., 1907.

This book consists practically of lectures delivered to the nurses of the Children's Hospital, Philadelphia. It commences with a description of the peculiarities of diseases of children and nursing of children, and the diseases of various parts of the body are then taken up in sequence. Tables with doses are given of drugs employed in the various diseases of children. The author makes the mistake of including in a list of unofficial drugs antipyrin, salol, sulphonal and trional. The book includes a list of poisons and antidotes, and a chapter on the treatment of emergencies which is practical. The language throughout is simple and terse; the illustrations are good.

Marriages

Charles W. Johnson, M.D., to Elizabeth B. Hayes, both of Litchfield, Ill., February 9.

George A. De Santos Saxe, M.D., to Miss Laure Baer, both of New York City, February 20.

Thomas J. McGeary, M.D., to Miss Rose A. McConnell, both of Jersey City, N. J., February 5.

Zachariah G. Jones, M.D., Tongahoxie, Kan., to Miss Edna Mitchell of St. Joseph, Mo., January 6.

Richard H. Whalen, M.D., to Miss Lizzie Inholt, both of Haverhill, Iowa, at Chicago, January 14.

Percy E. Hoffman, M.D., to Mrs. Lucy MacBride Engel of St. Louis, at Louisiana, Mo., February 3.

Frank Wilmot Morse, M.D., Dayton, Maine, to Miss Lydia Miles Rice of South Sudbury, Mass., January 7.

Herman Benjamin Baruch, M.D., New York City, to Miss Rosemary Emotez of Florence, Italy, February 5.

William Reed McCall, M.D., La Grange, Ga., to Miss Lillian Rosalie Taylor of Richmond, Va., February 5.

Andrew J. Otto, M.D., Greensburg, Pa., to Miss Margaret S. Wilson of Petersburg, Pa., at East Altoona, Pa., February 2.

Deaths

Mahlon J. Davis, M.D. New York University Medical College, New York City, 1862; acting assistant surgeon in the Army for one year, then assistant surgeon of the Second New York Volunteer Heavy Infantry, and late rsurgeon-in-chief of the New York Artillery Brigade of the Second Army Corps during the Civil War; postmaster of Lewis, Iowa, from 1869 to 1886; representative in the legislature from 1893 to 1895; who introduced the law prohibiting pharmacists from selling malt liquors, and also introduced and secured the passage of several bills regulating the practice of pharmacy; died at his home in Lewis, February 2, from edema of the lungs, following influenza, after an illness of a few days, aged 70.

John Connor Barron, M.D. College of Physicians and Surgeons in the City of New York, 1861; assistant surgeon of the Sixty-ninth New York Volunteer Infantry and Seventh New York Volunteer Infantry, and later division surgeon with the rank of colonel on the staff of Major-General Alexander Shaler during the Civil War; an enthusiastic yachtsman and ice yachtsman and hunter; one of the founders of the Union League Club, New York City, and at the time of his death president of the United New Jersey Railroad and Canal Company; died at his home in New York City, February 6, from typhoid fever, after an illness of four weeks, aged 70.

Frank Hazzard Dye, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1899; a member of the American Medical Association, Philadelphia Pathological Society and the Lehigh Valley Medical Association; interne in the

German Hospital from 1899 to 1903; chief of the out-patient department for diseases of women, German Hospital, and assistant surgeon to Stetson Hospital; died suddenly at his home in Philadelphia, February 3, from heart disease, aged 31.

John F. Head, M.D. Medical School of Harvard University, Boston, 1843; who was appointed assistant surgeon in the Army in 1846; made a captain and assistant surgeon in 1851; major and surgeon in 1860; was brevetted lieutenant colonel in 1865; promoted to lieutenant colonel in 1876, colonel in 1882 and retired by operation of law in 1885, and was made brigadier general, retired, in 1904; died February 5, at Nassau, Bahama Islands, aged 87.

John L. Handley, M.D. Jefferson Medical College, Philadelphia, 1858; a veteran of the Civil War; afterward a practitioner at Mount Erie, Ill.; circuit clerk of Wayne County and master in chancery; later superintendent of mails, and health officer of Denver, Colo., and for the last eleven years supreme vice-president of the Fraternal Union of America; died at his home in Denver, January 17, from appendicitis, after an illness of two days, aged 75.

Charles Worthington Goldsborough, M.D. University of Maryland School of Medicine, Baltimore, 1863; a member of the Medical and Chirurgical Faculty of Maryland and Frederick County Medical Society; a member of the board of directors of the Emergency Hospital and of the Board of Visitors of the Deaf and Dumb Asylum, Frederick City, Md.; died at his home in Walkersville, Md., February 6, from cerebral hemorrhage, aged 66.

Mary Wood-Allen, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1875; world's superintendent of the moral educational department of the Woman's Christian Temperance Union; for many years a resident of Ann Arbor, Mich.; died at a sanatorium in Washington, D. C., January 21, from pleuritic effusion and pulmonary edema, after an illness of nearly three months, aged 67.

Leo Danziger, M.D. Medical College of Ohio, Medical Department of University of Cincinnati, 1892; a prominent German practitioner of Cincinnati, and a member of the Ohio State and Hamilton County medical societies, aged 36, was shot and killed February 14 by the uncle of a patient on whom a criminal operation had been performed, and whom Dr. Danziger was afterward called to attend.

Charles Clifford Holcombe, M.D. Medical Institution of Yale College, New Haven, 1854; a member of the Massachusetts Medical Society, and once president of the Berkshire District Medical Society; first medical examiner of the middle Berkshire district; for several years president of the Lee National bank; died at his home in Lee, February 1, from heart disease, after a long illness, aged 78.

Lawrence Edward Holmes, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1897; a member of the medical societies of the State of North Carolina and Buncombe County Medical Society; for several years resident physician of the Clarence Baker Memorial Hospital, Biltmore; died at his home, February 5, from pneumonia, after an illness of six days, aged 34.

Carl G. A. Hullhorst, M.D. University of Iowa, College of Homeopathic Medicine, Iowa City, 1882; formerly a minister of the Presbyterian Church, and later a practitioner of Lincoln, Neb.; died at the State Hospital for the Insane, Lincoln, from injuries received by a plunge into a creek, near the hospital, while of unsound mind, February 6, aged 60.

Ridley C. Paine, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1884; a member of the Colorado State and Conejos County medical societies; formerly of Bethel, N. Y., and Antonita, Colo.; died at the home of his brother in Oneida, N. Y., February 2, from lung disease, after an illness of several years, aged 56.

John C. Brigham, M.D. University of Georgia, Medical Department, Augusta, 1869; a member of the Medical Association of Georgia and Burke County Medical Society; was burned to death while endeavoring to recover his medicine case and some valuable papers, in a fire that destroyed his home in Girard, Ga., January 30, aged 61.

Newton Diehl Baker, M.D. University of Maryland School of Medicine, Baltimore, 1868; a member of the West Virginia State Medical Association and Berkeley County Medical Society; a Confederate veteran and secretary of the State Board of Health of West Virginia for 15 years; died at his home in Martinsburg, February 4, aged 65.

William Henry Douglass, M.D. University of Missouri, Medical Department, Columbia, 1878; Bellevue Hospital Medical College, New York City, 1880; a member of the American Medical Association, and a prominent practitioner of Columbia, Mo.; died at his home in that city, January 28, from pneumonia, after a short illness, aged 53.

Henry Preston Sharp, M.D. Eclectic Medical Institute, Cincinnati, 1876; a member of the medical societies of the State of New York and County of Wyoming; coroner for many years of Wyoming County, and at one time president of the village of Arcade, N. Y.; died at his home, January 29, after an illness of one week, aged 53.

Charles Hamilton Morse, M.D. Medical School of Harvard University, Boston, 1864; a member of the Harvard Medical Alumni Association; for many years a practitioner of Weymouth, N. S.; died at his home in Marquette, Mich., February 3, from cerebral hemorrhage, after an illness of five months, aged 70.

Z. W. Wyatt, M.D. College of Physicians and Surgeons, Baltimore, 1884; a member of the West Virginia State Medical Association and Harrison County Medical Society; a member of the legislature in 1900 and 1901; died at his home in Shinnston, W. Va., January 31, after an illness of several weeks, aged 61.

Stacy Dwight Williamson, M.D. College of Medicine, Syracuse (N. Y.) University, 1901; a member of the American Medical Association; died at his home in Malone, N. Y., recently, from the effects of morphin supposed to have been self-administered, with suicidal intent, while temporarily insane, aged 31.

Charles A. Bolz, M.D. Albany (N. Y.) Medical College, 1883; a member of the Medical Society of the State of California and Sonoma County Medical Society; a hospital steward in the Army from 1872 to 1900; died at his home in Petaluma, Cal., from heart disease, February 2, after a long illness, aged 58.

Martin James Dalton, M.D. University of Vermont, College of Medicine, Burlington, 1898; of Melrose, Mass., a member of the Massachusetts and Middlesex District medical societies; visiting physician to the Melrose Hospital; died recently in Tryon, N. C., where he had gone for his health, aged 49.

Thomas C. Neat, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1863; a member of the Indiana State Medical Association and Floyd County Medical Society; died at his home in New Albany, Ind., February 1, from heart disease, after an illness of two days, aged 65.

Hannibal Parish Wheatley, M.D. University of Vermont, College of Medicine, Burlington, 1881; of Farmington, N. H.; a member of the New Hampshire and Stratford County medical societies, died suddenly in Los Angeles, Cal., from heart disease, January 29, aged 50.

George H. Fuller, M.D. Northwestern University Medical School, Chicago, 1869; a hospital steward and afterward lieutenant of the line during the Civil War; a member of the American Medical Association; died at his home in Delhi, Iowa, January 31, aged 66.

Buford D. Black, M.D. Rush Medical College, Chicago, 1897; a member of the American Medical Association; and one of the most prominent practitioners of New Mexico; died at his home in East Las Vegas, from pneumonia, February 6, after a brief illness, aged 33.

Clara E. Bowen, M.D. University of Buffalo (N. Y.) Medical Department, 1892; of Buffalo, N. Y.; a member of the medical societies of the State of New York and County of Erie; died at the German Hospital, Buffalo, after a surgical operation, Dec. 28, 1907, aged 47.

Beverly M. Beckman, M.D. University of Missouri, Medical Department, Columbia, 1850; one of the oldest practitioners of Shelby County, Ky.; died at his home in Shelbyville, February 1, from senile debility, after a gradual decline of several years, aged 82.

Benjamin F. Tiefenthaler, M.D. Medical Department of Columbian University, Washington, D. C., 1899; a member of the Medical Association of the District of Columbia; died at his home in Washington, February 8, from acute nephritis.

William J. Best, M.D. University of Maryland School of Medicine, Baltimore, 1856; a member of the Medical Society of Virginia and Frederick County Medical Society; died at his home in Brucetown, Va., February 5, aged 73.

William Dana Gross, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1886; died at his home in Philadelphia, February 8, from septicemia, due to an operation wound received three weeks before, aged 46.

Charles Chesterfield Richardson, M.D. University of Maryland School of Medicine, Baltimore, 1855; assistant health commissioner of Baltimore, from 1860 to 1861; died suddenly at his home in Baltimore, February 5, aged 78.

William Jean Krausi, M.D. Eclectic Medical College of the City of New York, 1890; supervisor, town clerk and collector of Bay Shore, Long Island; died at his home in Brooklyn, January 30, after a lingering illness, aged 48.

David Birkhoff, M.D. Rush Medical College, Chicago, 1891; a member of the Illinois State and Cook County medical societies, and a prominent member of the Holland Society; died at his home in Chicago, February 9, aged 51.

Fayette E. Schley, M.D. Albany (N. Y.) Medical College, 1881; a member of the medical societies of the State and County of New York; died at his home in New York City, February 8, from heart disease, aged 49.

Theodore W. Heuchling, M.D. University of Würzburg, Germany, 1864; physician of Cook County in 1890, and appointed U. S. Pension Examiner by President Cleveland; died at his home in Chicago, February 11, aged 67.

A. J. Redwine, M.D. University of Louisville (Ky.) Medical Department, 1895; once senator from the Twenty-fifth District of Arkansas; died at his home in Marshall, January 31, from cerebral hemorrhage, aged 52.

Francis S. Dunlap, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1861; died at his home in Delaware City, Del., January 26, from paralysis, after an illness of three years, aged 72.

Nelson Buell Sizer, M.D. New York University Medical College, New York City, 1871; a veteran of the Civil War; died at his home in Brooklyn, January 22, from the effects of an overdose of opium, aged 53.

Washington Green Tuck, M.D. University of Maryland School of Medicine, Baltimore, 1856; for many years postmaster of Annapolis, Md.; died at his home in that city, February 5, from erysipelas, aged 77.

Thomas McElwain, M.D. American Medical College, Eclectic, St. Louis, 1883; a member of the Kansas State and Pratt County medical societies; died at his home in Pratt, February 8, aged 46.

William Dwight Saxton, M.D., Northwestern University Medical College, Chicago, 1865; died at his home in Milwaukee, Wis., February 5, from heart disease, after an illness of six months, aged 70.

Graily H. Hall, M.D. Cooper Medical College, San Francisco, 1893; died suddenly at his home in Randsburg, Cal., February 5, from the effects of a dose of poison, after an illness of twelve hours.

S. L. Brouillette, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1879; died at his home in Clay City, Ind., February 2, after a lingering illness, aged 65.

George Warren Betts, M.D. Jefferson Medical College, Philadelphia, 1906; of Ocean View, Del.; died suddenly from heart disease, February 6, in a sanatorium, at Atlanta, Ga., aged 25.

Oliver S. Wood, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1877; died at his home in Valparaiso, Ind., from dropsy, February 11, after an illness of two weeks.

Frederick G. Zenk, M.D. St. Louis Medical College, 1880; of Troy, Ill.; died at a hospital in St. Louis recently, after a surgical operation, and was buried February 4, aged 52.

Henry C. Morrison, M.D. University of Maryland School of Medicine, Baltimore, 1866; once an alderman of Kansas City, Mo.; died at his home February 7, from paralysis, aged 64.

Peter A. Allen, M.D. Eclectic Medical College of Philadelphia, 1862; died suddenly at his home in Cobleskill, N. Y., January 31, from cerebral hemorrhage, aged 69.

David Louis Cederholm, M.D. Long Island College Hospital, Brooklyn, N. Y., 1897; died at his home in Brooklyn, from an overdose of cocain, February 7, aged 45.

David Nowlan (License, Iowa), 1886; a pioneer practitioner of Havelock, Iowa, and of late years postmaster; died at his home in that place, February 2, aged 64.

Harvey Hubbell Smith, M.D. Miami Medical College, Cincinnati, 1892; died at his home in Dayton Pike, Sharonville, Ohio, February 3, from pneumonia, aged 49.

Henry A. Klock, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1878; died suddenly at his home in Mahanoy City, Pa., February 1, aged 64.

Augustus N. French, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1871; died suddenly at his home in Norway, Maine, January 30, aged 63.

Allen Dexter Hammond, M.D. Boston University School of Medicine, 1893; died January 27, at his home in Brockton, Mass., from heart disease, aged 36.

Samuel R. Millard, M.D. Cincinnati College of Medicine and Surgery, 1862; died at his home in Chicago, February 1, after an illness of one day, aged 92.

George Monroe Proctor, M.D. University of Buffalo (N. Y.) Medical Department, 1867; died at his home in Shalersville, Ohio, February 3, aged 69.

Benjamin F. Manlove, M.D. Medical Department, University of Nashville, Tenn., 1868; of Nashville; died in that city, February 1, aged 68.

John W. Tripp, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1869; of Simcoe, Ont.; died Nov. 25, 1907, aged 69.

Frederick Bechtler, M.D. College of Physicians and Surgeons, St. Louis, Mo., 1905; died recently at his home in St. Louis, aged 38.

Clarence H. Clewell, M.D. Jefferson Medical College, Philadelphia, 1894; died at his home in Philadelphia, Dec. 18, 1907.

John Leo Smart, M.D. Medico-Chirurgical College of Philadelphia, 1905; died at his home in Philadelphia, Dec. 16, 1907.

Mrs. R. S. Scott, M.D. California Medical College, San Francisco, 1897; died at her home in Laton, Cal., February 2.

William Mislap, M.D. University of Vienna, Austria, 1876; died at his home in Chicago, February 6, aged 80.

John H. Yanaway (Years of Practice, Ill.) 1877; died at his home in Toledo, Ill., January 24, aged about 80.

William O. Kenyon (License, Wis., 1899); died January 31, at his home in Appleton, Wis., aged 62.

Society Proceedings

COMING MEETINGS.

Association of American Medical Colleges, Cleveland, March 16-17.
Medical Society of the Missouri Valley, Lincoln, Neb., March 19-20.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Jan. 8, 1908.

The President, Dr. James B. Walker, in the Chair.

SYMPOSIUM ON AN INEBRIATE HOSPITAL FOR THE STATE OF PENNSYLVANIA.

Mr. Robert A. Woods, president of the board of trustees of the Foxboro (Mass.) Inebriate Hospital, presented the work of the hospital at Foxboro. He finds, as a social worker, that the most optimistic class of men are physicians. He believes that drunkenness must be regarded as a community problem. In Boston, where the law requires the arrest of every drunkard on the streets, the annual expense of such arrests is $210,000, and the annual cost of maintenance of those arrested, $316,000. Of the 25,000 persons arrested annually, 43 per cent. are first offenders. The Foxboro Hospital has been in existence for sixteen years, and during fifteen years the juvenile arrests have been reduced one-half. In meeting the need of the hopeful cases, the hospital fills a place not hitherto occupied. In cases of straight drunkenness, in which fine and imprisonment have failed to have any effect, the inclination of the courts is more and more to send such cases to Foxboro. A man can be committed without any sort of criminal stigma, but it is difficult to get only the proper type of men such as the hospital can relieve. There should be a clearly marked line in the progress of inebriety beyond which no man should be sent to the institution. The inmates are called patients and the effort is made to create a hopeful atmosphere. There is a certain amount of drug treatment of the very acute cases of inebriety. The men who are especially difficult to manage are put into a cottage which is kept closed all the time. Most of the patients, however, have the freedom of the grounds. Every one is supposed to do eight hours work a day, which includes one hour in the gymnasium. The work is that of caring for the institution and farm labor. There is a good equipment of baths, and the problem of diet is carefully looked after. Much importance is attached to intellectual, moral and religious stimulus, and the belief is expressed that a man must go into the work with keen intellectual and moral zest to accomplish results. Of 230 cases of men who had been away from the hospital from 4 to 16 months, it was found that 93 were temperate at the time visited, 37 showed distinct improvement, 55 presented no improvement, 37 were not found, and 8 were dead. Other interesting figures are shown, and it seems fair to estimate an improvement of 50 per cent.

Dr. John B. Carrell, of Hatboro, referred to the drink habit as the direct cause of mental deterioration manifesting itself in disease, insanity, pauperism and crime. With such a hospital, the inebriate could be removed from his dangerous environment and other efforts made to reclaim him. It was said that the law should regard inebriety as a disease, either inherited or acquired, not as a crime, for an exact study would show inebriety to be preventable and as possible of being diminished or cured as any other affliction. The object of the inebriate hospital was shown to be two-fold: To rid the community of dangerous, destructive and unprofitable citizens; and, to convert them, if possible, into self-supporting and valuable citizens. Dr. Carrell dwelt on the necessity of the institution, the percentage of cures expected, the most fruitful causes for the development of alcoholism, what should constitute the condition for the commitment in an inebriate hospital, what the institution should be, length of commitment, and how the hospital should be provided for.

Hon. Henry F. Walton spoke at length of his interest in the project and of his investigation of the care of the insane. He feels that the management of the medical side of these institutions should be made by law to come into closer contact with the medical faculties connected with the colleges of the state, since there are special cases which should receive special treatment, and a need for the raising of the standard of treatment and housing.

Dr. Charles K. Mills advocated the movement for a separate hospital for inebriates, and emphasized the importance of the enactment of a better law than at present obtains in regard to the commitment of a patient to such an institution.

Mr. Talcott Williams believes that the inebriate hospital is necessary to the cure of alcoholics, but that the present commitment law is wholly without the ability to deal with such cases in their incipiency. The French law is better in that it permits of the commitment of a person for restraint and treatment for a period. Without some such provision of law, he believes there is absolutely no way of ascertaining the possible percentage of cures of inebriety. An adequate law would provide for commitment by a magistrate, or the relinquishment of personal liberty for an indeterminate period. In proof of the statement that the drinking of alcoholic liquors is a decreasing evil, Mr. Williams referred to the fact that the reports of the University Club of New York City showed that in a period of twenty years the expenditures of the club for liquors had increased only one-half as fast as the membership.

Regarding the question of expense, attention was called to the fact that while Pennsylvania collects approximately five million dollars from licenses, New York collects something like eighteen million. This is because the State of New York has not made the fatal mistake of making the license low over the rural, mining and agricultural sections. An increased license in Pennsylvania would provide hospitals throughout the commonwealth. As to the willingness of the legislature to respond to the plea for a state hospital for inebriates, it is Mr. Williams' experience to find American legislators anxious to do the best they knew how on a social question presented with enthusiastic determination.

Dr. F. X. Dercum said that there were many facts to prove that the inebriate is a sick man, that often he is sick by heredity, and that he falls a victim because of pathologic changes. In other cases the habit is acquired by the abuse of the appetite. While he advocates the establishment of a state hospital, he feels especially the need of a law whereby when a man shows his first failure he can be protected against himself. Such a law should be free from any mawkish weak spot in regard to personal liberty.

Mr. Joseph Graham said he had not the slightest belief that inebriety is any more a disease than any other common human weakness. He believes it to be nothing more than a nerve habit. An ideal step, he said, would be to consider not only the drunkard, but the drinker, a criminal, and punish him accordingly. While this might not be practicable, any consideration of the subject should adhere as closely as possible to the ideal.

Mr. Esterbrook, speaking from the standpoint of the social workers of Philadelphia, emphasized the need of a special institution for the treatment and care of inebriates. He feels that little will be accomplished, however, without the aid of an intelligent probation inspector working in connection with the hospital.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and Second Annual Meeting, held at Albany, Jan. 27-30, 1908.

(*Continued from page 559.*)

Pancreatitis Resulting from Gallstone Disease.

Dr. William J. Mayo, Rochester, Minn., said that in 2,200 operations on the gall bladder and biliary passages, the pancreas was coincidentally affected 141 times. As the total of all pancreatic diseases operated on was but 168, 81 per cent. were due to or accompanied by gallstones. In 268 operations on the common and hepatic ducts, the pancreas showed disease in 18.6 per cent., against 4.45 per cent. where the gall bladder only was involved. In 124 cases the head of the pancreas showed evidence of inflammation, while in but 17 was the entire organ affected. Three were cases of acute pancreatitis, 9 subacute and 129 chronic.

Duodenal and Gastric Ulcers.

Dr. Albert J. Ochsner, Chicago, said that traumatism from within is the chief causative factor in the production of gastric ulcer. The vast majority of cases occur in the pyloric end of the stomach. Duodenal ulcer is often due to extension of a gastric ulcer. Duodenal ulcer may be caused by severe burns of the skin and by thrombosis of the vessels supplying the duodenum. The digestive apparatus should not needlessly be interfered with surgically, for it is often possible to restore these organs to proper condition by careful attention to dietetic, medicinal, hygienic and other measures. It is important to give dietetic and hygienic instructions to patients to avoid recurrences. There are cases, however, in which cure is impossible and the earlier surgical measures are resorted to in these cases the better. At the beginning of an attack it is not always possible to differentiate the classes of cases requiring operation from those that would heal of themselves. Induration of the ulcer at the pyloric end often causes obstruction, and this results in retention of the food and the absorption of the products of decomposition, which accounts for the cachexia which is present. This explains the favorable results attained by gastric lavage. There is no operation in the field of surgery in which there are so many failures as this particular operation. In order to reduce mortality the following principles should be observed: The amount of traumatism must be reduced; the intra-abdominal organs should be exposed as little as possible; the patient must be placed in the sitting posture as soon as possible after operation; if perforations are closed the sutures should be placed so as not to result in obstruction from contraction; if neoplasms are enucleated, tissues closely connected by lymphatics must be removed; in gastroenterostomy the lowest portion of the stomach should be chosen; there should be no tension on the sutures; the coronary artery should be preserved, except in complete gastrectomy; in acute gastric dilatation the stomach tube should be introduced and gastric lavage done. Patients should be controlled for a long time after operation as regards hygiene and diet.

Surgery of Liver and Gall Bladder.

Dr. John C. Munro, Boston, considered the more vexatious problems in connection with surgical diseases of the liver. There are cases that can not be diagnosticated without operation and even require a microscopic examination in order to confirm a diagnosis. In non-operative cases a syphilitic history is an important factor. Ascites is said, by some authors, to be present in all cases, but jaundice is not common nor severe. Symptoms of gumma of the liver may be entirely wanting or they may be such as seem to threaten life. Cancer may be excluded because it is rarely primary in the liver. Calcium salts may be used with advantage in case of hemorrhage of the severe type. Patients operated on for stones may return because of the reformation of calculi. Recurrences are more often met with when the stones form in the hepatic or common duct. It is well to drain the common duct.

Non-parasitic Cysts of Liver and Congenital Cystic Liver.

Dr. Willis G. MacDonald, Albany, related the history of three cases: 1. Cystic degeneration of the liver and kidneys associated with ascites. From a man, 34 years old, treated for cirrhosis of liver, 6.500 c.c. of fluid the consistency of water were removed from a large tumor of the liver. Two large drains were introduced and sutured to the top and the bottom of the wound. In addition to the large cyst which involved both lobes of the liver there were numerous smaller ones ranging from the size of a walnut to that of an orange. The man died of suppression of urine the result of sudden sepsis. At autopsy multilocular cysts were found in the kidneys. The liver weighed fourteen pounds and was two-thirds made up of cysts. 2. Multilocular cyst of liver. Woman, 67 years old, with large hepatic tumor. The contents of the tumor was pure mucin in solution. The peritoneum was sewed to the walls of the sac and the anterior wall of the sac was freely opened. This patient was drained for two weeks and discharged from the hospital. At the end of four months the wound had healed. There were no hooklets found in this case. 3. Acute infection. Local peritonitis simulating an inflamed gall bladder. An oblong tumor was found which rested on the crest of the ilium. The gall bladder was found to be normal. The tumor was 16 cm. long, 7 cm. wide and 6 or 7 cm. across. It was universally adherent to the peritoneum, the mesentery and the omentum, and could be enucleated only with great difficulty. The patient was in the hospital but a few days. There were no morphologic evidences of hydatids found in this case.

The Gastric Neuroses.

Dr. Dudley D. Roberts, Brooklyn, said that the careful examination of the literature of the day shows very clearly that there is already a tendency to conceive neurotic disturbances as primary diseases rather than as symptoms having a varied causation. Neuroses are the resultants of three forces or circumstances: 1. Irritant circumstances that generated an impulse abnormal in kind and intensity. 2. The status of the individual's nervous system, its inherent metabolic state and capacity for normal functioning. 3. The individual mind, the peculiar mental habits, the states of consciousness and their effect on physical processes. The irritation gastric neuroses he divided into the direct and the reflex. The direct arise as the result of the ingestion of substances which act, as a chemical, thermal or mechanical irritant to the gastric mucosa, but do not produce inflammatory changes. It is probably the result of over-functioning. Temporary eyestrain is a frequent cause of gastric neuroses. Functional disturbances of the bowels are commonly attended with stomach complaint and demonstrable disturbances. Under the nutritional gastric neuroses he included those neuroses which seem to be dependent on abnormality of the physical nervous system. There may be derangement of its nutrition, or deficient absorption of food and excessive expenditure of energy in the form of muscular or nervous work, and also the result of abnormal katabolism.

Diagnosis and Treatment of Gastric Ulcer.

Dr. Delancey Rochester, Buffalo, advised operation when there is perforation or uncontrollable vomiting. Diagnosis is often impossible. The symptoms and signs are localized pain, burning or boring in character, increased by the ingestion of coarse-fibered foods. There is vomiting, with the vomit acid in reaction and containing blood. Blood is also found in the stools. Localized tenderness in the epigastrium is present. The treatment is rest for the stomach, both functional and mental. For this purpose atropin and morphin may be used. Food should be withheld and cold applied to the epigastrium. The etiology of each case should be learned, if possible, in order that the underlying etiologic factors may be treated. Adrenalin chlorid solution is useful and also subgallate of bismuth suspended in milk of magnesia. Rectal feeding is not advisable, as it excites a flow of gastric juice. Food should be withheld for from twenty-four to forty-eight hours. When feeding is begun the food should be selected carefully.

DISCUSSION.

Dr. Charles G. Stockton, Buffalo, was of the opinion that pancreatitis is much more common than is generally supposed. He thinks that operation is done not so much for the relief of gastric ulcer as it is for the results of the gastric ulcer. It is not a question of drainage. One should not overlook the motor function of the stomach, and one should realize the importance of spasm in the disease. He has much confidence in the stomach tube if it is used with care and skill.

Dr. A. Jacobi, New York, said that neuroses of the stomach meant exhaustion. The fact that pain is mitigated by eating, only to return after a few hours, is not only of diagnostic but also of practical importance. When the disease comes on two or three hours after eating it means disease of the colon. In cases of gastric ulcer the physician should see to it that the stomach is alkaline. Milk all the time, together with stale bread, is the best treatment.

Dr. L. Duncan Bulkley related a case in which fear of operation stopped gastric digestion.

Clinical Observations on Vaccines.

Dr. Joshua Van Cott, Brooklyn, reported ten cases in which he had employed opsonic therapy. He was of the opinion that the majority of these patients would have died had the vaccines not been administered. These vaccines ought to be manufactured so that this class of patients can receive treatment.

Value of the Opsonic Index in Controlling the Use of Vaccines.

Dr. William H. Park, New York, said that he thought Dr. Wright's work would induce physicians to make more frequent use of opsonins but that it would probably take years before we know of what value the opsonic index is as an indication in the treatment of disease. He spoke of the difficulties encountered in the laboratory work, especially the individual peculiarities. There is a difference of from 10 to 15 per cent. in different individuals who are in good condition. The irregularity with which the leucocytes take up the bacilli is another difficulty encountered. Different cultures also give wide variations. Eating, drinking, taking cold, raised or lowered the opsonic index. There is a very great variation in disease. While no doubt many of the patients do better with the vaccines than though they had not received them, the opsonic index is not absolutely necessary in controlling the use of vaccines.

Dr. William H. Woglom, Brooklyn, described the technic used in determining the opsonic index.

Two Cases Treated by Vaccines.

Dr. Algernon T. Bristow, Brooklyn, said that in drawing conclusions we should not be led astray either by a few failures or a few successes. He reported two cases of streptococcic infection, in one of which the organism was recovered, not from the blood, but from a deep abscess of the neck which was secondary to what appeared to be an attack of Pfeiffer's glandular fever, occurring in the epidemic in New York last winter. The second case was one of malignant endocarditis, in which the *Streptococcus longus* was recovered from the blood. There was no suppuration in the body whatever, so far as was discoverable.

Treatment and Prognosis of Suppurative Cystitis.

Dr. Victor C. Pedersen, New York, considered only chronic cystitis. If the membrane has not been deeply damaged and the cause is removed recovery may take place. The extent of impaired membrane is revealed by the cystoscope and many causes may be removed by dividing strictures or dilating them, by removing calculi, reducing hypertrophy of the prostate, or removing the gland. Chronic cystitis, when associated with disease or injuries of the spinal cord, can not be cured. Tuberculous or cancerous cystitis can not be cured. Hygienic measures, stimulants, hydrochloric acid, pepsin or pancreatin are all of value. Turkish baths and washing of the bowels are also good. All diseases, especially of the heart, should receive attention. Fatigue should be guarded against, and climatic influence should not be forgotten. He is in favor of diluting, antiseptisizing and acidifying the urine. Copaiba, sandalwood and oil of gaultheria alone or combined are helpful. Irrigations, instillations and drainage by catheter have a place in treatment. The bladder should not be distended forcibly. The hand syringe is preferable for this purpose. Normal saline solutions, sodium carbonate or even sterile water solutions may be used until the fluid that returns is clear. The amount given should be measured and no pain should be occasioned. A bladder with a large amount of residual urine may hold from eight to ten ounces without distension. A small amount of the solution should be left in, and the strength of the solution increased gradually. One irrigation daily is usually sufficient. Operative work is to be considered when local and constitutional measures fail. A cystoscopic examination should be made before giving a prognosis.

Operation in Malignant Disease of Skin.

Dr. Samuel Sherwell, Brooklyn, recommends simple deep and thorough curettage, followed by the immediate and thorough application of an escharotic. He prefers 60 per cent. solution of acid nitrate of mercury. The caustic agent must be neutralized by some alkali, as sodium bicarbonate. The scab is allowed to remain until it falls off. The knife is sometimes preferable in pendant and loose portions of the body, as the penis, lips and ears. He has employed this method for thirty-five years, and has had very few recurrences. In cases where general anesthesia is necessary, he prefers nitrous oxid. He introduces two or three drops of a 2 per cent. solution of cocain about the edges of the affected part, and gives one-quarter to one-third grain of morphin, with or without atropin, in a distant part of the body before giving the general anesthetic. He used a Paquelin cautery and a solution of one part of fluid adrenalin and three parts of a 10 per cent. solution of cocain to check persistent bleeding. This he follows by acid nitrate of mercury in full 60 per cent. strength, mopped on with cotton wool mops. He sometimes allows the acid nitrate of silver to remain ten to twenty minutes before neutralizing. The bicarbonate of soda should be firmly pressed into the wound so as to make an adherent scab. The wound is kept dry, but no bandages are used. After a day or two inflammation follows, but no wet dressing must be used as the inflammation soon subsides. He is of the opinion that fewer recurrences resulted after this method than when the knife is used. A course of arsenic treatment is given for a long time after the operation. Relapses occurred in less than 10 per cent. of his cases.

What the Rigid Inspection of Milk Is Doing for New York City.

Mr. William E. Burton, New York, in charge of dairy inspection, department of health, said the milk supply of the city is obtained from Vermont, Massachusetts, Connecticut, New York, New Jersey and Pennsylvania, being brought into the city by ten different railroads. The farthest point from which milk is brought is 415 miles. The trains arrive late in the evening and milk is removed early the following morning. About one and three-quarters million quarts are used daily, and about 50 per cent. of this is in bottles. Milk could not be sold without a board of health permit. Prior to 1904, the efforts of inspectors had been almost entirely directed toward securing a chemically pure milk supply, but no systematic method was followed. In 1904 two inspectors were detailed to inspect all places where milk was handled and to report on abuses. Such abuses were found at one creamery in Orange County as led to the revocation of the permit of the company. Since this experience, official trips have been made over the large milk carrying roads. New regulations have been adopted by the board of health, built on the word "cleanliness." They require sanitary buildings for the housing of cattle, a pure water supply, proper facilities for cooling the milk and preventing its exposure to air as much as possible. No person suffering from a contagious disease or in attendance on one is permitted to handle milk or utensils. In June, 1906, the systematic inspection of dairies was commenced, and regulations were adopted covering the care of cows, stables, water supply, milkers and utensils. All cattle must be examined by a veterinary, and a report filed with the health department. The regulations now in force could not be considered oppressive and were necessary to surround the production of milk with due precautions. If inspection shows unsatisfactory conditions, the dairyman is given a reasonable time to make necessary improvements; if the conditions are bad, the time is shortened. If the improvements are not made, the milk from such a dairy is refused entrance into the city. It is the duty of the physician to report all cases of typhoid fever, and if, by exclusion, the milk is found to be responsible, a thorough inspection is made. On March 13, 1907, resolutions were adopted requiring creameries to furnish a report to the health department stating the existence or non-existence of typhoid fever, tuberculosis, scarlet fever, diphtheria, dysentery or any other infectious disease in the households of all persons employed in collecting or handling the milk, and milk stations must require similar reports from their sources of supply. Considerable opposition had been met with, and it is a question whether this regulation can be enforced without a branch of medical inspectors to control this work. Last year a section was added to the sanitary code requiring all persons to clean milk receptacles used in the delivery of milk immediately on being emptied. The enforcement of this section has done much toward assisting in the preparation of clean milk.

(*To be continued.*)

Medicolegal

Railroad Companies Not Liable for Wrongful Mutilation by Surgeon.

The Court of Appeals of Georgia, in Louisville & Nashville Railroad Company and others vs. Blackmon, says that a surgeon, being sent by two railway companies to a wreck to give professional attention to an engineer who had been injured, caused him to be moved to a hospital, where he soon died. After the death had occurred he ordered the body carried to an undertaker's establishment, and there he and the undertaker, without the consent of relatives, mutilated the corpse. Under the allegations in the case there could be no question as to the liability of the surgeon and undertaker, who participated in the alleged mutilation. The question was: Were the two railroad defendants liable for the acts of their surgeon who committed the mutilation of the body? The court holds that they were not.

Conceding that a surgeon of a railway company is such a servant as to be within the purview of section 3817 of the Civil Code of Georgia of 1895, which provides that "every person shall be liable for the torts committed by his . . . servant by his command, or in the prosecution and within the scope of his business, whether the same be by negligence or voluntary," still the court can not hold that the tort (wrong) complained of here was within the scope of the business for which the servant was employed. Whether the railway companies furnished surgical attention to the engineer for the purpose of diminishing the effect of an injury for which they apprehended they might be held liable, or as a mere gratuity, the business entrusted to the surgeon was that of ministering to a living man; and, when death had rendered all further ministration unavailing, the duty and business with which he had been entrusted by the railway companies were at an end. Certainly the limit to the scope of his authority was reached when he had closed the dead eyelids down, and had delivered the body to him to whom next in natural order the corpse should go—the undertaker. A case might arise in which a railroad company would be liable for the mutilation of a dead body by a surgeon; as when, for the purpose of obtaining evidence or for other reason, it directed an autopsy to be made. Such was not here alleged to be the case. The mere allegation that the person committing the tort was agent and surgeon at the time did not render any the less necessary the statement of facts showing that the act was by command of the employer or within the scope of the employment.

Compensation for Postmortem and by Whom Fixed.

The Supreme Court of Wisconsin says that the plaintiff in the case of Quigg vs. Monroe County filed a bill for "postmortem of the body of James Decorah, opening of abdominal, thoracic and cranial cavities, also removing cervical vertebræ from the body and preparing same for examination, by order of the jurors and assistant district attorney, $50." The county board allowed the bill at $10, from which decision the plaintiff appealed to the Circuit Court. The Circuit Court allowed it at $50, with interest from date of filing. Then the county appealed.

Section 4870 of the Wisconsin Statutes of 1898 provides: "Such physicians and surgeons so subpenaed shall, instead of witness fees, receive such reasonable compensation as may be allowed by the county board of supervisors, provided that such additional compensation shall not be less than $5 for each examination." It was claimed that this section vests in the county board power to fix the fee, subject only to the limitation of $5. But the Supreme Court, which affirms the judgment of the court below, holds otherwise.

It seems, the Supreme Court says, that the legislature had in mind that the physicians and surgeons so subpenaed should be paid reasonable compensation for their services in lieu of witness' fees, which under the former statute they received. True, the legislature provided that such reasonable compensation shall be allowed by the county board. But did the legislature mean that the county board might fix the compensation for the services at an unreasonable amount, and such allowance be not subject to review? If so, then the phrase "such reasonable compensation" is surplussage and without effect in the statute. The court can not think that the legislature had any such purpose in mind, but, on the contrary, intended what the ordinary meaning of the words import, namely, that the physicians and surgeons performing such services should receive reasonable compensation for their services. Nor can the court see any sound reason for a different construction. To require the performance of such services for such compensation as the county board might allow, though one-half or one-third what such services were reasonably worth, would seem to be out of harmony with the letter and spirit of the statute.

Moreover, section 638 of the Statutes of 1898, providing for an appeal to the Circuit Court from the disallowance in whole or in part of any claim by the county board, seems clearly to cover this case. If so, then no reason is perceived why a person appealing in such a case should not be entitled to a review the same as in any other appeal from the decision of the county board. The court thinks the appeal provided for bringing the whole matter before the Circuit Court for review and determination unhampered by the determination of the county board.

It appeared from the findings that an inquest was being held when such postmortem examination was performed by the plaintiff, and, in the absence of objection or showing to the contrary, it must be presumed that the inquest was being lawfully held. It also appeared from the findings that the plaintiff was subpenaed and ordered to perform the postmortem. The statute (section 4870) imposes on the justice the duty to subpena one or more competent physicians or surgeons, and having subpenaed the plaintiff to perform the operation, and there being no objection to the competency of such physician in the lower court, it must be presumed here that he was competent.

Effect on Neurasthenia of Pendency of Lawsuit Not Considered.

The Supreme Court of Minnesota met, in the personal injury case of Ahern vs. Minneapolis Street Railway Company, the question of whether it should not be proper in a suit of this kind, where neurasthenia is claimed to exist, to show the effect of the existence and pendency of a lawsuit on the prognosis of the disease, so that the jury may take into consideration how much of the trouble is liable to disappear or become ameliorated on the termination of the suit. But even if it be conceded that the purpose was to show that the pendency of a lawsuit (to recover damages for the injuries which caused the disease) would aggravate the neurasthenia, the court is nevertheless of the opinion that the exclusion of evidence of this kind was not error of which the defendant could complain. It is clear that if a party is injured by the neglect of another, and it is necessary to begin and maintain a suit to recover damages for the injury, and the pendency of the action aggravates the consequences of the injury, the aggravation is not due to any neglect or misconduct of the plaintiff, but that it is an incident to the prosecution of his remedy which is made necessary by the defendant's refusal to settle the case without suit. If either party could claim anything on account of such aggravation it would be the plaintiff; but it can not avail either party. While it is true that worry aggravates the condition of a person suffering from a disease of the nerves, and that joy favorably affects it, yet an inquiry as to just how much the trial of a personal injury action aggravates the plaintiff's condition, or how much a liberal verdict would mitigate it, in the court's opinion, involves too much doubt and uncertainty for the practical administration of justice.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

February 8.

1 *Blood Reactions of Inflammation and the Diagnostic Prevention of Terminal Stages of Infections of the Appendix and Gall Bladder. E. E. Smith, New York.
2 *Diagnostic Prevention of Terminal Stages of Infections of the Appendix and Gall Bladder. W. A. Bartlett, New York.
3 *Stricture of the Eustachian Tube with Its Baneful Consequences Traced to Adhesions in the Fossa of Rosenmüller. W. S. Bryant, New York.
4 Organic Factor in High Blood Pressure. A. Haig, London, England.
5 *Incipiency in Tuberculosis from the Standpoint of the Sanatoria. The Safety and Value of the Tuberculin Test When Safeguarded Solely by the Clinical Method. H. B. Dunham, Glen Gardner, N. J.
6 Benjamin Rush as a Phthisiotherapist. H. F. Stoll, Hartford, Conn.
7 Misuse of the Voice and Its Cure. Vocal Muscles and Resonance. N. J. P. Van Baggen, The Hague, Holland.
8 *Favorable Influence of Small Doses of Arsenic and Bichlorid of Mercury in Three Cases of Exophthalmic Goiter. L. Weber, New York.

1. **Blood Reactions of Inflammation.**—Smith details the blood changes to be found during active inflammatory processes, namely, the absolute number of leucocytes; the relative number of polymorphonuclears, and the degree of fibrin formation. He discusses each of these factors in detail.

2. **Id.**—Bartlett considers the application of the changes to the diagnostic prevention of the terminal stages of infections of the appendix and gall bladder. The conclusion is, that a careful study of the blood changes from time to time will give warning of the onset of serious symptoms, so that they can be dealt with before arriving at a fatal point.

3. **Stricture of the Eustachian Tube.**—Bryant traces stricture of the Eustachian tube to the fact that the fossæ of Rosenmüller are subject to obstructions and adhesions which interfere with the physiologic action of the tube through imperfect movements of its cartilage, as can be demonstrated by the salpingoscope. The relief of this impediment by curetting and the application of silver nitrate permits a more effective treatment of the middle-ear condition.

5. **Incipiency in Tuberculosis.**—Dunham points out that in various states the state tuberculosis sanatoria are unable to find patients to fill their beds. This is not because none such exist, but must be attributed to the fact that the medical profession is not yet alive to the detection of early tuberculosis. It is unnecessary to wait for the appearance of bacilli in the sputum. Anything abnormal in the apex of a lung is of

itself sufficient to warrant a tentative diagnosis, which can be definitely settled by administration of tuberculin, preferably after the patient has started treatment. Tuberculin as a diagnostic agent should be more generally employed. Calmette's method, though not absolutely conclusive, furnishes a simple and readily available test, which can be supplemented on negative results by more exhaustive measures.

8. **Exophthalmic Goiter.**—Weber has had three cases in which practical cure was produced by the administration of 1/60 grain (1 mg.) of arsenic combined with the same amount in tablet form of mercury perchlorid, taken three times a day. Signs of improvement in the first case appeared about a month after beginning the remedies, and the patient continued them with little interruption for nearly three years, when complete recovery ensued, which has now lasted two years.

Boston Medical and Surgical Journal.

February 6.

9 *Treatment of Sarcoma with Mixed Toxins of Erysipelas and Bacillus Prodigiosus. W. B. Coley, New York.
10 *Treatment of Leukemia with Mixed Toxins of Coley. R. C. Larrabee, Boston.
11 *General Paralysis as a Menace to Public Safety in Transportation. P. C. Knapp, Boston.
12 Direct Examination of the Larynx and the Upper End of the Esophagus by the Lateral Route. H. P. Mosher, Boston.

9. **Mixed Toxins in Sarcoma.**—Notwithstanding the success which has attended the use of mixed toxins at the hands of a large number of physicians in cases of inoperable and apparently hopeless sarcoma, and as a prophylactic against recurrence after primary operations, Coley finds that the method is still unknown to the majority of medical men. He, therefore, deals in this paper with the practical aspects of the subject. In the first place, he says, it has been shown to have a curative effect sufficient for practical purposes only in cases of sarcoma and not in those of carcinoma. The treatment is applicable in certain inoperable cases, and as a prophylactic against recurrence when the sarcoma has been removed by operation. The prospects of success are considerable. He records his own experience in 430 cases to show that there is no appreciable risk. He describes the preparation and care of the toxins and the method of treatment in inoperable sarcoma. In certain operable cases, namely, such as involve the long bones, in the hope of avoiding operation, and after operation as a prophylactic against recurrence, in which last group the method seems to have some place even in carcinoma. He describes three cases.

10. **Mixed Toxins in Leukemia.**—Larrabee reports his results with the use of Coley's mixed toxins in five cases of leukemia, and his reasons for hoping that favorable results might follow therein. The results were as follows: Case 1, most gratifying; Case 2, little improvement; Case 3, not so good as Case 1, but distinctly "worth while;" Case 4, no change; Case 5 (one of the acute lymphatic type), no results, the patient ultimately dying. It must be borne in mind that the agent is very powerful. In all his cases arsenic had been used without avail. He is unable to say whether the toxins will compare favorably with the excellent results sometimes afforded by *x*-rays but so far they have been encouraging enough to justify further trial.

11. **General Paralysis and Public Transportation.**—Knapp's investigations have led him to note that of a considerable number of general paralytics in public institutions a dangerous proportion is found among people engaged in various means of public transportation. Other forms of chronic brain disease in the early stages are also well represented in such services. He quotes instances of errors on the part of engineers, such as might easily be attributed to such conditions. He suggests that men in responsible position on transportation systems should be subjected to thorough examination at regular intervals by competent neurologists.

New York Medical Journal.

February 8.

13 *The Hand as a Therapeutic Agent. J. M. Taylor, Philadelphia.
14 *Is Sterilized Milk a Safe Food for Infants? E. M. Sill, New York.
15 Therapeutic Use of Soured Milk. H. Emerson, New York.
16 *Uric Acid: Formation, Elimination and Effect on General System. E. E. Smith, New York.
17 *Internal Medicine: Some of Its Present Aspects and Achievements. G. W. McCaskey, Fort Wayne, Ind.
18 *Indications for Water in Childhood. M. Barbour, Philadelphia.
19 *Contracted Pelvis as Cause of Dystocia. J. O. Polak, Brooklyn, N. Y.
20 *Nervous and Mental Manifestations Incident to School Life. W. R. Dunton, Jr., Towson, Md.

13. **The Hand.**—Taylor declares that the hand is a most important instrument for the physician, albeit a most neglected one. Manual operations have been left altogether too much first to quacks, and later to more or less unqualified persons—unqualified, that is, in all respects beyond the mere technic of their application. So important are intelligent, judiciously applied massage, passive movements, stretching, torsions, etc., that the laity recognizes their utility more clearly than members of the medical profession. Taylor refers to the powerful effects capable of being wrought on the vasomotor and visceromotor mechanisms of the centers of the cord, the subsidiary centers, the exposed points in nerves and ganglia, when intelligently operated on by an experienced physician. Here a knowledge of the governing mechanisms is required, along with familiarity with the natural history and phenomena of disease, such as is assumed to be the possession of the expert clinician. Even when the physician prescribes their use by others he should know how to prescribe them in detail according to the actual requirements of the individual case, just as he does not leave the quantities of the drugs and the directions for their use to the pharmacist, but details them in the prescription. Taylor discusses manual operations as aids to diagnosis and treatment, and also massage and passive movements. The points which should be borne in mind in regard to massage are: 1. The rate of movements. 2. Depth and gradation of pressure. 3. Quality of skin touch. 4. The length of time consumed. 5. The kind and degree of exposure of the parts. 6. General massage is exhausting to invalids, especially to convalescents.

14. **Sterilized Milk.**—Sill concludes, for reasons given, as the result of careful clinical observations, chemical research and bacteriologic findings, that the advantages of raw milk, when properly used, far outweigh any advantages which highly heated milk may possess, and if the milk is heated it should never be raised above 140 degrees F. for twenty or thirty minutes.

16. **Uric Acid.**—Smith goes into the physiologic chemistry of uric acid, and points out that it is not an important factor constitutionally in disease, but that its pathogenic results are confined to cases in which it is deposited in the tissues, such as tophi or infarcts, or as embedded crystals, and produces mechanical injury. It is possessed at most of only the slightest degree of toxicity. The amount of uric acid found in the urine is no measure whatever of its import as a morbid factor in the case.

17. **Internal Medicine.**—McCaskey describes the revolution in medicine effected in less than a generation, and says that internal medicine must now be considered as a specialism, just as surgery is. This does not lessen the sphere of the general practitioner, who must ever continue, as he is now, the high priest of the domestic sanctuary. He should know something of all the specialties, enough to decide whether or not his patients need the special diagnostic and therapeutic resources of any one of them.

18. **Water in Childhood.**—Barbour urges the importance of giving children, both in health and disease, more water than is now commonly done.

19. **Contracted Pelvis.**—Polak emphasizes certain points in pelvimetry and cephalometry, and further says that in primiparæ, when there is a normal relation between the head and the pelvis, the presenting part descends into and engages in the pelvic cavity during the last week or two of pregnancy; consequently when the head is not engaged in a primipara at the beginning of labor something must be wrong. This rule, he says, has no exception. Any of the following causes will prevent the head from being found engaged: A contracted pelvis, a large head, a small child, excessive liquor amnii, malpositions of the fetus, multiple pregnancy, and placenta prævia.

Before labor Stone's method, with labor in progress a modification of Mueller's method, of measurement may be used. If the conjugata vera measures 9 cm., or even with a conjugata of 8 cm., Polak practices induction at the thirty-sixth week, considering it the operation of choice. With a conjugate of 7.5 or less, Cesarean section at or shortly before term is the elective operation. If the patient is first seen during labor, and has a conjugate not below 8.5 cm., Nature and forceps should give place to podalic version. With a smaller conjugate, or if in the operator's opinion the danger to the child is too great, hebotomy or Cesarean section is to be used. If the child is dead or dying perforation may be done, but only if the pelvis is above 7.5 cm. The larger the anteroposterior diameter the safer.

20. **School Life.**—Dunton gives the following as the ideal conditions under which a child should study: Hygienic environment, not too long hours, and those broken by intervals for play and relaxation; the natural mode of thought should be followed, association rather than mere effort of memory being sought; not more than twenty or fewer than ten pupils to one teacher. The nervous conditions likely to affect the pupil's ability to learn are chorea, epilepsy, tics, hysteria, neurasthenia, the mental diseases, imbecility of varying grades and dementia præcox.

Archives of Internal Medicine, Chicago.

January.

21 *Nervous Affections of the Heart. F. Müller, Munich, Germany.
22 Hemolytic Reactions of Blood in Dogs Affected with Transplantable Lymphosarcoma. R. Weil, New York.
23 Trichomonas Hominis Intestinalis: A Study of Its Biology and Its Pathogenicity. H. A. Freund, Detroit, Mich.
24 *Experimental Study of Action of Oil on Gastric Acidity and Motility. D. M. Cowie, Ann Arbor, Mich., and J. F. Munson, Sonyea, N. Y.
25 *Experimental and Clinical Investigation of Pulse and Blood Pressure Changes in Aortic Insufficiency. H. A. Stewart, Baltimore.

21. **Nervous Heart.**—Mueller reviews the physiology of the heart and its connection with the nervous system, pointing out the dependence of the modern conceptions of nervous heart disease on the results of experimental investigations. The importance of the accelerator branches of the sympathetic system is recognized, and the probability that sensory fibers run in the sympathetic from the heart to the cord, at the level of the lower cervical or upper dorsal segments, is shown by the fact that the pain of angina pectoris is often associated with hyperesthetic areas in parts of the arm and chest receiving their nervous supply from the same segments. Nervous affections of the heart may arise from structural changes in the nerves controlling the heart, as in cases of tachycardia due to the compression of the vagus by a tumor; but most nervous heart affections arise in connection with functional nervous disease, especially with neurasthenia and with the condition expressed by the old term nervousness, which is characterized by an over-irritability of the nervous system. Alterations in the rate of pulsation are most prominent. The tachycardia is not constant, but alternates with periods of normal rate or with bradycardia. The heart reacts to an abnormal degree to those influences which cause variations in the rate of normal states, such as digestion, caffein, alcohol, muscular exertion and psychic excitement. The nervous acceleration differs from that due to myocardiac weakness in that there are no signs of defective circulation and the rate of the pulse tends to improve under continuous exertion.

Arrhythmia is seldom due to nervous influences alone. The only kind of arrhythmia whose connection with nervousness we are sure of is the so-called respiratory, or infantile, arrhythmia for which Mueller proposes the more appropriate term of "changing pulse rate." This is an exaggeration of a normal reflex over the vagus and is a sign of unstable equilibrium of the vagus center. As such a respiratory irregularity is never observed in organic cardiac disease, this symptom is of no little diagnostic value. Pulsus alternans and pulsus irregularis perpetuus indicate severe damage of the heart muscle and are never symptoms of nervous cardiac disease. Short attacks of complete arrhythmia, even of delirium cordis, occurring when the stomach is overloaded and relieved by emptying that organ, may be due to reflex action through the vagus, or perhaps to autointoxication. Mueller doubts whether extrasystoles are ever a sign of purely nervous disorders. When pronounced they are always a sign of severe damage of the heart muscle; when very slight in young people they may be due to sudden and considerable rise of blood pressure and indicate an incipient degeneration of the myocardium which may disappear or may take many years to reach the stage of evident heart failure. It is better in practice to consider this symptom as a sign of importance and not simply a manifestation of a nervous heart which commonly passes as harmless.

Palpitation appears to be produced by a peculiar type of muscular contraction which may be due to nervous influences, in which the systole reaches its maximum in too short a time for the most effective propulsion of the blood. The arterial blood pressure in individuals with nervous heart is characterized by variability, sometimes too high, sometimes too low, but in some cases it is continually too high. This is almost always a sign of beginning arteriosclerosis and it is not surprising that many nervous individuals fall a prey relatively early in life to arteriosclerosis induced by rapid variations in the blood pressure which is often also abnormally high. The size of the heart is seldom altered in nervous cases, but this important sign must not be too strictly interpreted. Pain in the region of the heart in nervous cases is commonly less intense, less radiating, lasts longer, and has less relation to exertion, than in angina of organic disease. It is not so deep-seated, but is often referred to the chest wall. Mueller questions the existence of purely nervous angina.

Cardiac diseases resembling nervous affections are seen in goiter heart, in various forms of poisoning, e. g., alcohol, caffein, tobacco, in toxemia from bacterial toxins such as typhoid, influenza, tuberculosis, etc. They occur in connection with sexual states, such as pregnancy, puberty, the climacteric, and in obesity. Paroxysmal tachycardia is to be recognized as a distinct nervous disease. The diagnosis of nervous cardiac disease should never be made until every other possibility has been excluded. Treatment should be directed to the general nervous state and cardiac remedies omitted unless there is evidence of failure of the circulation. The patient should be given a change of scene in a quiet place, preferably in a high altitude. Watering places and modes of treatment devoted to the cure of heart disease are apt to be too exciting and direct the patient's attention too much to the heart. An orthographic determination of the outlines of the heart may sometimes be useful in convincing the patient of the absence of organic disease, but the physician, having won the patient's confidence, should direct his attention away from his heart. Muscular exercise is likely to be of benefit, and education in the control of emotion may remove the tendency to nervous irritability.

24. **Oil in Stomach Troubles.**—Cowie and Munson summarize the conclusions of their experiments as follows: Olive oil and cottonseed oil, when given in connection with the usual test breakfast, decrease the gastric acidity at the end of the hour and retard the evacuation of the stomach. The beginning of the secretion of hydrochloric acid is delayed when oil precedes the meal, unchanged when oil follows the meal. The height of digestion is delayed when oil is given either before or after the meal. The height of secretion is lowered when oil precedes the meal, unchanged when oil follows the meal. If the progress of digestion is watched by the removal of small samples of stomach fluid at frequent intervals it will be observed, when oil precedes the meal by one-half hour, that at the end of what is usually taken as the digestive period for a test breakfast (three-fourths to one hour) the acidity is distinctly lower, while as great a height as is present in the control meal is frequently reached some minutes later. The action of oil on the stomach functions is only a temporary one. It has no effect on subsequent meals unaccompanied by oil. The therapeutic value of oil is apparent. In suitable cases it is preferable to antacids because of its calorific value. In hyperchlorhydria it should precede the meal. In hypochlorhydria it should follow the meal. In stasis and persistent slow evacuation it should be eschewed. In hypermotility it may be given before, during,

or after the meal. Oil lowers the gastric secretion both by reflex central inhibitory stimulation and by mechanical action.

25. **Aortic Insufficiency.**—Stewart reports an elaborate investigation into the pulse and blood pressure changes in aortic insufficiency, which he summarizes as follows: The work of Henderson is confirmed, in that the cardiac cycle is not diphasic but triphasic, and consists of systole, the period of the ventricular discharge; diastole, the period of ventricular relaxation and filling; diastasis, the period of rest. The effect of the production of aortic insufficiency in the dog is to increase the amount of systolic output by only a fraction of a cubic centimeter of blood. The volume of blood which regurgitates is negligible. The transmission of pressure to the ventricle increases the ventricular tonus. It also produces a reflex inhibition of the vasomotor center. The fall of pressure in aortic insufficiency is due to the diminished peripheral resistance thus induced, and is not caused by loss of blood from regurgitation. The increase of pulse pressure—the difference between maximum and minimum pressure—is due to a lowering of the diastolic pressure. There is no increase in the systolic pressure. The main fall in pressure is systolic in time and is due to an increased blood flow through the capillaries. So long as the tonus of the ventricle is maintained, a slowing of the heart rate does not favor regurgitation.

Surgery, Gynecology and Obstetrics, Chicago.

January.

26 *Treatment of the Pedicle and the Ureter in Nephrectomy. J. Bland-Sutton, London, Eng.
27 Treatment of Chronic Diseases of the Stomach. B. G. A. Moynihan, Leeds, England.
28 *Radiograms of Syphilis of the Long Bones. M. W. Ware, New York.
29 *Case of Peritoneal Pseudomyxoma. E. A. Schumann, Philadelphia.
30 *Pancreatic Diabetes and its Surgical Treatment. P. J. Cammidge, London, England.
31 *Pancreatic Catarrh and Interstitial Pancreatitis in Their Relation to Catarrhal Jaundice and Also Glycosuria. A. W. M. Robson, London, England.
32 *Peptic Ulcer of the Jejunum. F. G. Connell, Oshkosh, Wis.
33 Megacolon (Hirschsprung's Disease.) C. Wagner, Chicago.
34 *Lacerations of the Perineum. E. McDonald, New York.
35 *Medical and Surgical Treatment of Gallstones, Their Scope and Relations. J. B. Deaver, Philadelphia.
36 Excision of the Knee Joint. A. H. Ferguson, Chicago.
37 Cholecystotomy and Cholecystectomy as Practiced in the Clinic of Mr. Moynihan. H. Collinson, Leeds, Eng.
38 Another Method for Forming Gastric Fistula. R. T. Morris, New York.

26. **Nephrectomy.**—Bland-Sutton asserts that the great point in the ordinary method of dealing with the pedicle is to avoid including in the ligature any portion of the kidney pelvis. When, however, the pelvis is greatly dilated with many vessels spread out over its circumference, all these long vessels crossing the dilated pelvis require to be seized with hemostatic forceps and tied separately with thin silk. The author has on many occasions seen no care taken to isolate the pelvis, but it has been transfixed with the pedicle needle. This not only makes an extremely thick pedicle, but is fraught with another danger if the kidney is being removed for septic trouble, for the ligature will become septic and probably slough or infect the veins, which in consequence will become filled with septic thrombi. By carefully clamping the ureter and isolating the pelvis, the vessels may be easily isolated and ligated without in any way infecting the wound by leakage of septic matter from the ureter or renal pelvis. To show how successful careful attention to the pedicle may make the operation of nephrectomy, Bland-Sutton mentions that during the last seven years he has performed fifty-eight consecutive nephrectomies with recovery.

28. Abstracted in The Journal, Oct. 12, 1907, page 1306.

29. **Peritoneal Pseudomyxoma.**—Schumann summarizes his paper as follows: The foreign-body peritonitis of certain observers, peritoneal pseudomyxoma, and secondary myxoma of the peritoneum are different stages or phases of one and the same condition. The disease depends *per se* on the presence of a ruptured multilocular cystadenoma of the ovary. It is a dangerous disease, both as to immediate postoperative results, and also by reason of its tendency to recurrence and to the development of cachexia. Inasmuch as it histologically corresponds accurately with the processes of cancer formation, peritoneal pseudomyxoma must be regarded as a form of carcinoma.

30. **Pancreatic Diabetes.**—Cammidge discusses the pancreatic theory of diabetes and concludes that as it stands at present it does not meet every difficulty or open a royal road to the cure of disease. It makes clear, however, many points in the etiology that were formerly obscure and suggests means by which the old adage "prevention is better than cure," may be applied to many cases of this troublesome and fatal disease.

31. **Pancreatic Catarrh.**—Robson brings forward further evidence in support of his previously expressed views that while many of the ordinary cases of acute catarrhal jaundice are pancreatic in origin, nearly all, or possibly all, cases of so-called catarrhal chronic jaundice are due to catarrh of the pancreas or to interstitial pancreatitis. As regards the relation of interstitial pancreatitis to glycosuria, Robson considers the latter not a common symptom of pancreatic disease and not one that can be relied on as a diagnostic symptom. When present it indicates a serious though not necessarily hopeless condition. Such pancreatic glycosuria occurs only when the greater part of the pancreas has been removed or destroyed, which is particularly the case in chronic interstitial pancreatitis of the interlobular type, following obstruction of the ducts by calculi and produced by ascending catarrhal inflammations from the duodenum. Interacinar pancreatitis involving the islands of Langerhans gives rise to glycosuria at an earlier stage. The delay in operation or lack of drainage of bile ducts may cause an original interstitial pancreatitis to pass on into the interacinar variety. He, therefore, considers it unwise not to drain the bile duct thoroughly, the drainage continuing until the bile becomes free from organisms and its normal route is free from obstruction. In a very large percentage of the cases the removal of the cause, together with drainage of the bile ducts, or in the absence of a removable cause simple drainage of the bile duct alone, is an operation that may be safely recommended in suitable cases that have failed to yield to general treatment.

32. Abstracted in The Journal, Jan. 18, 1908, page 232.

34. **Laceration of the Perineum.**—McDonald discusses in detail the causation, prevention and treatment of perineal lacerations under the following heads: 1, Rapid delivery; 2, relative disproportion; 3, faulty mechanism; 4, forceps. With regard to the last cause, the harm caused depends on the kind of forceps and whether the operator delivers the head with the forceps or not. The Simpson type of long-bladed forceps is apt to cause laceration in two ways: 1, In consequence of the breadth between the shanks on a backward pull unduly stretching the outlet; 2, the non-approximation of the blades to the head, so that the edge impinges on the vaginal floor. The secret of success in the prevention of perineal lacerations is to keep the mucous membrane intact; that of avoidance of tears in forceps delivery is the use of proper forceps and the removal of the forceps as soon as the head can be controlled by the hand. McDonald prefers solid-blade forceps after the Tucker-MacLane model. The article is elaborately illustrated with diagrams, and the technic of repairs is described.

35. **Gallstones.**—Deaver takes occasion to emphasize the importance of the collaboration of the internist and the surgeon. While the ideal treatment of gallstones is undoubtedly by surgical procedure, it would be folly to assert that all cases should be subjected to such treatment without delay. It is the demonstration of the living pathology that has brought about our present understanding of gallstones. The surgeon has been the first and foremost privileged to appreciate what grave lesions and pathologic processes may exist with few marked symptoms, and even these may be masked until they suddenly show their effect too late for treatment to be of avail. Deaver discusses briefly the medical treatment of gallstone disease, which may aim to reduce inflammation of the gastrointestinal tract, to favor elimination of toxins, and to guard against dietary and other indiscretions. Much can be done by medical means to build up the patient, reduce the effects of cholemia, and prevent recurrence of attacks of colic, not to mention relief of acute pain, but that the gallstones can be broken up, dissolved, removed or otherwise done away

with by drugs seems an idle statement in the light of the modern understanding regarding their nature and pathology. As regards the surgery, if any departure from the straight incision is required, he prefers Mayo Robson's. Gauze pads and marine sponges are used to wall off the field of operation, acting as absorbers and also as retractors under the hand of the assistant. The insertion of pads should begin at one extremity to avoid prolapse of intestines on both sides, and they should be introduced where they are to remain until the close of the operation. Adhesions masking the field of operation, obstructing the biliary passages or interfering with surrounding organs should be dealt with, but if doing no damage they should be left alone. All stones present that can be reached should be removed. If the gall bladder is not so damaged as to be useless as a reservoir it should be left. Drainage should always be used in the presence of infection, and in the majority of cases even without infection, after an operation on the gall bladder or bile ducts. After removal of the gall bladder in presence of infection the drainage of bile should be provided for by a rubber tube through the stump of the cystic duct or preferably through the hepatic duct, into the common duct; in the absence of infection a cigarette drain should be used. There should be as little disturbance of the peritoneum as possible.

Journal of the Indiana State Medical Association, Fort Wayne.

January.

39 The Doctor: His Relation and Duty to the State. D. C. Peyton, Jeffersonville.
40 Advantages and Possible Errors of Radiograph in Renal, Ureteral and Bladder Surgery. W. N. Wishard, Indianapolis.
41 *Anatomic Basis for Reflex Movements. B. D. Myers, Bloomington.
42 *Spina Bifida. M. F. Porter, Fort Wayne.
43 Work of the Indiana State Board of Health. J. N. Hurty, Indianapolis.

41. **Reflex Movements.**—Myers gives a brief but succinct, clear and diagrammatically illustrated, description of modern knowledge of the minute anatomy of the nervous system in relation to reflex movement.

42. **Spina Bifida.**—Porter discusses the subject of spina bifida, using Sutton's clssification into: 1, Myelocele; 2, syringomyelocele; 3, meningomyelocele; 4, meningocele; 5, masked spina bifida or spina bifida occulta. He discusses each type separately and hopes to aid in dispelling the too prevalent opinion that children with spina bifida are doomed, and that treatment is futile. He cites Treves, Cabot and Woolsey to show that the treatment of spina bifida by injection and by the ligature has been relegated to oblivion, and that the trend now is toward earlier and more frequent resort to open surgical operation. The dangers are shock, sepsis, and loss of cerebrospinal fluid. Shock is likely only in cases immediately threatening life. Sepsis is practically under the surgeon's control. Clamping the neck of the sac or corking the opening into the canal will prevent dangerous loss of cerebrospinal fluid. As to contraindications hydrocephalus is regarded as one, but Porter points out that early operation may prevent this condition, and predicts, therefore, that it will also cure in some cases. He "would not refuse to operate on a patient with spina bifida, born with hydrocephalus, for in so doing one would stand to lose nothing that is worth keeping and might be rewarded by the recovery of the patient." Paralysis he deems an indication for rather than against operation. The age of election, the tumor not increasing and causing no symptoms, is between six months and a year. As to technic, he prefers infiltration or ether anesthesia; he considers scopolamin-morphin and cocain unwarranted. In addition to the dangers above named, hemorrhage, though not likely to be profuse, must be regarded, because of the extreme susceptibility of a young baby. In aseptic measures the great tenderness of a child's skin must not be forgotten. Separation of the sac from the skin should be done before the sac is opened. Clamping the sac, when this is possible, is the best means of preventing the loss of cerebrospinal fluid. With care this may be done without danger, even though the sac contains cord elements. The head must be low and the hips high, to guard against serious loss of fluid. Nerve elements when present are usually in the middle line, therefore lateral incision is advised. Should the sac contain important nerve structures they should be separated from it if possible without harm; otherwise that part of the sac adherent to the nerve structures should be returned to the spinal canal. As to closure, inasmuch as a firm covering can be made of flaps from connective tissue, muscles, and skin, osteoplastic operations are unnecessary and unwarranted. Buried absorbable sutures should be used for closure of sac and coaptation of muscle and connective tissue flaps. They should also be used for the skin, if possible, though horsehair through-and-through suture may be deemed desirable. Drainage is to be avoided. An adequate dry dressing should be applied and should be left undisturbed for a week. Porter reports three cases in children, aged respectively six weeks, forty-eight hours and seven months. The first and third operations were eminently successful. The new-born infant recovered from the operation, but died seventy-two hours later in convulsions due to rapidly developing hydrocephalus.

Journal of the Michigan State Medical Society, Detroit.

January.

44 *Matter in the Ionized State. F. T. F. Stephenson, Detroit.
45 *Dysmenorrhea. R. Peterson, Ann Arbor.
46 *Menorrhagia and Metrorrhagia. W. P. Manton, Detroit.
47 *Amenorrhea. R. R. Smith, Grand Rapids.
48 *Hygiene in Pregnancy. W. H. Haughey, Battle Creek.

44. **Ionization.**—Stephenson gives a fairly clear statement of the essentials of the ionic theory, with some suggestions as to its relation to medicine, couched in terms to make a difficult subject comprehensible.

45 to 48. Abstracted in THE JOURNAL, July 13, 1907, page 180.

Journal of the Medical Society of New Jersey, Orange.

January.

49 Scarlet Fever. H. Williams, Passaic.
50 Measles. P. Marvel, Atlantic City.
51 Rötheln. A. McAlister, Camden.
52 *Smallpox. E. E. Worl, Newark.
53 Proper Direction of the Forces of Heredity. W. A. Wescott, Berlin.

52. **Smallpox.**—Worl discusses the history of smallpox and discusses its diagnosis. He advocates in all sincerity an absolute compulsory vaccination law for New Jersey, based on the medical knowledge and experience of the last hundred years.

Journal of Cutaneous Diseases, New York.

January.

54 *Osteopathies of Quarternary Syphilis. Professor Gaucher and Dr. Levy-Bing, Paris.
55 *Exudative Erythema Multiforme with Report of a Case of Hemorrhagic Bullous Erythema Circinatum. W. T. Corlett, Cleveland, Ohio.
56 *Case of Sarcoid. S. Pollitzer, New York.
57 *Multiple Benign Cystic Epithelioma. M. L. Heidingsfeld, Cincinnati.
58 *Easy and Rapid Method of Microchemical Research for Mercury in Urine. C. Lombardo.

54. **Quaternary Syphilis.**—Gaucher and Levy-Bing conclude that syphilis, either directly or in the second generation, is an important factor in the production of suppurative bone and joint conditions of childhood, in white swelling, hip and Pott's disease, whether the lesions be directly dependent on quaternary heredosyphilis or the hereditary taint be only a capital predisposing cause for tuberculous lesions.

55. Abstracted in THE JOURNAL, Oct. 5, 1907, page 1214.

56. Abstracted in THE JOURNAL, Oct. 12, 1907, page 1306.

57. Abstracted in THE JOURNAL, Sept. 28, 1907, page 1137.

58. **Mercury in Urine.**—Lombardo describes a method of examining for mercury in the urine by adding one drop of egg albumin to 5 c.c. of filtered urine, agitating, and adding 3 c.c. of 12 per cent. solution of tin chlorid just filtered and hyperacidified with 25 per cent. of hydrochloric acid. Turbidity, clarification and opalescence follow. The urine is then centrifuged and the precipitate examined under 600 diameters. Metallic mercury, if present, will be seen in the form of extremely minute black globules.

Pennsylvania Medical Journal, Athens.

January.

59 *Perforation in Typhoid. A. Newlin, Philadelphia.
60 *Cases of Perforation in Typhoid Operated on at Pennsylvania Hospital. C. F. Mitchell, Philadelphia.

61 *Experience in Surgery of Typhoid Perforation. G. L. Hays, Pittsburg.
62 Relation of General Practitioner to the Tuberculosis Problem. E. M. Green, Easton.
63 Sanatorium Treatment of Pulmonary Tuberculosis. H. M. Neale, Upper Lehigh.
64 Treatment of Pulmonary Hemorrhage. A. P. Francine, Philadelphia.
65 *Chronic Cystic Mastitis. J. Speese, Philadelphia.
66 *Syphilitic Enlargement of Salivary Glands, with Report of Case. B. C. Gile, Philadelphia.
67 The Live County Society. How Constituted, How Maintained. J. R. Hunter, Lewistown.
68 Medical History of Dauphin County. C. A. Rahter, Harrisburg.

59 to 61. Abstracted in The Journal, Nov. 2, 1907, page 1550.

65. Abstracted in The Journal, Oct. 26, 1907, page 1465. This article was also published in the *University of Pennsylvania Medical Bulletin*, January, 1908.

66. Published in *American Medicine*, December, 1907.

American Journal of Orthopedic Surgery, Philadelphia.

January.

69 Operation for Stiffening of the Ankle Joint in Infantile Paralysis. J. E. Goldthwait, Boston.
70 *Etiology and Treatment of Congenital Talipes Calcaneovalgus. W. G. Stern, Cleveland, Ohio.
71 Comparative Strength of the Adductor and Abductor Groups in the Foot. R. B. Osgood, Boston.
72 *Gonorrheal Exostosis of the Os Calcis. C. H. Jaeger, New York.
73 Isolated Fracture of Greater Tuberosity of Humerus. H. L. Taylor, New York.
74 Some Unusual Spines. J. T. Watkins, San Francisco.
75 A New Brace for Postural Scoliosis. R. Soutter, Boston.
76 Portable Traction Apparatus for Use in Fractures of and Operations on the Lower Extremities. R. Soutter, Boston.
77 Effect of Imperfect Hygiene in Production of Bone Tuberculosis. C. Wallace, New York.
78 Treatment of Ununited Fractures of the Neck of the Femur by Use of Coin Silver Nails. H. A. Wilson, Philadelphia.

70. **Talipes Calcaneovalgus.**—Stern concludes that besides the recognized changes in the form and position of the foot, one of the leading characteristics of congenital talipes calcaneovalgus is the muscle imbalance consisting in passive contractures in the dorsal flexors and peronei muscles, and overstretching, lengthening, relaxation and atrophy of the plantar flexors and supinators and the tendo Achillis. These muscles are not dependent on changes in the central nervous system but are due to forced position of the foot within the uterus in pronation, abduction and dorsal flexion. This forced position, he asserts, is due to abnormal intrauterine pressure, usually coming from a partial lack of liquor amnii. All cases should be treated as early as possible by means of overcorrection and fixation. This treatment is a cure for the muscle imbalance and usually restores the form of the foot. Both the types of muscle imbalance and the results from such static treatment are additional proof of the pressure theory.

72. **Gonorrheal Exostosis.**—Jaeger refers to a painful affection of the foot that has been noted in a few instances to occur as a concomitant of gonorrhea. He reports a case, making the seventeenth, with a typical exostosis growth which was removed, the bone being very brittle and easily curetted with a sharp spoon. The condition is an ossifying periostitis in which the gonococci are found.

Dominion Medical Monthly, Toronto.

January.

79 *Appointment of Ministers of Health. F. G. Bushnell, Brighton, England.

79. **Ministers of Health.**—Bushnell considers the nature and scope of a ministry of health and the arguments for and against it. He is himself convinced that such an appointment would possess untold potentialities for the health, and, therefore, for the common wealth, of nations.

Military Surgeon, Carlisle.

January.

80 Study of Tuberculosis in the United States Navy. P. M. Rixey, Washington, D. C.
81 *Psychic Phenomena of Intestinal Toxemias and Their Treatment. J. C. DeVries, N. Y. National Guard.
82 *Ipecacuanha in Amebic Dysentery. H. I. Raymond, U. S. Army.
83 Treatment of Amebic Dysentery. R. M. Thornburgh, U. S. Army.
84 Sanitation of the Jamestown Exposition. R. L. Payne, Norfolk, Va.

81. **Intestinal Toxemias.**—DeVries discusses the psychic phenomena, depression, dread, fear, nostalgia, melancholia, delusions, etc., dependent on intestinal toxemia, and generally the result of long continued constipation. There is intestinal distension, with gas pressure on the pneumogastric. The treatment, of course, is the removal of cause. In nervous anorexia he gives food, varied and at frequent intervals; bitter tonics half an hour before meals, high-frequency current, forced feeding, salt rub, needle bath, or other form of hydrotherapy, and attention to the bowels are indicated.

82. **Amebic Dysentery.**—Raymond considers the treatment by ipecacuanha rational, because this drug causes a prompt disappearance of the ameba from the intestinal tract. He describes the mode of administration in detail.

Lancet-Clinic, Cincinnati.

February 1.

85 *Plea for Early Diagnosis and Removal of Uterine Fibroids. A. D. Willmoth, Louisville, Ky.
86 *Postperitoneal Fibroid Tumors of the Uterus. R. B. Hall, Cincinnati.
87 Calmette Serum Reactions in Ophthalmology. T. D. Vail, Cincinnati.

85, 86. Abstracted in The Journal, Nov. 2, 1907, pages 1552 and 1553.

Kentucky Medical Journal, Bowling Green.

February.

88 Present Status of Gastric Surgery, with Illustrative Cases. J. G. Sherrill, Louisville.
89 *Management of a Primipara During Pregnancy and Labor. L. H. South, Bowling Green.
90 *Surgery of Inguinal Hernia with Report of Fifty-two Operations on Forty-eight Patients. A. Schachner, Louisville.
91 Perineovaginal Restoration. D. C. Bowen, Elizabethtown.
92 Therapeutic Use of Roentgen Rays. J. T. Rodman, Owensboro.
93 Complete Turbinectomy. D. S. Reynolds, Louisville.

89, 90. Abstracted in The Journal, Nov. 2, 1907, pages 1550 and 1551.

Albany Medical Annals.

January.

94 *The Hexon Bases in Experimental Liver Necrosis. H. C. Jackson and R. M. Pearce, Albany.
95 *Enzymes in Experimental Liver Necrosis. Id.
96 *Nitrogenous Metabolism in Experimental Liver Necrosis. Id.
97 *Nuclein Metabolism in Experimental Liver Necrosis. Id.
98 *The Fats and Lipoids in Experimental Liver Necrosis. Id.
99 *Investigation of the Nature of Proteid-Soap Compounds and of the Staining of Pure Fats and Lipoids by Scharlach R. and Sudan III. L. K. Baldauf, Albany.
100 Pathogeny of Spastic Rigidity of Childhood. L. Archambault and L. K. Baldauf, Albany.
101 Cerebral Abscess as an Associated Lesion in Acute Purulent Meningitis. L. Archambault and H. P. Sawyer, Albany.
102 *Physiologic Action, Elimination and Therapeutic Application of Sodium Cacodylate Used Hypodermically. S. L. Dawes and H. C. Jackson, Albany.
103 Case of Congenital Stenosis of the Duodenum. H. L. K. Shaw and L. K. Baldauf, Albany.
104 Lipoma of Intestine Occurring in Child Thirteen Months Old and Causing Symptoms of Intestinal Obstruction. G. Chandler and L. K. Baldauf, Albany.
105 Case of Rupture of Uterus by a Myomata. W. A. Krieger, Albany.

94 to 98. Published in the *Journal of Experimental Medicine*, Sept. 21, 1907, and abstracted in The Journal, Oct. 26, 1907, page 1475.

99. Published in The Journal, Aug. 24, 1907, page 642.

102. This article was published in The Journal, June 22, 1907, page 2090.

Wisconsin Medical Journal, Milwaukee.

January.

106 *Mechanism of Pneumococcal Infections. H. E. Wolf, La Crosse.
107 *Pneumonia. L. A. Potter, Superior.
108 *Prevalent Ocular Diseases. N. M. Black, Milwaukee.

106 to 108. Abstracted in The Journal, Aug. 31, 1907, page 793.

Milwaukee Medical Journal.

January.

109 Dr. Senn. B. Robinson, Chicago.
110 Splenomegaly. E. J. Butzke, Jackson, Wis.
111 The Relation of the Physician to the Profession. W. A. Scott, Port Washington, Wis.

American Journal of Urology, New York.

January.

112 Choice of Anesthesia for Operations on the Genitourinary Tract. M. Krotoszyner, San Francisco.

113 The Bladder Neck and One of Its Diseases. R. L. Rigdon, Monterey, N. M.
114 A Peculiar Method of Sexual Gratification in a Man of 70, with a Mishap. L. Buckle, New York.
115 Comparative Study of Drugs Commonly Used in Urethral and Bladder Irrigation. J. W. Miller, Cincinnati.

Alabama Medical Journal, Birmingham.

January.

116 Cases of Admixture of Blood with Urine. A. L. Fowler, Atlanta, Ga.
117 Pneumonia. C. E. Black, Wilsonville.
118 Heart Sounds. G. S. Hogan, Birmingham.
119 The Controversy Between the Bureau of Navigation and the Medical Department of the Navy. J. B. Greene, Birmingham.
120 Retiring President's Address, Talladega County Medical Society. W. R. Bishop, Talladega.
121 President's Address, Jefferson County Medical Society. B. L. Wyman, Birmingham.

Journal of Nervous and Mental Diseases, New York.

January.

122 A Study in Tactual Localization in a Case Presenting Astereognosis and Asymbolia Due to Injury to Cortex of Brain. M. Prince, Boston.
123 Tactile Localization and Symbolia; Have They Localization in the Cerebral Cortex? Id.
124 Nature and Relationships of Hysteria. R. C. Woodman, Middletown, N. Y.

Ophthalmology, Milwaukee.

January.

125 Significance of Pupillary Inequality. H. F. Hansell, Philadelphia.
126 Use of Paraffin Spheres in Tenon's Capsule, with Report of Thirty-nine Cases. C. N. Spratt, Minneapolis.
127 Can a Substitute for Simple Enucleation Be Employed in Every Instance? G. F. Suker, Chicago.
128 Optic Neuritis of Intraocular Origin, Especially in the Form Due to Acute Plastic Chorioiditis. H. Gradle, Chicago.
129 Best Methods and Means of Examining Eye Patients. G. C. Savage, Nashville, Tenn.
130 Treatment of Partial Optic and Retinal Atrophy by Electricity and Massage. H. V. Würdemann, Milwaukee, Wis.
131 Preliminary Statistical Inquiry into Refractive and Some Pathologic Conditions of Eyes of Five Hundred Men Above Sixty Years of Age. D. W. Greene, Dayton, Ohio.
132 Angiosclerosis of the Eye. R. S. Lamb, Washington, D. C.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

January 25.

1 Why Is Tuberculosis So Common in Ireland? Suggestions for Its Prevention and Cure. J. Byers.
2 *Epidemiology of Plague, with Special Reference to Its Mode of Spread and the Means by Which It May Be Combated. C. A. Gill.
3 *Graduated Labor in Pulmonary Tuberculosis. M. S. Paterson.
4 *Effect of Exercise on Opsonic Index of Patients Suffering from Pulmonary Tuberculosis. A. C. Inman.
5 Presence and Significance of Certain Rod-shaped Bodies in Cells of Carcinomatous Tumors. W. F. Robertson.
6 Relationship of Cancer Cells to Development of Cancer. J. E. Salvin-Moore and C. E. Walker.
7 Effect of Liquid Air on the Graftable Cancer of Mice. J. E. Salvin-Moore and J. O. W. Barratt.
8 Treatment of Exophthalmic Goiter with Milk of Thyroidless Goats. W. Edmunds.
9 Acute Suppuration in a Thyroid Adenoma Due to the Bacillus Typhosus. F. G. Melandri and T. P. Legg.

2. **Plague.**—Gill discusses his subject under the following heads: 1. The course of the present pandemic of plague from its origin to the present time. 2. The mode of spread of the disease: (a) within an infected area, and (b) from an infected to an uninfected area. 3. The methods by which the disease may be combated: (a) prophylactic measures in uninfected areas, and (b) preventive measures in the epidemic zone. With regard to the agency of the flea, he shows that in the case of pneumonic plague infection may be direct from man to man, though in the bubonic variety a link between man and the rat appears necessary. The evidence, however, is not sufficient to warrant the assumption that the flea is anything more than one of the factors in the case, as accidental inoculation in the case of man, feeding experiments, and infection through the shaved skin in animals abundantly prove. As regards preventive measures, Gill considers that every sanitary authority [in places in communication with plague areas] should possess a special plague department, the sole duty of which it should be to frame and carry out the measures suited to the requirements of the area under its control. He holds that man is the agency by which the disease is conveyed from place to place, but that the rat is the means by which the disease, once imported into a given area, is afterward disseminated throughout it. He considers regulations on the following lines necessary for any port in communication by shipping with an infected port: All ships communicating directly or indirectly with infected ports should be periodically cleared of rats by the Clayton process or some similar method. In addition, other methods of destroying rats should be carried out, such as periodical poisoning or the permanent use of traps, a certain number of which it should be obligatory on all ships to carry. Inspection by the sanitary authorities of ports should be made from time to time to see that these measures are being carried out. To prevent the transfer of rats from the dock to the ship all gangways or other communications between the ship and the shore should be removed at night and a circular iron sheet having a diameter of three feet and a thickness of about a quarter of an inch should be affixed to each hawser or cable, both near its attachment to the ship and also at its shoreward extremity. These "rat shields" would effectually prevent any rats passing from the shore to the ship or vice versa. They should be immediately put in place on coming into port on all occasions. He considers disinfection of premises useless except at the very commencement of an epidemic. A solution of phenol is useful for sprinkling against the rat flea. In treatment, Haffkine's prophylactic should be available. No drugs appear to be useful, but treatment should be on general principles with free administration of cardiac tonics. In India a large number of unnecessary deaths take place from heart failure, due largely to fear.

3. **Graduated Labor.**—Paterson has devised and carried out at the Brompton Hospital Sanatorium, at Frimley, a method of treatment by graduated labor, in pulmonary tuberculosis which may be summarized as follows: Walking from half a mile to ten miles daily; carrying baskets of mold or other material; using a small shovel; using a large shovel; using a pickax. These occupations are pursued for four hours a day, and finally the use of the pickax for six hours a day. He describes in detail the cautions to be observed and the symptoms that indicate excessive work. The points so far determined appear to him to be as follows: Suitably selected patients can be gradually trained to do the hardest navvy work for six hours a day, the result being that the general condition is much improved while some patients lose both their sputum and their tubercle bacilli. 2. Certain patients who do not improve on light work show marked improvement on harder work. 3. Patients who have slightly overexerted themselves and are kept at rest for the few following days subsequently are not only not worse, but may be in their own opinion better. His observations lead him to the conclusion that graduated labor is a definite medical treatment for patients with pulmonary tuberculosis and raises the general health and resisting power of the patients. Finally, Paterson expresses the opinion that the combination of rest, pure air and overfeeding is not the only treatment for chronic pulmonary tuberculosis, and equally strongly advises those physicians who may adopt the suggestions contained in this paper to pay particular heed to the word graduated, and to remember the importance of the temperature of 99 F.

4. **Exercise and Opsonic Index in Tuberculosis.**—Inman's paper is complementary to that of Paterson and shows, by demonstrating clearly the relation between the opsonic index and the amount of work done, that the explanation of the satisfactory results obtained by Paterson's system of graduated labor lies in autoinoculation of the patient with his own tuberculin. Inman's observations were conducted on numbered specimens only, his laboratory investigations being, therefore, unbiased by the clinical knowledge. The absolute correspondence, therefore, between Inman's opsonic findings and Paterson's clinical results as regards the relation of exercise to tuberculosis is remarkable. The practical outcome of Inman's investigations is that the labor scheme devised and carried out by Dr. Paterson has been submitted to a new scientific test, by means of which its effect on the blood of the patients has been traced. The opsonic index has shown that the exercise has supplied the stimulus needed to induce artificial autointoxication and that

the systematic graduation of labor has scientifically regulated the autointoxication in point of time and amount. This cooperation with the natural efforts of the blood has enabled Paterson to send his patients back to their accustomed work, however hard it may be. But the investigation has done more than explain a successful mode of treatment. Paterson agrees with Inman that with the aid of the opsonic index the stimulus can be regulated with scientific accuracy and the clinical results can be obtained more certainly and rapidly. While this involves work in the laboratory, it means a more rapid and certain discharge of the patient, which is the main object of the sanatorium, and as a consequence of this the power to treat a larger number of patients.

British Medical Journal, London.

January 25.

10 Some Misleading Abdominal Cases. D. Power.
11 Analysis of Recent Series of One Hundred Consecutive Appendectomies. A. H. Burgess.
12 Intussusception Due to Polypus. J. L. Stretton.
13 *Passage of Food Through Human Alimentary Canal. A. F. Hertz.
14 *Status Lymphaticus in Relation to General Anesthesia. W. J. McCardie.
15 Fatal Case of Status Lymphaticus. H. Hilliard.
16 Case of Double Dislocation of Innominate Bones with Fractures of the Legs. J. S. Warrack.
17 Rare Case of Scurvy. J. Chambers.
18 Formaldehyde in Alopecia Areata. J. J. McInerney.

13. **The Passage of Food Through the Alimentary Canal.**—Hertz describes, with diagrammatic illustrations, his observations on the passage of food through the human alimentary canal by means of the skiagraph, the ingestion of bismuth being used to make the condition visible. The movements of the small intestines, of the colon, and the action of the ileocecal valve and sphincter are described, also the nervous control of the gastrointestinal movements, and of the intestinal movements during defecation. His observations show that some of the contents begin to leave the stomach within half an hour of the beginning of a meal and, traveling at about the rate of an inch a minute, pass through the entire small intestine and reach the cecum in about four hours. He further found that the appearance of the shadow at the cecum, when examined by the *x*-rays, coincided in point of time with the occurrence of the earliest sounds to be heard on auscultation in the right iliac fossa, whence he concludes that in auscultation we have a means by which we can time the rate at which the contents of the small intestine pass from the stomach to the cecum, and that thus auscultation may on occasion take the place of skiagraphy. Further, the gurgling in the right iliac fossa, usually associated with typhoid, is not a distinctive sign, as it occurs in all individuals who have small feeds repeated frequently, for in them fluid contents will be entering the cecum continuously, instead of only for a limited period beginning about four hours after each meal. He further investigates the antiperistaltic waves, which he finds to commence when the food reaches a point about midway in the transverse colon, so that the contents of the ascending colon and part of the transverse colon are caused to circulate and come into frequent intimate contact with the mucous membrane, with the result that absorption of fluid and nutrient materials occurs rapidly. Owing to this absorption of fluid in the proximal part of the colon the intestinal contents distal to the middle of the transverse colon are always moderately firm. The average time of travel of the contents from the cecum is about two hours to the hepatic flexure, an hour and a half more to the middle of the transverse colon, and one hour more to the splenic flexure. He shows that antiperistalsis renders the treatment of diseases of the cecum by rectal injections rational. He explains the indigestion caused by unpleasant emotions and pain, the greater activity of peristalsis in herbivorous animals and vegetarians, and why a glass of cold water taken on rising aids evacuation in many persons. His observations further lead to the conclusion that the cecum and the ascending and transverse as well as the descending portion of the colon are active in defecation. The influence of the central nervous system is as important in defecation as in deglutition, but the intermediate part of the alimentary canal works to a great extent automatically, hence the taking of food and the excretion of feces can be timed to suit the convenience of an animal, whereas the rest of the alimentary canal is always active without requiring attention and without giving rise to sensation.

14. **Status Lymphaticus and Anesthesia.**—McCardie describes the history and evolution of our knowledge of the status lymphaticus, or status thymicus, from the observations of Plater, in 1814. He discusses the effects of different anesthesias and illustrates them with a series of cases; as also the diagnosis, the associated conditions, delayed chloroform poisoning, mode of death, pathology, choice of anesthetic, type of anesthesia, prophylactic treatment, and treatment.

Australasian Medical Gazette, Melbourne.

December.

19 *Medical Matters in Victoria. H. B. Allen.
20 *Murmur Developed in Right Internal Mammary Vein. J. C. Verco.
21 *Case of Dislocated Spleen, with Operation. C. R. Blackburn and R. G. Craig.
22 Case of Intestinal Anthrax. D. Wallace and R. J. Millard.
23 Experiences in the Surgical Treatment of Ulcerations of the Upper Alimentary Tract. F. Magarey.
24 Ocular Reaction with Calmette's Tuberculin. E. A. Falkner.
25 Case of Achondroplasia. W. F. Litchfield.
26 Some British and Foreign Clinics. R. Worrall.
27 Case of Dicephalic Fetus. E. Bourne.
28 Case of Hypertrophic Prostate. T. Fiaschi.

19. This article will be discussed in the Department of Medical Economics.

20. **Murmur in Right Internal Mammary Vein.**—Verco describes a peculiar case of a man, aged 60, subject to occasional attacks of giddiness and unconsciousness. There was old chorioretinitis, probably syphilitic. He was addicted to morphin, but there was no history of alcoholism. The noticeable condition was as follows: Over the ensiform cartilage was a streaming, continuous noise, more marked during inspiration than expiration, and very loud on deep inspiration. It resembled somewhat the purring of a cat, or even more the whirring noise of a gramophone preliminary to the singing. It could be traced up through the right chest along the sternum and to the right side as far as the clavicle with somewhat diminished intensity, and as far out as the mid-axillary line. It was questionably audible on the left side of the chest. Pressure on the tip of the ensiform cartilage or on its surface, immediately abolished the murmur in the chest; as did also firm pressure on the abdominal wall on the right side, outward and downward for about two and a half inches from the middle line. Pressure over the corresponding area on the left side did not affect it. A continuous thrill could be felt on very gentle pressure over the ensiform cartilage; it varied in its palpability at different times. When the man was lying flat on his back without a pillow, the thrill disappeared from the ensiform cartilage, but the murmur could still be heard in the chest, and was abolished by pressure on the ensiform cartilage. In the erect position the murmur was heard during inspiration, but suddenly ceased at the beginning of expiration. On postmortem the round ligament of the liver was found to contain a very large vein, admitting a lead pencil. After passing downward it turned at a short angle in the great omentum and running in it upward and to the left, perforated the abdominal wall, ran over the end of the ensiform cartilage to its base, then crossed and dipped under the right costal cartilage joining the right internal mammary vein, which from this point on was very large, though thin-walled.

21. **Dislocated Spleen.**—Blackburn describes the case of a girl of 17 who entered the hospital with severe pain in the right lower abdomen and local symptoms suggesting an appendicular abscess with matting and adhesions of the omentum and bowel. Constitutional symptoms developing, the abdomen was opened and a huge engorged, bleeding spleen was found. It was replaced in the normal situation. The conservative method in this case appears to have been right, for after thirteen months the organ had shrunk to half its original dimensions, was fixed, and situated midway between its normal position and the umbilicus.

Medical Press and Circular, London.

January 22.

29 *Embolism Consequent on Lesions of the Left Heart. P. Claisse.
30 Surgery of the Heart and Pericardium. R. Rehn.

31 Lumbar Puncture in Affections of the Nervous System. A. S. Gubb.
32 Conservative Vital Reaction in Pathologic Anatomy. F. P. Weber.

29. **Embolism.**—Claisse, in discussing embolism consequent on lesions of the left heart, asks to what we must attribute the preponderating part played by mitral stenosis. The solid embolus is sometimes of endocarditic vegetation. This form is common to all forms of heart disease. The formation of clots is a complex phenomenon, however, and dependent on: 1, coagulability of blood; 2, changes in walls; 3, blood stasis. The first two conditions are not especially associated with any particular structural change, but blood stasis is hardly likely to be present save in mitral stenosis and is, therefore, the principal cause of the tendency to clot formation. Thus we get the relationship of cause and effect between mitral stenosis and embolism in the aortic domain. Claisse next considers the migration of the embolus and the results of its lodgment. The prognosis depends on its size, its seat and its nature. The bearings of the first two are fairly obvious. With regard to the nature, not every arterial obstruction is to be permanent. Recent freshly formed clots may cause merely temporary blockage, then break up and disappear, and in recent cases we must bear this fact in mind in respect to both prognosis and treatment. In embolism of the viscera treatment can be only palliative. In recent embolism of a limb we must consider the possibility of absorption. The necessity of strict immobility in phlebitis may cause us to hesitate to move or massage a limb with a damaged artery, but we must remember that a venous clot dislodged passes into the right heart and thence into the lungs, whereas the loosening of an arterial clot in the extremities can have only good effects, since it will free the lumen of the large artery and the fragments of the clot can after all not go further than the capillary barrier. In recent embolism of the extremities, therefore, massage is strictly indicated and has been proved satisfactory, but it is useless in cases of old standing.

Dublin Journal of Medical Science.

January.

33 Plea for Nonoperative Treatment of Diseases of Women. A. de Roulet.
34 *Diphtheritic Fever. J. Moore.

34. **Diphtheritic Fever.**—Moore gives a further communication on an outbreak in a girls' school of sore throat, bacteriologically proved due to a form of Klebs-Loeffler bacillus, the resulting illness, however, failing to present the typical features of classical diphtheria. The points emphasized are the consensus of opinion of the meeting on the previous occasion to which the communication was made that the Klebs-Loeffler bacillus not infrequently produces a masked or larval form of diphtheritic sore throat, apt to be overlooked from the failure of the classical symptoms; the need for a bacteriologic examination, even in mild sore throat; and the persistence of the infection of diphtheria, even in these mild cases. Moore reproduces and tabulates the history of the epidemic and draws attention to two instructive sequels: 1, The diphtheria was carried home to the country in two instances by the girls nearly two months after their illness; 2, nearly twelve months later a little epidemic of a precisely similar nature occurred in the school. In this, out of three cases the milder form of the diphtheria bacillus was present in two, but was not to be detected in the third, the clinically most severe case. A similar case was that of the superintendent of St. Patrick's Nurses' Home. Her attack was first considered as neuralgic or rheumatic, but right facial paralysis with slight paralysis in the legs suggested its true character. Moore describes the clinical syndrome of this "diphtheritic fever" as follows: A more or less severe coryza; a moderate tonsillitis, usually one-sided, and unattended by high fever or by much exudation; thickly coated tongue and foul breath, the tongue desquamating as in scarlatina; a patchy or punctate rash on the roof of the mouth and buccal mucous membrane; swelling of the cervical lymphatic glands; a roseolar rash on the skin (in 12 out of 18 cases—in 4 cases early in the attack, in 8 cases on the fifth to the seventh day from the first symptoms or invasion); distinct desquamation (in 3 cases), the peeling being particularly marked on the hands.

Journal of Laryngology, Rhinology and Otology, London.

January.

35 Retrospect of Laryngology, 1907.
36 Retrospect of Rhinology, 1907.
37 Retrospect of Otology. D. Grant and C. Nourse.
38 Case of Extradural Abscess Induced by Middle-Ear Disease. R. Spira.
39 Thirty-Six Successive Cases of Optic Neuritis. Nasal Accessory Sinus Disease Present Twenty-Six Times. (Concluded.) H. M. Fish.
40 Case of Meningitis Subsequent to Mastoid Operation for Chronic Discharge of Middle Ear in Tuberculous Subject Relieved and Apparently Cured by Lumbar Puncture. P. Jakins.

Clinical Journal, London.

January 22.

41 Simple Procedure by Which Risks of Excision of Rectum Can Be Materially Reduced and the Removal of Infected Tissue Rendered More Complete. W. A. Lane.
42 Oxaluria, Phosphaturia, and Albuminuria. W. L. Brown.
43 Cases of Cholecystectomy. J. D. Malcolm.

Presse Médicale, Paris.

January 8, XVI, No. 3, pp. 17-24.

44 Technic of Total Abdominal Hysterectomy. F. Jayle.
45 *Dilution and Concentration of the Blood. (Dilution et concentration du sang.) Chiray.

January 11, No. 4, pp. 25-32.

46 *Treatment of Ptosis and Dilatation of the Stomach from Atony. E. Enriquez.

January 15, No. 5, pp. 33-40.

47 Syndrome Due to Lesion in the Optic Thalamus. (Syndrome thalamique.) P. Hartenberg.
48 Parasites in Meat Transmissible to Man. (Parasites des viandes.) X. Gautier.
49 Pathogenesis and Treatment of Alveolar-Dental Cysts. G. Mahé.

January 18, XVI, No. 6, pp. 41-48.

50 *Emergency Treatment of Joint Wounds. (Traitement d'urgence des plaies articulaires.) P. Hardouin.
51 Study of Stomach Secretion Without the Use of the Stomach Tube. Sahli Test. L. Meunier.

January 22, No. 7, pp. 49-57.

52 Treatment of Fracture of the Humerus Below the Condyle in Children. M. Vivier.

45. **Dilution and Concentration of Blood in Kidney and Heart Disease.**—Chiray's research has confirmed that of other French writers in regard to the essentially mechanical nature of the edema in heart disease, while it is of essentially osmotic nature in kidney disease. The blood becomes concentrated in heart disease and diluted in kidney disease. These modifications in the blood are so closely connected with the pathogenic mechanism of the edema in each case that they become aggravated or retrogress parallel with the course of the heart or kidney affection. The albumin, the corpuscles, the ash and the hemoglobin show dilution of the blood in renal edema while the proportions are higher than normal in cardiac edema. In dubious cases of cardiorenal trouble, determination of the proportion of albumin in the blood serum will show whether treatment should be directed to the heart or to the kidney.

46. **Ptosis of the Stomach with Dilatation from Atony.**—Enriquez has been studying this condition with the Roentgen rays, and has found that the mechanical devices recommended for it aggravate instead of improving the condition. The stomach is pressed farther down with them. He remedies this by introducing an inflatable bag inside a whaleboned girdle worn as low as possible. As the bag is inflated, the stomach is pushed up into its proper position, the abdominal wall yielding to the pressure of the bag below the stomach, as he shows by a number of illustrations of this "pneumatic hypsogastric pad." The girdle fastens at the side and is strong enough to resist the pressure from the pad, which thus can enlarge only by pushing the abdominal wall out of the way. The relief from the symptoms is immediate, and the general health rapidly improves. The girdle and pad do not show from the outside nor alter the outline of the figure.

50. **Emergency Treatment of Joint Wounds.**—Hardouin illustrates the technic with which he passes a drain across the knee joint, with two other perpendicular drains passed through the soft parts at each side, emphasizing the necessity for prompt intervention after a traumatism affecting a joint, and the importance of ample drainage. He knows of five cases of injury of the knee in which the wound was merely sutured and the limb immobilized. Purulent arthritis developed before the end of the week, proving fatal in one case. The drains used should always be large and stiff to prevent their becom-

ing obstructed. They can be removed in from five to ten days. Gauze wicks do not answer the purpose and cause retention of fluids. The joint should be immobilized from the start, even before the patient is moved from the scene of the traumatism. Hardouin thinks that an exposed joint should always be regarded as infected.

Revue de Chirurgie, Paris.

January, XXVIII, No. 1, pp. 1-112.

53 Adenomas and Cysts of the Parotid Gland. P. Lecène.
54 Case of Diffuse Hypertrophy of the Submucous Connective Tissue of the Stomach. (Linite plastique.) T. Jonnesco and J. Grossmann.
55 Diagnosis and Treatment of Chronic Hernia of the Diaphragm. D. J. Cranwell.
56 Three Cases of Intrasaccular Tumor of the Omentum. (Tumeurs épiploiques intrasacculaires.) Ambiel and Regnault.

Semaine Médicale, Paris.

January 8, XXVIII, No. 2, pp. 13-24.

57 *Neuritis in the Course of Cirrhosis of the Liver. Klippel and Lhermitte.
58 Professional Medical Secrecy in the French Army.

January 15, No. 3, pp. 25-36.

59 Amaurotic Family Idiocy. (Maladie de Tay-Sachs.) Apert.
60 Regulations for Prophylaxis of Typhoid Fever in French Army.

January 22, No. 4, pp. 37-48.

61 Slight Diagnostic Value of Sore Throat in Typhoid. L. Blum.
62 Introduction of Tube the Entire Length of the Alimentary Canal. Scheltema's "Permeation Method" for Treating Gastrointestinal Disorders.

57. **Neuritis in the Course of Cirrhosis of the Liver.**—Klippel and Lhermitte show that the generalized polyneuritis occurring in conjunction with alcoholic cirrhosis of the liver does not differ essentially from uncomplicated alcoholic neuritis. The peripheral nervous system suffers from the loss of the antitoxic functioning of the liver, and it thus becomes more susceptible and allows the neuritic modifications to become installed, the neuritis being more severe in proportion as the lesions in the liver are deeper and more destructive. The neuritis observed in the terminal stages of cirrhosis of the liver, on the other hand, is merely the result of the action of the multiple toxins of cachexia, as is evidenced by its non-inflammatory and degenerative character.

Berliner klinische Wochenschrift.

January 13, XLV, No. 2, pp. 45-88.

63 Acute Chorea as Complication of a Severe Gastrointestinal Affection. C. A. Ewald and J. Witte.
64 Albumin Metabolism in Diabetes. (Eiweissumsatz beim Diabetes mellitus.) W. Falta.
65 Syphilis, Tabes and Paralysis in Their Etiologic and Therapeutic Relations with Lecithin. G. Peritz.
66 Specific Formation of Precipitin After Injections of Human Feces. (Präzipitinbildung nach Menschenkotinjektionen.) A. Fuerstenberg.
67 What Has Been Learned from Experimental Research on Mouse Cancers. (Mausekrebs.) E. Gierke.
68 Peculiar Cell Inclusions in Leukemia. (Zelleinschlüsse bei Leukämie.) A. Pappenheim.
69 Penetrating Wounds of Digestive Tract. (Penetrierende Verletzungen des Magendarmtractus.) W. Braun.
70 *Importance for Prognosis of Ocular and Cutaneous Reaction to Tuberculin. A. Wolff-Eisner and F. Teichmann.
71 *Vomiting of Pregnancy. (Erbrechen Schwangerer.) E. Runge.
72 Chronic Dysentery? O. Ziemssen.

January 20, No. 3, pp. 89-132.

73 *Genital Tuberculosis. A. Martin.
74 Study of Men in Running and Bicycling Races. (Wettgeher und Wettradfahrer.) W. Pfeiffer.
75 Mechanism and Cure of Strangulation of the Penis. Pels-Leusden.
76 *Treatment of Syphilis with Arsenic. O. Rosenthal.
77 Gummatous Lymphomas of Neck. H. Brauser.
78 *Tuberculin in Renal Tuberculosis. (Tuberkulin gegen Nierentuberkulose.) O. Pielicke.
79 *Medical Write-ups. (Aerztliche Reklameartikel.) C. Posner.
80 Vaccination in the German Colonies. (Schutzpockenimpfung.) Ziemann.
81 Chemical Differences Between Human and Cow's Milk. (Chemische Unterschiede der Menschen- und Kuhmilch.) Biedert.
82 Febrile Reaction—possibly of diagnostic value—After Ingestion of Water Containing Radium Emanations in Cancer. Loewenthal.

70. **Prognostic Importance of the Ocular and Cutaneous Reactions to Tuberculin.**—Wolff-Eisner and Teichmann give a number of composite curve reactions made up from many cases in which tuberculin was inoculated in the skin or instilled in the eye. The curves show that the reaction may occur in one of three ways. The specific standard skin reaction shows an abrupt rise to its highest point in from twenty to twenty-four hours and keeps high for the second day, subsiding on the third or at the latest on the fourth day. The second type shows a rapid but weak reaction, reaching its highest point in about ten hours and subsiding completely during the second day. The third type is a tardy and continuous reaction, not reaching its highest point until the end of the second day or later, but then persisting at this high point for several days. The first, standard reaction, is encountered in most cases of incipient tuberculosis, and in the first and second stages, when the disease shows a slow and favorable course, demonstrating that the organism is capable and is struggling against the bacillary invasion. The second, weak type of reaction, is observed in the third stage of tuberculosis, and in the first and second stages, when the resisting powers of the organism are at a low ebb. The tardy and prolonged reaction is encountered in cases without any clinical signs of active tuberculosis. The conjunctiva does not show any reaction in this class of cases. The practical conclusions of the article are that a lively reaction, according to the first type, is a sign of favorable prognosis, as it shows that the organism is waging vigorous war against its invaders, and that with the aid of reinforcements from without, supplied by medical care, the prospects are in favor of a final victory.

71. **Vomiting of Pregnancy.**—Runge regards the liver as mainly responsible for the hyperemesis of pregnant women and urges the necessity for light and frequent meals, repose, cool instead of warm drinks and soups, with copious ingestion of fluid and psychopathic measures. Drugs owe their possible benefit mainly to suggestion, but anesthetics may prove useful, and some writers have reported good results from sodium bicarbonate. Complete abstention from food for twenty-four hours in an institutional environment has frequently given good results.

73. **Genital Tuberculosis.**—Martin advocates thorough general treatment and local excision, but with careful regard for the parts not affected by the tuberculous process and capable of aiding in the healing. In his experience he has had 16 patients treated and cured by application of these principles, 7 for four years and 6 for a still longer period. One patient died from another cause; 2 were not benefited; 2 have succumbed since to tuberculous lesions elsewhere, and 6 were materially improved and ultimate cure is probable. It is generally impossible to perform a radical operation in case of genital tuberculosis, as there is usually some focus elsewhere, and conservative measures are indicated that will not interfere with menstruation. Vaginal excision of the focus relieved the patients of their pains and restored them to comparative health and strength, all increasing in weight thereafter. If the genital tuberculosis is part of a general infection, he does not attempt local intervention except when compelled by excessive secretions or pains or hemorrhage. The loss of blood and the enforced reclining render operative intervention a serious matter in case of general tuberculosis, to be avoided if possible. Spinal anesthesia dispenses with chloroform or ether, and he has never observed serious results from operative measures. He remarks that tuberculous women seem to display a highly inconvenient tendency to conception, but that signs that the tuberculosis is being aggravated by the pregnancy should compel its interruption. Supervision of the weight generally decides whether the patient is on the up or down grade or stationary. A lively reaction to ocular instillation of tuberculin indicates that the resisting powers of the tuberculous organism are active and can be depended on to oppose resistance to the tuberculous infection. On the other hand, a negative reaction, in case of certain tuberculosis, demonstrates that the resisting powers are at a low ebb, and that the outlook for the pregnancy and the patient's future health is grave. In about two-thirds of his 53 cases the genital tuberculosis was localized in the adnexa and in one-third in the uterine mucosa. The cervix was affected in three cases and the vaginal mucosa only once. Encapsulated tuberculous abscesses often simulate tumors in the adnexa. It is important to learn whether the tumor has developed in connection with puerperal, septic or gonorrheal processes. Disturbances in menstruation are always suspicious.

76. **Arsenic in Treatment of Syphilis.**—Rosenthal's experience seems to justify his assertion that arsenic deserves a

place beside mercury and iodid in the treatment of syphilis. It does not act on the secondary stage, and it does not prevent recurrence, so it can not compete with mercury, but he defines its indications as when there is an idiosyncrasy to mercury or iodid, or when it is desired to suspend them for a time after a long course of treatment, also in obstinate, tubercular and ulcerative cutaneous manifestations, such as occur in malignant syphilis, also in case of cutaneous affections superposed on syphilis or when it is deemed advisable to suppress the true nature of the infection and treat merely the alleged "blood disease," or when there is "syphilophobia." The few cases in which the arsenic failed to produce the desired effect were counterbalanced in his experience by numbers of others in which remarkable benefit was apparent, even in severe and obstinate forms of syphilitic manifestations.

78. **Tuberculin in Treatment of Tuberculosis of the Kidneys.** Pielicke reports a case of tuberculosis of one kidney treated with tuberculin, care being observed to avoid a febrile reaction. Kidney colics and suppurative cystitis had existed for eight weeks, and tubercle bacilli were numerous in the urine when systematic tuberculin treatment was commenced. It was continued for four months with twenty-six injections, and recovery made rapid strides, with subsidence of all symptoms. Nearly two years later the patient was still in good health, strong and well, four tubercle bacilli were discovered in the urine after long search, and Pielicke advises a new course of tuberculin treatment, although the patient is apparently in perfect health and has gained ten pounds comparatively recently. In conclusion, Pielicke reviews the scanty literature on the subject of tuberculin in treatment of renal tuberculosis, his conclusion being a recommendation of tuberculin as liable to cure unilateral kidney lesions and materially to improve the bilateral form, even with complicating pulmonary processes, supplementing nephrectomy if the latter is deemed necessary. Tuberculin, he asserts, seems to have a specially favorable action on tuberculous processes in the bladder.

79. **Medical Write-Ups.**—Posner relates the efforts that have been made in France and Germany to put an end to the paid medical write-ups of new drugs. Since 1900 the International Association of the Medical Press has been at work devising ways and means to abolish this abuse and the consequent misleading of the profession. In France the "gratis journals" published by manufacturing concerns present the appearance of reliable scientific journals, and sometimes contain articles of real worth sandwiched in between the paid write-ups. No means has yet been discovered to put an end to this condition of affairs in France, but in Germany the leading manufacturing firms welcomed the efforts to put an end to venal medical write-ups and they supplied documentary evidence to the German Association of the Medical Press—valid in any court of law—which enabled them to make out a list of men who make a practice of offering their services to the manufacturers for this purpose. The list is at the disposal of the journals belonging to the association although it is held strictly confidential. Posner, Lennhoff and Schwalbe form the committee in charge of the list. No article by a person whose name is on the list—and it includes some foreigners—will be published in any of the journals belonging to the association, and no abstract will be made of their articles published elsewhere. At the same time, Posner states, not all the medical journals belong to this national association, and if one of these authors can get his article published anywhere, its further dissemination is assured. This is especially liable to occur when the article is inserted in a journal in the advertising columns—"below the line"—but so printed and worded that the casual reader would not notice the difference and would read it as part of the scientific department of the journal. Posner appeals to the profession not to allow itself to be deceived, but to separate the wheat from the chaff in these medical articles. Physicians are urged to note with care the firm offering the lauded article for sale, and also the original source of the commendatory articles cited, that is, the journal in which they are first published. Desirable as is every valuable addition to our remedies, he remarks, yet the greatest caution is necessary to avoid disappointments later.

Correspondenz-Blatt für schweizer Aerzte, Basle.

November 1, 1907, XXXVII, No. 21, pp. 657-688.

83 Physical-Therapeutic Measures in General Practice. (Physiotherapeutisches in der allgemeinen Praxis.) O. Amrein.

November 15, No. 22, pp. 689-720.

84 *The Typhoid-Paratyphoid Question. C. Stäubli.
85 Acute and Chronic Inflammation of Empty Hernial Sac. (Entzündung des leeren Bruchsackes.) H. Sutter. Commenced in No. 21.

December 1, No. 23, pp. 721-752.

86 Agglutination and Colloidal Precipitation. E. Bürgi.
87 Phimosis in Children. G. Rheiner.

December 15, No. 24, pp. 753-784.

88 *Idiopathic Phlegmonous Gastritis. P. H. Hosch.
89 Traumatic, Isolated Intrathoracic Injuries of Heart. (Herzverletzungen.) F. Henny.

January 1, XXXVIII, No. 1, pp. 1-32.

90 *Nail Extension Method in Treatment of Fractures. (Nagelextension.) F. Steinmann.

84. **The Typhoid-Paratyphoid Question.**—Stäubli remarks in regard to the diazo reaction that it gives a positive result frequently in trichinosis, citing seven unpublished cases in which the reaction was exceptionally intense and prolonged. He thinks that positive findings should suggest the possibility of typhoid. The diazo reaction is especially instructive in case of relapse during convalescence from typhoid. In his experience this reaction was always positive when the rise in temperature indicated a relapse, while it was always negative when the rise in temperature was merely the result of some complication. The blood count was also instructive; the number of leucocytes was always below normal, with a characteristic change in the proportions of the various white cells, when the patient had typhoid. The bacteriologic findings were always positive also in the cases of typhoid in which the blood could be examined at the beginning of the disease. In discussing paratyphoid infection he refers to some serious epidemics in Switzerland and mentions that some calves presented a secondary disease resembling typhoid at the time of one epidemic which followed the eating of certain veal. He urges further bacteriologic and clinical research on the various forms of poisoning from meat or other foods, especially as to whether or not the bacterial toxins resist the action of heat, and the blood count and diazo reaction in ptomain poisoning. Cooking the meat or other article kills the bacteria, but whether or not it affects the toxins is still unsettled.

88. **Idiopathic Phlegmonous Gastritis.**—Hosch reports a case with autopsy findings and reviews the literature on the subject of the primary, idiopathic form of phlegmonous gastritis. The symptomatology at first may be the same as with abscess of the stomach wall, and the affection runs its course in from one to twenty days with fever of a pyemic character as a rule. The cause has been ascribed to alcoholism, trauma, dietetic errors, poisoning, chilling or poor food, but in many cases no cause can be assigned. The causal germs may reach the stomach from a carious tooth, ulcerating stomatitis or throat trouble or in the food, and their passage into the mucosa may have been rendered possible by injury from some sharp object that had been swallowed, a fishbone, scrap of egg shell or of a decayed tooth, splinter of bone, or piece of glass. A tonsillitis or boil may have been the primary focus for hematogenic infection. He advises rest of the stomach, ice, rectal alimentation, saline infusion, morphin and stimulants rather than operative measures, as the point of the perforation can not be determined beforehand, and there are frequently multiple perforations. Klauber advises cautious lavage of the stomach, as the diseased organ is unable to get rid otherwise of the profuse inflammatory secretions, but Hosch thinks the danger of perforation contraindicates this, while, as the process is in the submucosa, it would not be reached by lavage alone.

90. **"Nail Extension" for Fractures.**—Steinmann's method of applying extension to aid in the treatment of a fractured limb was described in The Journal, Sept. 28, 1907, page 1152. He says that the method needs little if any anesthesia, but requires knowledge of anatomy and careful asepsis, while it allows the use of heavier weights than other technics, is entirely painless and excludes absolutely all danger of irritation of the skin or interference with the circulation, decubitus or gangrene, and permits the limb to be exercised from the first.

The technic is applicable equally well to compound and simple fractures. The advantages of extension in the treatment of fractures are being recognized more and more the world around.

Deutsche medizinische Wochenschrift, Berlin.

January 16, XXXIV, No. 3, pp. 89-136.

91 *Treatment of Uterine Cancer, Especially the Inoperable Form. (Gebärmutterkrebs.) A. Martin.
92 *Ocular Reaction to Tuberculin. (Conjunctivale Tuberkulinreaktion.) F. Levy.
93 Treatment of Injuries of the Liver. (Leberverletzungen.) A. Neumann.
94 Immunization to Tuberculosis. E. Klebs.
95 Measurement of Diastolic Blood Pressure in Man. (Messung des Blutdruckes.) J. Strasburger. Commenced in No. 2.
96 Value of Leo's Method for Determining the Acidity of the Monometallic Phosphates in Stomach Content. (Azidität der Phosphate im Mageninhalt.) M. Barberio.
97 Anthrax Infection from Tonsillitis with Anthrax Meningitis and Encephalitis. (Milzbrand.) F. G. A. Meyer.
98 *Glass Cap for Clinical Thermometer. (Glashülse beim Gebrauch des Fieberthermometers.) S. Fackenheim.

91. **Uterine Cancer.**—Martin reviews the present status of uterine cancer; the percentage of operability has risen from 30 to 80 per cent., and Mackenrodt even reports 92 per cent., while the primary mortality has dropped from an average of 50 to 20 per cent. or even lower, Wertheim's statistics showing 8.7 per cent. At present the average survival of five years is 20 per cent., instead of 10 per cent. a few years ago. The microscope is the only reliable means for differentiating cancer, he says, and adds that it often happens that the cancer is a casual discovery during examination for some other disturbance, even in case of physicians' wives. Cancer of the body of the uterus is more liable to cause hemorrhages or other disturbances earlier than cancer of the cervix, which is the reason for its better prognosis. He remarks that cancer seldom develops later in women who have been under treatment for gynecologic affections. In all his experience he has encountered only two such cases, Zweifel has never had one and Lomer only one. All writers agree in respect to the dire importance of pregnancy for a patient with cancer. He has discovered incipient cancer of the cervix in a number of pregnant women, and has always found extensive infiltration of the glands. He has repeatedly found metastases in the ligaments in these cases, and sometimes remote metastases, high up behind the abdominal aorta and vena cava. In some instances infiltrated glands were found above the renal artery. He has encountered a number of inoperable cancers in pregnant women at term, but has always succeeded in arresting the hemorrhage and without septic sequels. In one case a scirrhous ulcer of the cervix and vagina—microscopically verified—caused little disturbance and operation was refused. The family physician gave the patient condurango and she is still living, twenty-two years later. Martin has also encountered three cases in which the inoperable cancer caused little trouble and the patients lived for more than a year, succumbing finally apparently to senile weakness without much disturbance from the cancer of the cervix. Of all measures for treatment of inoperable cancer he prefers the actual cautery, applying the heat so that it acts on the crater from a little distance rather than directly in its center, protecting the weak parts of the crater wall. When the bleeding stops and the cauterization seems to be even and thorough he tampons the cavity with gauze impregnated with a solution of ferric chlorid. The plain gauze is removed from the vagina the third day and the medicated gauze from the crater the tenth. When the scab is thrown off the third week the lesion shrivels and heals over to a surprising extent, and the general health rapidly improves. Months and even years may pass without further disturbance, but the average survival is only from 224 to 280 days after this thorough cauterization. In his personal experience, 70 per cent. of the patients did not survive the first year; 20.6 per cent. died during the second year, and one patient lived for four and a half years. Local recurrence after the radical operation, and the pains in the glands which indicate recurrence are too often overlooked, even by the family physician who treats the patient for sciatica or something of the kind. The experiences of many surgeons have been so favorable that extensive operations are justifiable for these recurrences, but they should be attacked early, as also recurrence after the palliative operation. Repetition of the palliative operation is justifiable, he says, if only for its encouraging effect on the mind of the patient. The cauterization is liable to put an end to the pain, he asserts, even when it has previously resisted morphin and other sedatives. When less radical palliative measures alone are possible, hot irrigation of the bladder will sometimes relieve and hot external applications, or possibly a retention catheter. A retention tube in the intestines may likewise give great relief in some cases.

92. **Ocular Reaction to Tuberculin.**—Levy reports a positive reaction in 85 per cent. of 41 tuberculous patients and in 60 per cent. of 54 with dubious tuberculosis, while the reaction was positive only in 2.5 per cent. of 235 non-tuberculous patients.

98. **Glass Cap for Clinical Thermometer.**—To prevent the danger of contamination of others, Fackenheim uses a small glass cap that fits loosely over the lower half of the clinical thermometer to protect it from infection and to prevent infection of the patient. This little cap can be boiled or sterilized, and its presence over the thermometer does not affect in the least the behavior of the mercury.

Münchener medizinische Wochenschrift.

January 14, LV, No. 2, pp. 57-104.

99 Research on Emptying of the Stomach, Separation of Solids and Fluids, Behavior of Fat. (Entleerung des Magens, etc.) O. Prym.
100 Ocular Reaction in Diagnosis of Tuberculosis. (Ophthalmoreaktion.) L. Blum. Id. G. Schröder and K. Kaufmann. Id. A. Wolff-Eisner. Id. G. Treupel. Id. Schmidt.
101 Is There a Specific Precipitation Reaction in Syphilis and Paralysis? F. Plaut, W. Henck and Rossi.
102 Blood Pressure During Muscular Work. (Verhalten des Blutdruckes bei Muskelarbeit.) Krone.
103 Influence of Electric Stimuli on Distribution of Blood in Human Body. (Einfluss elektrischer Reize auf Blutverteilung.) Geissler.
104 Influence of Mud Baths on Circulatory Organs. (Einfluss der Moorbäder auf die Zirkulationsorgane.) R. Schmincke.
105 Causes of Infantile Mortality. (Amtsarzt und Säuglingssterblichkeit.) A. Groth.
106 *Pathogenesis of Leucorrhea. (Fluor albus.) E. Neter.
107 *The Physician in the Poet's Mirror. (Der Arzt im Spiegel der Dichtkunst.) Salzer.

January 21, LV, No. 3, pp. 105-152.

108 Hemolysis by Combination of Oleic Acid or Sodium Oleate with Cobra Venom. von Dungern and Coca.
109 *Cutaneous Tuberculides in Infants. (Hauttuberkulide im Säuglingsalter.) F. Hamburger.
110 Importance of Training the Police in Certain Principles of Psychopathology. Uebl.
111 Neurology of the Tongue. (Neurologie der Zunge.) J. Flesch.
112 Eighty Spinal Anesthesias Without a Failure. (Lumbalanästhesien.) E. Holzbach.
113 Significance of Pentoses in the Feces and Their Quantitative Determination. (Pentosen in den Fäzes.) A. Jolles.
114 Action of Subcutaneous Injection of Pyocyanase. P. Bermbach.
115 History and Indications of Oxygen in Therapeutics. (Sauerstofftherapie.) G. Galli.

106. **Causal Treatment of Leucorrhea.**—Neter describes a case in which obstinate leucorrhea persisted with obstinate constipation but subsided at once when the constipation was arrested. It recurred twice, each time in conjunction with recurrence of the constipation, and subsided as the latter was relieved. The leucorrhea is probably the result of the congestion in the abdomen resulting from constipation.

107. **The Physician in Poetry and Satire.**—Salzer cites quotations from Petrarch, Molière, Swift, Addison, Voltaire, Goethe, Pliny and numerous modern writers, criticising and satirizing the medical profession. He adds that medical science certainly has its vulnerable Achilles' heel where the shafts of satire can freely pierce. Notwithstanding our modern progress the physician, he says, is still occasionally confronted with conditions in which he feels like the veterinarian who laid one hand on the tail and the other on the head of a sick cow and told the owner, "There is something wrong between here and here." Comparatively few persons, Salzer continues, die without medical attendance. First comes the disease, then the physician, and then death. No wonder, he exclaims, that the would-be wits of all ages have made a *propter hoc* out of a *post hoc*. In conclusion, he remarks that the higher the scientific and ethical standing of the medical profession, the better for the individual physician, for the patient and for the people and the state, especially for the latter when physicians are

allowed more of an influence on legislation than has hitherto been accorded them.

109. **Cutaneous Tuberculides in Infants.**—Hamburger writes from Escherich's clinic at Vienna on the diagnostic importance of the squamous papulous lesions which he has found on the skin in infants with tuberculosis—actual tuberculides. He has found them comparatively frequent in cases of infantile tuberculosis, but the number of tuberculides varies with each child. The discovery of even a single tuberculide, however, classifies the child as already tuberculous. The papule is between the size of a pinhead and that of a hempseed, round, and only slightly raised above the skin. At first it is bright red, but after a few days it turns a bluish or brownish color with a brownish scab in the center. The scab has a pointed projection below as it is thrown off, thus leaving a conical defect in the center of the lesion. The lack of a tendency to ulceration is characteristic, as also the depression in the center, the livid brownish discoloration and the peculiar shininess of the efflorescence as the skin is stretched. The course is always chronic, and there does not seem to be any symmetry in the arrangement of the lesions.

Wiener klinische Wochenschrift.

January 9, XXI, No. 2, pp. 37-68.

116 *Myasthenia gravis and the Parathyroids. (Myasthenia gravis und Epithelkörper.) F. Chvostek.
117 *Alimentary Levulosuria in Liver Affections. (Lävulosurie bei Leberkranken.) A. v. Halasz.
118 Osteoplastic Operation for Defect Left by Frontal Sinus Empyema. P. Clairmont.
119 *Vaccinal Inoculation of the Eye. (Impferkrankung des Auges.) R. Tertsch.
120 Influencing of Antibodies by Alcoholic Organ Extracts. E. Weil and H. Braun.

January 16, No. 3, pp: 69-102.

121 Bacteriologic and Clinical Study of Gonorrhea and Its Treatment. R. Stein.
122 Glycosuria After Injury of Duodenum from Ingested Lye. E. Zak.
123 Cutaneous and Ocular Reaction to Tuberculin. G. Morelli.
124 Angiomatous Indurated Bands in Muscles. (Angiomatöse Muskelschwielen.) A. von Khautz, Jr.
125 Improved, Aseptic Dental Chair and Table. (Zahnchirurgischer Operationstisch.) B. Mayrhofer.

116. **Myasthenia and the Parathyroids.**—Chvostek reviews the various theories in regard to the origin of myasthenia gravis and points out their fallacies. He then presents evidence in favor of the assumption that it is the result of defective functioning on the part of the parathyroids. Insufficiency of these bodies, he states, leads to tetany, but excessive or perverted functioning may lead to myasthenia. The symptoms, the course of the affection, the frequent combination with affections for which changes in some of the blood glands are known to be responsible, in addition to the changes in the muscles in myasthenia, all testify that myasthenia belongs in the category of the blood-gland affections. The cause of the functional disturbance in the parathyroids may lie in the glands themselves or may be in the nerve centers and tracts regulating their functioning. Nothing is known, he declares, that suggests any connection between the thymus and myasthenia.

117. **Alimentary Levulosuria in Liver Affections.**—Halasz gives the findings of the levulosuria test on nearly 50 persons. The findings were positive in only 1 of the 20 healthy persons, but they were positive in 8 out of 12 patients with cirrhosis of the liver, the negative findings being in the incipient cases. The findings were negative in all the other forms of liver affections, chronic atrophy, fatty liver or mere hyperemia, also in 5 cases of secondary cancer of the liver. The levulosuria test is important, he affirms from these experiences, to aid in differentiating conditions in which a serious liver affection is probable but is not demonstrated, especially cirrhosis, the enlargement of the liver in this case sometimes suggesting some other origin. Ingestion of 100 gm. levulose only exceptionally induces levulosuria in healthy persons. Positive findings suggest the existence of a diffuse affection of the liver, most probably advanced cirrhosis. Levulosuria is seldom noted with jaundice nor with small parenchymatous lesions or metastatic cancer in the liver.

119. **Vaccinal Inoculation of the Eye.**—During the stampede for vaccination in Vienna last year Tertsch encountered nineteen cases in which the eye had become infected with vaccine. In one case an unvaccinated boy had a cinder in his eye, and his mother and sister, who had been recently vaccinated, worked over the eye for some time, trying to remove the cinder. A vaccinal lesion developed which healed finally, leaving little injury. In another case a vaccinal affection of the lids left a large defect as it healed. In only four of the total nineteen cases was the lesion the result of autoinoculation; in others it came from other persons. He never noticed any aggravation of the condition in fifty children with eczematous ocular or cutaneous affections among the 300 children he had occasion to vaccinate.

Zentralblatt für Chirurgie, Leipzig.

January 11, XXXV, No. 2, pp. 33-56.

126 Suture of Fascia and Skin. (Fascien- und Hautnaht.) P. Sick.
127 Technic for Extirpation of Meniscus of Knee. M. Herz.

January 18, XXXV, No. 3, pp. 60-88.

128 Urine Findings After Stovain Spinal Anesthesia. Hosemann.
129 Treatment of Fracture of the Clavicle. (Chromlederstreckverband mit eingeschaltetem künstlichen Strebebogen.) Evler.
130 Physical Tests of Silk, Celluloid Thread and Ramie Thread. (Physikalisches über Seide, Zelluloidzwirn und Ramiezwirn.) M. Madlener.

Zentralblatt für Gynäkologie, Leipzig.

January 11, XXXII, No. 2, pp. 33-64.

131 Decapsulation of the Kidney in Puerperal Eclampsia. Recovery. (Nierendekapsulation bei Eklampsie.) W. Falgowski.
132 Suture in Tiers with Removable Bronze-Aluminum Wire. (Verwendung der entfernbaren Etagennaht mit Bronze-aluminiumdraht.) L. Okintschitz.
133 Removal of Suppurating Tumors. (Technik des Bauchschnittes.) L. Heidenhain.
134 Importance of Restoring the Great Omentum to Place Before Closing the Abdomen. Id.

January 18, XXXII, No. 3, pp. 65-96.

135 *Flap Plastic Operation for Vesicovaginal Fistula. (Neue Lappenplastik bei Vesico-Vaginalfisteln.) L. Moszkowicz.
136 *Resuscitation of Apparently Asphyxiated New-born Infants. (Wiederbelebung scheintod geborener Kinder.) M. Schwab.
137 *Mechanical Assistants. (Mechanische Assistenten.) O. Wille.

135. **Plastic Operation for Vesicovaginal Fistula.**—The main feature of the plastic operation proposed by Moszkowicz is that the pedunculated flap cut from behind the fistula is pushed through into the bladder and lies over the defect, extending a little beyond it on all sides. The bladder content presses it over the gap like a valve. Healing can be promoted by cutting a similar flap in the bladder mucosa and using it to reinforce the first. He has thus operated on a patient with success, the size of the defect precluding the application of any other technic of which he knows.

136. **Schultze's Swinging in Obstetrics.**—Schwab reports some cases in which he applied Ogata's modification of Schultze's technic. It was described in these columns Dec. 14, 1907, page 2044. He was much impressed with the value of the Ogata technic, which, he says, does away with the disadvantages of the other. He does not follow the Ogata technic completely, but prefers to flex the legs up on the chest instead of bending the chest down to the legs, in one part of the maneuvers.

137. **Mechanical Assistants.**—Wille describes a couple of appliances which mechanically hold the speculum and forceps in place, thus taking the place of an assistant. He has found them extremely useful in several years' experience.

Gazzetta degli Ospedali, Milan.

January 5, XXIX, No. 2, pp. 9-24.

138 *Maragliano Serum in Treatment of Tuberculosis. Monti.
139 *Diagnosis and Treatment of Venereal Ulcer. C. Ventura.
140 *Advantages of Injecting Air After Thoracocentesis. (Toracentasi pneumatica.) V. Fontana.
141 *Sodium Sulphate in Infantile Enterocolitis. A. Ciccarelli.
142 Osteomalacic Paralysis. G. Bassi.
143 Primary Suppurating Echinococcus Cyst of the Lung. Spontaneous Cure. E. Piperno.
144 Lumbar Puncture in Chronic Hydrocephalus. A. Gasparini.

January 12, No. 5, pp. 41-56.

145 *Diagnostic Importance of Reflex Muscle Sign in Typhoid Fever. (Mioedema riflesso nella tifoide.) G. P. Goggia.
146 Operative Treatment of Dislocation of the Clavicle. (Cura cruenta della lussazione sopraacromiale della clavicola.) J. Bruchi.
147 Advantages of Acetylene Gas Plant for Isolated Surgical Hospital. S. Solieri.
148 *Instrumental Dilatation of the Pylorus for So-called Uncontrollable Vomiting. (Divulsione strumentale del piloro.) D. De Francesco.

149 Venesection in Pneumonia, etc. (Salasso.) U. Masi.
150 *Potassium Bitartrate in Surgery. (Il cremore di tartaro in chirurgia.) V. Mazzini.

138. **Treatment of Tuberculosis with Maragliano's Serum.**—Monti reports twenty-five cases of tuberculous lesions in children treated with Maragliano's serum. The patients with surgical tuberculosis showed marked improvement, as a rule, and those with tuberculous pulmonary lesions were also benefited, the results along both lines encouraging further application of the specific treatment. In an editorial note it is pointed out that specific treatment of this kind has no action on pyogenic processes, secondarily installed, consequently its efficacy is limited to the tuberculous factor involved.

139. **Treatment of Venereal Ulcers.**—Ventura prefers a 50 per cent. solution of zinc chlorid for local treatment of venereal ulcers. This does not affect the sound skin, but cauterizes the ulcerations and shows up by its caustic action any incipient ulcerations around the main lesion, which are still too young for detection otherwise. He dresses the part with a disinfectant afterward.

140. **Injection of Air After Thoracentesis.**—Fontana discusses the accidents sometimes observed after puncture of the thorax owing to the abrupt subsidence of the previous compression of the organs within. This can be prevented by immediately allowing a certain amount of filtered air to enter. He has done this with excellent results in twelve cases. If a bubbling sound is heard as the air enters the chest, it indicates that the effusion has not been entirely evacuated. His observations seem to confirm the assumption that the air in itself has some curative action.

141. **Sodium Sulphate in Infantile Enterocolitis.**—Ciccarelli reports a number of typical cases out of his experience with fifty infants suffering from a dysenteriform enterocolitis, all of which demonstrated the beneficial action of sodium sulphate in conjunction with restriction to a carbohydrate diet. The sodium sulphate triumphed even in cases in which calomel, castor oil, etc., had failed to benefit.

145. **Importance of a Muscular Reflex Seen in Typhoid.**—Goggia calls attention to the fibrillary contraction which occurs in the brachial biceps when the belly of the muscle is struck suddenly but lightly and is then pinched gently between thumb and finger. The aim is to apply a sudden, brief and comparatively gentle mechanical stimulus to the muscle. It induces a sudden local contraction of the belly of the muscle at this point when the individual is debilitated from any cause. Under normal conditions the contraction extends throughout the whole muscle and does not remain limited to the point irritated. This sign has been described in the literature under the name myedema or idio-muscular reflex, but it has been regarded as a sign of any debilitating disease. Goggia affirms, however, that while it is constant in typhoid it is present only exceptionally in other diseases. It was positive in his 18 typhoid patients, also in 11 out of 18 pneumonia patients, in 2 out of 9 with erysipelas, and in 3 out of 4 with grip, but the reaction was much more pronounced in the typhoid patients than in most of the others, and he thinks that it can be accepted as a valuable adjuvant sign of typhoid fever.

148. **Stretching the Pylorus for So-Called Uncontrollable Vomiting.**—De Francesco's patient was a peasant woman who for five years had vomited after nearly every meal, retaining only a small part of the food. The symptoms did not indicate inflammation, ulcer, tumor or hysteria. He opened the stomach and stretched the pylorus, which seemed to be a trifle irregular in outline, with the walls a little thicker than usual. He introduced forceps and stretched the opening about two finger-breadths wider, then sutured the stomach, and the patient has had no recurrence of the vomiting since.

150. **Potassium Bitartrate for Dressing Wounds.**—The Italians have been using since 1892 ordinary cream of tartar as a dressing for wounds. Lupo has published experiments which showed that a piece of meat could be kept intact for two months in a solution of potassium bitartrate. As a dressing for wounds it seems to inhibit bacterial growth, putrefaction and fermentations while it stimulates granulation and cleanses the region, and is free from toxic action and odor. Mazzin adds to these virtues its efficacy in arresting necrotic processe in the bones and gangrenous processes, as it modifies conditions until the parts heal. It acts better when applied as powder or on gauze, rather than in aqueous solutions, a water has an injurious influence on the tissues. The effec of the bitartrate is enhanced by alternating it with some othe antiseptic or sterile dressing. He has used it on hundreds o soldiers with various affections and lesions and has alway been pleased with the results, which he attributes mainly t the liberation of nascent oxygen as the bitartrate comes i contact with the blood or local secretions.

Policlinico, Rome.

January, XV, Medical Section, No. 1, pp. 1-48.

151 *Acute Insufficiency of the Capsule in Connection with Affections of the Suprarenal Glands. G. Sotti.
152 Lesions of the Suprarenal Capsules in a Case of Purpura. G. Melchiorri.
153 New Apparatus for Determination of Viscosity of Blood. W. Hess.
154 Morphologic and Chromatic Changes in the Leucocytes and Significance of Circulating Leucocytes Containing Fat. O. Torri.

January 12, Practical Section, No. 2, pp. 38-68.

155 Sensory Spinal Metameres. G. Calligaris.

January 19, Practical Section, No. 3, pp. 69-100.

156 Desquamation in Typhoid Fever. B. Cicaterri.

151. **Acute Insufficiency of the Suprarenal Capsules.**—Sotti reports the case of an apparently healthy farmer who had been doing some hard work, exposed to the sun for several hours, when suddenly he collapsed with intense abdominal pain and headache with great prostration. On the presumptive diagnosis of sunstroke, he was treated with cold to the head and purgatives, but the symptoms persisted, soon accompanied by vomiting and hiccough; the prostration increased, with a tendency to stupor, there were intense headache and delirium, respiration was superficial, the pupils were dilated and did not react to stimuli, the heart sounds became faint, and death occurred at the end of the week. The only pathologic findings at autopsy were atrophy of the suprarenals from a sclerotic process in the veins and compression from a hematoma from rupture of one of the veins in the adipose tissue surrounding the left suprarenal capsule. Sotti reviews the cases in the literature resembling this, and attributes the acute insufficiency in his case to excessive exposure to the heat of the sun.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

LINNÉS DIETETIK. På Grundvalen af dels hans eget originalutkast till föreläsningar: "Lachesis Naturalis Quæ Tradit Diætam Naturalem," och dels lärjungeanteckningar efter dessa hans föreläsningar: "Collegium Diæteticum." på uppdrag af Medicinska Fakulteten i Uppsala. Ordnad och Utgifven af A. O. Lindfors. Paper. Pp. 263. Upsala: Akademiska Boktryckeriet Edv. Berling, 1907.

SURGERY, ITS PRINCIPLES AND PRACTICE. Edited by W. W. Keen, M.D., LL.D., Hon. F.R.C.S., Eng. and Edin., Emeritus Professor of Principles of Surgery, Jefferson Medical College. Vol. III. Pp. 1132, with Illustrations. Cloth. Price $7.00. Philadelphia: W. B. Saunders Co., 1908.

LINNÉPORTRATT, vid Uppsala Universitets Minnesfest på tvåhundraårsdagen af Carl von Linnés Födelse. A Universitetets vägnar af Tycho Tullberg. Paper. Pp. 189, with 39 illustrations and 21 page plates. Stockholm: Aktiebolaget Ljus, 1907.

SYPHILIS. By Edward L. Keyes, Jr., A.B., M.D., Ph.D., Clinical Professor of Genitourinary Surgery, New York Polyclinic Medical School and Hospital. Pp. 577, with Illustrations. Price, $5.00. New York: D. Appleton & Co., 1908.

HYPNOTIC THERAPEUTICS IN THEORY AND PRACTICE. By John Duncan Quackenbos, A.M., M.D. Author of "Hypnotism in Mental and Moral Culture." Cloth. Pp. 330. Price, $2.00. New York: Harper & Brothers.

SEVENTH ANNUAL REPORT of the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw. Paper. Pp. 46. Albany: J. B. Lyon Co., 1907.

CONFESSIO MEDICI. By the writer of "The Young People." Cloth. Pp. 159. Price, $1.25. New York: The Macmillan Co., 1908.

TWENTY-FIRST ANNUAL REPORT of the State Board of Health of Ohio. Pp. 551. Cloth. Columbus: F. J. Heer, 1907.

SEVENTEENTH ANNUAL REPORT of the Ohio Hospital for Epileptics. Paper. Pp. 93. Columbus: F. J. Heer, 1908.

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Original Articles

INTESTINAL TUBERCULOSIS: TUBERCULOUS INTESTINAL NEOPLASMS AND TUBERCULOUS ILEOCECAL TUMOR.

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Nowadays, as much as in the time of Socrates, a great many of the difficulties in our advancement toward truth are due to errors of conception. By the teachings of this man a school of philosophers arose—the dialecticians, who spent their lives in discussions and considerations, aiming at the most exact definitions of words and the limitations of concepts.

Neglect of exactness in defining just what is meant by certain terms in pathology renders infirm many of the statistics quoted in the literature of tuberculosis.

Human tuberculosis may assume so many different forms, its progress and terminations are so heterogeneous, that great difficulties may occasionally arise, when it becomes necessary to decide whether a given pathologic process belongs to tuberculosis or some other affection. For instance there was a temptation to class a peptic ulcer of the stomach which was found in a case of pulmonary tuberculosis at postmortem examination as a tubercular ulcer, but as it had the typical structure of a peptic ulcer it was recorded as such. If macroscopic examination showed no enteritis, ulcers, enlarged glands, no cicatrices, caseation, calcification or adhesions, all suspicious pieces of mucosa were hardened in Zenker's fluid, and after paraffin embedding, serial sections were made.

In Naegeli's 63 lethal cases of adults, the intestine was tuberculous 28 times secondarily; the mesenteric glands were affected in only 5 cases.[1] It is difficult and almost impossible to determine the portal of entry of the tubercle bacillus from the observations gained at autopsy, or even on microscopic examination.

The rare congenital cases of tuberculosis are lethal in early childhood. The demonstration of tubercle bacilli was only attempted in one-half of my cases; if the macroscopic and microscopic picture is typical of tuberculosis, the demonstration of the bacilli is unnecessary, and the eventual failure to find them would not invalidate the diagnosis, provided the histologic architecture typical of tuberculosis were found. To the experienced, the difficulty in finding tubercle bacilli in old cases of tuberculosis is well known. If the diagnosis depended solely on the demonstration of tubercle bacilli, the old and healed cases would be lost for the statistics.

Caseation in mesenteric and intestinal lymph glands can safely be classed as due to tuberculosis. Gummata and lymphosarcoma, and actinomycosis may produce a form of necrosis difficult to distinguish from tuberculous caseation macroscopically, but not difficult to distinguish microscopically. Calcification of mesenteric lymph glands has been attributed to typhoid fever by Schüppel; proof of this assertion is difficult to bring. The proof that calcification is the result of a preexisting tuberculous caseation is furnished by serial section studies of the apices of tuberculous lungs. In the lungs of tuberculous subjects dying at ages from 18 to 35, caseation predominates (bronchial glands); but in tuberculous subjects dying in the years from forty to forty-five or later, one finds, as a rule, calcification in the same regions. This indicates that calcification is a later development from preceding caseation.

In fifty-six personal studies of the intestines of persons dead from pulmonary tuberculosis, the intestines were found diseased in all. I followed very closely Naegeli's method.[2]

The following is a synopsis of the results of detailed examination of the alimentary canal, mesentery and omentum in these 56 cases. Sections were made also through lymph glands in the mesentery and retroperitoneal glands:

Tuberculous Enteritis: In 30 cases there was diffuse tuberculous enteritis or catarrh, showing unmistakable tubercle with giant cells. Among these were 4 cases that had tuberculous mesenteric glands, 4 with tuberculous retroperitoneal glands; and in 6 cases simple enteritis, jejunitis, ileitis or colitis, not showing tuberculous architecture, were found.

Tuberculous Ulcers: In 14 cases there were tuberculous ulcers of the ileum and colon; two of these 14 had cicatrices in the lower third of the ileum about 10 inches from the ileocecal valve. In these 14 cases of tuberculous ulcers there was simultaneously more or less intestinal catarrh, but not diffuse, more localized in the lower ileum. One of the patients had been operated on for fistula in ano.

Tuberculous Glands: In 10 cases there was tuberculosis either of the mesenteric, omental or retroperitoneal glands. In 6 of these, the entire intestinal mucosa was intact; in the remaining 4 of these 10 cases there was slight circumscribed catarrh, enteritis or colitis, but the histologic examination did not reveal the characteristic structure of tubercle, in pieces excised from the catarrhal area. The peritoneum was found to present minute tuberculous nodules in but two cases of the entire fifty-six.

Chronic Hyperplastic Tuberculosis of the Intestine (*Tuberculose intestinale à forme hypertrophique* of French authors): The condition of chronic hyperplastic tuberculosis was found but once by myself, during an autopsy at Bay View Asylum, Baltimore. In macroscopic and microscopic appearance this tumor corresponded very closely to that described by Lartigau.[3] Lartigau's article contains the most important references concerning this subject (79 in all), which were obtainable at the date of that publication. It is highly probable that cases of cancer of the cecum that have been reported as cured after resection were instances of hyperplastic tuberculosis. The histologic detail and etiology are fully given in the article by Lartigau, but as the diagnosis is of importance, it will be considered in some detail in the following, which concerns more specifically the tuberculous cecal tumor, but applies also to the very closely allied condition of hyperplastic tuberculosis, for clinically and histologically they are generally inseparable.

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[1] Virch. Arch., 60, p. 465.

[2] Virch. Archiv., vol. clx, p. 426.

TUBERCULOUS INTESTINAL TUMORS.

Tuberculous Cecal Tumor: It has already been stated that enlarged retroperitoneal and mesenteric tuberculous glands may simulate intestinal tumors. I wish to refer, especially, however, to the tuberculous tumor of the cecum and appendix. The cecum, on account of its position, is the most favorable location for the arrest and deposit of tuberculous products which travel down the intestinal canal. The pulmonary tuberculosis which is observed, together with this intestinal complication, is frequently insignificant. Tuberculosis of the cecum, with advanced pulmonary phthisis, is a very rare occurrence. The recognition of tuberculous neoplasms in this region is a modern diagnostic advance, and must largely be credited to abdominal surgeons. Attention was first called to it as a disease to be differentiated from carcinoma of the cecum.

Among the first to differentiate these two conditions was Durant, cited according to Conrath.[4] The fact that Durant's article was published as late as 1890 is sufficient evidence that the recognition of this condition is a very recent one. In 1891 Billroth[5] called attention to the tuberculous character of certain ileocecal tumors. Czerny,[6] König,[7] Conrath,[4] Hofmeister,[8] Hartmann and Pilliet[9] and Salzer,[10] have contributed to our knowledge of tuberculous ileocecal tumors.

Tuberculous cecal tumor may originate in two ways: (a) From the mucosa, by extensions from tubercular ulcers on the inner side of the intestinal canal, and (b) from the serosa by the extension of tubercular lymph glands. The form that originates from the mucosa represents, no doubt, an autoinfection by means of tuberculous sputa. Whether or not the tumor may arise as a primary tuberculous process from ingested tuberculous food cannot definitely be stated, and Koch's recent utterances[11] cast a doubt on this question. In most cases, the tumor results from three forms of changes incident to the tuberculous infection: (1) The inflammatory infiltration as a consequence of multiple tuberculous ulcers which (2) may lead, partly, to extensive scar formation, and, by cicatricial contraction, cause stenosis of the lumen and (3) hypertrophy of the intestinal walls as a result of the stenosis.

As to the relation of this condition to appendicitis and perityphlitis of tuberculous origin, it may be stated, briefly, that among 120 cases of perityphlitis Langfelt found that 20 were due to tuberculous processes. The chief stenosis occurs at the ileocecal valve, the folds of the valve being involved in the process. Professor W. P. Obrastzow, of Kiew,[12] calls attention to the fact that stenosis of the ileocecal valve does not always bring about a collapsed and contracted condition of the ascending colon. Theoretically, one would expect to meet with this result, and one ought to find that the ascending colon would be palpable, if at all, as a thin band or cord. In some cases, this is really the condition found on palpation, but the colon in other cases is found as a distended cylinder about five centimeters in diameter. Obrastzow attributes this distension to the production of gases from stagnating intestinal contents.

THE DIAGNOSIS OF TUBERCULOUS CECAL TUMOR.

Conrath[13] collected 85 cases, of which 65 per cent. were between the ages of twenty and forty years. In its incipiency the disease is latent; there may be constipation or constipation alternating with diarrhea. The disease is, as a rule, not recognized as serious until the symptoms of stenosis are apparent. Then follow either localized or diffused pains of an acute, colicky character. Above all, persistent constipation, nausea, vomiting and frequently visible intestinal peristalsis occur. Hemorrhage from the intestine, in the form of hemorrhagic admixtures in the stool, are rather frequent. As the disease is a complication of pulmonary tuberculosis, elevation of temperature is met with frequently.

Obrastzow, in a more recent and very scholarly contribution to the subject[14] looks upon an early and rapid development of the stenosis in the cecum as carcinomatous, and a late and slow development is considered by him as characteristic of tuberculosis. In three operated cases of carcinoma of the cecum, the stenosis developed in the course of from three to nine months from the beginning of the disease. In ten cases of tuberculosis of the cecum, the stenosis developed in the course of from three to nine months from the beginning of the disease. In ten cases of tuberculosis of the cecum, the phenomena of stenosis were at no time very pronounced.

In the differential diagnosis we must consider the possibility of : (1) Cecal carcinoma; (2) dislocated kidney; (3) fibrous appendicitis; (4) accumulated scybala in the cecum.

The differential diagnosis from cecal carcinoma is more precisely stated in the subjoined table.

From dislocated kidney, cecal tuberculosis is distinguished by the following signs: The dislocated kidney is more moveable; it gives a dull sound on percussion, and is very rarely accompanied by signs of intestinal stenosis; a diseased kidney, when affected with carcinoma, tuberculosis, gonorrheal infection or calculi, gives rise to nephralgia, pyuria, hematuria, etc. A dislocated kidney can usually be replaced into normal position.

The main supports of the diagnosis of tubercular cecal tumor are: (1) Infiltration of the walls of the cecum, which assumes the character of a tumor; (2) the presence of tubercle bacilli in the stools. In the beginning, the tumor is more or less movable, but later on it may become fixed by adhesions or contracting bands in the mesentery. The lower edge of the cecum is located one centimeter above the interspinal line in man, but when it becomes diseased by tuberculosis or carcinoma, the lower border of the cecum rises four centimeters above the border of the linea interspinalis. In these cases, therefore, the cecum is found in the upper part of the iliac fossa, or even above the crest of the ileum. Obrastzow explains this high position of the cecum under such conditions by a shortening of the intestinal tube caused by a sclerotic process of a tuberculous nature. As a consequence of this high position of the cecum, the ileum is palpable for a considerably longer distance than it would be under ordinary conditions. Purulent disintegration of the tumor may lead to the establishing of abscesses communicating with the peritoneal cavity or adjacent organs, or it may cause a break externally causing a preternatural anus. The course is protracted, particularly as the disease is generally not recognized in its incipiency; cases have been observed that lasted three years.

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[3] Jour. Exper. Med., vol. vi, p. 23.
[4] Brun's Beitr. z. Chir., vol. xxi. No. 1, 1898.
[5] Wien. med. Presse, 1891, p. 193.
[6] Brun's Beitr. z. Chir., vols. vi and ix.
[7] Deutsche Zeitschr. f. Chir. vol. xxxiv, 1892, p. 65.
[8] Brun's Beitr. z. Chir., vol. xvii, 1896, p. 577.
[9] Bull. de la Soc., anat. de Paris, 1891, p. 471.
[10] v. Langenbeck's Arch., vol. xliii.
[11] Congress on Tuberculosis, London, 1901.

[12] Arch. f. Verdauungsk., vol. iv, p. 440, Zur Diagnose des Blinddarmcarcinoms, der Blinddarmtuberkulose, u. s. w.
[13] Quoted from Hemmeter's Dis. of Intestines, vol. ii.
[14] Arch. f. Verdauungsk., vol. vi, p. 23.

Krokiewicz[15] has made extensive investigations concerning the value of the Ehrlich diazo reaction in the differential diagnosis between carcinomata and tuberculosis of the intestinal tract. According to his results, the diazo reaction is generally present with intestinal tuberculosis, but is absent in carcinoma. The diagnosis of cecal tuberculosis thus rests partially on the presence of the Ehrlich diazo reaction, together with other signs and symptoms already referred to.

The other rare conditions with which this disease might be confounded are actinomycosis, sarcoma, fibroma; foreign bodies, fecal concretions and intussusception. Scybala, or fecal concretions, are rarely found limited to the cecum. If they are present there they can be palpated throughout the colon. The only fecal concretion that could confuse the diagnosis would be one that is limited to the cecum. If necessary, the colon could be washed out by a high irrigation, which, after several repetitions, would eliminate the possibility of scybala.

The distinction from fibrinous appendicitis can frequently not be made, except by observation of the course of the disease. Improvement will follow in appendicitis of this chronic type, with a palpable induration in the right iliac fossa, on proper treatment in bed, external application of heat, counter-irritation and careful diet; but the tubercular cecal tumor will not improve under such treatment. Fibrinous appendicitis is not a concomitant of pulmonary tuberculosis, whereas the tubercular cecal tumor is always secondary to pulmonary tuberculosis.

The following schema, which is adopted from Boas' Verdauungs-Krankheiten, page 291, may serve to distinguish between carcinoma and tuberculosis of the cecum:

Cecum Tuberculosis.	Cecum Carcinoma.
Age: Between 20 and 40 years.	*Age*: Rare before fortieth year.
Duration: From 2 to 3 years.	*Duration*: Eight to nine months.
Lungs: Pulmonary tuberculosis evident more or less.	*Lungs*: Negative.
Tumor: Elongated; the intestine is palpable as an infiltrated thickened cylinder.	*Tumor*: Sharply circumscribed, intestines not palpable.
Stenosis: Always present, develops slowly, accompanied by striking, splashing and musical sounds.	*Stenosis*: Develops rapidly, acoustical signs not so pronounced.
Stool: Blood and pus rare, tubercle bacilli frequently present.	*Stool*: Blood and pus frequently observed; tubercle bacilli absent.
Fever: Generally present.	*Fever*: Exceptional.
Urine: Ehrlich's diazo-reaction positive.	*Urine*: Diazo-reaction negative.

Prognosis: This is grave under all conditions, and conditioned by the consequences of the diseases that have been described above, the principal one being stenosis, disseminated intestinal or peritoneal tuberculosis, multiple abscess formation, and amyloid degeneration of the kidneys and intestines. The pulmonary tuberculosis in itself is one which makes the outlook hopeless.

Prophylaxis: The prevention of primary local infection calls for sterilization of all food, particularly of unboiled milk, avoidance of association with tuberculous patients, particularly of tuberculous nurses in the case of children, and the avoidance of autoinfection by the swallowing of sputa. Enteritis in tuberculous individuals should be treated with great care, as the mucosa which has become diseased is more liable to tubercular infection than a healthy one.

Treatment: The treatment of tuberculous enteritis or of enteritis and colitis in tuberculous patients, even where it can not be proved to be a tuberculous infection localized in the intestine, demands a diet similar to that described in my work on "Diseases of the Intestines" for enteritis, colitis and dysentery. Strained soups, made of oatmeal, bouillon and egg, with salt, together with acorn cocoa and a little claret, should constitute the sole articles of diet for about twenty-four hours. The patient should be confined to bed. If an error of diet can be distinctly made out, a small dose of calomel, one-half of a grain, repeated every three hours, and combined with one-sixth of a grain of denarcotized extract of opium, will hasten the evacuation of the offending food.

Concerning the specific treatment of intestinal tuberculosis by tuberculin, I may say that there is no doubt that a number of patients have been cured by a cautious administration of this substance. I have personally studied the healing of a tuberculous rectal ulcer under the influence of tuberculin; nevertheless, I do not recommend the systemic employment of tuberculin in the treatment of tuberculous intestinal ulcers, enteritis, or cecal tumor, because this form of treatment has not yet been satisfactorily tested for intestinal diseases, and also because of the undesirable effects tuberculin occasionally exerts on other organs, which also demand consideration. For the diarrhea, tannigen, tannalbin, bismuth subgallate and bismuth salicylate, as well as naphthalin, have proved useful in my experience, but I must emphasize that nothing beyond a temporary relief must be expected of these remedies. The creosote preparations have, in my experience, not proved useful. The frequent eructations which creosote causes, when given in the doses recommended for these patients, reduce, rather than increase, the appetite. The only partial success in the way of treatment of tuberculous ileocecal tumor is to be expected from operation, wherever this is possible.*

PERIBRONCHIAL GLAND TUBERCULOSIS TRACEABLE TO A PRECEDING INTESTINAL INFECTION.

One of the earliest experiments showing that general infection of tuberculosis could occur by the way of the intestines as the portal of entry, and yet leave no evidence of tuberculosis in the intestines was made by

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[15] Wien. klin. Wochschr., 1898, No. 29.

* General tuberculous peritonitis that arises from or is consequent to tuberculosis of the cecum or appendix can not be successfully treated except by operation. In my article on "Diseases of the Gastrointestinal Tract on the Borderland Between Surgery and Internal Medicine," Med. Record, New York, Nov. 16, 1907, I present clinical records of cases of tuberculosis of the peritoneum treated by operation and others treated by conservative or expectant methods. My conclusions were that as many cases recover without operation and remain cured, as with operation. This statement can only be understood, however, when studied in connection with other facts given in this paper. The curability of tuberculosis of the peritoneum without operation does not refer to that form that arises from tuberculosis of the cecum, appendix, genitourinary organs, and direct extensions of the tuberculous process through the walls of the digestive canal. These cases require experienced diagnostic analysis and as far as can be foretold at present will continue to be the proper cases for operation.

Orth in 1886[16] The literature of this subject is given by Mazyck P. Ravenel.[17] In the light of the experiments of Ravenel, we are warranted in concluding that under certain conditions tubercle bacilli pass through the normal intestinal wall with great facility and rapidity. The most favorable condition for this to take place appears to be during the digestion of food made up largely of fat. When we remember that the chyle is carried directly into the blood stream through the thoracic duct, it is easy to understand how it is that infection through food may show itself first in the lungs, or at any rate, that the lesion in the lung may be as old as the intestinal lesion.

The claim that alimentary tuberculosis should show itself in a primary intestinal lesion is fallacious and misleading. Cats which are fed with virulent tubercle through a catheter, will in from six to ten days afterward give evidence of a tuberculous peribronchitis, in about 75 per cent of the animals infected, so that I have come to regard a peribronchial tuberculosis, without any severe lesion in the parenchyma, as an infection that has taken effect through the intestinal walls. The so-called tuberculosis pulmonum peribronchialis,[16] is due to an original infection through the alimentary canal.

Mazyck P. Ravenel[17] has demonstrated that the tubercle bacillus will pass through the stomach unscathed if it is taken into the digestive tract, mixed with food rich in fats; thus it will be able to cause intestinal infection if it is taken in a certain amount of oil.

This leads us to consider an interesting bit of pathologic physiology.

It is well known from the researches of Pawlow, that fats and oils arrest the secretion of gastric juice,[18] especially of hydrochloric acid, which is the normal disinfectant of the gastric contents; milk is chiefly an emulsion of fats, and from the studies of Pawlow we know that milk causes a less secretion of hydrochloric acid than any other food. It is, therefore, most likely to prevent the secretion of the very substance which could destroy the tubercle bacilli contained in it. For this purpose, it is advisable to recommend the use of dilute hydrochloric acid to tuberculous patients, or even to those who are not yet tuberculous when gastric secretion is impaired, in order to prevent the infection of the intestines.

The passage of tubercle bacilli through the uninjured intestinal mucosa was first demonstrated by Dobroklonski,[19] in experimental infections of rabbits. Lartigau[3] has also confirmed this statement.[20]

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[16] Specielle pathologische Anatomie, vol. i, p. 839.

[17] Jour. of Med. Research, vol. x, 1903, p. 460.

[18] Arbeit der Verdauungsdrüsen, p. 135.

[19] Arch. d. med. exper. et d'anat. path., 1890, ii, p. 253.

[20] In addition to the authorities cited, the following references may be consulted:

Körte: Deutsche Zeitschr. f. Chir., vol. xl, 1895, p. 523.

Eisenhart: "Ueber Häufigkeit und Vorkommen der Darmtuberculose," Diss. inaug., München, 1891.

Wittstock: "Zur Klinik des Ileus durch Darmtuberculose," Diss. inaug., Berlin, 1893.

Buttersack: "Zeitschr. f. Tuberculose u. Heilstätten Wesen," November, 1900.

Cornet, (G.): "Die Tuberculose," in Nothnagel's "Specielle Pathologie und Therapie," vol. xiv, Part II.

Successful Treatment of Muscular Contracture with Constriction Hyperemia.—Achard reported at the last French Medical Congress, October, 1907, a case of claw contracture of the hand left from tetanus following an operation for removal of a needle in the hand. He applied a constricting band to the arm, with almost immediate benefit, the contracture subsiding under five applications of the constricting band for two hours daily. By the end of two weeks normal functioning was restored.

SOME STUDIES OF THE ENDOGENOUS URIC ACID MOIETY IN PATHOLOGIC CONDITIONS.

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AND

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It is now seven years since the exact origin of uric acid in man has become generally recognized, and while a large amount of work in studying the nitrogenous metabolism in normal individuals has been done, the results of investigation into metabolic processes during disease conditions are very meager and of little real value, from a scientific standpoint, because they have been carried on without reference to the character of the food ingested. We can not but feel that we must look, in the future, to the conditions of metabolic processes in functional nervous disorders and other nutritional disturbances for much aid and guidance in the diagnosis and treatment of these pathologic states, and we would like to make a plea for the more general examination of the urine and feces in the treatment of these diseases. It was with this end in view that the investigations about to be described were undertaken.

The pathology of endogenous uric acid presents a new field to work in, unencumbered by masses of literature which have to be sifted through and through to pick out that which is good. Every observation made within the next few years must of necessity be a law by itself until additional evidence is brought forward to prove or disprove the original statement.

Space will not permit of a detailed review of the work done on the subject of uric acid. The literature is abundant and voluminous and includes the studies of many brilliant scientists. We would especially commend to the reader two recent reviews, one by Chittenden[1] and another by Barker.[2]

ORIGIN OF URIC ACID.

It is now well understood that uric acid in man has its origin either from the purin bodies (xanthin, hypoxanthin, caffein, theobromin, etc.) of the ingested foods —exogenous portion—or originates within the body from the destruction of body nucleo-proteids — endogenous portion. How the uric acid is produced, and what factors determine the normal ratio between uric acid formation and uric acid destruction, are still open questions. The evidence at our command, however, points strongly toward the conclusion that there exists in certain organs of the body, notably the liver, kidneys and muscles, special enzymes or ferments which are responsible for both the formation and destruction of uric acid. Besides this a portion is probably formed synthetically.

While the exogenous uric acid, which depends on the amount of purins ingested, varies greatly from day to day, the endogenous portion, in health, should be a constant factor for each individual.

In the statistics given by Rockwood[3] and others under normal manner of living, i. e., with no special or violent exercise but, of course, on a purin-free diet, the range of urinary endogenous uric acid was from .212

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[1] Some Problems of Intermediary Metabolism, Boston Medical Journal, June, 1905.

[2] Truth and Poetry Concerning Uric Acid, American Medical Association Press, Chicago.

[3] The Elimination of Endogenous Uric Acid, Am. Jour. of Physiol., xii, p. 38.

gm. to .510 gm. in twenty-four hours. These figures represent the two extremes, the usual daily output being from .300 gm. to .400 gm. The quantity of total nitrogen eliminated ranged between 10.00 gm. and 13.86 gm.

A moment's reflection will serve to show how important these figures are in the study of uric acid metabolism in disease, for, by placing the patient on a purin-free diet, one may eliminate the exogenous uric acid factor and thus have only the more or less constant endogenous portion to deal with.

Although we do not feel that this work has been completed, for a good many points have not been cleared up to our satisfaction, yet we have concluded to report this series of experiments at this time in order to put the results on record and also to encourage further investigations along these same lines.

The problems which we have tried to solve are: What, if any, are the variations from normal in the output of urinary uric acid in pathologic conditions other than gout? What is the best method of increasing the output when it is below normal?

The clinical material for these studies was furnished from private cases of Dr. Peck, and the investigations extended over a period of more than a year. The total number of patients examined was thirty-one. In a good many instances it was impossible, owing to disinclination on the part of the patient, to collect more than one or two specimens of urine for examination, and even the results of some of these had to be discarded because the subject did not adhere strictly to the diet given.

METHODS.

In every case a purin-free diet was ordered for at least two days prior to the collection of the first sample and followed throughout the whole period of the observations. Folin's methods were used for the determination of uric acid and creatinin, and Kjeldahl's method for total nitrogen. The treatment consisted of the use of drugs, diet and electric-light-cabinet baths.

The use of the incandescent electric light in the treatment of disease conditions was first described in 1894. Since then the electric light cabinet has come into quite general use. It is usually so arranged that the patient may either sit or lie down and be subjected to the rays of light and heat of from twelve to thirty or even sixty Edison incandescent lights of varying candle-power. The cabinet used in these investigations was made in the usual form, i. e., a nearly cubical box with a round hole in the center of the top and doors so arranged that the patient can sit with his body inside and his head without. Twelve sixteen-candle-power incandescent lights were arranged with parabolic reflectors so that nearly all the light and heat rays were directed toward the patient; thus, as far as possible, every portion of the body was subjected to their influences.

The patient, after disrobing, throws a thin gauze sheet about his body, a wet turban is placed on his head, and after drinking a full glass of water he takes his place in the cabinet and the lights are turned on. With rare exceptions, perspiration begins in from seven to nine minutes, and this is allowed to continue for about a quarter of an hour. After this the patient is taken out and given a needle bath at the temperature of 100 F. gradually cooled to 85 or 80 F., and a general fan douche at the same temperature.

We have demonstrated that with the lights so arranged, at the principal focus of parabolic reflectors, one can obtain the same results from twelve sixteen-candle-power lights, as would follow the use of thirty or more of the same candle-power arranged without reflectors or with plain mirrors as is usually described. The reason for this is evident when one recalls the physical laws governing the reflection of light and heat rays.

THE EFFECTS OF HOT-AIR BATHS.

In the cases of R. E. P. and C. J. B. experiments were carried on to determine the relative effects of hot-air baths and electric-light baths on the endogenous uric acid excretion. In the case of R. E. P. three hot-air baths were given on the dates indicated in the table, with the rather unexpected and remarkable drop in uric acid output, which kept up, with the exception of one examination, for four days after treatment was discontinued. Similar results followed in the case of C. J. B. This can not be explained on the ground that the excessive perspiration produced carried off the balance, as on the days when no baths were taken the output was just as low. One conclusion drawn was that this kind of bath inhibits the formation or increases the destruction of uric acid and might be of use in conditions where abnormally high amounts of this material were present.

The electric-light bath did not have any effect when a normal amount of uric acid was being excreted, but, as will be shown, taken when there is an abnormally low output this treatment increases considerably the quantity eliminated, if not always to a normal amount.

Of the thirty-one patients examined seventeen, or 54.8 per cent., showed the urinary uric acid to be below .250 gm. in twenty-four hours. Twenty-two patients showed marked nervous symptoms, and of these in fourteen (63.6 per cent.) their condition was diagnosed as neurasthenia. Five patients showed rheumatic symptoms. Two were normal. The results of these examinations are included for purposes of comparison, as has been stated. Of the fourteen cases diagnosed as neurasthenia four patients only showed the urinary uric acid excretion above .250 gm. Of the nervous symptoms the most striking were melancholy, dizziness, blurring of vision, pains in various parts of the body, not referred to the joints but to the nerves and muscles; also pains over the eyes and in the eyeballs and back of the neck. In the five cases diagnosed as rheumatism the patient showed the usual signs of the subacute and chronic variety.

We append here the histories of a few of the cases most carefully studied. The results of the urinalysis will be found in the table.

CASE HISTORIES.

History.—M. P., aged 60, widow, no occupation. Patient first came under observation in November, 1905, complaining of nervousness; shaky, trembling feeling; general weakness; dizziness of a peculiar character in which the head felt thick, unsteady and at times an oscillation. At other times the dizziness seemed to be due to a blurring of vision; pain and soreness in the eyeballs and feeling of discomfort in the frontal region; general paresthesia. She had had a half dozen attacks in which she lost consciousness and fell to the floor or into a chair, but in only one did she have any muscular twitchings. The first of these attacks occurred in 1899. After the attacks she did not feel stupid and sleepy, but rather nervous and excited.

Examination.—This showed few objective signs; the reflexes were increased, there was some muscular weakness, pupils reacted normally, ocular excursions were normal.

Treatment.—Patient was put on tonic treatment and given general directions as to diet, etc. Conditions continued with little change except some slight improvement in general health and strength, but the head and eye symptoms were still bitterly complained of. In July, 1906, a purin-free diet was ordered and 24-hour samples of urine examined. Patient refused to take the electric-cabinet baths which were suggested, so recourse was had to the use of drugs in our endeavor to bring the output of uric acid up to normal. This covered a period from July to the following January and consisted of several different preparations of alkaline and laxative drugs and salicylates. No improvement in the symptoms followed the use of any of these except the salicylates. Some narrowing of the right half of the visual field of the left eye was noticed at this time. In January we succeeded in getting the patient to take several electric-light baths. She began to show immediate improvement, but discontinued them after about one week because the weather became so bad that she could not call at the office for her treatments. After stopping the electric baths she soon fell back into her former condition again. In June, 1907, we again prevailed on her to take some more baths. These were followed by the same improvement as was noticed in January. In July, 1907, she consulted the same oculist who had examined her eyes about three years before. He reported that while at the former visit the retina and optic nerve looked pale and had the appearance so often seen in uric acid conditions, to-day the eye grounds were perfectly normal. Patient reported having had a very comfortable summer.

History.—C. S. P., female, aged 42, married, no occupation. Patient came under observation in May, 1906, complaining of pains in eyeballs; a feeling of sand in the eye; blurring of vision, and a feeling as if she could rub something away from them; general weakness; lack of ambition; a feeling of lassitude; easily exhausted. During past winter had had an attack of lumbago. Symptoms had been present since December, 1905. Patient consulted an oculist, who, after repeated examinations, failed to find anything in the eyes themselves to account for the symptoms. Urine showed low uric acid elimination (.123 gm. in 24 hours).

Treatment.—She was put on 5 grains of piperazine three times daily, well diluted with water. This was continued for about four weeks without apparent change in the symptoms or in the urinary constituents. Patient was kept on a purin-free diet and daily samples examined from May 3 until May 16. In June she was given six electric-light baths on dates indicated in the table. These were followed by considerable improvement in symptoms. During the summer the patient received no treatment, but lived out of doors a good deal, taking moderate exercise. She continued to feel pretty comfortable until the latter part of October, when three or four weeks after her return to the city she began to feel the old symptoms again. The electric-light baths were immediately begun and continued regularly until the latter part of December, when the patient was discharged very much improved both in regard to symptoms and higher average of uric acid and total nitrogen output.

Comments.—We would like to call attention to the amounts of uric acid eliminated during the twenty-four hours immediately following the baths, notably on June 18 and November 2, 4, 14 and 18. The patient has adhered to an almost purin-free diet since its inauguration and reports a very good summer, not having been so well in several years as at present date (September, 1907).

History.—J. W. C., aged 67, widow, no occupation. Patient had been a neurasthenic invalid for about thirty years, spending much of the time in bed prior to about twelve years ago, when she came under observation. At that time she received a course of treatment after the Weir Mitchell plan of rest cure. Since then she had been very comfortable, being able to go about and do light work around the house. For two or three months previous to November, 1906, she had complained of dizziness; objects oscillating from side to side; pains in legs, particularly along the front of the tibia; pains in the back; insomnia; general weakness; nervousness and some paresthesias.

Treatment.—The electric-light baths were begun December 10 and continued twice a week until about January 1, when they were discontinued because it was found they were too rigorous. Improvement in symptoms began soon after the first bath, the dizziness and pain in the legs entirely disappearing before the treatment was discontinued. There has been no return of symptoms to the present date. Here again we find very low endogenous urinary purin with a decided and consistent increase following the treatment. After the baths were discontinued, patient was given methyl salicylate for a period of about two months. The urine was again examined in February during this period. It is interesting to compare these results with those obtained in November and December.

History.—W. H. B., female, aged 55, married, housewife. Patient had complained of neurasthenic symptoms for several years. Her disability had never been great, but she wearied easily; was irritable, emotional, depressed and annoyed by trifles. She also complained of lameness in knees, back and back of neck and shoulder muscles; pain in occiput and extending to the vertex and forehead; knees were very sore to touch and creaked and grated when she attempted to bend them; pain in the arms at the insertion of the deltoid; finger joints also lame. No swelling or redness in any of the joints.

Examination.—This revealed the usual signs present in neurasthenia. Urinalysis showed no abnormalities, notwithstanding the fact that the joint and muscle symptoms present would lead one to suspect such changes.

TABLE SHOWING RESULTS OF ANALYSIS IN CASES STUDIED.

Patient.	Date.	Quantity in c.c.	Uric Acid, in gms.	Total N., in gms.	Creatinin in gms.	P_2O_5, in gms.	Disease.
	1906.						
M. P.	July 2	1330	.044	4.93	.904	....	Neurasthenia.
M. P.	July 3	1400	.080	3.72	.420	....	Neurasthenia.
M. P.	July 25	1800	.067	5.67	.....	....	Neurasthenia.
M. P.	July 26	900	.030	3.15	.....	....	Neurasthenia.
M. P.	July 27	1880	.070	4.50	.....	....	Neurasthenia.
M. P.	July 28	1320	.031	4.20	.....	....	Neurasthenia.
M. P.	Aug. 5	1810	.039	4.90	.....	....	Neurasthenia.
M. P.	Aug. 6	880	.088	4.76	.....	....	Neurasthenia.
M. P.	Aug. 19	1000	.168	5.31	.....	....	Neurasthenia.
M. P.	Aug. 20	1850	.068	4.23	.....	....	Neurasthenia.
M. P.	Oct. 8	1220	.160	3.42	.....	....	Neurasthenia.
M. P.	Oct. 9	1050	.078	4.83	.....	....	Neurasthenia.
M. P.	Nov. 5	1230	.221	5.16	.....	....	Neurasthenia.
M. P.	Nov. 6	1050	.147	5.04	.....	....	Neurasthenia.
M. P.	Nov. 7	930	.120	4.55	.....	....	Neurasthenia.
M. P.	†Nov. 8	1010	.151	4.24	.....	....	Neurasthenia.
M. P.	Nov. 9	620	.136	4.09	.....	....	Neurasthenia.
M. P.	†Nov. 10	1000	.112	4.00	.....	....	Neurasthenia.
M. P.	Nov. 11	580	.150	2.55	.....	....	Neurasthenia.
M. P.	Nov. 12	1620	.178	7.12	.....	....	Neurasthenia.
M. P.	†Nov. 13	1400	.135	4.48	.....	....	Neurasthenia.
M. P.	Nov. 14	830	.108	2.98	.....	....	Neurasthenia.
M. P.	†Nov. 15	670	.100	3.61	.....	....	Neurasthenia.
M. P.	Nov. 16	490	.038	2.35	.....	....	Neurasthenia.
M. P.	Nov. 18	1230	.151	2.95	.....	....	Neurasthenia.
M. P.	Nov. 19	260	.058	1.14	.....	....	Neurasthenia.
M. P.	Nov. 20	1190	.178	2.38	.....	....	Neurasthenia.
M. P.	Nov. 21	890	.097	2.67	.....	....	Neurasthenia.
M. P.	Nov. 22	850	.204	2.21	.....	....	Neurasthenia.
M. P.	Dec. 17	1480	.194	6.00	.....	....	Neurasthenia.
M. P.	Dec. 18	1030	.031	3.02	.....	....	Neurasthenia.
	1907.						
M. P.	June 5	675	.111	1.32	.....	0.46	Neurasthenia.
M. P.	June 20	1040	.179	3.93	.....	0.62	Neurasthenia.
M. P.	June 21	740	.133	2.49	.....	0.39	Neurasthenia.
M. P.	June 22	1530	.258	5.03	.....	1.24	Neurasthenia.
M. P.	June 26	1020	.180	4.14	.....	0.73	Neurasthenia.
M. P.	June 27	1520	.243	4.58	.....	1.38	Neurasthenia.
M. P.	June 28	730	.244	3.83	.....	0.73	Neurasthenia.
	1906.						
C. S. P.	April 30	1570	.123	.....	.638	....	Neurasthenia.
C. S. P.	May 4	1450	.206	8.26	1.085	....	Neurasthenia.
C. S. P.	May 5	2170	.195	7.78	1.124	....	Neurasthenia.
C. S. P.	May 6	1350	.130	.....	.....	....	Neurasthenia.
C. S. P.	May 7	1605	.210	9.30	6.359	....	Neurasthenia.
C. S. P.	May 8	1200	.117	6.12	6.770	....	Neurasthenia.
C. S. P.	May 9	1480	.108	6.09	.835	....	Neurasthenia.
C. S. P.	May 10	1550	.210	6.72	2.170	....	Neurasthenia.
C. S. P.	May 11	1250	.175	6.71	1.200	....	Neurasthenia.
C. S. P.	May 12	1900	.064	7.71	2.669	....	Neurasthenia.
C. S. P.	May 13	2030	.065	5.96	3.800	....	Neurasthenia.
C. S. P.	May 14	1510	.196	6.97	1.350	....	Neurasthenia.
C. S. P.	May 15	1260	.220	5.97	1.209	....	Neurasthenia.
C. S. P.	May 26	1100	.215	6.00	.649	....	Neurasthenia.
C. S. P.	May 27	1220	.238	6.83	.305	....	Neurasthenia.
C. S. P.	June 18	1520	.165	7.44	1.714	....	Neurasthenia.
C. S. P.	†June 19	880	.320	6.43	1.073	....	Neurasthenia.
C. S. P.	Oct. 19	1740	.017	7.65	.....	....	Neurasthenia.
C. S. P.	†Oct. 30	1350	.151	9.40	.....	....	Neurasthenia.
C. S. P.	Oct. 31	1290	.204	9.03	.....	....	Neurasthenia.
C. S. P.	†Nov. 1	1360	.306	7.61	.....	....	Neurasthenia.
C. S. P.	Nov. 2	1170	.175	5.89	.....	....	Neurasthenia.
C. S. P.	†Nov. 3	1880	.351	8.65	.....	....	Neurasthenia.

Patient.	Date.	Quantity in c.c.	Uric Acid, in gms.	Total N., in gms.	Creatinin in gms.	P_2O_5., in gms.	Disease.
C. S. P.	Nov. 4	1410	.236	5.64	.....	....	Neurasthenia.
C. S. P.	Nov. 5	1180	.199	5.66	.....	....	Neurasthenia.
C. S. P.	†Nov. 6	1110	.107	4.88	.....	....	Neurasthenia.
C. S. P.	Nov. 7	1380	.207	4.96	.....	....	Neurasthenia.
C. S. P.	†Nov. 8	1220	.136	3.90	.....	....	Neurasthenia.
C. S. P.	Nov. 9	1160	.129	5.10	.....	....	Neurasthenia.
C. S. P.	†Nov. 12	1390	.194	5.28	.....	....	Neurasthenia.
C. S. P.	†Nov. 14	1580	.252	6.00	.....	....	Neurasthenia.
C. S. P.	Nov. 15	910	.195	5.64	.....	....	Neurasthenia.
C. S. P.	Nov. 16	1690	.185	6.76	.....	....	Neurasthenia.
C. S. P.	Nov. 17	1570	.152	5.96	.....	....	Neurasthenia.
C. S. P.	†Nov. 18	1380	.234	6.34	.....	....	Neurasthenia.
	1906.						
J. W. C.	Nov. 27	730	.094	5.40	.....	....	Neurasthenia.
J. W. C.	Nov. 28	960	.096	6.72	.....	....	Neurasthenia.
J. W. C.	Nov. 29	1020	.069	4.07	.....	....	Neurasthenia.
J. W. C.	†Dec. 10	1510	.142	5.93	.....	....	Neurasthenia.
J. W. C.	Dec. 11	600	.083	4.83	.....	....	Neurasthenia.
J. W. C.	†Dec. 12	910	.147	4.18	.....	....	Neurasthenia.
J. W. C.	Dec. 13	650	.129	3.40	.....	....	Neurasthenia.
J. W. C.	†Dec. 14	1220	.157	5.19	.....	....	Neurasthenia.
J. W. C.	Dec. 15	950	.249	5.51	.....	....	Neurasthenia.
J. W. C.	Dec. 17	530	.243	5.18	.....	....	Neurasthenia.
J. W. C.	†Dec. 18	530	.034	4.63	.....	....	Neurasthenia.
J. W. C.	Dec. 19	750	.133	4.62	.....	....	Neurasthenia.
J. W. C.	Dec. 20	1320	.237	6.46	.....	....	Neurasthenia.
J. W. C.	Dec. 21	950	.139	4.99	.....	....	Neurasthenia.
J. W. C.	†Dec. 22	670	.294	4.50	.....	....	Neurasthenia.
J. W. C.	Dec. 23	750	.236	5.35	.....	....	Neurasthenia.
J. W. C.	Dec. 24	1090	.268	7.63	.....	....	Neurasthenia.
	1907.						
J. W. C.	Feb. 9	590	.141	7.33	.....	....	Neurasthenia.
J. W. C.	Feb. 10	790	.140	.....	.....	....	Neurasthenia.
J. W. C.	Feb. 11	930	.046	.....	.....	....	Neurasthenia.
J. W. C.	Feb. 12	1220	.109	.....	.....	....	Neurasthenia.
J. W. C.	Feb. 13	900	.117	.....	.....	....	Neurasthenia.
J. W. C.	Feb. 14	1330	.146	.....	.....	....	Neurasthenia.
J. W. C.	March 3	1200	.315	5.15	.....	....	Neurasthenia.
	1906.						
W. H. B.	Dec. 19	910	.372	9.55	.....	....	Neurasthenia.
	1907.						
W. H. B.	Jan. 27	1060	.318	.....	.....	....	Neurasthenia.
W. H. B.	Jan. 28	1780	.314	.....	.....	....	Neurasthenia.
W. H. B.	Jan. 29	1240	.307	.....	.....	....	Neurasthenia.
W. H. B.	Jan. 30	1010	.250	.....	.....	....	Neurasthenia.
W. H. B.	Jan. 31	1520	.251	.....	.....	....	Neurasthenia.
W. H. B.	Feb. 1	940	.370	.....	.....	....	Neurasthenia.
W. H. B.	Feb. 2	980	.272	.....	.....	....	Neurasthenia.
W. H. B.	Feb. 3	930	.303	.....	.....	....	Neurasthenia.
W. H. B.	Feb. 4	1190	.299	.....	.....	....	Neurasthenia.
	1906.						
H. C. S.	Nov. 19	990	.108	7.52	.....	....	Neurasthenia.
H. C. S.	†Dec. 7	870	.296	6.40	.....	....	Neurasthenia.
H. C. S.	†Dec. 8	620	.206	5.20	.....	....	Neurasthenia.
H. C. S.	†Dec. 10	810	.194	5.10	.....	....	Neurasthenia.
H. C. S.	†Dec. 11	1140	.269	5.18	.....	....	Neurasthenia.
H. C. S.	†Dec. 12	660	.042	4.71	.....	....	Neurasthenia.
H. C. S.	†Dec. 13	580	.060	6.09	.....	....	Neurasthenia.
H. C. S.	†Dec. 14	850	.143	5.65	.....	....	Neurasthenia.
H. C. S.	†Dec. 15	1160	.348	5.59	.....	....	Neurasthenia.
H. C. S.	†Dec. 16	600	.245	5.24	.....	....	Neurasthenia.
H. C. S.	†Dec. 17	780	.366	5.28	.....	....	Neurasthenia.
	1906.						
P. R.	July 19	700	.560	9.24	.....	....	Neurasthenia.
P. R.	July 20	650	.378	5.23	.708	....	Neurasthenia.
P. R.	Aug. 19	830	.311	.....	.....	....	Neurasthenia.
P. R.	Aug. 20	800	.330	.....	.....	....	Neurasthenia.
P. R.	Nov. 7	1580	.442	7.16	.....	....	Neurasthenia.
	1906.						
F. A. P.	June 2	1600	.041	7.72	1.040	....	Neurasthenia.
F. A. P.	June 3	1620	.328	7.03	.696	....	Neurasthenia.
F. A. P.	June 29	1290	.150	7.76	.786	....	Neurasthenia.
F. A. P.	June 30	1270	.357	10.66	.558	....	Neurasthenia.
	1907.						
W. H. H.	Jan. 10	740	.111	6.21	.....	....	Neurasthenia.
W. H. H.	Jan. 11	370	.046	6.35	.....	....	Neurasthenia.
W. H. H.	Feb. 13	580	.093	6.42	.....	....	Neurasthenia.
	1906.						
Wm. H. W.	Aug. 16	1080	.101	5.43	.....	....	Neurasthenia.
Wm. H. W.	Aug. 17	1620	.059	4.93	.....	....	Neurasthenia.
	1906.						
W. W. J.	Aug. 17	700	.291	7.10	.....	....	Neurasthenia.
W. W. J.	Aug. 18	800	.188	7.40	.....	....	Neurasthenia.
	1906.						
M. M.	Nov. 21	1360	.190	10.60	.....	....	Neurasthenia.
M. C. D.	Dec. 4	1100	.132	2.31	.....	....	Neurasthenia.
O. C.	Nov. 5	750	.376	7.42	.....	....	Neurasthenia.
C. J. M., Jr.	Nov. 4	990	.630	7.92	.....	....	Neurasthenia.
J. G. S.	June 3	1080	.055	10.13	5.94	....	Subac. rheum.
J. G. S.	†June 4	1100	.049	6.08	6.05	....	Subac. rheum.
J. G. S.	June 15	1340	.489	9.00	.....	....	Subac. rheum.
J. G. S.	June 16	1200	.459	9.80	.....	....	Subac. rheum.
M. A. H.	June 27	410	.030	3.09	.250	....	Subac. rheum.
M. A. H.	June 28	340	.178	3.07	.353	....	Subac. rheum.
M. A. H.	July 27	780	.179	6.09	.313	....	Subac. rheum.
M. A. H.	July 23	650	.262	5.91	.507	....	Subac. rheum.
J. W. M.	June 30	700	.420	8.33	1.071	....	Myalgia.
J. W. M.	July 3	1190	.350	9.57	1.291	....	Myalgia.
H. E. S.	June 27	510	.451	9.86	.972	....	Subac. rheum.
H. E. S.	June 29	480	.478	6.72	.930	....	Subac. rheum.
A. H. L.	Oct. 8	1730	.290	9.34	.....	....	Subac. rheum.
A. H. L.	Oct. 9	1540	.489	10.16	.....	....	Subac. rheum.
G. A.	July 17	1860	.530	12.36	1.131	....	Melancholia.
G. A.	July 19	1690	.541	12.53	1.012	....	Melancholia.
M. W.	Dec. 19	1020	.237	.....	.....	....	Melancholia.
	1907.						
E. G.	Jan. 4	1310	.418	.....	.....	....	Melancholia.
R. N. H.	Oct. 10	1450	.435	11.31	.....	....	Autointox.
E. S. M.	Nov. 15	1500	.117	3.15	.....	....	Autointox.
E. S. M.	Dec. 8	1290	.619	10.25	.....	....	Autointox
E. S. M.	Dec. 10	1800	.517	11.34	.....	....	Autointox.
E. S. M.	Dec. 11	2030	.471	10.20	.....	....	Autointox.
E. S. M.	Dec. 12	1210	.652	9.72	.....	....	Autointox.
E. S. M.	Dec. 13	1680	.554	8.93	.....	....	Autointox.
E. S. M.	Dec. 14	1360	.632	7.87	.....	....	Autointox.
E. L. S.	Nov. 27	1330	.252	7.04	.....	....	Autointox
E. L. S.	Nov. 28	1020	.142	4.07	.....	....	Autointox.
E. L. S.	Nov. 29	1320	.132	4.92	.....	....	Autointox.
D. R.	Aug. 3	630	.224	.....	.....	....	Autointox.
C. S. A.	Oct. 7	1000	.525	10.40	.....	.....	Debility.
E. G. M.	Oct. 11	1030	.396	10.10	.....	....	Anemia.
A. M. E.	July 26	1150	.322	8.13	1.127	....	Nephritis.
A. M. E.	July 27	1130	.384	7.91	1.107	....	Nephritis.
A. M. E.	Aug. 14	1030	.260	.....	.....	....	Nephritis.
A. M. E.	Aug. 15	1200	.238	.....	.....	....	Nephritis.
A. M. E.	Oct. 7	1750	.143	9.80	.....	....	Nephritis.
	1907.						
A. M. E.	Jan. 6	1340	.452	10.70	.....	....	Nephritis.
A. M. E.	Jan. 7	520	.285	7.50	.....	....	Nephritis.
F. B. T.	April 28	510	.157	5.33	.605	....	P. Neuritis.
F. B. T.	April 29	670	.289	6.23	.711	....	P. Neuritis.
F. B. T.	April 30	560	.099	4.31	.533	....	P. Neuritis.
F. B. T.	May 1	850	.140	4.87	.659	....	P. Neuritis.
F. B. T.	†May 2	440	.115	3.42	.403	....	P. Neuritis.
F. B. T.	May 3	600	.164	.....	.605	....	P. Neuritis.
F. B. T.	†May 4	740	.147	4.70	.597	....	P. Neuritis.
F. B. T.	May 5	810	.209	5.53	.634	....	P. Neuritis.
F. B. T.	†May 8	870	.101	4.50	.675	....	P. Neuritis.
F. B. T.	May 9	620	.253	5.82	.596	....	P. Neuritis.
F. B. T.	May 14	740	.267	5.86	.....	....	P. Neuritis.
	1906.						
R. E. P.	June 22	1330	.478	11.17	1.303	....	Normal.
R. E. P.	June 23	1500	.321	11.02	1.470	....	Normal.
	1907.						
R. E. P.	Jan. 13	1150	.299	8.85	.....	....	Normal.
R. E. P.	Jan. 14	1010	.202	7.77	.....	....	Normal.
R. E. P.	Jan. 15	830	.224	7.37	.....	....	Normal.
R. E. P.	Jan. 16	1270	.254	8.43	.....	....	Normal.
R. E. P.	Jan. 17	1110	.252	9.36	.....	....	Normal.
R. E. P.	*Jan. 18	1330	.255	9.16	.....	....	Normal.
R. E. P.	Jan. 19	1320	.184	11.16	.....	....	Normal.
R. E. P.	*Jan. 20	1080	.118	7.25	.....	....	Normal.
R. E. P.	Jan. 21	1450	.101	7.06	.....	....	Normal.
R. E. P.	*Jan. 22	730	.131	7.81	.....	....	Normal.
R. E. P.	Jan. 23	920	.322	9.53	.....	....	Normal.
R. E. P.	Jan. 24	1220	.153	10.66	.....	....	Normal.
R. E. P.	Jan. 25	1470	.220	9.46	.....	....	Normal.
R. E. P.	Jan. 26	770	.130	7.05	.....	....	Normal.
R. E. P.	Jan. 27	1090	.359	10.28	.....	....	Normal.
R. E. P.	Jan. 28	1340	.361	10.93	.....	....	Normal.
R. E. P.	†Jan. 29	1070	.299	9.35	.....	....	Normal.
R. E. P.	Jan. 30	1040	.343	8.88	.....	....	Normal.
R. E. P.	†Jan. 31	1650	.264	9.77	.....	....	Normal.
R. E. P.	Feb. 1	1690	.270	8.98	.....	....	Normal.
R. E. P.	†Feb. 2	1180	.271	8.84	.....	....	Normal.
R. E. P.	Feb. 3	1330	.292	10.60	.....	....	Normal.
R. E. P.	Feb. 4	1390	.210	12.20	.....	....	Normal.
R. E. P.	Feb. 5	1220	.319	10.00	.....	....	Normal.
	1907.						
C. J. B.	June 12	1280	.461	11.83	.....	1.95	Normal.
C. J. B.	*June 14	870	.453	11.03	.....	1.95	Normal.
C. J. B.	June 15	660	.449	11.37	.....	2.63	Normal.
C. J. B.	*June 16	680	.439	11.42	.....	1.71	Normal.
C. J. B.	June 17	680	.403	11.40	.....	1.71	Normal.
C. J. B.	*June 18	650	.415	10.05	.....	1.73	Normal.
C. J. B.	June 20	740	.366	11.81	.....	1.98	Normal.

* Hot-air cabinet bath. † Electric-light cabinet bath.

The most striking feature of these results is the large number, 54.8 per cent., of the cases in which the excretion of uric acid by the kidneys was below .250 gm. Accompanying this condition are a large number of symptoms, principally of a nervous character, which were wholly or in part relieved when the uric acid was brought up to the normal mark, that is, .300 gm. or over. It seems fair then to draw the inevitable conclusion that in a large number of cases which we are in the habit of diagnosing as neurasthenia the disturbances in metabolism are of such a nature as to lead to a marked diminution in the output of endogenous uric acid in the urine.

That the presence of an excess of purin bodies in the human system is accompanied by symptoms of disturbed function is attested by the words of Walker Hall.[4] He says:

> At present there is a tendency to disregard the action of the oxypurins on the tissues, but it must be remembered that when they are in excess they probably form unusual combinations and that such products may act as irritants. When Kochmann added carbohydrate food to the meat diet, his dogs presented few postmortem pathologic changes. Up to the present date I have made a large number of personal experiments, and when I have taken large doses of purin bodies, such as ½ gm. of hypoxanthin, 1 to 5 gm. of guanin, 0.5 to 1 gm. of uric acid—apparently associated symptoms of general malaise and irritability have frequently appeared.

Hoslin and Dercum state that there is an excess of uric acid very uniformly in neurasthenia and that this uric acid results from a breaking down of the nuclei of cells, especially nerve cells. Herter says that there are few cases of neurasthenia which do not show some defective metabolism in urine and feces and that the twenty-four-hour amount is generally below normal, showing low specific gravity.

It has been shown by feeding experiments with meats (beef, fish and fowl), haricot beans and beer that under appropriate conditions the urinary purins, principally as uric acid, are increased and the increase corresponds to 50 to 60 per cent. of the purin bodies ingested. The remaining 50 per cent. is excreted as urea and intermediate bodies between uric acid and urea. It is fair to assume that the endogenous purin portion may behave similarly and that 50 per cent. appears as urinary uric acid. Inasmuch as the endogenous uric acid is derived in part from the leucocytes, but mostly from the cleavage of cell nuclei, and as the cell-nucleus dominates the cell activity, the urinary uric acid indicates the extent of the metabolic processes and in turn the functional activities of the cells.

Obviously, considering the present state of our knowledge, it is impossible to draw definite conclusions as to just the character of the pathologic changes that have been operative in the cases described, i. e., whether there is increased formation with retention or increased destruction of uric acid.

The striking feature in the majority of the cases is the abnormally low output of endogenous uric acid, and in most cases total nitrogen also. With the return to normal of the urinary constituents the symptoms complained of were improved; therefore it seems justifiable to say that some interference with endogenous uric acid metabolism was the cause. If this is admitted we must grant that a certain percentage of cases diagnosed as neurasthenia have a well defined pathologic condition (low endogenous uric acid output), causing their symptoms. On the other hand, the metabolic disturbances may result from the general asthenia, but we are inclined to the former belief, viz., that the metabolic anomalies are primary. If this be true one can not emphasize too strongly the importance of the so-called rational therapeutic plan of treating this class of cases, i. e., by hydrotherapy, massage, properly regulated exercise and diet.

SYMPTOMS.

The symptoms complained of might be divided into two classes:

1. *Toxic:* Due to deleterious substances formed from products of imperfect metabolism, circulating throughout the system. Under this heading would be classed headache, dizziness, gastrointestinal disturbances, blurring of vision and other eye symptoms.
2. *Mechanical:* Due to direct irritation of nerve endings by pathologic products, causing muscle and joint pains.

The explanations of the etiologic factor and symptoms naturally go together. If we accept the theory that uric acid is formed by a series of steps from xanthin bases by enzymatic action and as a product of normal muscle metabolism, through the action of these enzymes, which are found in muscles and other organs, it would follow that any failure on the part of one or more of these ferments to do their work would result in throwing the process of normal metabolism out of order, with the formation of products which should not be present. As it has been shown lately that muscular action plays a considerable part in uric acid formation, it would follow that a good many of these abnormal products would be present in the muscles themselves, which seems probable from the nature of the symptoms complained of. Again, if there was a break in the chain of enzymes which go toward forming endogenous uric acid, this product would be diminished, which by the results obtained is found to be the case. On the other hand, there is also the possibility that the uric-acid-destroying ferment might be over active and destroy more than its normal amount and thus lead to the abnormally low urinary uric acid.

If one is not quite ready to accept the enzymatic theory for the formation and destruction of uric acid, there is the one advanced by Gotto.[5] In this case a normal amount of uric acid might be formed, but owing to excessive amount of combination with organic substances an abnormally low endogenous uric acid would be found present in the urine. This pathologic retention could easily explain the symptoms, especially when nodules were formed.

The blood in health does not apparently contain uric acid, but its presence in certain pathologic conditions has been fully demonstrated by Salomon, Klemperer, v. Jaksch, Garrod and others. If it is present it may escape detection owing to its combination with certain organic substances, and the symptoms may not be due so much to the quantity as to the character of the combination.

In the cases of neurasthenia given it is interesting to note that the majority come between the ages of 50 and 70 years, while all except one are females. These few cases are, however, not of a sufficiently large number to draw positive conclusions from. Before the exact percentage in which low endogenous uric acid is present can be accurately determined a large number of patients will have to be examined.

The drugs used in the treatment of these cases, with the possible exception of methyl salicylate, had no effect on raising the low endogenous uric acid. This is in a way confirmatory of the results obtained by other investigators, as is shown by a table given by Hall.[4] By reference to this table it will be seen that sodium salicylate is the only drug which gave a marked increase in urinary purin. Most of these results were obtained by experiments conducted either on a mixed or a vegetable diet or with nitrogenous equilibrium, but not a purin-free diet, so that the results are misleading, because one can not tell whether, as Hall points out, the increase is due to an increased destruction of the exogenous moiety or decreased formation of the endogenous purins.

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[4] Purin Bodies, p. 78.

[5] Ueber die Lösung der Harnsäure durch Nukleinesäure Ztschr. f. physiol. Chem., xxx, 1900, p. 473.

The most satisfactory form of treatment seems to have been the electric-light baths, alone with general dietetic and hygienic measures. With this method of treatment an increase of the output of uric acid was brought about in every instance, even amounting to the normal quantity in some cases. The increase is very striking on the day of the bath in a number of the cases (see table). With this return to normal the symptoms improved or entirely disappeared with the return of health to the patient.

That the dietetic and hygienic treatment was not alone responsible for the improvement is proven by the fact that this increase did not appear until after the baths were commenced, although these measures were instituted when the patient first came under observation.

SUMMARY.

To summarize briefly the results of these investigations:

1. A certain proportion of patients showing nervous and other symptoms are suffering from disturbances of metabolism of such a nature as to lead to an abnormally low output of endogenous urinary purins.

2. Just what these metabolic abnormalities are we can not at present state, because of ignorance of the exact physiologic processes concerned in the formation of the endogenous moiety, but that they are, in a measure at least, responsible for some of the symptoms is shown by the relief of these same symptoms on increasing the elimination of the urinary purins.

3. The best method of bringing about this result is not by trying to dissolve the uric acid, as has been our endeavor in the past, but to increase the activity of the metabolic processes. This latter accomplishment is best attained by exposing the naked body to the direct rays of incandescent electric lights.

OPERATIVE PROCEDURE AS A THERAPEUTIC MEASURE IN THE CURE OF EPILEPSY.

A PLEA FOR A MORE FREQUENT SURGERY.*

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In this paper I use the word "surgery" in its abstract sense, not concretely or connected with sensible objects or in its specific relation to definite things, as the amputation of a limb, the incision of an abscess or removal of a tumor, but rather the impression made on the mind, nervous system and emotions by the immaterial concomitants of the surgical act, as well as the act itself—the combination of hope, fear, expectancy, dread—the impressions and experiences connected with anesthesia, the sinking thought of passing through it into annihilation and nothingness, and all the other feelings of depression and momentary exhilaration known to us who have had personal operative experience.

These things, these mostly emotional things, I believe are the cause at times of recovery from epilepsy, and may thus be regarded therapeutically because they cure just as drugs cure other diseases.

My purpose, then, is to point out that occasionally it may be the conditions connected with surgery—shock when it occurs, impressions on the nervous system, disturbances of vasomotor equilibrium and the like, rather than anything definite that surgery does that causes suspension of epileptic seizures, and that the recovery following surgical operations is not necessarily due to the tangible thing that has either been removed or corrected.

Some patients get well spontaneously; others after removal of the exciting cause, although this is not always the case. In certain persons—apparently acquiring the epileptic habits, as has been said, as a consequence of traumatism, tumor or other neoplasm—the convulsive tendency remains in spite of everything. Cures also are effected by the combined influence of drugs, diet and tranquility; by inducing by ligation an interruption of nervous energy between the skin and nerve centers; in cases of peripheral irritation by removing the exciting cause, etc., yet there is still a considerable number of cures that can not be accounted for except in the way indicated above.

It is probably because of these impressions on the entire system that sometimes, after almost any operation, the convulsions are absent for several months. Even in cases where operations done for other diseases are followed by incidental recovery from epilepsy, such recovery can not always be accounted for by the theory that some cause or source of reflex irritation had been unknowingly cut out or corrected by the operation, as this would be like justification for the ploughing of a field for hidden treasure not likely to be found.

The absence, as far as we know, of a uniform exciting pathology, to be sure, makes anything but conjecture impossible, yet the above hypothesis would seem to explain many otherwise inexplicable restorations. This is the reason for the faith that is in me, not about the cases in which surgery is the only remedy, but in regard to the occasional efficacy of surgery *per se*, so that in otherwise incorrigible cases, after drugs and hygiene under capable hands have failed to produce satisfactory results, on the slightest prospect of recovery, if there is anything at all demanding an operation, I resort to surgery in hope of possible deliverance. Formerly justifiable operations for the cure of epilepsy were limited, by most people, to such conditions as fracture of the skull, with depression, etc., lesions of the brain or nervous system, or where the character of the convulsion indicated the presence of irritation in some specific region, which sometimes seems to bear the same relation to the convulsions that the button bears to the bell—press the button, the bell rings at the other end. Now I at least fell that surgical procedure for almost anything may cause either improvement or recovery, and that an operation for an ingrowing toenail may be as much of a benefit as one for the removal of a tumor from the brain.

The following line of reasoning may sustain my theory: Epilepsy is an apyretic paroxysmal neurosis, its victims neurotics, hence easily impressed. Neuroses constitute the only class of diseases caused and cured by emotional excitement, or psychically and the like, as witness epileptic and asthmatic attacks and paroxysms of dyspnea, excited in neurotics and others by odors, sights and apprehensions, excessive secretion of gastric juice by the blowing of a trumpet, involuntary micturition by the squeaking of a bagpipe. Or again, witness the cures effected on the neurotic by the laying on of hands, the royal touch, by visits to shrines, pilgrimages to sacred places; by Christian Science, mental healing, cures affected on the tarantati by the tarantella dance.[1] or again ecchymoses—actual rupture of capillaries and other blood vessels in specific locations—caused by fright or faith acting on an anxious imagination. The communication of the stigmata is an ecclesiastical illustration, said to be supernaturally impressed on the bodies of certain people in imitation of the wounds on the body of Jesus, such as the stigmata of St. Francis, or, again, the deaf hearing, the lame walking, the dumb speaking, the blind restored to sight occasionally, even in our own matter-of-fact, everyday practice, in consequence of emotions and experiences made by conditions connected with certain acts.

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* Read before the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics, at Richmond, Va., Oct. 24, 1907.

These various illustrations of the phenomena of disease accepted as realities are so incapable of explanations founded on visible pathology that in accepting these we do not need to doubt the possibility of an epilepsy, a disease belonging to the same type once in a while being cured in the same way.

Dr. William Carpenter, in his "Mental Physiology," a book that ought to be in the library of every physician, says that so many mysterious things occur within the little universe of man, so impossible of logical elucidation, that the educated person is not in a position to refuse belief in anything.

There are so many cases of recovery from epilepsy following operations, for example, for the relief of cerebral tension, when there was no tension, and the amputation of such parts as we know now had no connection with the cause of the disease, that I know of no other explanation except the one I have adduced.

Take the following illustrations from my own casebook:

CASE 1.—Mrs. B., wife of a druggist, aged 42, had been an epileptic for twenty years, convulsions for the last year averaging six monthly. For three months she had been taking bromid of potassium, 20 grs. 3 times daily in 4 ounces of water; hydrocyanate of iron 1 gr. 3 times daily, with restricted diet. During absence of the cook, Mrs. B., had temporarily assumed her place at the kitchen range. Breakfast being delayed, her son entered the kitchen and found his mother in a convulsion, the first one in ten weeks, with her charred hand rubbing against the bars of a red-hot grate. An amputation under ether was done, and until her death, eight years after, she was free from convulsions, although treatment with epileptic medicine after three weeks interruption, lasted only for a month after the recovery from the operation.

CASE 2.—Louise X., aged 12, an epileptic since her second year, with convulsions averaging for the past year, twelve monthly. She had been under my care three months, during which time she had had but one convulsion. Treatment was bromid of strontium, 6 grs. four times daily in 4 ounces of water. Infusion of digitalis a teaspoonful three times daily on alternate days, with restricted diet, and protection from excitement. After a bath on a hot summer day her nurse placed her on a slipper box in front of an open third story window, went into an adjoining room for fresh clothing, and when she returned the naked child had disappeared through the opening, falling with such force on a wooden fence as to break it. An hour later I found her on a sofa in the parlor, excited, confused, with a deep laceration on the outer surface of her left thigh about 4 inches long, which, after washing and being brought together with stitches, under ether, she was put to bed. There were no broken bones. Until the family left the city four years after, the child was free from convulsions, the accident leaving no result except a scar.

CASE 3.—Margaret C., aged 9, an epileptic since her second year, with an average of three fits monthly, convulsions slight, short, almost psychic. She was but slightly benefited by a treatment of bromid of strontium and infusion of digitalis, and adapted diet, and the treatment became frequently interrupted and finally was suspended altogether. Two years after, she returned with the spells more frequent, but with a bunch of tuberculous glands in the right surgical triangle entending up toward the ear. Three years after their extirpation under ether she is still exempt from convulsions and is entirely normal. In this case no epileptic medicine was given after operation.

It is such cases as these and others somewhat similar that have convinced me of the occasional benefit of almost any kind of surgery in epilepsy. The combined concomitants of the operation, its awe, impressiveness and solemnly, as well as the act itself, acting psychically on temperaments or minds specially susceptible, as in the historic cases mentioned in the beginning of my paper. I think this interpretation may be applied also to many of the cures effected under the direction of Brown-Séquard, and that his claim of the removal of "peripheral irritation" could not now be applied to many of them.

The same may be said of the numerous cures claimed by the advocates of the once popular Corsican remedy—cauterization with a red hot iron behind the ears. This popular site of reflex agitation, then, could hardly, like the residence of an exiled prince, have been relegated by the medical powers that be, to some more remote location. Fashions may influence diagnosis but not pathology.

I think the same analysis may be applied to the many cases reported by Baker Brown, M.R.C.S. Indeed, this surgeon was so successful in producing recoveries in epilepsy that his society, the Royal College of Surgeons, thought he was getting up a corner in cures and disciplined him. Mr. Brown was convinced by Brown-Séquard's "Lectures on the Physiology and Pathology of the Nervous System" and his theory of peripheral irritation that great mischief was caused to the system in general, and the nervous system in particular, by such excitement. He decided consequently that epilepsy was due to "storm" of the "pudic nerve," mechanically induced or rather that branch of it supplying the clitoris.

Subcutaneous division of the nerve not being sufficient to effect a cure, Mr. Brown finally subjected his deduction to a more heroic surgical test by removing the clitoris altogether. His amputations were done with a pair of scissors, afterward plugging up the scar with lint. In a month the wound was healed and great numbers of patients were restored to health completely, "with all the vital powers greately strengthened." He reported many cures six and seven years after operation, and patients still free from spasms. For a time he had many followers, when fashion again changed the habitat of the disease, this time to its former exalted location in the interior of the calvarium. Since then, besides the *cures celebré* following removal of actual tumors, etc., from the brain, Dr. J. Wm. White, in the *Annals of Surgery*, in the two articles entitled "The Supposed Curative Effect of Operation *per se*." reports "extraordinary results from operations which proved to have no justification in a discoverable pathologic condition." He records ninety cases, in which trephining was performed, no lesion found, nothing in particular done, and yet marked relief and complete cure followed.

Drs. Agnew and White record the case of a man "greatly epileptic" who years before received a blow on the head. Trephining was done and nothing abnormal was found. Eighteen months after operation he was still without convulsions.

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[1] See De la danse de Saint Guy du XIV au XVII Siecle, by E. S. Albans, Paris, 1872; also the author's article, Mimetic Diseases, Jour. of Zoopholy.

J. H. Hamilton reports the case of a man aged 18 who had had fits from childhood, one or two daily. The right common carotid was tied, which diminished the fits in force and frequency. He had no fits after the second operation, which consisted of ligature of left carotid. This article also records instances in which permanent recovery followed tracheotomy, incision of the scalp, and amputation following dislocation of a bone of the great toe. Cures have also followed lithotomy, nerve section, nerve and muscle stretching and removal of cicatrices.

Dr. S. E. McKenly, in the *American Medical Gazette,* has reported the case of a boy aged 16 who, after having been an epileptic for years, fell through a bridge and had one testicle crushed. It was removed, and at the last report, six years after operation, there had been no fits.

William H. Carr reported the case of a man aged 24 who had had fits for seven years, averaging three weekly. The operation of tracheotomy was performed for another disease and he had no fits afterward.

In ten cases of castration for epilepsy all were helped and four reported cured two years after the operation. In twenty-four cases of removal of the superior cervical ganglion of the sympathetic nerve six patients had remained well at the end of two years, ten were improved and five remained in the original condition, two died soon after the operation. Twelve cases of epilepsy are reported as cured by such operation as stretching of the sciatic nerve, cauterization of the larynx, circumcision, application of setons to the back of the neck, tenotomy of external recti, burning of scalp, etc.

All of these recoveries seem capable of the explanation given in the beginning of this paper and constitute it would seem a claim for a more frequent surgery, but a surgery in which epileptologist should cooperate with the surgeon.

PSYCHASTHENIA: ITS SEMEIOLOGY AND NOSOLOGIC STATUS AMONG MENTAL DISORDERS.*

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The attempt to obtain recognition for anything approaching a clinical innovation in the realm of nervous or mental diseases is an herculean task. Among the rank and file of the profession such a movement naturally meets with the stolid indifference which is the lot of practically all phases of mental science; while among alienists and neurologists it encounters a curiously combative attitude, which is strikingly exemplified in the struggle experienced by psychasthenia in gaining recognition as a nosologic entity.

There is, however, a growing desire, born of necessity, on the part of neurologists, to limit the semeiologic scope of the old term neurasthenia. It is admittedly too vague, too clumsy—a mere diagnostic peg on which to hang symptomatic chains composed of heterogenous links —and yet substitute terms, *psychoneurosis,* for example, are equally unhappy, because of their absurd overcomprehensiveness and fatal lack of nosologic focus.

It would seem from the foregoing as if any term which has caused to crystallize solidly around it interrelated morbid psychic phenomena of presumably identical origin were worthy of general acceptance and a sheltering niche in nosology.

THE PHENOMENA OF PSYCHASTHENIA.

In approaching a case of psychasthenia, the first thing that impresses the clinician is that he is dealing with an idea of peculiar character. It is neither volitional nor practical; it does not represent an intellectual advancement; it is not concrete and does not lead to useful and satisfying achievement; lastly, it can not be submerged to the level of the subconscious like an ordinary idea. On the contrary, it is vague, abstract, insistent, monotonous; it is an incubus, an obsession, which fastens on the mind of its victim and goads it to that particular type of frenzy—characterized by the impulses, mental manias, *folies du doute,* tics, agitations, phobias, deliria of contact, anxiety and bizarre feelings of strangeness and depersonalization—which we are about to study.

In attempting to ferret out the obsession or obsessions that are at play in the particular case, the examiner meets with difficulties which are peculiar to this disorder. These difficulties are twofold; they arise in part from the unwillingness of the patient to admit that he harbors ideas recognized by him as wholly absurd and out of harmony with the normal working of his mind, and in part from his inability—either real or imaginary—to express himself intelligibly, consecutively and completely.

In spite of these drawbacks, it will be found that obsessions are of five general classes: obsessions of sacrilege, of crime, of disease, of shame of self and of shame of the body.

OBSESSIONS OF SACRILEGE.

The obsessions of sacrilege merit particular attention, for they are of a character so monstrous, so unthinkable to the healthy mind, so diabolically whimsical, that even the trained psychologist stands aghast at the avowal of such weird vagaries of human thought. The central, torturing ideas in this form of obsession are that the most sacred imaginable objects may be or really are, by desire or act of the patient, brought into juxtaposition with the most loathsome; that the Deity is reviled and Satan exalted. It is noteworthy that these obsessions rarely exist *ab origine,* but mark a rather advanced stage in the evolution of the case.

OBSESSIONS OF CRIME.

Obsessions of crime, in feebly-developed cases, may be of a purely speculative or philosophic order, the patient limiting himself to abstract considerations on the nature of good and evil, crime, evil-doing, punishment, law and so forth. Such speculations are harmless enough when indulged in by the normal person and utilized in the government of his own conduct. In the psychasthenic they are troublesome, because he endeavors, as a result of them, to govern the conduct of his entourage. In the majority of cases the obsession is not so innocuous, since it exists in the form of impulses to commit criminal acts. The impulses to rape, to murder, to commit suicide, to inflict self-mutilation (particularly of the genital organs), to perform unnatural sexual acts, to lie, steal, rove, to eat and drink inordinately, to do the opposite of everything dictated by a sense of duty, are among the commonest.

The impulse is never to accomplish these crimes in a commonplace way. In each case the act must have its peculiar stage-setting, conceived with a wealth of detail that is often astonishing.

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* This article was prepared for the Section on Nervous and Mental Diseases of the American Medical Association, but not read. It is here abbreviated, but the complete article appears in the author's reprints.

A curious by-product of the criminal obsession is the feeling of remorse which often overtakes the patient. This remorse may follow in the wake of a specific criminal impulse, or it may bear on nearly every act in the patient's life. More curious still, it may originate in the idea of a crime toward which the patient has had no impulse whatsoever. Certain patients can not hear of or read about a crime without immediately accusing themselves of having committed it and experiencing all the tortures of remorse.

OBSESSIONS OF DISEASE.

Concerning the third order of obsessions, that of disease, it is curious to note that, while patients are absorbed in their sacrilegious and criminal preoccupations, they give but little thought to matters concerning their health or their lives. When, however, for any reason these preoccupations become temporarily less absorbing; in other words, when a patient gets a chance to think about his health, this becomes the object of the most extravagant ideas. At such times the thought of illness in all its forms, and even of death, absorbs all others.

One patient is much preoccupied about his heart; he counts its beats for hours together and is completely upset when he imagines that the beating is irregular. With heart disease as a starting point he sees the oncoming of cerebral hemorrhage with all its accompaniments. Another patient can not see a hearse, or go by an undertaking establishment, without thinking of his own death and funeral. Still another patient is troubled about the condition of his genital organs; and so on through the whole category of diseases.

OBSESSIONS OF SHAME OF SELF.

The victim of the obsession of shame of self constantly entertains the idea that what he does, what he is and what belongs to him is bad. Many of these ideas have a strong religious coloring, the patient being dissatisfied with the manner in which he performs certain religious duties. The general tendency in all patients afflicted with this obsession is toward self-deprecation, and their dissatisfaction may bear on all forms of intellectual activity. The most distressing to the patient of all these ideas is, perhaps, that of becoming insane, and this idea gives rise to many of the mental manias which we will later discuss, such as the mania of interrogation, precision, etc.

OBSESSIONS OF SHAME OF THE BODY.

The obsession of the shame of self has often only a purely physical bearing. In its most complete form, the shame is of the body as a whole; in other and less comprehensive cases it relates to certain parts and certain functions of the body only. Among the most curious of these obsessions is that of becoming fat, and the expedients adopted by patients to avoid this terrifying condition often threaten life itself. Other obsessions are those of awkwardness in the carriage of the body, or in the position of the limbs, of shame of the face, of the breasts, of the pubic hair, of blushing (erythrophobia), of the handwriting (causing writer's cramp),

From the division of the obsessions into five different groups, it must not be supposed that their origin differs with the group, or that they are lacking in bonds of union. On the contrary, the various groups are indissolubly linked, one with another. The obsession of sacrilege is merely an exaggeration of that of crime, while that of shame of self and of the body connotes one or both of these; and the obsession of disease is nearly always traceable to that of shame of the body.

RELATION OF THE OBSESSIONS.

A striking characteristic of all obsessions is that they have no bearing on objects in the outside world, but always on the acts of the patient himself. He is continually occupied with the thought of these acts, and his obsessions grow and flourish merely through the association of ideas. External objects have only a symbolic value in the growth of an obsession; they merely start the train of thought, the association of ideas that is the obsession.

Another peculiarity of the obsessions is that patients suffering from them are always impelled to do the very opposite of what they desire most to do at the moment. Furthermore, the conception underlying the impulse is so extreme, loathsome and foreign to the will of the patient that he recoils from it in horror. The content of the obsession, while retaining certain characteristics common to all cases, varies strikingly with the age, sex and civil state of the patient.

COMPULSORY IDEATION.

In spite of the markedly impulsive character of the psychasthenic's ideation, it is important to note, in the overwhelming majority of cases, the lack of all tendency to resultant action. This failure to act, in other words, to put into execution the content of his impulse, is one of the psychasthenic's most striking characteristics, and one which marks his attitude throughout the entire course of the disease. Even in the action of his mind he does not go so far as to believe in his obsessions, at least not altogether. On the contrary, he discusses and criticises them and even pronounces them absurd, but he can not voluntarily rid himself of them.

COMPULSORY ACTIVITY.

From this compulsory or obsessive ideation it is but a step, and a natural one, to some form of compulsory activity; hence it is not surprising, in the clinical study of the psychasthenic, to find that such activity constitutes an important element in his sufferings, or, since like begets like, that it possesses attributes identical in all respects with those of the ideas to which it owes its origin; in a word, that it is excessive and serves no useful purpose. This compulsory activity is commonly manifest in the realms of thought, motion and emotion.

Compulsory activity of the first variety (thought) may be spoken of, in clinical terms, as mental manias, the word mania being used in the popular sense. These manias are of two orders, the systematized and the diffuse. In the first order come: 1. The mania of oscillation, in which the mind can not reach a settled conviction or come to a definite decision, but continues to oscillate between two propositions. 2. The mania of interrogation, in which the questions bear on the subject's looks, feelings, memory, etc. 3. The manias of hesitation and deliberation. In these the doubts of the patient bear on his acts and prevent all practical execution of such acts. 4. The manias of omens, or questioning fortune. In these the patient seeks, although in vain, the determinant of his actions in semimystic outside phenomena, and trusts nothing to his will.

These four species of mania are closely interrelated. In all the subject is unable to decide between yes and no, to settle the question of "to be or not to be."

EXTREMISTS.

After the mind of the subject has oscillated hopelessly for a certain time between two given propositions, the pendulum is apt to swing beyond one or the other, and we are then confronted with the so-called manias of "going to the extreme." These comprise:

1. Manias of precision, in which a given instruction to the patient must contain an endless list of detail.

2. The mania of verification, in which the patient is constantly occupied in endeavoring to reassure himself that everything about his person is in order.

3. The mania of orderliness, in which the patient must arrange his house or his wardrobe in just such a way, and can not bear the slightest possible derangement of this order.

4. The mania of symmetry. Patients with this mania in arranging objects always have to put half to the right and half to the left of a central point. If they step with the right foot on a stone which is slightly elevated, they must immediately place the other foot on a similarly projecting stone. If the right hand touches anything cold, like marble, the left must do the same.

5. The mania of contrast and contradiction. Patients with this mania are forced either to think or say exactly the opposite of what they intend.

6. The mania of cleanliness. This form is often found in connection with mysophobia, but it is also observed in connection with the feeling of desire to do things with absolute precision.

7. Micromania. Certain patients attach much more importance to what is little than to what is big. Little noises annoy them, while big ones do not; little spots of grease, "little microbes," bits of matches, cigar ends, crumbs, etc., harass their souls.

8. The arithmetical mania. This is a sort of mania of hyperprecision. Patients with this mania have a predilection for anything that may be expressed in figures. With them a number fixes an idea or serves as the starting point of a whole train of ideas.

9. The mania of symbole. This is betrayed in the highly symbolic language patients affect in describing their feelings.

10. The mania of research and the mania of the past and the future. These forms compel the patient to go over every circumstance connected with an action and seek out every minute detail leading up to it. In addition to this, he must determine every possible future bearing of an act. In certain cases this mania of the future consists simply in trying to figure out what is going to happen in the course of a given space of time.

11. The mania of explanation. This goes beyond the question of the past and the future, and the patient may set himself the task of explaining to himself all the problems of science and philosophy.

12. The mania of precaution. This results from the need felt by the subject of accomplishing a number of minor acts in order to render easier a major act or to hinder an act which he dreads.

13. The mania of repetition or of going back. This mania is one of the most important; the subject is never satisfied with his action and is compelled to keep repeating it. This may apply to the performance of certain bodily functions, such as urination, and may cause the patient to return to the closet an astonishing number of times to make sure that he has got out the last drop from his bladder. The mania of going back comes from a disinclination to change; the same idea must be taken up in the same place at the same hour.

14. The manias of processes and of perfection. Certain patients do not limit themselves to the simple repetition of acts, but have a mania for inventing processes for perfecting them. The patient who returns fifty times to the closet to assure himself that he has completely evacuated his bladder often employs bizarre methods for arriving at perfection in the act.

15. The manias of the extreme and of the infinite. In this form all mental operations are carried to the most extreme limit attainable. This tendency is observed in the sacrileges, impulses, shame, remorse, etc., which the patients conjure up in their imaginations.

MANIAS OF REPARATION AND COMPROMISES.

Still unsatisfied by the outcome of the preceding attempts to attain perfection in idea or act, the patient invents a further series of exercises, intended by him to make up for the faults of the old system. This new system is made up of manias of reparation and compromises. Under these we have:

1. The mania of compensation. In this the patient seeks to correct one act by another. If, for instance, he has the obsession of shame of the body and is fearful of becoming fat, he may eat one kind of food to please the physician, but he must immediately take another which is in harmony with his notion of avoiding corpulence.

2. The mania of expiation. This is induced by the feeling that a certain act is shameful and must be compensated for by one that is disagreeable or painful. It represents a sort of self-inflicted penance, and is observed particularly among patients who have the obsession of the shame of self or of the body.

3. The mania of vows. This consists in the making of vows to expiate any future sin (sic) of omission or commission of which the patient may adjudge himself guilty.

4. The mania of conjuration. This is observed in cases where patients not only are not satisfied with their acts, but are tempted to do such as are really reprehensible. The patient endeavors to get rid of his evil impulse by substituting what he considers a good one, and the peculiar gestures made by him while he is pronouncing, so to speak, the "arrhe Satane" may be the first indication of the existence not only of the mania, but of the disease which gives rise to it.

SIMILARITY OF MANIAS.

If we study closely the foregoing manias we must be impressed by the strong traits of similarity which characterize them all. In last analysis they are the product of forced mental unrest, of the activity of the mind consciously working under dynamic conditions which are inadequate to enable it to cope with the concrete, the actual and the practical, but which compel it to flounder about pitiably in the realm of the abstract, the illusive and the imaginary. From the fact that in some patients a particular mania appears to dominate the clinical picture certain observers have been misguided enough to exalt this phenomenon to the dignity of a clinical entity; hence the literature teems with descriptions of these pseudo-entities, to the everlasting detriment of clinical preciseness in dealing with morbid mental phenomena. It is against this tendency that this paper is particularly aimed, and it is my contention that a more careful study of all the facts surrounding these clinical pseudo-entities will show in every case that they owe their origin to that basal morbid condition called psychasthenia.

The apparently isolated existence of any given mania is merely episodic, the result of a given combination of circumstances. Close investigation will always reveal the fact that a person who appears to run to a single form has, in reality, been previously possessed of a dozen or more other forms. This fact is indirectly proved in certain cases where a whole series of manias are linked together by association of ideas. These cases represent that interesting condition known as mental rumination (*Ideen Flucht*).

ENFORCED REVERY.

There is still another condition of enforced mental activity, which is observed in psychasthenics, often at the outset of the disorder and before the more systematized obsessions, manias, etc., become manifest. This is the condition of enforced revery. In this the patients find themselves constantly occupied to the exclusion of all voluntary legitimate and useful mental operations with thoughts which they clearly recognize as foreign to them but which enter their minds and, so to speak, pullulate therein with incredible rapidity. These thoughts are not essentially pathologic in character; they are reflections, recollections of the past, imaginations concerning the future, meditations, discussions, etc., characterized by their irresistibility and their power to cripple useful thought and action.

A comparison of these enforced reveries with the mental rumination and the manias previously described shows that they all result from a mental activity which is beyond the patient's will to control. They embrace, furthermore, the major part of the intellectual operations—associations of ideas, memory, imagination, judgment, reasoning—in a word, every sort of operation which has to do with mental images and abstract ideas. There is, unfortunately, nothing about them which leads to real and concrete accomplishment, and it is this characteristic which gives them their special cachet and justifies the designation of compulsory mental activity. This same characteristic stands forth very prominently, as we shall presently see, in the same sort of activity originating in the realm of motion and emotion.

COMPULSORY MOTOR ACTIVITIES.

With regard to the compulsory motor activities, it may be said that, like the enforced mental varieties just considered, they are neither in harmony with external circumstances nor with the desire of the patient. They are, however, neither unconscious nor entirely involuntary. The patient is aware, at least in part, that they are performed and that they are performed because he wills it, but he feels compelled to have this useless and absurd volition.

These enforced activities may be of two orders—the systematic and the diffuse; when systematic they constitute the tics; when diffuse, the crises of agitation.

The tic presents certain characteristics, the most striking of which is that it resembles that systematic ensemble of movements called act. Its second characteristic is that it is a sterile and inopportune act. Lastly, it is an act accompanied by phenomena of consciousness, volition and thought. To resume these characteristics, a tic is a complex of systematized movements, an act reproduced regularly and frequently, but always in a useless, inopportune and incomplete manner, because of the fact that the will feels itself forced into its accomplishment.

In the first group of these phenomena come the so-called tics of attaining perfection, comprising:

1. The immobilities associated with the mania of oscillation. These are attitudes assumed by patients to justify their inactivity in the eyes of spectators; one holds a book in the hand, another remains standing with the foot poised in the air as if in the act of advancing. A large number of tics are attached to the manias of precision and verification. Among these are (a) the constant shaking of the head to get the hat properly in place, and (b) the repeated looking in the glass and the feeling of certain parts of the body or of the clothing to make sure that everything is in place and in proper condition. One patient keeps feeling of her limbs, body and chest to reassure herself that she is not getting fat; another shakes her head to be sure that her earrings are all right, and so forth and so on. Gradually the primary idea which caused the tic disappears and the movement is executed rapidly in an incomplete and incessant manner. Analogous tics result from the other manias of perfection above cited.

2. Tics of defense. These are composed of movements made by patients to compensate for some disagreeable thing, or to defend themselves from some harmful influence. Tics of this sort are very numerous and varied, each tic corresponding to the mental mania which gives rise to it. In general, it may be said, however, that the mental mania is apt to be least developed where the tic is most complete, but as analogous tendencies give rise to the one or the other of these two phenomena, it is only right to group the tics after the fashion of the mental manias.

CRISES OF AGITATION.

Next in order come the diffuse motor agitations—the crises of agitation—which are analogous to the diffuse mental activities already described. The most curious of these is:

1. *The Crisis of Effort.* In this the patient, dissatisfied with himself and desiring to do better, concludes that he must do as normal individuals do under the same circumstances, that is, make efforts; but, unfortunately for him, these efforts are soon transformed into a mania. One patient makes sufficient effort to raise a heavy burden before opening a door or saying his prayers, and goes through contortions for hours. Another goes through the most frightful contortions several times a day. These are voluntary or semi-voluntary and are indulged in whenever the subject feels or imagines that some action of hers is bad, that a thought is shameful, or that she is going to have one of her obsessing mental images.

2. *The Crises of Walking and Talking.* Certain patients who are troubled by an act or an idea experience a more or less irresistible impulse to walk, and their trouble ceases only when they have traversed a long distance. After the walking crisis has passed the patient returns calmly home; there is no coming to with surprise, and the memory of what has taken place is practically complete. On the same basis arises the crises of talking. The patient under mental stress experiences an overmastering impulse to talk, to tell all his woes to the first comer. The crisis may last for hours and disappear only when the patient has covered innumerable sheets of paper with the account of his feelings.

3. *The Crises of Excitation.* In this final class the motor agitation may be more diffuse, more incoordinate. The patient, after some impotent effort of the will, or in consequence of some slight emotion, suddenly arises, ceases his work, interrupts some mental mania or interrogatory rumination, and gives himself up to a disordered agitation. This agitation soon changes from

the mental to the motor variety. The patient may, to all appearances, be maniacal—breaking and upsetting objects in his path—and dangerous to approach. In reality he breaks nothing of any value and hurts nobody.

In concluding this section I desire to call attention again to the thread of connection running through all the symptoms described. The motor agitations, like the mental, are divided into two orders—the systematized and the diffuse—and may practically replace the mental in many cases. In the emotional sphere the manifestations of enforced activity preserve the same dual order observed in the intellectual and motor spheres; hence we have to deal with systematized emotional agitations or phobias and diffuse emotional agitation or states of anxiety (*les angoisses*).

In a preliminary group come the "algias" or painful states of certain parts and certain organs of the body, observed in many cases. These algias are not ordinary pains, the result of local or organic mischief. On the contrary, they are either not traceable to any palpable disturbance in the parts complained of or they are out of all proportion to the morbid condition which is supposed to give rise to them. In certain cases they are practically constant, and if the alleged painful part is touched lightly, or even approached, the patient cringes, roars with pain, changes color and experiences violent perturbations of his circulation and respiration. In other cases the algias begin at the moment an organ starts to discharge its natural functions. These latter constitute the phobias of functions and will be considered by themselves.

Among the common algias are those of the head, genital organs, the bladder and ureter and anus, although no region of the body is exempt, even to the tip of a finger.

THE PHOBIAS.

Under the phobias of the bodily functions come:

1. *The Phobias of the Movements of the Limbs.* In these the limb or limbs in question may be intact in every way, there being neither paralysis nor contracture, but the patient has a horror of moving the limb or limbs on account of the anguish which movement evokes. These phobias of movement comprise certain cases of writer's cramp; also basophobia (fear of walking), akathisia (fear of sitting down), the fear of eating, the fear of swallowing, the fear accompanying digestion (both stomachal and intestinal), the fear of phonation (usually resulting from a supposed disease in the larynx), the fear of smelling, the fear of hearing and the fear of looking (including photophobia).

All these algias and these phobias of functions present common characteristics; they develop in connection with the sensation determined by the excitation of a part of the body—the skin, muscles, pharynx, ear, eyes, etc. It must not be supposed, however, that the regions in question are hyperesthetic and that a local disease causes these painful sensations. On the contrary, careful examination always shows that the parts in question are sound and that sensations arising therefrom are in nowise disturbed. There is no true anesthesia or hyperesthesia.

2. *The Phobias of Objects* (*délire du contact*). In this phobia the perception of a certain object by any of the senses produces a painful emotion; hence the patient develops a fear of the object which occasions his trouble. The objects occasioning this phobia are very varied; one patient fears the sight of a dog, another can not bear to look at the stars, a third has a mortal terror of knives or other sharp or pointed instruments. The *délire du contact* furnishes many interesting examples: One patient who dreads to make errors in spelling, fears to touch anything to do with writing; another can not touch anything about her apartments, because she fears it is fouled by the urine of rats; a third goes about with the nasal orifices plugged for fear that particles of the Sacred Host may enter her body when she is not in a state of grace; a fourth is continually washing the hands on account of a fear of contamination by dirt (mysophobia), and so on through a long list.

3. *The Phobias of Places* (*agoraphobia*). This form of pathologic fear overtakes the patient when he finds himself in an open space of considerable size. He experiences a sense of complete helplessness associated with intense mental and physical suffering. The converse of this agoraphobia is claustrophobia, or fear of enclosed places. Here the patient's presence in a theater, a church, a railway car or a carriage suffices to excite the fear with all its train of associated morbid phenomena. Another curious fear is that of blushing. This is in reality a topophobia, since the patient associates the original attack of blushing with a certain situation and seeks to avoid such a situation ever after. This phobia, which is pitiably silly in essence, may have grave consequences, for it may compel the patient to shun society, and even his professional duties, and seek solitude and isolation, thereby wrecking his entire career. The term "erythrophobia" has been applied by Pitres and Régis to this form. The situation which originally gives rise to it is usually one in which the patient is expected to acquit himself of some social duty, to do something in a more or less public manner; hence the erythrophobia is naturally associated with the phobia of being before one's fellows, of being in public and of having to do something in public. Such phobias may well be termed social phobias. In a final consideration of this group it may be said that all these phobias, whether they come back to the agoraphobic, the claustrophobic or the social type, appear to have one point in common; they do not, like the preceding group, hinge on an object which awakens the idea of an act, they are determined by the perception of the situation and by the feelings to which that perception gives birth.

4. *The Phobias of Ideas.* Phobias of this order often develop without having a point of departure in a localized sensation, the perception of an object, or even the perception of a situation; they simply develop in the wake of an idea, which presents itself in abstract fashion in the mind of the patient. Nearly all obsessing ideas are accompanied by phobias. With the obsessions of sacrilege come the phobias of the devil, of hell and of blasphemy. Analogous phobias are associated with the obsessions of crime and of shame. Hypochondriacal ideas also are a fertile source of phobias, notable among which are those associated with the idea of death and of being buried alive. Finally, the phobias of ideas are often intimately linked with the phobias of objects and of situations.

THE ANXIOUS STATES.

Next in order are the diffuse emotional agitations—the anxious states (*les angoisses*). These states are the result of a perturbation of the individual, both mentally and physically, and are brought about by the phobias, just as rumination is brought about by the mental manias and the diffuse agitations by the tics. In certain cases they represent a sort of pantophobia with episodic crises occasioned by the happenings of the moment. A patient with this pantophobic tendency can not make her way over a street crossing without being thrown into a crisis of anxiety by the fear that a wheel may become detached from a passing vehicle and run over her. She can not walk along the sidewalk without being thrown into the same state by fear that a tile may become detached from a roof and hit her on the head. She can not sit at the table without the anxiety attendant on a fear of choking. She can not leave the house without being overwhelmed by the fear that one of her family may have died suddenly, and so rushes back to reassure herself. Every act, every event, every incident in her life becomes the signal for the starting of an anxious state, whose special form is determined by the chance occasioning factor.

In other cases—the purest type—the intellectual element (occasioning factor) is entirely absent. The patient has a crisis of anxiety, in which she throws her arms and legs about, moves about the room, strikes the furniture, pants, has a rapid heart action, cries, despairs, complains of feeling badly, of being unhappy, and declares that something untoward, she can not tell what, is going to happen. For this crisis she can assign no intellectual cause whatsoever, a fact which demonstrates that the anxious state does not always take the systematic form of the phobias, but may be vague, diffuse and lacking entirely in connections with a given intellectual phenomenon.

The anxious states are often accompanied by physiologic perturbations of great clinical interest. These perturbations are difficult to observe with minuteness and accuracy, since the crises do not recur at regular hours, or even at times always favorable to observation. On the contrary, the patient is apt to arrest his crisis altogether before spectators, or the crisis is apt to melt away before attempts at analysis. On examining patients who complain of great weakness, or even paralysis of the limbs during a crisis, one finds only slight degrees of muscular weakness, which may be made to disappear by persuasion. One does, however, find ataxia and incoordination sufficient in extent to interfere with the finer associated movements. The speech also is often affected, becoming staccato, hesitating and confusing.

One must not conclude from what has been said concerning these physiologic disturbances occurring in the anxious states that these phenomena constitute the whole clinical picture; on the contrary, these states are equally cerebral and intellectual and are very striking in character. During the crisis the patient experiences all kinds of queer sensations in the head and feels as if he were going insane. In addition to this terrifying feeling that his reason is departing, he often has also the equally comforting conviction that he is going to die, that he can no longer perceive the outside world, that he does not know where he is or who he is, or that he has lost his liberty and become a mere automaton without control over his acts.

PATHOLOGIC IDENTITY.

To any one who has had the patience to follow the preceding minutely detailed exposition of the semeiologic manifestations of the morbid conditions under consideration it must be obvious that their pathology is identical. The fact that they are not always all present in the same case, that the existence of certain groups of them in certain cases may produce a clinical picture apparently widely at variance with that produced by a different grouping in other cases in nowise militates against this notion of the identity of the pathologic condition underlying them. The starting point in all is a morbid ideation; not, however, an indifferent and vague morbid ideation, but a particular form which the subject himself recognizes as morbid and against which he, for a time at least, struggles. As a natural consequence of this morbid ideation we should expect morbid action, and this has been thoroughly exemplified in its various forms —intellectual, emotional and motor; finally, it should excite no surprise that these morbid activities show wide variations, since but few organisms react in identical fashion to a given stimulus.

From all that precedes it is, therefore, logical to contend that all the symptoms described, whether in a given case they appear singly or in groups, should have one and only one clinical designation; and that all terms, such as disease of obsession, *folie du doute,* manias (of all kinds), phobias, tics, etc., when used to imply that the symptom or group of symptoms they cover, are real clinical entities, are erroneously used, to the detriment of clinical precision. Whether or not the term psychasthenia is the proper substitute for all these various misnomers remains to be demonstrated.

Before leaving this portion of the paper I wish to make clear the fact that the conditions of enforced activity above described, whether intellectual, emotional or motor, are not continuously in play in a given case; neither are they wholly irresistible. They represent crises which may be followed by periods of comparative calm, that is to say, periods during which only the most attenuated forms of rumination and the anxious states appear to occupy the patient's mind. The systematized forced activities, such as the tics and the phobias, are really brought out only by distinct occasioning factors, such as: 1, Attempts to execute something willed, a voluntary action, which may be purely bodily (the movement of a limb), or more complicated, such as the performance of some professional or social duty; 2, negative action, or the attempted restraint of an action which is distasteful, or may have untoward results; 3, attention; 4, emotion.

In the intervals between the crises the patients present certain characteristics, or stigmata, which are noteworthy, but before proceeding to a consideration of these I propose to take up certain important preliminary matters pertaining to the psychasthenic, namely, his heredity, the synthetic operations which constitute the upbuilding of his personality, and the age at which the partial disaggregation of this personality, which we term psychasthenia, first becomes manifest.

HEREDITY IN PSYCHASTHENIA.

In studying the ancestry, both immediate and remote, of the psychasthenic one finds abundant evidence of its importance as a predisposing influence. At least 75 per cent. of the cases of psychasthenia come from families in which mental alienation in some form or other has appeared in more than one generation. It is found, moreover, that alcoholism, tuberculosis, syphilis and arthritism in the ancestry also occupy a prominent pathogenetic rank. Still more interesting and convincing is the finding that either the father or mother of the psychasthenic may be afflicted with the same trouble, and that the patient bears a strong physical resemblance to the afflicted parent. In still another group of cases, where the immediate forebears are not actually psychasthenic, they nevertheless present many stigmata of mental and physical insufficiency, such as timidity, lack of balance and sound judgment, indecision, morbid emotionalism, etc., which make but a sorry heritage for their offspring.

THE GROWTH OF PERSONALITY.

In the upbuilding of the future psychasthenic's personality we find certain factors at work, which seem to me to have a most important bearing on the coloring of his obsessions. This upbuilding of the personality is naturally too complex a synthetic process (since it includes the education of the individual in the broadest sense) to be considered in dètail in a paper of this sort. Hence only certain of these synthetic elements, namely, the religious training, the notions acquired of the body and its functions and of the laws which control the acts of the individual toward his fellows, will be touched on and their potential pathogenetic influence indicated.

If the average child, even though he be destined to become a normal man, is, as Lombroso[3] has said, possessed of a transitory criminality; if he is a liar, a thief, without affection, unmoral, if he does not recognize any law of possession, except for himself, is cruel even to ferocity toward animals and the feeble, then surely the child who is destined to become psychasthenic has a fearful uphill task before him, even under the best of circumstances, to attain anything like a stable character for any length of time during his maturity.

Unfortunately for those candidates for psychasthenia, surrounding circumstances are not by any means of the best. In their home life they lack the example of parents of strong character, keen to appreciate and quick to avert many of the dangers to which a child embarking on life is exposed. At a period when they should be leading the freest possible existence of healthy animalism in the open, their minds are directed toward religious problems depressing, not to say terrifying, enough to disturb the balance of the sanest adult.

No less important in an analogous direction are the ideas acquired in regard to the body and its functions. Concerning the genital sphere alone these ideas are grotesque beyond expression, but are too well known to every physician to require even mention. In the matter of physiology as applied to other parts of the body, lay ignorance is equally colossal, and the same characterization applies to the average understanding of insanity and its causes.

The ideas acquired in childhood with regard to the law and its enforcement are similarly bizarre, and many a person reaches young adult life with an unreasoning terror of policemen and other myrmidons of the law ineradicably stamped on his mind.

These three faulty aspects of early training certainly tend to explain, in part at least, the content of certain obsessions and phobias, for it is a common observation that in psychasthenia the mental activities show a reversal to the childish state and concern themselves more with acquired memories than with the actualities of the moment.

With regard to the distribution of the disease between the sexes, statistics show that it is three times as common among females as among males. This may be attributed to the fact that the female, generally speaking, stands intellectually below the male and is much more inclined to such inferior mental operations as reverie and emotion.

It may also be said that no age is exempt from psychasthenia, although from statistics it appears to be most commonly an affliction of early adult life. Statistics on this point are, however, particularly liable to err, since the age at which the trouble apparently begins, i. e., the age at which the patient seeks or is forced to undergo medical treatment, rarely, if ever, coincides with the first manifestation of the disorder.

As stated before, psychasthenia is not a morbid condition marked by an uninterrupted succession of crises, such as have been so fully described. On the contrary, there are intervals of comparative freedom from these occurrences during which the patient exhibits certain stigmata or characteristics (in part the product of his toneless physical and mental organization and in part the result of faulty education) that are of great value in showing the feebly synthetized nature of his personality.

Psychasthenics are rarely ever satisfied with what they do; they feel that their acts are not completely carried out, that there is something wanting about them to make them complete and successful. They grow to have a horror of all voluntary action on account of the exaggerated difficulty they attach to it, and even the bare thought of making an effort becomes painful to them. Feelings of incapacity possess them, and if they can overcome their natural indecision for long enough to attempt anything this attempt is associated with actual torment. Again, they put so little will power, so little of themselves, into an attempt to do anything that they feel like mere machines, mere automatons, acted on by some external force or agency.

This supposedly automatic character of attempted action leads to the further feeling on the part of the victims that they have lost their liberty, which feeling gives rise in turn to one of discontent, shame and humility. They are particularly timorous about attempting any act in public, a characteristic which leads to certain of the topophobias already described. Even the negative use of the will is accompanied by equal non-success, and patients have the same feeling of actual suffering, difficulty and automatism when it comes to accepting the inevitable. These various feelings with regard to actions are closely interrelated and in reality all spring from the fundamental feeling of incompletion.

THE PSYCHASTHENIC'S INTELLECT AND EMOTION.

In the intellectual sphere the same observations hold true. Patients have the same difficulties about attempting operations of the mind. Their perceptive feelings seem to them incomplete and they complain that the outside world appears to them as if seen through a veil or a thick mist; solid objects lose their form and seem flat or otherwise queer; familiar places and familiar objects look unnatural, leading to a sense of disorientation on the part of the patient; and reality becomes a sort of dream.

Similar curious feelings are experienced with regard to the passage of time. Certain patients complain that the moment of the onset of their trouble seems to them to be separated from that in which they felt like themselves by centuries of time, whereas the lightning-like passage of time during their ill periods evokes grievous lamentations.

In view of what has been said with regard to the perception of outside objects, it is not strange that patients should have similar feelings with regard to all operations of the mind, all conceptions and ideas. As a matter of fact, they can not bring mental operations to completeness; hence they are in a constant state of doubt, confusion and mystification.

In the emotional sphere identical feelings are encountered, especially noteworthy being the feeling of perpetual disquietude, which springs from the inability to achieve completeness in any sense.

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[3] Sixth Internat. Cong. of Criminal Anthropology, Turin, 1906.

Among all these feelings of incompletion none is so interesting or so important as that in regard to the personal perception. The psychasthenic's perception of self may be modified in one of three ways. In the first he experiences merely a sense of strangeness with regard to himself; he is aware that in his thoughts, feelings and reaction to his environment he is not entirely his old self. In the second he recognizes an actual splitting up of his personality into two distinct and separate units, one of which seems to stand apart, powerless to control the bizarre thoughts and acts of the other; while in the third there is complete annihilation of the original personality, with substitution of another which is in every sense inferior to the original.

ETIOLOGY.

Psychasthenia is of two orders, the hereditary and the acquired, and its onset may be either gradual or sudden. Among the alleged immediate exciting causes nearly every known form of disease to which the flesh is heir may be found. In the judgment of certain writers the causal relation of masturbation to the disorder is to be strongly emphasized, and without entering on a discussion of this subject, I wish to express myself as decidedly in accord with such a view.

In cases which are said to come on rapidly, after some emotional shock or some infection, one finds himself in the presence of the symptoms already described, in their complete form. These cases are, however, rare and a close analysis of the antecedents of many such will reveal the pre-existence of the symptoms indicating a more or less profound lowering of the nervous tone. In the more slowly developing cases feelings indicative of psychologic insufficiency are apt to have existed for years prior to the actual outbreak of the disease whose *début* is often marked by aprosexia, doubts and incapacity for all mental efforts.

The matter of treatment does not fall within the scope of this paper. As to the course of the disease, it may be said in a general way that it shows a certain tendency to chronicity; but such a prognosis does not by any means apply to all cases. The acquired form often disappears with the removal of the exciting causes, while the hereditary is marked, in many cases, by long remissions and by semi-spontaneous recovery after the patient has reached middle life. The complications of the disease will be spoken of later.

PATHOLOGY.

Turning now to a consideration of the pathology of psychasthenia, we are compelled, from our ignorance of the material morbid changes which underlie mental diseases in general, to discuss the question in psychologic terms only. From our knowledge of the clinical manifestations of the disease, we may say that the psychasthenic is a person who has suffered a partial disintegration of the personality, a change in the ego, which is distinct and peculiar. The subject is not in any true sense insane, yet he undergoes such a transformation in his manner of thinking, willing and doing that he can not keep pace with the movement of the everyday world about him. He finds that his transformed ego lives in the realms of the abstract, produces only unwelcome ideas which have no practical utility, bear no relation to the concrete, the actual and the real, and which lead to actions that are as incomplete as they are sterile in practical achievement. The feeling of unreality, both in its relation to the personality and to the outside world, is fundamental in psychasthenia and is of paramount importance in establishing the nosologic status of the disease which is, in reality, a *forme fruste* of intellectual *petit mal,* a sort of diluted *Dämmerzustand.*

This designation is, moreover, no mere figure of speech. If we compare the automatic acts of the victim of psychic epilepsy—running as they do through the whole gamut of executed ideation, from the mere removal of portions of the clothing to the commission of every conceivable form of crime—with the tics and criminal impulses of the psychasthenic, it must be obvious that the pathogenetic substratum is identical in kind and that the sole difference between the two cases lies in the fact that in the psychasthenic the reasoning and restraining ego is not completely submerged, while in the epileptic it is. There is still another bond of union between the two states, which is very striking. In the psychasthenic the psychologic tension is not always at the same dead level, as the symptoms prove. There are constant oscillations in this tension, which are not the result of the obsessions, but occur unexpectedly and bring about the feeling of unreality and depersonalization. In the epileptic, likewise, the lowering of the psychologic tension is not always sufficiently sharp and extensive to abolish consciousness completely, and the patient has the same feelings of strangeness and unreality, both in the perception of self and of the outside world, which are common to the psychasthenic. And in final support of my contention I would adduce the fact that a certain number of psychasthenics do ultimately develop the major form of epilepsy.

PSYCHASTHENIA DIFFERENTIATED.

From hysteria, psychasthenia is distinguished pathologically, as Janet[4] has pointed out, by the fact that the disturbance of consciousness which marks it is general. Throughout the psychasthenic's whole field of consciousness there is evidence of activity, however feeble and fruitless it may be, while in that of the hysteric all activity is carried on within a narrow corner. Hence the psychasthenic never exhibits a completeness in any of his pathologic phenomena. He has impulses, but doesn't carry them out; he has hallucinations, but they do not seem real to him and he is never deceived by them; he has obsessing ideas, but knows they are false and is the first to doubt them; he has periods of agitation and periods of immobility, but never gets as far as a real "attack" or a somnambulism. His crises are never followed by amnesia; he feels at times a doubling of his personality, but always knows the thoughts of the second ego. This characteristic incompleteness is also found in the normal phenomena which he retains. He does not perceive or remember well; his attention and execution are defective, but he is never completely anesthetic, amnesic or paralytic. He is, in a word, incomplete always and in all respects, but never gets farther than this state of general insufficiency. For him there is a veil over the higher psychologic phenomena, which removes them from him at all points without causing any definite and profound gap at any particular point.

The hysteric, on the other hand, exhibits important differences in every direction. In the first place the phenomena he retains are complete in every way and attain reality. He has no doubts concerning his personality or the outside world; on the contrary, the phenomena preserved are often overdeveloped, and the subject executes completely his impulsive ideas, so completely and so easily, indeed, that a suggested idea immediately transforms itself into an act, a mental image into a complete hallucination, with belief in its reality. Again, the hysteric carries to an extreme the negative phenomena, and his mental operations betray a real gap; he has anesthesias, amnesias, paralyses and real subconscious operations. It is true that these gaps appear ordinarily only in the realm of personal consciousness; but the psychasthenic doesn't present even these.

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[4] Les Obsessions et la Psychasténie, i, p. 734.

The distinction between the condition we term neurasthenia and that under consideration in this article is not so striking. In the main it may be said that among psychasthenics the rachialgias, the chronic feeling of fatigue, the circulatory disturbances, the dyspepsias, the paresthesias, the insomnias, etc., are as common as among the neurasthenics, but the psychasthenic, is for the most part, too preoccupied with his obsessions, mental manias, tics, etc., to give heed to them. The nervous insufficiency in the two conditions is probably identical in kind, but in the psychasthenic the intellectual manifestations preponderate.

Many of the symptoms of psychasthenia are also met with in the early stages of several different forms of well-recognized psychoses, but in such cases it may be said with positiveness that the purely psychasthenic state does not persist for long as such, and that the psychosis, of which it is but the forerunner, soon makes itself manifest. This fact that the psychasthenic state is often the sole manifestation of the primary state of a number of psychoses which are characterized later by an evolution that distinguishes them clinically in a more or less clear-cut way is interesting as showing that the primary lowering of the psychologic tension is identical in all, and that the ultimate clinical variations are probably the result of special exogenous determinants.

This transitory existence of psychasthenia under the conditions above described is significant, but does not clearly establish its nosologic status. To do this the disease must be studied in that form in which it retains throughout its entire existence the characteristics of a stable entity. This is the point of view from which I have endeavored to study it in this paper, and from which also I have reached the conclusion already stated, that psychasthenia is a *forme fruste* of intellectual *petit mal.*

THE RELATIONS OF THE DIAPHRAGM AS REVEALED BY THE ROENTGEN RAY.

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The Roentgen ray has made, perhaps, no more important revelation to the medical eye than that of the upper contour of the diaphragm. The position and movements of the diaphragm have received but little consideration in our modern systems of physical diagnosis, yet it is frequently demonstrated that the recognition of many thoracic and abdominal diseases is dependent on accurate data concerning the phrenic contour and position. It has been aptly said that the diaphragm is the vital barometer of the chest. And we may add that it is an important indicator of intra-abdominal conditions as well. The Roentgen ray has made possible a broader knowledge of the physiology and pathology of this organ.

A skilled diagnostician may, in a favorable subject, determine by percussion the level of the phrenic circumference and may in the same way roughly estimate the extent of the excursions of the diaphragm in forced respiration. Litten's diaphragm phenomenon (when present), furthermore, gives an indication of the line of cleavage between the diaphragm and the chest wall at the beginning inspiration. But these methods are not only difficult or impossible to carry out in examining heavy individuals, but they also fail to furnish information of the utmost importance, namely, the level, contour and excursions of the phrenic *dome* as well as the phrenic circumference. For, percussing out the phrenic circumference gives us no clue as to whether the dome is well arched or flat.

The level of the diaphragm varies in different individuals, being dependent chiefly on the body height and the length of the chest. Guillemont and Vannier[1] state that the average position of the diaphragmatic curve on the right side is 16.5 cm. (6½ in.) below the suprasternal notch, while the left side is 2 cm. (5/6 in.) lower. But whatever may be the variability of the absolute level in different individuals, all observers are agreed that certain relations must be maintained between the right and left sides, and that variations (above certain limits) in these relations are pathologic. Francke[2] states that the right phrenic dome is normally about 2.5 cm. (1 in.) higher than the left. He found, however, by making a large series of orthodiagraphic measurements, that in a small percentage of individuals the two halves of the diaphragm may be on the same level, or the left may be even slightly higher (up to 1.7 cm.—2/3 in.) than the right. Such relations are to be looked on as exceptional, however. The various thoracic and abdominal conditions that would lead to changes in the phrenic level will at once suggest themselves.

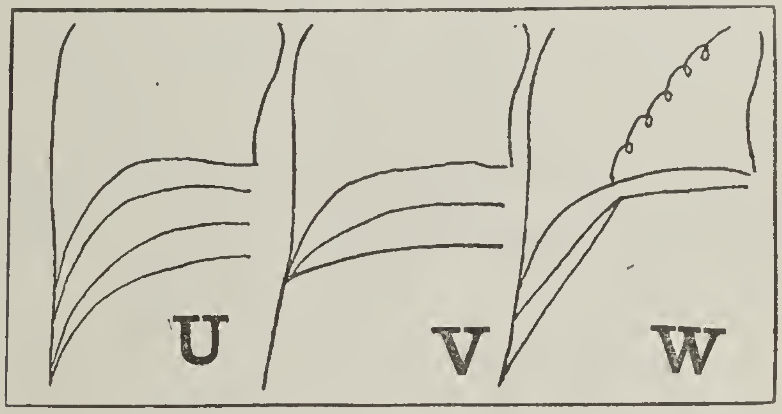

Fig. 1.—(After Holzknecht.) U. The normal (apparent) downward recession of the attachment of the diaphragm during inspiration. V. A fixation of phrenic attachment and a consequent flattening of the dome during inspiration. W. The mechanism of the kinking of the diaphragm due to a fibrous adhesion.

The shape of the diaphragm should be well curved at all times. Contrary to what is ordinarily taught in most works on physiology, the diaphragm does not flatten appreciably during ordinary respiration. Flattening, except in the most forcible inspiration, must be regarded as pathologic. Holzknecht[3] showed as early in the history of the Roentgen ray as 1899 that in inspiration there is an apparent recession downward of the attachment of the diaphragm to the chest walls, with little flattening

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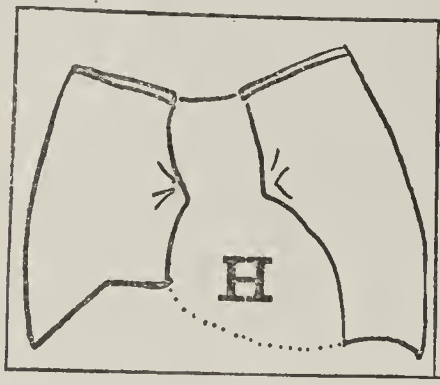
[1] Arch. of Roentgen Ray, November and December, 1905, January, 1906.

[2] Die Orthodiagraphie.

[3] Die Roentgen Diagnostik der Erkrankungen der Brusteingeweide.

(Fig. 1). Walsham and Orton,[4] in their recent book, have emphasized the same observation. The margin of the phrenic contour as seen against the clear lung area should be sharp and clean. Hazy, irregular and indistinct outlines may indicate fibroid changes in the pleura or lung bases.

The extent of the phrenic excursions, measured by the Roentgen ray, as established by different authorities, varies from 2 cm. (3/4 in.) in quiet respiration to 6 or 8 cm. (2½ or 3 in.) in forced breathing. These figures represent an average taken from a large number of examinations, and variations from these figures may be encountered in examining any given individual. The maximum excursion in forced inspiration can often be brought out only after several trials and some practice on the part of the patient in abdominal breathing. But whatever may be the variation in the absolute extent of the phrenic excursion, any variation in the relative movements of the right and left halves of the diaphragm is, as Williams[5] has pointed out, very significant. The right and left domes should move equally and together.



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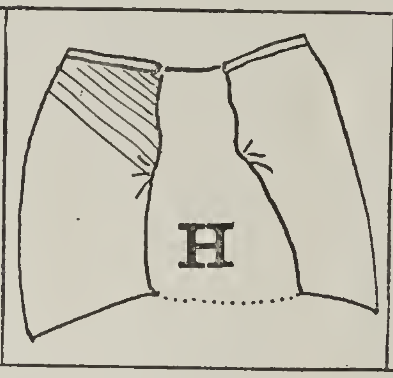

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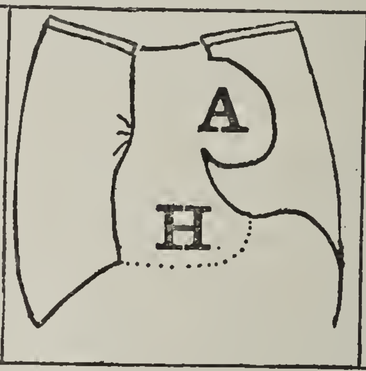

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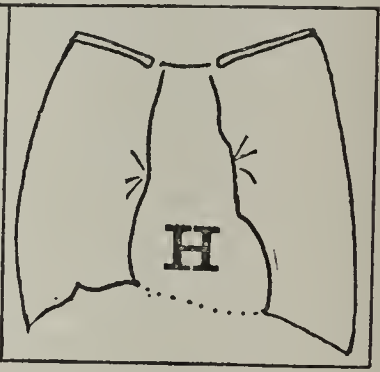


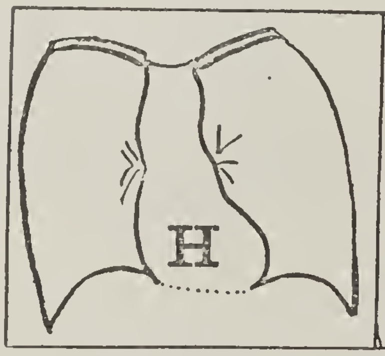
Figure 5.

Fig. 2.—Tubercular consolidation of the right apex. Note the high position of the right dome of the diaphragm and the kink in its contour. The position of the heart is indicated, in all the diagrams, by H.

Fig. 3.—Complete consolidation of the right apex with low, flat position of both sides of the diaphragm, probably due to compensatory emphysema.

Fig. 4.—Large aneurism (A) of the descending arch of the aorta with elevation of the diaphragm on that side, the other side being low and flat.

Fig. 5.—Healed basal pleurisy. Note the small elevation (kink) in the right dome of the diaphragm, due in all probability to a fibrous adhesion.



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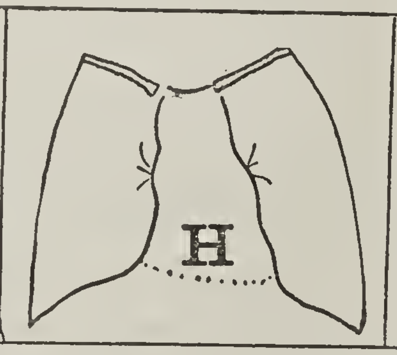

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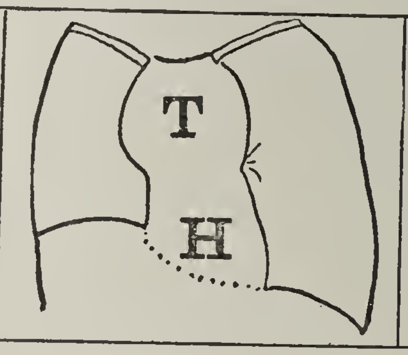

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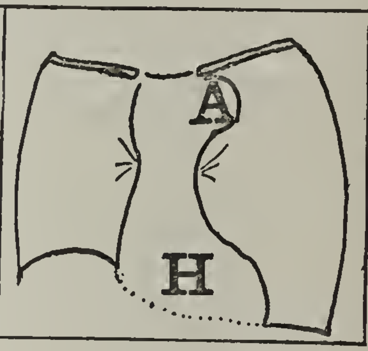

Figure 9.

Fig. 6.—A normal chest of a young adult.

Fig. 7.—Chronic pleuropericarditis. This plate shows a flattening of both sides of the diaphragm with the obliteration of the cardiophrenic angles (compare Fig. 6).

Fig. 8.—Mediastinal sarcoma (T), causing elevation of right side of diaphragm by pressing on phrenic nerve.

Fig. 9.—Aneurism (A) of the descending arch of aorta with low, flat position of the diaphragm on that side.

Alteration of the well-arched character and mobility of the phrenic dome is a constant accompaniment of chronic pulmonary tuberculosis, especially after much fibrosis has occurred, and particularly as a sequel of basal consolidation and basal or diaphragmatic pleurisy. The commonest picture in the cases of unilateral tubercular involvement is a high, well arched dome on the affected side, which moves only slightly or not at all, and a low flattened dome on the unaffected side, the latter being due probably to compensatory emphysema of the healthy lung (Fig. 2).

Other cases of chronic phthisis, especially the extensive bilateral ones, may show a high position and diminished excursion of both sides. Still other cases of chronic pulmonary tuberculosis will show a flattening of both sides with partial immobility, either at a high or low level (Fig. 3).

The high position of the phrenic dome with limited excursions in chronic pulmonary tuberculosis has been variously ascribed to deficient lung expansion due to consolidation or fibrosis or to occlusion of one or more of the larger air passages. Other authorities have attributed it to adhesions with the pleura and the base of the lungs. Again, pressure on the phrenic nerve by inflammation and adhesions as it comes in relation with the lung apices has been advanced as a cause. That such a cause may possibly operate is shown and described in Figure 4.

PHRENIC FLATTENING.

The flattening of the phrenic contour with more or less fixation at a low level in the chest may be the result of compensatory expansion of the remaining healthy parts of the lungs. When this flattening occurs at a high level it may be the sequel of a chronic basal indurative process. That adhesions do form and alter the shape and restrict the movements of the diaphragm may be optically demonstrated. Figure 5 shows a skiagram of the chest of a young adult who has made a good recovery from a right-sided pleurisy, with effusion, of tubercular origin. On examining this chest with the fluoroscope during quiet breathing nothing abnormal was noted. The phrenic levels and contour seemed to be normal, the excursions having an amplitude of about 2 cm. (3/4 in.).

But when the patient drew a moderately deep inspiration the right side of the diaphragm was seen to halt uddenly in its downward sweep and become fixed at his level. and the small angular projection, well shown n the plate, appeared to rise up from the right dome of .e diaphragm and increase in size as the inspiratory ffort continued. The left side of the diaphragm con-inued its downward excursion uninterrupted. The sud-len stoppage in the movement of the right side of the liaphragm, with a kinking of its contour, can be ex-lained only by the assumption that old adhesions be-ween the lung, pleura and diaphragm have resulted rom the previous pleurisy, and by their contractions ave limited the play of the diaphragm.

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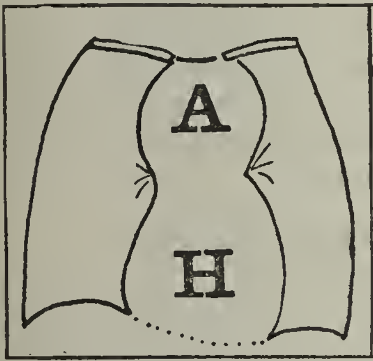
[4] The Roentgen Rays in Diagnosis of Diseases of the Chest.

[5] Amer. Jour. Med. Sciences, 1897, p. 665.

It has been shown that limitation of the phrenic ex-ursion is a frequent and early accompaniment of incip-ent phthisis and that the play of the diaphragm is an mportant factor in determining the prognosis of any given case. If the action of the diaphragm is ample he prognosis may be considered hopeful, even though he tubercle bacilli are already present in the sputum.

The relation of the diaphragm to the ribs and heart s of great diagnostic import. On the skiagram of a ormal chest (Fig. 6) the cardiophrenic and costo-hrenic angles are seen to be clear cut and acute. Pleu-al effusions will gravitate into the costophrenic angles nd obliterate them. Adhesions may do likewise. The ardiophrenic angles are altered by pericardial effu-ions and indurative processes involving the pericardium nd mediastinal structures. Figure 7 shows such an al-eration in the cardiophrenic angles, both of which have ecome quite rounded out and obtuse.



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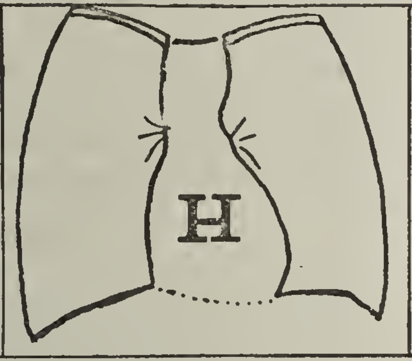

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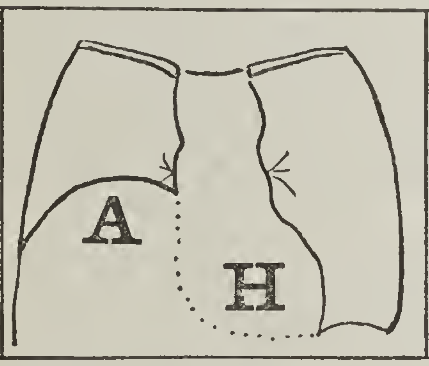

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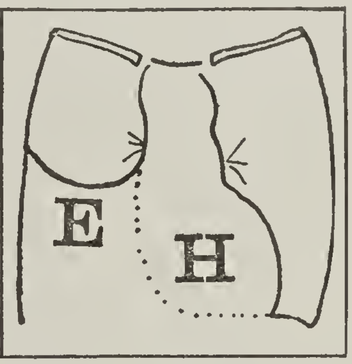

Figure 13.

Fig. 10.—Large aneurism (A) involving entire arch of aorta with-ut altering the phrenic relations.

Fig. 11.—Bilateral emphysema. Note the low, flat position of oth sides of the diaphragm and the angularity of the left side.

Fig. 12.—Subphrenic abscess (A). Note the high position of the right dome of the diaphragm and its convex upper border.

Fig. 13.—Pleural effusion (E) in right chest. Note its concave upper border of the effusion.

INTRATHORACIC TUMORS.

Some alteration in the phrenic level is a very con-tant accompaniment of intrathoracic tumors. The ommonest change is an elevation with more or less im-obility of that side of the diaphragm toward which he tumor bulges (Figs. 4 and 8). But not infrequently, nd especially when the tumor is small, there is a de-ression of the diaphragm on the side toward which the umor bulges (Fig. 9). Such an alteration of the phrenic ontour in these cases may, of course, be a coincidence ue to the coexistence of old adhesions or fibrosis of the ung. But its relative frequency would suggest that the umor has in some way brought about a dynamic change n the chest cavity, the nature of which is not clear. I ish to call attention to this association of unilateral hrenic elevation or depression with intrathoracic tu-ors (especially aortic aneurism) as an observation hich has not hitherto been emphasized.

The most reasonable explanation for this phenomenon ould seem to be phrenic nerve involvement. In those ases in which the diaphragm stands high, and they are usually early cases in which the tumor is not large, we may presuppose an irritation of the phrenic nerve by the tumor mass and a consequent depression of that side of the diaphragm. In those cases in which the diaphragm stands high the tumor is usually a very large one, and phrenic nerve paralysis due to pressure exerted by the tumor may well account for the high immovable diaphragm.

That a large aneurism or other tumor may, however, exist in the chest without in any way disturbing the diaphragmatic relations is shown in Figure 10.

PRACTICAL VALUE OF THE STUDY.

The practical application of the study of the diaphragm by means of the *x*-ray will be possible perhaps only in the larger hospitals where the Roentgen equipment is complete. But its importance as a routine method of examination is not an inconsiderable one. In feeble patients where auscultation is difficult because the breathing is weak and suppressed and percussion is unsatisfactory because of the inadvisability of turning and lifting the patient, this method is especially valuable, for the examination may be conducted in the recumbent position without in any way disturbing the patient.

The high convex position of the diaphragm is dependent on the combined action of two forces. When either fails the dome drops downward. One factor is the elasticity of the lungs, maintaining a constant suction in the pleural sac. The other is the pressure of the abdominal contents. This abdominal pressure is of a hydrostatic nature, in that it is equally distributed over the entire lower surface of the diaphragm. This pressure is due, in the upright posture, to the compression exerted by the abdominal musculature on the abdominal viscera, while in the recumbent position the abdominal contents influence the diaphragm by gravitating against it.

That the above mentioned forces support the diaphragm is shown in phrenic paralysis where the diaphragm stands at a high level and rises during inspiration and sinks during expiration (paradoxical excursions), although its own tonus is lost. That there is an upward suction and an upward pressure on the diaphragm is shown in phrenic hernia where the stomach enters the thorax through a rent in the diaphragm. When the elastic suction of the lung is removed, as in emphysema (Fig. 11) the diaphragm stands low.

FACTORS INFLUENCING THE PHRENIC LEVEL.

Variations in the pressure from below are shown by variations in the phrenic level, depending on whether the individual is lying, standing or sitting. The phrenic level (according to Holzknecht) is highest when the patient is recumbent, in which position the abdominal contents, acted on by gravity, push against the diaphragm. When standing the diaphragm is slightly lower than when lying down. The force here is the rigidity of the abdominal walls exerting pressure on the viscera, which force is partly counteracted by gravity pulling the abdominal contents away from the diaphragm. In the sitting position the diaphragm is lowest, for in this attitude the abdominal musculature is partly relaxed and the force of gravity acting on the abdominal contents less opposed sucks the diaphragm downward.

The diaphragm functionates in an analogous manner to the other muscles of the body. Its excursion is greatest when its points of origin and insertion are most widely separated, and it acts more forcibly against resistance than when acting unopposed. This has been beautifully shown by Holzknecht[6] on a patient lying in the lateral position (on his side). That half of the diaphragm nearest the table (i. e., the lower half) suffers most of the weight of the abdominal contents and consequently stands higher than the opposite or upper half.

But notwithstanding this pressure, its excursion is greater than the opposite unopposed half. This upper half, furthermore, acts very peculiarly. It stands comparatively low and instead of sweeping up and down with its fellow of the lower side, it remains almost motionless, swinging in a sort of pendulum fashion about an axis which runs through its middle point. In other words, its excursion is decreased because its points of origin and insertion are approximated and because its action is unopposed.

The accompanying outline sketches of original skiagrams were selected at random to illustrate the various phases of abnormal diaphragm relations.

The exposures were made with the patient in a sitting or standing posture, respiration suspended after a moderate inspiration, plate in front, tube behind, target at a distance of twenty inches from the plate. Time, five to fifteen seconds, eight to ten milliamperes of current traversing the tube.

THE CHOICE OF A VASODILATOR AND THE INDICATIONS FOR VASODILATATION.*

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In several recent articles I have asked for greater attention to the use of sodium nitrite as a vasodilator in preference to nitroglycerin and amyl nitrite. The administration of the sodium salt during the past four years in numerous cases where arterial relaxation seemed indicated, and under the control of blood pressure determinations, has graphically demonstrated the efficiency and permanency with which proper doses of sodium nitrite will lower arterial tension. Comparative observations with amyl nitrite and nitroglycerin have invariably proved favorable to the sodium compound. I have made only a limited number of observations with erythrol tetranitrate, introduced by Prof. Bradbury of England, and could demonstrate no advantage over the sodium salt. It is very expensive, a dozen tablets costing one dollar.

Accurate methods of observing changes in pulse tension applicable to clinical usage have done much toward introducing and establishing in medical practice many facts concerning the action of drugs on the heart and vessels which have long since been demonstrated in physiologic work. It is a difficult and tedious process for truths established by physiologic experimentation to supplant the firmly rooted fallacies of faulty clinical observation. Nitroglycerin and whisky are even yet lauded from time to time as heart stimulants, and preparations of the adrenal glands for pulmonary hemorrhage. When, however, the practitioner has the means of accurately following the effects of the drugs he administers, he can break away from the traditional legends which have been handed down to him, and can himself detect the fallacies in the recommendations of some enthusiastic colleague or some enterprising concern.

Any one who had accurately followed the results of alcohol or an active preparation of nitroglycerin would no longer rely on them to raise blood pressure, even though the pulse might "feel" stronger, and a single observation of the powerful blood-pressure raising effect of adrenal preparations would give sufficient warning of their danger in internal hemorrhage or in weakened conditions of the heart muscles. In no instance have accurate clinical methods been of greater value than in defining and broadening the use of vasodilators. Medicinal means of dilating the arterioles and so lowering blood pressure have an important place in general therapy, for a high tension pulse accompanies many chronic diseases, induces severe symptoms, and may precipitate a fatal termination.

THE SPHYGMOMANOMETER.

The use of vasodilators has been greatly broadened by the growing use of some form of sphygmomanometer, or instrument to measure blood pressure, so that the indication may be definite and the action accurately followed.

The first instrument made in the country for the measurement of blood pressure, suited to clinical usage, was my modification of the Riva-Rocci principle, devised from a modification which Dr. Cushing had brought from the Italian clinic to the Johns Hopkins Hospital. I have used the same instrument continually for three years with merely a change of rubber tubing, and believe it is the most practical and satisfactory for the general practitioner, as it is simple, and easier to use at the bedside than the later more complicated instruments. It is now made with an improved wide arm piece.

In the large majority of cases where it is desirable to lower arterial tension, and where dietetic and general measures are inadequate or inapplicable, the desideratum is not to weaken the propelling force, but to lower the resistance. Hence cardiac depressants are not indicated but vasodilators. This is not true in a certain minority of cases, particularly in acute diseases in children where a run-away, overirritable heart needs repression, and aconite may be indicated. In some cases aconite may be used advantageously in conjunction with vasodilators, as especially recommended by Babcock.

Although this paper is devoted to the administration of drugs a word should be said of dietetic and general measures which have the same effects on arterial tension in certain cases as the vasodilator; that is, they tend to lower an abnormal hypertension. Where the ame end can be accomplished by other means without he use of drugs, the latter are contraindicated, and unloubtedly, rest from business and worry, regulation of he amount of water ingested, restriction in amount of ood, especially meats, moderate outdoor exercise, etc., vill in many cases lower a chronic abnormally high tenion. But in acute conditions and in many chronic mes, medicinal aid is valuable.

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[6] Physiol. u. Pathol. d. Atmung, p. 9.

* Read by invitation before the Medical Club of Minneapolis, 1907.

There are two particulars that we would inquire conerning, in making a selection of a vasodilator: First, ts action on arterial tension; second, its general or sysemic effects. I shall consider these points in succession.

ACTION OF SODIUM NITRITE ON ARTERIAL TENSION.

The action of sodium nitrite on arterial tension is hown by physiologic as well as by clinical observation o be invariably toward lowering the existing tension, vhich lowering, except in cases of organic changes such is arteriosclerosis or great hypertrophy of the vessel valls, seems to be in absolute amount inversely proporionate to the existing tension. That is, we would exect a tension of 180 mm. Hg to be lowered a reater number of millimeters by the same dose than a ension of 100 mm. Hg. Likewise the lowered ten- ion is often maintained over a longer period in high ension cases than in low. This must be remembered n prescribing the intervals between doses. This point s illustrated by charts (Figs. 1 and 2) from a case of ardiac hypertrophy with hypertension and an case of ulmonary hemorrhage in phthisis with low tension. n both cases lower tension was desired.

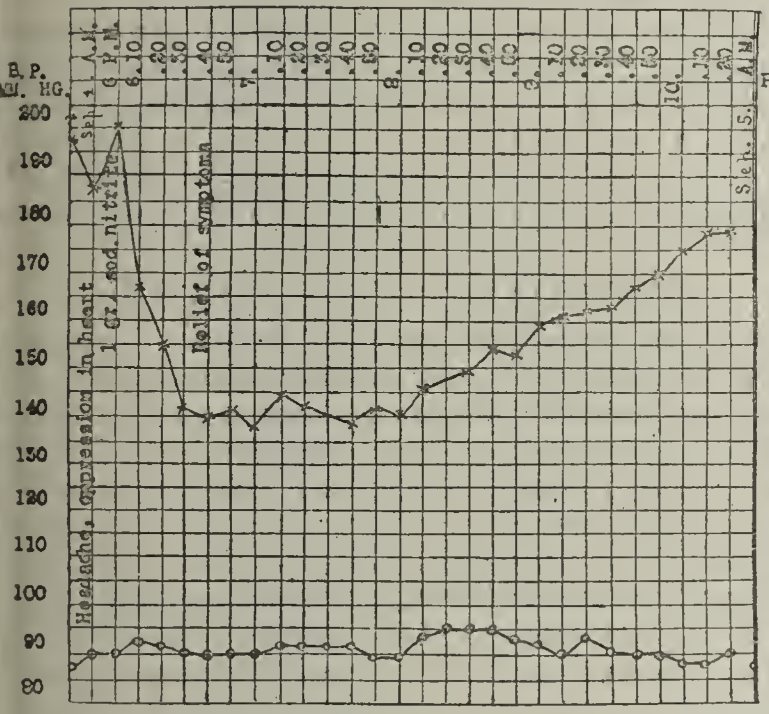

Fig. 1.—Chart illustrating relief of symptoms by vasodilation in case of hypertension. Male, aged 60, with nocturnal cardiac sthma and cardiac hypertrophy; sounds clear. Urine specific ravity was from 1.015 to 1.020; no albumin at any time; an ccasional hyaline cast.

The action of sodium nitrite usually comes in from hree to five minutes when administered by mouth, and n about two minutes when given hypodermically, and aintained one to two and one-half hours, the return to revious level being accomplished in from two to three nd one-half hours or more, the whole effect when charted eing represented by an irregular curve with the conexity downward.

In this action on tension I have found sodium salt ar preferable to amyl nitrite or nitroglycerin. The ormer has its uses undoubtedly in certain very acute onditions where immediate action is desired, as in angina pectoris, but its action is always uncertain in degree, and extremely unreliable, and can never be depended on for effect lasting over one or two minutes. Thus in hemorrhage for instance, the rapid and uncertain changes in tension produced by amyl nitrite might readily do more harm than good, unless the action were continued by the sodium salt.

Nitroglycerin also acts quickly and rather uncertainly, and is of short duration. The uncertainty of its action has led me to make inquiry as to the probable decomposition products of nitroglycerin where the preparation is not perfectly fresh. A letter from the chemist of Wyeth Brothers on this subject is as follows:

> As to the exact products of the slow decomposition of nitroglycerin, we believe them to be similar to products formed through spontaneous decomposition of this substance, such as glyceric acid, oxalic acid, hydrocyanic acid, nitric acid, ammonia and various other unidentified products, which have been found to result from such decomposition, as contained in the reports of the British Association, 1856. Whether all of these are formed through the gradual decomposition of nitroglycerin in tablet form we do not know, but one or the other, no doubt, will be produced and may be of such a nature as to have toxic effects.

Authorities seem agreed that the sodium salt is more stable, and my own experience seems to me conclusive on this point. The duration of a therapeutic dose of nitroglycerin has not been noted by me to continue longer than one hour. The onset of the action is also sometimes sudden and occasionally alarming.

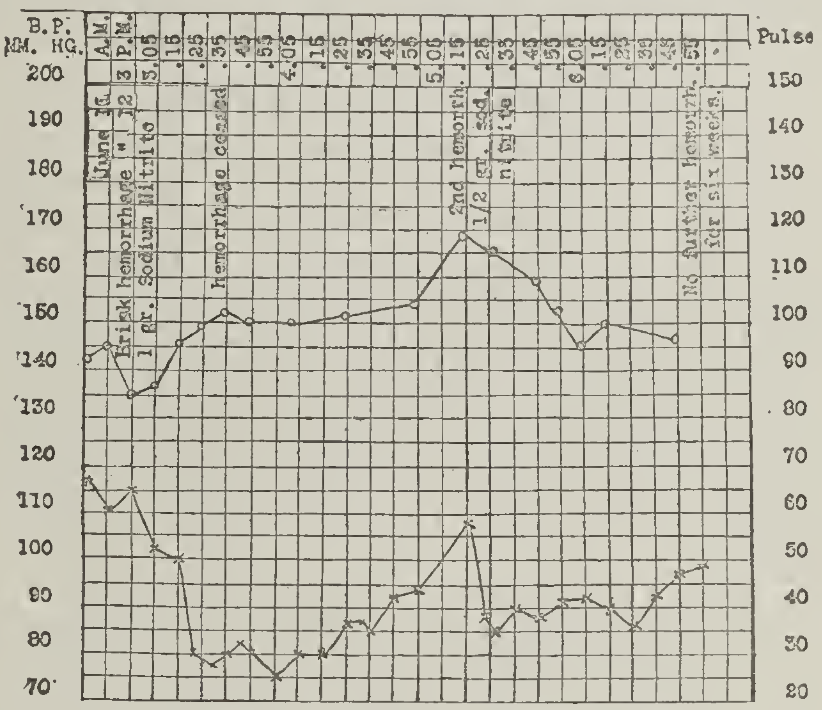

Fig. 2.—Chart illustrating control of hemorrhage in phthisis by vasodilatation.

SYSTEMIC EFFECTS OF SODIUM NITRITE.

A great recommendation for the use of sodium nitrite is the almost entire absence of general effects when given in proper doses. The throbbing, dizziness, flushing, etc., which are often distressing with amyl nitrite and nitroglycerin, are slight or absent with sodium nitrite. This I think only in part arises from the more gradual action, for even when given hypodermically there is no distress. I have never noted the headaches which are not an infrequent accompaniment of continued use of nitroglycerin. I have a patient now under observation who has been taking sodium nitrite for three years off and on with no bad effects whatever. Some days this man, who has high tension and cardiac hypertrophy will not take any nitrite, being guided by his symptoms, but usually he will need one or two tablets of one-half grain each before he can get to sleep without shortness of breath, etc., on lying down. I have found it most convenient to give sodium nitrite in triturates of one-half and one grain each. They may be given by mouth or hypodermically.

Although the observation of an abnormally elevated blood pressure may be the indication for the use of a vasodilator, this is not essential, for vasodilatation may be indicated with a normal or even a subnormal blood pressure, for instance in internal hemorrhage where the vessel can not be caught and tied. In such cases, as has been repeatedly observed, the hemorrhage will often stop spontaneously when the patient has become so greatly exsanguinated that the very low blood pressure allows a firm clot to form. The advantage to the patient is obvious when this result can be obtained by bleeding the patient into his own blood vessels instead of into the abdominal cavity or a pulmonary vomica. Where vasodilatation is produced and maintained until the danger from further hemorrhage is past the blood has been merely stored in the dilated vessels and can be restored promptly to the circulation by withdrawal of the drug.

In reviewing briefly the indication for the use of vasodilators, I shall group them under two main headings according as to whether they are associated with (1) low and normal tension; (2) high tension.

ASSOCIATED WITH LOW TENSION.

First, cases with low and normal tension where vasodilators are indicated: (a) Hemorrhage uncontrollable by ligature, compression, or local application. Under this would come ruptured extrauterine, postoperative, postpartum and traumatic hemorrhage where surgical methods of ligature, suture and packing may either not be applicable, or may not have controlled the flow entirely; hemorrhage from bowels in typhoid; hemorrhage from stomach as in ulcer or cirrhosis; aneurism; hemorrhage in phthisis. Here the hemorrhage is the indication for the vasodilator and not the blood pressure reading.

The blood pressure may be reduced as low as 70 or 75 mm. Hg without danger to the patient. With a pressure as low as 75 mm. Hg, however, I should not advise further reduction, as a blood pressure much below this point seems to cause respiratory distress through lack of circulation in the respiration center. However, in severe hemorrhages, as is well known, after the blood pressure has fallen below a point at which peripheral pulsation can be felt, the hemorrhage may stop before a fatal amount is lost, and such patients have rallied and recovered even after they had been pulseless.

In operative procedures where control of bleeding is difficult, a lowered tension from nitrite will be found of great assistance. For instance in a Gasserian operation on a man with arteriosclerosis and high tension, the hemorrhage obscured the field and was alarming, but was easily controlled after reduction of the tension. Again in a complete hysterectomy operation as advised by Sampson for carcinoma, the bleeding, encountered deep in the pelvis, was uncontrollable until the tension was lowered nearly 50 per cent.

In the treatment of aneurism the formation of a clot is favored by a low tension, and where the sac is wired, an induced low tension tends to lessen the danger from embolus—as well as to hasten the formation of a clot. I should further advise the use of vasodilators in cases of venous thrombi as the lowered tension would also here lessen liability to embolus.

ASSOCIATED WITH HIGH TENSION.

Conditions accompanied by a high tension pulse are rapidly coming into greater prominence, and are more frequently brought to the notice of the practitioner. This increased prominence is, in my opinion, due to both an absolute increase in the frequency of the condition, as well as greater frequency of recognition due to improved methods of observation. The more general use of the sphygmomanometer has produced a more frequent recognition of the high tension pulse, but *pari passu* with the increasing strain of modern professional and business life, there is a simultaneous increase in physical strain, and this is particularly shown in the cardiovascular system by high tension pulse. As an example of a not infrequent condition I will cite the case of one of our great financiers who on the eve of a desperate attempt to corner the market, applied for $1,000,000 insurance to cover some loans. At the medical examination, a high arterial tension and accentuated second sound were the cause of a rejection. This man wisely abandoned immediately his financial operations, and went to Europe for a complete rest for six months, and was offered on his return to America all the insurance he wished. The vast majority of cases never receive the warning until serious organic changes produce symptoms, and then rest and proper mode of life can not always effect a return to normal, and recourse must be had to medicinal means of averting a dangerously high tension, with an apoplexy or acute dilatation as a termination. It is here that a vasodilator must be employed.

INCREASE IN CARDIOVASCULAR DISEASE.

The three great cardiovascular diseases: Apoplexy, cardiac hypertrophy and dilatation, and chronic interstitial nephritis, which play so large a part in general mortality, are on the increase, and they are all accompanied by high arterial tension, and this high tension in a majority of the cases antedates the disease, and undoubtedly is an etiologic factor; so that high arterial tension when found without discoverable organic disease should be treated as a serious condition, and should also be recognized and corrected when it exists in connection with organic disease of heart, blood vessels or kidneys.

In heart and kidney cases, the mere reduction of an abnormally high tension will often produce the most striking and satisfactory results; that is, if the tension can be lowered, the dyspnea, sleeplessness, anxiety and cardiac pains are often greatly relieved or removed. The headache of kidney disease, often one of the most distressing symptoms, is alleviated, and in some cases the amount of albumin markedly reduced. There can be no doubt that a reduction of high tension in chronic heart or kidney cases is attended with greater relief and general improvement than follows any other single measure.

A word of warning, however, is timely here. This reduction, especially where there are severe renal changes, should not be accomplished too rapidly, nor be carried too far. It must be remembered that probably in certain sclerotic kidney cases the high pulse tension is a physiologic compensation on the part of the arterial system to offset the inability of the kidney to function except undor pressure, and where the compensatory action is inhibited by arterial dilatation, the kidney is unable under lower tension to function, and the water may fill pleural or pericardial sacs or bronchial tubes, and the retained waste products may induce coma; so that when there is severe kidney involvement the reduction should be slow and carefully watched, and accompanied by very free evacuation of bowels. One other word of warning: A lowered tension often brings with it a feeling of lassitude and weakness, which possibility should be explained to the patient, so that he may not misunderstand it and feel that he is worse because he does not feel as strong as when living with a dangerously high tension.

There is no indication, however, for vasodilatation merely because Bright's disease has been diagnosed from urinary findings, for this disease may exist without any increase in arterial tension, in spite of the extreme position of certain authors claiming hypertension as the causal factor in all cases of Bright's disease. The indications for vasodilatation in Bright's disease depend on the actual demonstration of high arterial tension by the sphygmomanometer, and the amount and frequency of the dose depend on the individual effect in each case.

No case of cardiac, arterial, or renal disease should be treated without the use of the sphygmomanometer, as to attempt to regulate arterial tension without any knowledge of its degree or its action under treatment, is to work in the dark. One-half grain of sodium nitrite is a safe initial dose in an untried case, and a three-hour interval between doses. The adjustment of dose and interval must be made in each case by use of the sphygmomanometer.

SUMMARY:

1. Sodium nitrite is the best vasodilator; it has the most enduring effects; is most stable and dependable; gives rise to fewest unpleasant symptoms.
2. Vasodilatation may be indicated with low or normal tension: *i. e.*, all uncontrollable hemorrhage, either: During operative manipulation; typhoid ulceration; gastric ulcer; pulmonary phthisis; other internal hemorrhage uncontrollable by surgical methods; aneurism; thrombus, etc.
3. High tension is abnormal, and is either the accompaniment of organic disease, or else presages its onset; in either case it demands treatment: first, by general hygienic measures; second, when necessary, by venesection or vasodilatation with drugs—preferably sodium nitrite.

PROSTATIC CALCULI.

WITH THE REPORT OF TWO CASES.

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It is a well known fact that in some way altered prostatic secretion often forms concretions. According to Virchow, and to Morgagni before him, there is a proteid in the prostatic secretion which when present in excess is precipitated in the acini of the gland forming these concretions. The concretions in some instances start up an inflammation of low grade with an excess secretion of mucus. The epithelial detritus, together with the mucus and concretions, forms the nucleus for the deposit of mineral salts forming the calculi. They may be present in any or all parts of the gland. They may be single or multiple, and in a few cases the gland may be so filled with plates of calculi as to give the sensation of one stony shell. In size they vary from a millet seed to a peach pit. They are usually rounded, and when there are many in the one common sac they are often faceted. At times they form regular stony plates as above stated.

A typical calculus is stony hard, without distinctive odor, and ranges from light brown to dark blue in color. At times calculi resemble porcelain because of their high polish. Sections through them show the larger ones to be formed of distinct lamellæ. Chemically they are composed chiefly of the phosphate and oxalate of lime, together with a nucleus of organic matter. The phosphate of ammonium and magnesium has also been found. In those passing into the bladder or lying in a sac in contact with urine the usual salts of vesical calculi are also found. The following are two quantative analyses:

Lassaigne	Phosphate of lime	84.5
	Carbonate of lime	0.5
	Organic matter	15.0
Dupuytren	Phosphate of lime	60.
	Phosphate of ammonium and magnesium	20.
	Carbonate of lime	20.

Dupuytren in 1820 was the first to give an accurate description of the condition. The symptoms of prostatic calculi are insidious in onset and the condition is not easy of diagnosis. The majority of the cases reported have been found accidentally. The symptoms are those of a composite picture of vesical calculi and hypertrophied prostate with points of differentiation. The true prostatic calculi occur almost entirely in the young adult, the ages of the cases reported averaging 28 and the extremes being 23 and 30. One may be able to obtain a history of gonorrhea in almost 40 per cent. of cases.

THE SYMPTOMS.

As a rule the first complaint of a patient is that of a sense of fulness in the perineum, together with a burning stinging pain at the end of micturition. Gradually the patient then notices a delay in starting the stream, which difficulty increases with the duration of the case. Shortly after this dribbling at the end of micturition, together with frequent urination, is noticed, and about the same time pus is found in the urine. Defecation becomes excessively painful and when the stool is hard causes sharp darting pains in the glans penis, and testes.

Often on violent effort to lift this same pain comes on, caused by the compression of the abdominal contents against the perineal floor. Priapism of several days' duration has been described in two cases. In several cases frequent emissions have been the sole complaint of the patient, the condition being discovered on physical examination. Temperature of 100 or 101 F. is often present, but uncomplicated cases do not develop septic temperatures or chills. If the case has any of the complications to be mentioned below the symptoms of the particular complication are of course added.

The objective symptoms are the ones on which the differential diagnosis is made. Rectal examination reveals a very much enlarged, exquisitely tender, stony-hard gland. Moderate, and sometimes light, pressure of the examining finger gives the sensation of crepitus and causes exquisite pain. Perineal examination may reveal a tender mass or not, according to the degree of enlargement. The urine is that of a cystitis—ammoniacal, full of pus and occasionally containing blood. Sounding the urethra reveals nothing until the prostatic portion is reached, when a sensation as if passing through a bed of gravel is experienced: The Roentgen rays may also be used as an aid to diagnosis. The cystoscope, aside from its use as a sound, reveals only the picture of a cystitis more or less acute.

In summary then the symptoms are those of an enlarged prostate and a vesical calculus. It differs from an enlarged prostate in the crepitus obtained per rectum and by sounding, and from vesical calculus by the fact that the pain is constantly referred to one point and that the sensation of a moving stone is not experienced.

The sequelæ and complications of the disease are not numerous. The calculi may perforate into the bladder, rectum or perineum. The constant irritation with lessened tissue resistance may be the cause of prostatic abscess. Lastly, but most important, the consequences of a neglected hypertrophied prostate or vesical calculus may follow, namely, pyelitis, pyonephrosis, sepsis and death.

TREATMENT.

The treatment of the condition is essentially a surgical one, the removal of the stones by open operation. Any of the accepted incisions for perineal prostatectomy will do. In my case reported below, operation was refused and the mechanical measures employed were so successful that they will be given in detail. The prostate should be massaged daily with gentle touch for about two minutes. Gradually the pressure can be increased, but if fever should follow massage should be omitted for a day or two. Massage mechanically presses into the urethra the calculi and from there they are voided with the urine or, becoming impacted, can be extracted with urethral forceps.

This method is not without danger, for if Finger's theory as to the shape of the bladder opening into the urethra when that viscus is distended be accepted, a calculus may readily slip back into the bladder. It would then form the nucleus for a vesical calculus, a not very pleasant consequence. At the same time suppositories of ichthyol can be given to allay the acute inflammation. The cystitis is to be treated by any of the approved methods, i. e., bladder irrigations and urinary disinfectants.

The following case occurred in the service of Dr. Hermann Klotz at the German Hospital and I am indebted to him for the permission to report it:

CASE REPORTS.

Case 1. *History.*—J. B., male, aged 23, plumber, was admitted July 10, 1907. Past and family history negative. Had gonorrhea four years ago and was cured in three weeks; denied syphilis and chancroidal infection. Four months before admission he had a second attack of gonorrhea that was treated for six weeks with astringents and protargol, at which time the discharge ceased. The urine was still full of pus and after ten days' frequency of urination returned, but no urethral discharge. Frequency of urination persisted together with increasing difficulty in starting the stream and dribbling at the end of the act. He had a sense of fulness in the perineum and severe pain on defecation, the pain radiating to the glans penis.

Examination.—His condition on admission was as follows: Micturition every fifteen minutes and very painful. Urine full of pus and foul smelling. He had passed no calculi. Aside from the genital tract the patient was normal. Penis was normal, no scars nor discharge. Mucous membrane, as seen through endoscope, was normal. A No. 30 Fr. sound passed easily. Just before passing into the bladder crepitus was felt at the end of the sound. Cystoscopy showed the bladder to be acutely inflamed. There were 150 c.c. of residual urine. A Roentgen ray picture was not taken. On rectal examination the finger, immediately after passing the sphincter, was arrested by a rather firm, round, smooth prominence of about the size of a small lemon, which protruded from the anterior wall, apparently the enlarged and hardened prostate gland. On stronger pressure with the finger one got the impression of a rather hard but thin shell giving way and breaking into fragments, followed by the distinct sensation of crepitation. This sensation was not, however, that of the rubbing of hard stones against each other, but rather that of fragments of layers of a soft slate or shale. Altogether the gland seemed almost entirely composed of or interspersed with numerous layers of soft stone or with incrustations. Laboratory reports on the blood were negative. The urine was that of a severe cystitis. While in the hospital he had a temperature ranging from 100 to 102.6 F.

Treatment.—His treatment and the further course of the case were as follows: He was given hexamethylenamin and bladder irrigations of silver nitrate up to a strength of 1 in 1,000, and his prostate was massaged. After the first massage he passed two fragments of calculi and the next day two more. The fourth passed was the largest of the series and weighed 3 grains. After this he had a temperature of 102.6 F. and massage was omitted for a day or two. He continued to pass from one to three stones a day. At the end of fourteen days he could hold his urine four hours, had slight pain on voiding and none on defecation. Rectal examination showed the prostate to have numerous areas of softening. He continued to pass calculi for two weeks, and with their passage his symptoms gradually improved. At the end of a month he was discharged with the following status: Urine still cloudy, with some shreds. Prostate barely palpable per rectum; no crepitus. Sound on passing into the urethra gave no crepitus. He was able to hold his urine for eight hours and had no pain either on defecation or micturition. There was no residual urine.

Pathologic Report.—The calculi were examined by Dr. O. Hensel of the German Hospital Laboratory, and his report was as follows: "The calculus submitted for examination consisted chiefly of carbonate of lime with some phosphate of lime and a slight amount of organic matter." In all fifty-two calculi were passed, ranging in size from a pinhead to a big grain of corn. All were not saved, but from those preserved their estimated total weight was about 100 grains.

Case 2.—From the practice of Dr. H. Klotz.

History.—A. L., aged 26, was under my observation and treatment during the winter of 1892-1893 and during the spring of 1893 for frequent emissions, which always left the patient in a rather weak and nervous condition. On account of an advanced endarteritis and incidental heart affection, he was not able to follow treatment very regularly, but altogether local treatment by sounds; the psychrophore, etc., did not seem to have much effect; bromids gave temporary relief. On July 22 the patient particularly complained of having had several seminal emissions in quick succession, followed by severe burning in the urethra, frequent and urgent desire to urinate and occasional interruptions of the act of micturition.

Examination.—On examination through the rectum the prostate appeared moderately enlarged and prominent, but as a whole rather soft except in one spot where a hard, irregular nodule or tubercle could be distinctly made out. The examination was very painful, the pressure on the gland was not followed by the discharge of any secretion, the urine was but slightly cloudy, and no symptoms of kidney affection were present. On July 27 urination was still very painful, with frequent desire and occasional interruptions. On August 5 the patient reported that the previous night, after several days with rather moderate symptoms, an exceedingly severe, sudden pain was felt in the region of the prostate and throughout the urethra; after micturition a hard body was discovered in the chamber; this the patient had brought with him. It proved to be a concrement of about the shape and size of the stone of the date and of a light brown color; it measured 1.5 cm. in length and 0.5 cm. in the smaller diameter, tapering into rather sharp points at both ends. Broken in two pieces, the concrement showed a thin crust of a light brown color surrounding a somewhat softer substance of a light gray and partly distinctly crystalline structure. August 10 examination of the patient through the rectum was not painful, the prostate was much reduced in size and not painful on pressure; the hard nodule had entirely disappeared and this corresponding portion of the gland was soft and could be impressed, indicating the existence of a small cavity; however, not much secretion could be expressed. The urine was perfectly clear; there were no subjective symptoms present, but the seminal emissions did not show any perceptible diminution of frequency. On August 17 a steel sound, No. 28 Fr., was introduced in the bladder without any difficulty. On account of the condition of the general health the patient went into the country immediately afterward, and I have neither seen him again myself nor have I been able to get any further information in regard to his condition from his then family physician.

The literature on the subject is not very profuse. The following cases have been collected. The authority, number and weight of the stones and under what conditions found are given:

TABLE OF CASES OF PROSTATIC CALCULI.

Authority.	No.	Size and weight.	Remarks.
Berand	35	Not given	Found at autopsy.
Bird. Golding	130	Not given.	
Chopart	69	Millet seed	Spontaneous evacuation.
Cooper Astley	84	Not given.	
Caspar	1	Size of pea	Autopsy.
D'Aitona	1	40 gms.	Operation.
Erdmann	50	Millet seed to pumpkin seed.	Operation.
Ferreri	1	120 grs.	Operation.
Gogrund	100	Not given.	
Longut	1	Right lobe of gland size of peach pit.	Autopsy.
Louis	6	Not given	Operation.
Malteste	4	Not given	Operation.
	22	Not given	Operation.
	30	Not given	Operation.
	1	33 by 38 by 8 mm.	Operation.
Mander	50	Not given	Operation.
Marcat	100	Not given	Operation.
Marssmeu	2	10 grs.	Operation.
Nelaton	1	Entire right lobe	Autopsy.
H. Thompson	20	Not given	Operation.
Voillennir	1	Plum-pit	Autopsy.
White	10	230 grs.	Spontaneous.

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THE HEART'S ACTION PRECEDING AN EPILEPTIC SEIZURE.*

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The etiology of epilepsy has been a subject of comment and investigation from the most ancient times to the present day, yet but little light has been shed on its mysteries. The recognition of the cortical origin of the convulsion, and, more important than this, the new viewpoint being adopted by epileptologists, which regards the convulsion or other paroxysmal manifestation of the disease as the symptom and not as the disease iself—these have been the most important steps in advance.

Out of the recognition of the symptomatic character of the attack has grown the idea that the disease is not a unit—is not due to the same cause confined to the same part of the body in every case. Instead, it may be said that every case is an epilepsy by itself; certain it is that there will be found to be several epilepsies.

In regarding the disease as a group of conditions, and not as a unit, we have to meet this question: How do different causes acting on the same cells bring forth the same action? Do they act directly or do they act indirectly through some condition produced by all in common?

Dr. Albert E. Russell, of London, has discussed this question[1] and answered it by suggesting cerebral anemia as a common condition produced by all the underlying causes of the seizure. Dr. Russell suggests that arrest of the heart's action may in some cases be the immediate cause of the anemia, the arrest taking place just before the onset of the convulsion, *i. e.*, before consciousness is lost and muscular contraction sets in, the failure to pump blood producing the anemia of the brain. In support of this assumption he cites cases, and I may be permitted to briefly summarize the material he presents:

He first quotes two cases (p. 42) with slow pulse, in which convulsions were preceded by cessation of the heart's action. His third case is one in which subacute rheumatism had set in. Benham, the attending physician, was informed one morning that the patient had had several fits, and while taking the pulse it stopped and a convulsion set in. This was repeatedly observed. The urine after these seizures contained albumin, but this soon subsided. The fourth case, in which myocardial disease seemed absent, was reported by Webster. Cessation of the pulse, shown by sphygmographic tracings was accompanied according to duration, by sleep or convulsion.

Russell next quotes a case of cardiac dropsy, and one of uremia (both Moxon's), in which severe epileptic convulsions were preceded by stopping of the heart's beats. A case of epilepsy, also Moxon's, in which cardiac arrest was observed, is mentioned. Dr. Hughlings-Jackson has observed the same thing in petit mal seizures. Dr. Russell reports one case from his own experience and gives the description of another which was reported to him. He concludes:

> Sudden cardiac arrest is one of the few possible causes of anemia of the brain. It has been shown that such cardiac arrest does occur in some cases of epilepsy, and it is suggested that this occurence may be much more common than is generally assumed, and that the rarity of opportunities for making such observation may explain the fact that it is not more widely recognized.

This article and another[2] by the same author attracted my attention. The phenomenon observed and held to be the cause of the seizure is so simple and so easily observed that it seemed strange that it had not been noted before. Taking together the heart auræ present in some cases and the favorable action sometimes exhibited by digitalis in epilepsy, it did not seem improbable, especially when one considers the rarity of opportunities for observation, as indicated by Dr. Russell, that cardiac arrest might frequently be present.

THE AUTHOR'S METHOD.

This suggestion, so simple and yet so important if susceptible of confirmation, has led to the present piece of work, which has consisted of obtaining graphic records of the pulse of epileptics previous to the seizure. Some six months has been spent in the work which, requiring the observation of the beginning of the seizures, even where material is exceedingly plentiful, is of the greatest difficulty. The time of the next seizure can not be foretold in any case, even approximately, and in order to obtain records it has been necessary to observe cases continually for hours and days at a time, a process which is tedious and laborious in the extreme. Casting aside digital palpation as a physical impossibility, the author arranged an air transmission apparatus whereby the pulsations in a constricted limb were transmitted to a tambour recording on blackened paper. A Janeway sphygmomanometer cuff was applied to the arm of the patient and inflated to some suitable pressure, recorded by a mercurial thermometer. The pulse waves in the arm were transmitted through the cuff and heavy connecting tubing to an expansile pouch of rubber, inclosed tightly in a glass funnel, which is connected with a tambour. The kymograph used takes a blackened record about seven feet in length, so that a whole day's record may be traced on one band.

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* From the Laboratory of the Craig Colony for Epileptics.

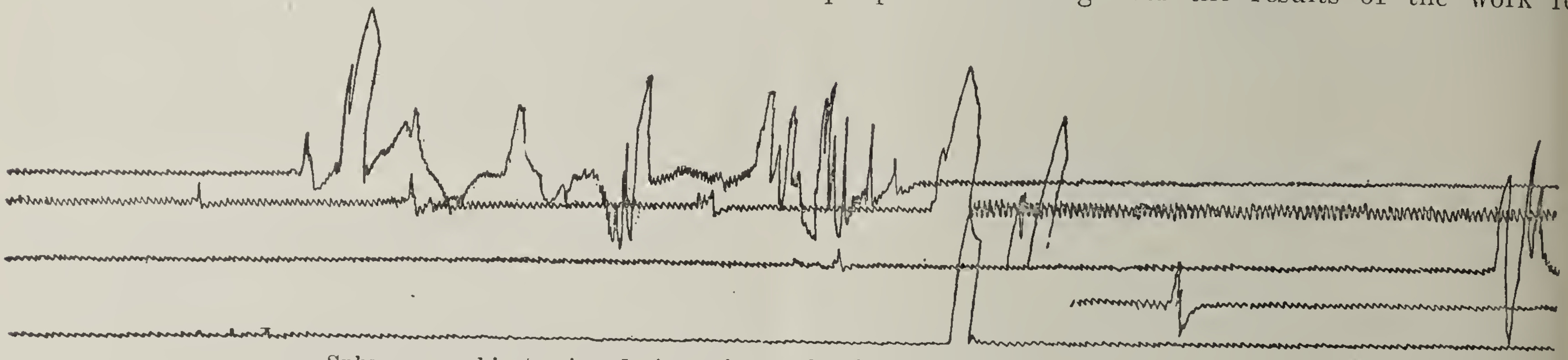
[1] Transactions of the National Association for the Study of Epilepsy, vol. iv.

[2] Lancet, July 21, 1906.

I regret very much that no time recording device was available for the work. Nevertheless, I am sure after several months' experience with this particular kymograph that its motion is practically regular—sufficiently constant for the work of this paper. The cases observed were taken at random, except that a few were selected because of heart lesions. The patients were observed lying in bed, sometimes bolstered up with pillows in any attitude comfortable for them. In reporting the observations on the cases I will give a short history of each case and then describe the findings.

Case 1.—*History.*—Male, aged 23. Grandmother a paralytic. Onset of epilepsy at 14 without assigned cause. Physical examination negative. Two tracings were obtained in this case. There was a very slight acceleration preceding the attack. After the seizure the pulse was regular and still slightly accelerated. In the second of these tracings the seizure began some fifteen pulse waves before the first muscular contraction is recorded. In the first the period was some two or three pulse waves shorter.

Case 2.—*History.*—Male, aged 33, a printer by trade. Had been deaf since eight years of age. Onset of epilepsy at 25. Assigned cause, careless habits of eating and sleeping. Denied the use of alcohol; used tobacco moderately. Palate and chest asymmetrical; heart negative; dermographia. HCl present but once out of several examinations. The seizure (grand mal) observed began without a cry; there was a drawing up of the face muscles and the head turned to the right. Knees were slightly flexed. Pupils were dilated at the end of the seizure. In the tracing from this case, an accidental movement interrupted the curve before the attack, but about eight occurred before the beginning of the seizure. After the onset there was apparently a momentary slowing, but this disappeared and the waves were still closer together as they approached the first muscular contraction. The rate after the seizure was about the same as before.



Sphygmographic tracing during seizure, showing no cessation of heart action.

Case 3.—No. 1871. Male, aged 25. Onset of epilepsy at 9, following scarlet fever and Bright's disease. Heredity negative. Thorax negative; dermographia present; some asymmetry of facial markings and atrophy about the shoulder girdle, especially in the supraspinatus and infraspinatus muscles. Mental condition fairly good.

The record of a grand mal attack is shown in the accompanying illustration. The tetanic convulsion was of considerable duration, the eyes were turned up and to the right and the pupils were dilated. The clonus was short. The tracing shows slight acceleration after the muscular contraction is recorded, and during and after the convulsion the heart rate is still more increased.

Case 4.—No. 2107. Male, aged 26. Heredity poor. Pneumonia at 1 year of age. Onset at 1 year. Patient has had muscular rheumatism and has a presystolic murmur. Pulse regular.

Two records were taken—one of a grand mal attack, and one of a petit mal. In the first there appeared to be acceleration of the pulse rate before the attack, and in the second there was no change.

Case 5.—No 1580. Male, aged 13. Onset at 14 months. Physical examination negative. In several tracings of petit mal attacks no change of rate preceded the seizure.

Case 6.—No. 1779. Male, aged 31. Heredity poor. Onset at 19. Mitral regurgitation. Records were taken of four seizures, petit mal or mild grand mal in character. In one, there was no change in rate, but in others there was acceleration just before or just after the onset. The indicated onset preceded the first muscular contraction.

Case 7.—No. 846. Male, aged 22. Mother suffered from severe headaches. Onset at 10, supposed cause a fall five years previously. In the tracings of two grand mal attacks, the first showed slight acceleration before the convulsion begins, and the second showed no change.

Case 8.—No. 939. Male, aged 18. Onset at 8 years of age. Heredity poor. Worm fits at 2 years. I have only the record of a petit mal attack. There was only a slight acceleration.

Case 9.—No 1004. A Jacksonian case, with almost constant clonic movements of the affected side. The tracings showed intervals in the convulsion during which the pulse was regular up to the point where resumption of convulsion hid the pulse wave in the tracing.

Case 10.—No. 1524. Marked mitral insufficiency. Numerous mild attacks were traced in which the pulse was regular up to the moment of convulsion. Two other tracings showed no change in rate before the convulsion.

These cases, chosen at random or for a short heart lesion, may be considered to represent the average of epileptics. Looking over the results of the work reported it will be seen that the condition common to all but one was an acceleration of the pulse preceding the seizure and lasting through the onset stage to the moment of the first recorded convulsion. This acceleration was never great. The absence of a time marker prevented exact statements, but the increases seemed to be in the several cases, from eight to nine, or from twelve to fifteen or seventeen beats. In all the cases the pulse was entirely regular.

For this group of cases one can conclude definitely:

First—Cardiac arrest does not occur.

Second—Except for slight acceleration, and in one case slight slowing, the heart does not take part in the convulsion.

While I am certain as to the accuracy of the above stated conclusions, the question as to the extent to which they apply to all epilepsies is a different matter. It seems to me, however, that it is doubtful if cardiac arrest will be found in cortical epilepsies uncomplicated by heart lesions.

Handle a Few Tools Well.—Don't try to have too many remedies or combinations of remedies; it is better to have a few tools which one knows how to handle well, than to have a vast number with which one is poorly acquainted.—Dr. L. Duncan Bulkley in *Therapeutic Gazette.*

STERILE HANDS SECURED BY ABSTINENCE FROM INFECTION: THE ESSENTIAL FACTOR IN SUCCESSFUL SURGERY.*

J. H. CARSTENS, M.D.
DETROIT.

For many years it has been known that puerperal sepsis could be carried by the obstetrician from house to house, and it was made a rule that an infected physician or midwife should not practice for six weeks. This stand was taken, in the course of time, by the profession as the result of experience, before there was any real knowledge of the causal relation of bacteria to infection. This rule of the old practitioners, based on long observation, has been proved correct in later days when the real causes of pathologic conditions were more thoroughly understood.

Things have changed in the last thirty years, since we have been able to demonstrate the bacterial origin of many diseases, and especially since Lister called attention to the cause of surgical failures. We still have septic infections of various kinds, however, and every possible precaution is taken to avoid them. We have a clearer understanding of the human body and its power of resistance, and we make use of that.

Experiments of every kind have been made to get the patient's body in a sterile condition. One of the great stumbling blocks to our success has been the lack of sterile ligatures and instruments, but that seems to have been removed. There is no trouble now in making instruments sterile by boiling, and rendering silk and silkworm-gut sterile by the same method. The problem of sterilizing catgut and tendons has been a difficult one, but a number of well-known processes now employed have enabled us to use absorbable ligatures that are absolutely sterile.

Only one problem remains and that is to make the hands sterile. This has been the greatest problem, and thousands of experiments have been made throughout the world to devise a means of absolutely sterilizing the hands. So far as I have been able to learn, that has been accomplished to a considerable extent; still, all experimenters admit that no matter how the hands are made sterile bacteria of some kind can still be demonstrated.

When abdominal surgery was developing I gave up both my general and obstetric practice because it seemed to me that a person who did general practice, who came in contact with all kinds of contagious diseases, could not do good abdominal surgery, nor would he have enough rest, by being in general practice, to do good work. And, furthermore, he would not be able to do that amount of studying and reading along this one line alone to keep abreast of that branch of surgery. For these various reasons I have always held that a man should limit his practice to this one particular branch. It seems to me that the man who handles all kinds of infected wounds, treats piles and venereal diseases, cases of puerperal sepsis, scarlet fever, diphtheria, etc., can not keep his hands as clean as he should, to do abdominal surgery.

For a good many years I have practiced and taught that abstinence is the only way in which the hands can be kept clean; that no matter what method, of the many complicated means that have been advised to sterilize the hands is employed, the hands never can be relied on. No matter what means are used we still get cultures from the so-called sterilized hands, and the surgeon occasionally infects the patient. We may not be able to demonstrate the infectious material by cultures, but will have infection just the same. I have claimed that there is something or other—spores or whatever it may be—that are not reached, but that, during the course of an operation, especially a long one, they are loosened and planted in the patient's wound.

I have also noticed for a long time that if there is a case of erysipelas in the hospital, no matter what care is taken, there is always a great deal more sepsis than there is at other times, so that we have made it a rule not to accept erysipelas cases at Harper Hospital; and if by some chance, once in a great while, a case develops in the hospital, the patient is immediately removed, isolated, and the most vigorous disinfection is instituted.

In order to overcome some of the difficulties mentioned the profession has tried the use of gloves. Different kinds are recommended and are even being used now. We have finally drifted to rubber gloves. These can be reasonably sterilized by boiling—although the ideal method would be to use a new pair for every operation. They are expensive, but I think a new pair should be used for every "clean" case of abdominal section, and for infected cases we might take gloves that have been used but have been carefully sterilized in boiling water. Rubber gloves, when they are very thin, and thus do not affect the sense of touch, easily tear, and then their usefulness is lost. If they are heavier, they interfere with perfect work, so that there is considerable objection, in my mind, to the use of gloves.

I have always held to the doctrine that, at operations, the shorter time the patient is under the anesthetic, the less shock and the greater the power of resistance. This point, it seems to me, has been established so thoroughly that there should be no question about it. This talk that the work should be done slowly and carefully is only a subterfuge; the work can be done deliberately, very carefully and very accurately, and still with great rapidity, if the surgeon knows what he has to do and is always ready for his work, no matter what emergencies arise.

This abstinence of the hands from infection can be accomplished by never getting hands or fingers in any place where there is liable to be infectious material. I suppose we can never be absolutely perfect, but we can do a great deal if we try. The way I do it is this: If I have to operate for an ordinary ovarian tumor or a fibroid tumor, or, I will say, do an "interval" appendectomy or a gallstone operation, I operate with my bare hands. I open the abdomen, and if I then suddenly find something that I did not expect—a quiescent pus tube, complicating the ovarian or fibroid tumor—or if I find that the appendix has ruptured and is walled in and lying in a puddle of pus; or if I find that I am dealing with tubercular peritonitis or a malignant growth—in all these cases I immediately stop, turn around to a basin containing gloves and put them on—which takes about a minute. I then proceed with the operation with gloved hands.

If I have a case of infection that I have previously diagnosticated or am to do intestinal surgery or operate in a case in which there is any doubt, I use gloves from the start.

If we use gloves we depend on them too much. Gloves tear and are punctured during operation, especially if very thin, and if thick they interfere with work—that is, with speed. If they tear, the infection of the hand is carried to the patient, or the patient's infection contaminates the hand. I doubt, too, if gloves are sterile, or can be made so by boiling for a few minutes in water; certainly many spores require a long time to destroy.

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* Read before the Mississippi Valley Medical Association, Oct. 9, 1907.

In my work aside from operations I do the same thing. I never examine a puerperal or infected uterus with the bare finger, but always with gloves. I never make a vaginal, rectal or any other kind of examination, never dress a case where there may be an abscess or fistula, or a case that requires drainage, without using rubber gloves.

By this means I think I can keep my hands clean by absolute abstinence. With absolute abstinence and the rapid work that the ungloved hand enables one to do, it seems to me that we would increase our success and reduce our death rate.

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TUBERCULOSIS AND THE MEDICAL SCHOOLS.

DAVID R. LYMAN, M.D.
WALLINGFORD, CONN.

The admission of cases of pulmonary tuberculosis to the general hospitals, is one of the most serious questions with which such institutions have to deal. The attitude of those in charge has always been that a general hospital is not the proper place for the care of such cases, and this attitude is held just and reasonable by the medical profession. There is one phase of the question, however, which has received very scanty consideration, but which demands that certain exceptions be made to the general rule. These exceptions have to deal with those hospitals connected with medical schools, which occupy a wider field than the other general hospitals. These hospitals must give the students in their associated schools as complete a practical familiarity as possible with the principal diseases which they will meet in after life, so that they will go out to practice their profession thoroughly grounded in the prevention, diagnosis and treatment of these diseases.

As for affording relief to the patient, and furnishing material for research work, it is readily granted that in pulmonary tuberculosis these ends can be met more adequately through special institutions for the care of these cases. It is quite as much a matter of fact, that for purposes of instruction, no outside institutions can fully take the place of the hospital in whose wards the medical student does his daily work.

It is the duty of these hospitals to afford proper facilities for the instruction of the students in the practical diagnosis of incipient tuberculosis. It is a duty that is being very generally neglected. Cases of typhoid, pneumonia, malaria, and all other diseases met with in the practice of medicine, are urged to come, and gladly welcomed into their wards. Those persons having tuberculosis, the malady to which mankind is most subject, and which presents to the general practitioner the most perplexing and discouraging problem with which he has to deal, are received grudgingly; and then only when humanitarian considerations demand their reception and no cogent arguments can be advanced in favor of their going elsewhere.

Aside from those unsuspected cases presenting in patients admitted for the treatment of some other ailment, the material at the command of the instructors for their bedside clinics is comprised, so far as tuberculosis is concerned, of the comparatively few patients in more or less advanced stages of the disease, who are admitted under the conditions mentioned above. The material thus afforded is used after a fashion, and only after a fashion. Usually there are no special facilities for giving tuberculous patients the treatment they require. From being placed in the general wards, and usually being so far advanced as to afford little hope of real benefit from the treatment there, they are looked on as detrimental to the hospital and uninteresting medically. Aside from the clinics in the dispensary these cases furnish, in a large majority of instances, the sole material on which those in charge must rely for the practical instruction of the students.

When the average graduate receives his license to practice his knowledge of tuberculosis is based almost entirely on the unmistakable signs and symptoms of its later stages. He knows that the presence of the tubercle bacillus confirms the diagnosis, but he does not know that the reverse of this statement is not equally true. He associates tuberculosis far too closely with the picture of emaciation, prostration and extreme dyspnea which he has seen. His knowledge is drawn entirely from the study of its later stages, and though he has gathered from his instructors and his text books some inkling of the varying signs and symptoms of its onset, he has not the idea of their value and significance that is obtained only by practical observation and examination.

Any school that taught its students to recognize appendicitis only after rupture had occurred, or a heart lesion only through the symptoms of failing compensation, would be held up to scorn on all sides. Can any one question the relative importance of tuberculosis to these, or any other diseases? And yet how many such hospitals to-day have any facilities for, or make any effort to obtain incipient cases of tuberculosis in order to give their students ample instruction in the diagnosis and treatment of its early stages, Special facilities for the care of these cases means an extra expenditure, but is it not imperative that they be provided? Frequently such patients do not feel sick enough to realize the need of entering a hospital, but should they not be urged to do so and special inducements offered, if necessary? Does extra cost count more than the graduation of men imperfectly instructed on so essential a point?

Tuberculosis is one of the most difficult of all diseases to diagnose in its incipiency. It presents varying symptoms of onset which are by no means closely associated with relative variations in the virulence of the disease. The diagnosis can not often be made at the first examination. One must study closely the past and present history of the patient, his environment, his symptoms, and the physical signs that are present, watching him carefully, from week to week, and frequently be forced in the end to rely on tuberculin in order to confirm what otherwise he could only suspect.

As with other diseases, every effort should be made to recognize tuberculosis in its onset. Yet how many students on graduation know it in this stage? Ask the recent graduates of any of our medical schools how many cases of incipient tuberculosis they have had the opportunity of studying. By far the greater number will reply, "None at all."

Dr. Barnes, in a striking paper on "The Mistakes in Diagnosis of Pulmonary Tuberculosis," gave in tabulated form the errors in diagnosis with which the patients coming under his charge at the Rhode Island Sanatorium had had to contend, and the loss of time in he beginning of proper treatment which had resulted. f 165 patients reported on by him 76 had been handiapped by incorrect diagnoses, the resulting delay being wo to six months in 41 cases; six to twelve months in 5 cases and over twelve months in 20 cases. One can ot read Dr. Barnes' paper without asking why the medal profession lays itself open to such an indictment. t is my belief that these errors are due in large measure the fact that the students in the medical schools never ave a fair opportunity of studying tuberculosis in its ncipiency.

Let us consider one or two of the most general sources f error in diagnosis. It is all too common to meet with atients who have been told confidently that they have ot tuberculosis, because a single examination of the putum failed to reveal the presence of bacilli. It is ell known to every man engaged in tuberculosis work nd has been repeated sufficiently often in medical literture to be widely known outside, that it is often only fter repeated daily examinations that the bacilli are ound, and that in cases where every known means of xamination fails to bring them to light the guinea-pig est will do so.

Very recently a case came to my knowledge where an nstructor in one of our leading schools ridiculed a tudent for making daily sputum examinations on a ase in which no signs could be found in the lungs, and hen tubercle bacilli were found on the sixth day of sucessive examination refused to believe the case one of uberculosis until the bacilli were again demonstrated. Vhat man who had been made to follow the results of uch sputum analyses in his student days would confiently assure a patient, on the strength of one negative xamination, that he or she did not have tuberculosis? Vith the boards of health providing free examination of putum there is no reason why repeated examinations re not possible in suspected cases.

Another common error, as evidenced in the case just lluded to, is that of telling the patient that he has no uberculosis because the examiner can find no signs in he lungs. Not only is it true that the really incipient ase usually presents no recognizable signs in the lungs, ut, when the lesion is deep-seated, there may even be xtensive cavitation and yet nothing amiss be revealed o the most experienced diagnostician. Hemorrhage usually signifies the rupture of a blood vessel in a cavity, arge or small, where the vessel wall has been deprived f its customary support. How many of us can locate, y physical examination or otherwise, the cavity in which he rupture occurred?

If the medical student had seen the diagnosis of tuberulosis made and confirmed in cases where his teachers ould discover no physical signs would he not in after ife be less apt to deny the existence of a lesion merely ecause he could not locate it?

If he had been taught the main principles of the diagosis of this disease he would not be apt to fall into ither of the above errors. Nor would he rely on his norning office hour for his temperature record of the ase, ascribe persistent localized lesions to "bronchitis," llude to pleurisy as "only pleurisy," comfort the patient vith the assurance that the hemorrhage came from the hroat, or insist on having all the well known symptoms f the disease along with the signs in the lungs before he elt sufficiently confident to make a diagnosis.

There is far less objection to the reception of incipient uberculosis by a general hospital than that of the patient vith advanced disease. These patients are less expensive to care for, their physical condition does not make them objectionable to the attendants, and they can be benefited decidedly by treatment there. Many cases could be arrested at the onset of the disease in patients who could not afford to go out of town for treatment, and who would not have realized the necessity of going even if they could have afforded it.

The cost of special facilities should not be allowed to count for more than the value of adequate instruction of the students. If the medical schools would provide for the care of a sufficient number of cases of incipient tuberculosis with which to thoroughly ground their students in its practical diagnosis such a record of error as shown by Dr. Barnes would be impossible.

Special Article

TRAVEL NOTES FROM SOUTH AMERICA.

THE LATE

NICHOLAS SENN, M.D.

CHICAGO.

(Continued from page 277.)

XII. MEDICAL PERU.

THE MEDICAL PROFESSION OF AREQUIPA.

Arequipa has eighteen physicians, a number apparently too large for a city of 45,000 inhabitants, of whom more than one-half are Indians who never expect to pay for medical services. Visits and office consultations on an average do not bring more than $1, and $10,000 a year is considered a very large income, to be attained only by a very few. Arequipa has a medical society of which Dr. Hunter is honorary president, and which meets weekly. All the local physicians, including an advertising homeopath, are members. Most of the physicians are graduates of the Lima Medical School, but quite a number of them have taken postgraduate courses in Europe, and in that way many of the new discoveries and much of the advancement in medicine have been transplanted to the virgin soil of Peru. Some of the physicians read the European medical journals, and all of them are subscribers to the two medical journals published in Lima, the *Revista Médica* and the *Chronica Médica*. The business and social relations between the Arequipa physicians seem to be of a better grade than in most of the Peruvian cities.

SAN JUAN DE DIOS HOSPITAL.

This is the only general hospital in the city. It is a very ancient building made up of one-story mud and cement pavilions, with many intervening courts, and from its dilapidated appearance and internal arrangements, must have been a convent during the Spanish rule. The inner arched galleries, high-arched wards and rooms, and the few, small windows, all show that the immense building was originally intended for the seclusion of nuns or monks. The furniture of the hospital is of the plainest kind and the pharmacy is supplied with all kinds of bottles which were not intended for a drug store, and immense old-fashioned jars, strong reminders of drug stores of a century ago. The floors of the wards, made of large tiles, were clean, and the plain beds were in good order. The hospital has 400 beds and is managed by eight Sisters of Charity of St. Vincent de Paul. The nursing, as a matter of course, is very poor, as most of it must be done by ignorant male and female helpers. In the center of the building two long wards cross each other at right angles, so that from the center each of the 200 patients can be seen. Provision is made in small wards for a few private patients, who pay $1 to $1.50 a day. The hospital has no resident physicians nor internes, and the members of the attending staff are obliged to bring their own assistants and instruments. I believe there is no hospital in the world managed more economically than this one, as the average daily expense of each patient amounts only to 11½ centavos (2¾ cents) a day. Patients who can work are obliged to do so. and many things, such as mattresses, pillows, clothing, etc., are made in the institution. Medicines are dispensed in empty beer or wine bottles, with a label fastened to the neck, on which the directions are written. The day I visited the hospital five patients had died, and the sixth one must have followed the others in less than an hour, as he was then dying from cancer of the stomach. The worst looking room I have ever seen, in which operations are performed, I was shown here by the sister in charge. When I intimated that I would like to see the operating room, I noticed that she became uneasy, but when she reached it she flung open the large old door from the arched gallery and revealed the cellar-like large room with no windows or openings for the admission of light with the exception of the doorway. All this dark room contained was a naked marble table in the middle. Through an open door communicating with another similar dark room I saw the flickering light of a number of candles arranged around a corpse resting on a rude table, plentifully supplied with crosses. The corpse was one of the harvest of death for that day, as before we left that part of the building an Indian woman was screeching and swinging her arms, looking for her dead husband, who was then laid out in a room adjoining the operating room. This hospital is not entirely devoted to medical and surgical cases requiring hospital care. In one part I found insane people, and in many of the courts were lingering men and women whose only disease was the inevitable one which awaits us all should we live long enough —old age. I found in one of the private wards, a dark, close room, probably a former cell, a German engineer who had occupied this chamber for the last five months. Thirteen months ago, when employed in a mine in the interior of the country, ten days' travel on muleback from Arequipa, he had fractured the left femur at about its middle third. Under the most primitive treatment the fracture appeared to heal in the usual way, and then, when the healing process was arrested, he was obliged to make the journey to Arequipa on muleback. On the whole long, painful journey he had nothing to eat except one of the fruits of the country, the cherimoyer. His sufferings were so great that he attempted to end them by committing suicide, but his revolver missed fire, and he finally reached the hospital in an exhausted condition, from which he has not yet fully recovered, as he is emaciated and anemic. The excellent Buck extension dressing is the work of his own mechanical genius, and I hope will succeed in effecting a satisfactory healing of the fracture even at this late date.

The hospital is too poor to issue a printed annual report, but in one of the daily papers I found the last monthly report. During the month there were 754 new admissions, and at the end 341 patients remained in the hospital. There were 341 discharged cured, and 71 deaths occurred. The mortality list included the following: Pulmonary tuberculosis, 27; dysentery, 7; pneumonia, 5; old age, 4; typhoid fever, 3; Bright's disease, 2; epilepsy, 2; delivery, 1; meningocephalitis, 1; gangrene, 1; organic heart disease, 1; cerebral hemorrhage, 1; angina, 1; cancer of stomach, 2; cirrhosis of liver, 1; phlegmon of neck, 1; cancer of uterus, 1; pleurisy, 1; arteriosclerosis, 1; and typhoid pneumonia, 1. From the mortality statistics it will be seen that the causes of death in this part of Peru are about the same as in any city of the United States.

It is a source of satisfaction to know that there is a project on foot to build a new municipal hospital for Arequipa, which, when completed, will fill a pressing need, as the one which I have described has been for a long time, notwithstanding all its faults, a blessing to the community, but has become entirely superannuated.

MEDICAL CALLAO.

Callao has one large general hospital, the Guadalupe, built forty years ago, which can care for 300 patients. It is in charge of five Sisters of Charity of St. Vincent de Paul. It is built in the usual one-story pavilion style, with intervening courts and connecting galleries. It is constructed of adobe and cement, with wooden floors. Two large wards are set aside for the exclusive use of sailors, and it is in these ward that the linguistic accomplishments of attendants and physicians are sorely tried. Here we see the fair Scandinavians and North Germans side by side with negroes from various tropical countries, South American Indians, swarthy Italians, Spaniards and East Indians, ruddy Englishmen and heavily-bearded Russians. The hospital has an excellent location and some recent improvements like the new operating room and the fairly equipped laboratory show an awakening to the necessity of modern methods, a new ray of light in the medical and surgical practice of this institution. The two internes who are now on duty are members of the graduating class of the Lima Medical School, Mr. José S. Madalengvitia and Mr. Lizardo C. Villavicencenco. Dr. William M. Wightman, P. H. and M.-H. Service, showed me through the hospital, and for this as well as other courtesies, has placed me under many obligations. In this hospital I had an opportunity to examine the three cases of Verruga peruana, a description of which has already appeared on page 273.

LIMA THE OLDEST MEDICAL CENTER ON THE AMERICAN CONTINENT.

It is not generally known that Lima is the oldest medical center on the American continent, but nevertheless this is the case. The Lima University (Universitad Mayor de San Marcos) was the first institution of its kind in America. The origin of this university is to be found in the royal decree issued May 12, 1551, wherein the King of Spain, Don Carlos I, granted 350 gold dollars to the priors of the Dominican order, for the purpose of the establishment in Lima of an "Estudio General," conferring on it the same privileges and exemptions as those enjoyed by the celebrated University of Salamanca, it being required that its lecture halls be installed in the principal Dominican monastery. Later on, in 1572, at a meeting of the principal members thereof, Don Gaspar Meñeres, who bore the title in medicine as also that of Master of Arts, was selected from the secular brothers, and made rector of the institution. For this reason he figures on the chronologic list as the first of the rectors of the Lima University. The incipient university took its name on Dec. 31, 1574, from St. Mark, and this name it still bears. The name was chosen by lot from the names of several saints, a very singular procedure indeed for naming an institution, and understood solely in those medieval times when religious fanaticism pervaded every detail of thought and action.

From 1574 onward the University of St. Mark had a life of its own, and, two years later, in 1576, was on a footing to be able better to define its views of establishing in due form the higher education to be given in the institution. A plan of studies satisfactory for that period was organized, and the following classes were held: Two of grammar; one of native language; three of theology; two of canonical law, and two of medicine.

The graduating exercises at this period were complicated and elaborate. The ceremony was preceded by the celebration of the Mass of the Holy Ghost, after which the exercises began by the examination of the candidate during two consecutive days. If he was approved, he was solemnly led to the Chapel of the Virgin in the principal church or in the university, accompanied by the students, collegians and doctors, in order that he might there make the customary profession of faith. "pledging himself, on oath before the rector, to defend the mystery of the Immaculate Conception and to detest the execrable doctrine of tyrannicide and regicide." After this, he received the degree of doctor from the pontifical and royal authority, which was personified by the master of the school. The sponsor then terminated the ceremony by decking the successful candidate with the respective insignia. During the early history of the university the graduating expenses reached the fabulous sum of $10,000, which the candidate had to pay. In 1743 this was reduced to $2.000; in 1870 it was fixed at $800, and at present the candidate pays $50 for the doctorate degree. Attendance at the university is free, but those alone are permitted to present themselves for examination who are matriculated. The present attendance in all the partments is about 500, of whom 5 are women. The exami- ations take place from December 1 to December 22, are only r those who have studied the entire year, and are oral in l the faculties except that of letters, in which a written amination is added.

The university is a venerable looking building, two stories igh, with courts and connecting arched inside galleries from hich the different lecture rooms are entered. The faculty om is a magnificent hall with a richly carved wooden ceiling great age. The walls are hung with large portraits in oil, f the deceased deans and distinguished members of the fac- lty. As all the lectures of the different departments, with e exception of the medical, are given here, it is an easy atter to find some one or usually several teaching at the me time. Students flit about noiselessly with note books nder their arms, going to or coming from lectures. The lec- res last one hour. I looked into one of the lecture rooms of e law department and counted 15 students who were paying rict attention to the lecturer and taking extensive notes. he university church is one of the oldest in the city. It ntains massive wood carvings, among them the main altar nd the pulpit, the latter consisting of two pieces of wood. he floor consists of large flat stones and tiles. The church as founded by Bishop Antonio Correos, whose remains are terred in front of the main altar.

The libraries of the university contain many rare manu- cripts relating to the early history of the institutions. The ourts are paved with pebbles, the lower galleries with asphalt.

SCHOOL OF MEDICINE.

The Lima Medical School has been, from its very beginning, n organic part of the university. The medical faculty, like all he other faculties, manages its own affairs, and the school as its own buildings, which are situated near the Botanical arden on a large plot of ground. The anatomy building is eparate. It is a large one-story building devoted exclusively o the teaching of anatomy. The bodies are kept in an excel- nt state of preservation, and the dissections I saw showed are and patience on the part of both student and teacher. he police surgeons make all their postmortem examinations a separate room in the anatomy building in presence of he students—a most excellent plan, as this practical kind of struction gives the students an opportunity to become famil- r with the technic of postmortem examinations and legal edicine.

The new medical college was completed in 1903, and is one f the finest buildings of its kind I have ever seen. It is two tories high, built of brick and cement. The arched inner alleries lead to the laboratories and lecture rooms, all of hich face the large square, open central court or patio. his court will soon be converted into a charming flower gar- en, the pride of the South American. The architecture is reek in style, the six columns at the entrance imparting an ir of dignity to the building. The tile floors and heavy stone tairs give the interior of the building an appearance of clean- iness and durability. The number of students in attendance t the present time is about 200.

The Faculty of Medicine grants the title of "Physician and urgeon," and its studies are distributed over a period of six ears, during which the following courses are followed: Descrip- ive anatomy; medical physics; public, private and interna- ional hygiene; medical and analytical chemistry; natural and edical history; general anatomy and microscopic technic; hemical and Galenical pharmacy; general and human physiol- gy; general pathology and clinics; pathologic anatomy and acteriology; therapeutics and materia medica; general sur- ery; local surgery; medical nosography; ophthalmology and ye clinics; topographical anatomy and operative medicine; ynecology and gynecologic clinics; pediatrics and pediatric linics; obstetrics and obstetric clinics; legal medicine and toxi- ology; chirurgical clinics, men's hospital; chirurgical clinics, oman's hospital; medical clinics, men's hospital, and medical linics, woman's hospital.

This same medical faculty educates and graduates apothe- aries, dentists and obstetricians. The apothecaries in order to qualify for graduation must go through the following course of studies, covering a period of three years: Medical physics; analytical chemistry; medical and natural history; microscopic technic; chemical and Galenical pharmacy, and materia medica. They must also have had office and laboratory practice.

The students of dentistry likewise go through a three-year course of study as follows: Anatomy; physiologic anatomy and physiology, with especial reference to the mouth; chemistry as applied to the dentist's art; general ideas of the pathology and therapeutics of the mouth; special operative measures and dental prothesis. They also must have had office practice, and have attended the laboratory and the amphitheater or practice room.

Obstetricians must study in the fourth year of their course the following subjects: Anatomy of the pelvis; special physiology; embryology; mechanism of labor; obstetric operations; hygiene of mothers and of the newly born, and obstetric clinics.

In the teaching of medicine much weight is placed on the value of bedside instruction and the attendance at operations. Candidates for the doctorate degree must write a thesis, which, if accepted, is printed, and must be defended by the author in public.

(To be concluded.)

Clinical Notes

THE CUTANEOUS TUBERCULIN REACTION.*

LOUIS M. WARFIELD, M.D.
ST. LOUIS.

Last summer von Pirquet reported that vaccination of tuberculous individuals with old tuberculin gave rise to a typical local reaction. Since then several observers have reported on this reaction, some favorably, others more or less unfavorably.

My series of cases includes infants from 3 months to 4 years of age (55 cases), children at an orphans' home from 5 to 14 years of age (51), persons seen in dispensary and private practice, youngest 9 years, oldest 51 years (32), and twelve cases of advanced lung tuberculosis in men.

For the vaccination, use was made of Koch's old tuberculin, diluted with one-half of 1 per cent. carbolic acid to 25 per cent. The solution kept for a long time, and the carbolic acid did not cause any skin reaction when tried alone. Instead of von Pirquet's special chisel-like vaccination lance, one was made by filing off the point of a blood lance. The following procedure was adopted as giving the best and most uniform results: The skin of the upper arm, in a place free from hairs, is washed with alcohol and allowed to dry. On two places, about three inches apart, is dropped one drop of the solution from a sterilized hypodermic syringe. The skin between the drops is then scarified with the lance by turning it to and fro, and then the scarification is done through the drops. After one or two minutes, the tuberculin is mopped up. No dressing is necessary. If the faintest reaction occurs, it is easily seen by comparing it with the central control spot.

Of the 55 infants only one, an infant of 7 months, reacted. This baby was apparently healthy. It happened that a few facts were known about its mother. She had advanced tuberculosis when the baby was born, and died one month later. The baby was with her all the time. Another child, one that did not react, was born of a tuberculous mother, but was immediately taken from her. One or two other babies were said to have had tuberculous mothers, but there was no definite history obtainable.

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* Abstract of a paper read before the Section of Internal Medicine of the St. Louis Medical Society, Jan. 11, 1908.

Of the 51 children, boys and girls, at the orphans' home, the reaction was positive in 15 cases and negative in 36 cases. There were several groups of brothers and sisters. Some of these groups proved to be interesting. For example, three in one family, 6, 8 and 10 years old, respectively, the youngest and oldest reacted slightly. History not sure, but it is believed that the mother died of tuberculosis. Of two children, 8 and 12 years old, the older reacted slightly; history not known. Of two sisters, 8 and 9 years, the older reacted slightly; history not known. A brother and sister, aged 12 and 15, reacted, the sister more markedly than the brother; no history. Three, two boys and a girl, 7, 9 and 12 years, all reacted. It is known that the mother died of tuberculosis two years ago. The children were then placed in the orphanage. Several groups of brothers and sisters did not react. All these children were unusually healthy and well nourished.

Of the twelve patients with advanced tuberculosis, eleven reacted. One was cachectic, with also a probable carcinoma.

The remaining 32 cases are very interesting. They show that not all adults react to the test. The oldest patient, a woman of 51 years, was quite negative, and the youngest, 9 years old, was also negative. The reaction was positive in 16 cases; negative in 16 cases. One of the most typical reactions occurred in a man, 26 years old, well-nourished and perfectly healthy. He had never had any serious illness. No tuberculosis in his family. He was injected with 1 mg. of Koch's old tuberculin. There was induration and considerable soreness at the site of injection, but no constitutional symptoms were noted. Three days later he was given 5 mg. of O. T. There was marked pain and swelling, with tenderness at the site of injection. Twenty-two hours afterward there was intense headache. There followed within a few hours malaise, rapid pulse and a rise in temperature of 1.2 degrees. One case, male, aged 31, did not react on two separate occasions. There was no local or constitutional reaction to 5 mg. O. T. or to 10 mg. O. T.

A woman, aged 32, not only did not react to the skin test, but also to the ophthalmic test. Tuberculosis was suspected in her case. Three and later 5 milligrams O. T. caused no local or constitutional reaction and no change in the lung signs.

Six of the positive cases were well persons. Two brothers, 15 and 18 years old, were undersized, pale, with long narrow thoraxes and stooping shoulders. Both parents died of tuberculosis nine and two years ago. Three young men, physicians, healthy, with good family history, reacted strongly. The sixth was a very tall, thin, narrow-chested boy of 19 years, family history good. He was always tired, could not concentrate his mind and was subject to fainting spells.

Eight positive cases included suspected early tuberculosis, diagnosed early tuberculosis, and one healed case.

I am impressed with the negative value of the test. Some apparently perfectly healthy persons reacted. The test is not a sign of active tuberculosis at any rate. von Pirquet found that if there is only a caseated gland or a calcified nodule at an apex, that the reaction followed vaccination. Cachectic cases, cases of miliary tuberculosis and lethal cases of tuberculous meningitis are said not to react to the test.

The following conclusions seem justified:

1. The cutaneous tuberculin reaction of von Pirquet is a perfectly harmless procedure.

2. All adults do not react to the vaccination.

3. It is of value in the so-called pretuberculous stage.

4. No reaction precludes tuberculosis in an active form so far as we can be sure of the results of any one test.

5. A positive reaction does not always mean active tuberculosis. It may mean a healed lesion somewhere in the body, but it calls attention to the possibility of later tuberculosis. It also draws attention to the probable tuberculous nature of the case, and a more careful examination of the patient will sometimes reveal the previously overlooked lesion.

METATARSALGIA.

FERDINAND SCHMITTER, M.D.
First Lieutenant and Assistant Surgeon, U. S. Army.
STATIONED AT FORT EGBERT, ALASKA.

In looking over the literature I can find but one operation recommended for the relief of metatarsalgia—the excision of the head of the metatarsal as advised by Morton. Various palliative measures have been used with some success.

Several theories have been offered to explain the etiology. Whitman's explanation of lateral pressure by tight shoes on the depressed transverse arch is no doubt the correct one. In the two cases reported the depression of the arch was caused by pressure of the shoe against the second toe joint, forcing the first phalanx downward against the metatarsal bone. The factors which may tend to hold the first phalanx in this undesirable position are: 1, Displacement of the toe upward by hallux valgus; 2, hammer toe; 3, contracted tendons; 4, jamming backward of the toe by a short shoe. Hence the shoe which causes metatarsalgia is the one which squeezes laterally and at the same time presses downward on the second toe joint. With the increasing use of the modern rational-shaped shoe metatarsalgia, along with hallux valgus, ought in the next generation to become an orthopedic anachronism.

The two following cases illustrate my observations:

Case 1.—A heavily built woman, aged 43, complained of pain in the second right metatarsal.

History.—The patient had an attack of rheumatism four years ago. The feet were swollen and when this swelling went down the second and third toes were left displaced at their bases.

Physical Examination.—There was marked hallux valgus, also a slight degree of flatfoot. The second toe was displaced upward and almost lay on the outwardly displaced great toe. When the shoe was on, the second joint of this toe caught the brunt of the dorsal pressure of shoe in this region. This pressure was transmitted through the first phalanx to the metatarsal, causing depression of the arch. On the sole of the foot was a callus where the metatarsal pressed.

Operation.—Amputation of second toe at first joint. At operation it was noted that the first phalanx articulated, not with the head of the metatarsal, but with its dorsal surface.

Result.—Metatarsal pain never reappeared after operation (seven months ago). The patient was so pleased that she returned for hallux valgus operation which she had previously refused.

Case 2.—Man, aged 26, tall, slender and athletic, complained of pain at head of fourth metatarsal, left foot.

History.—Pain was first observed suddenly while the patient was playing tennis two years ago. It intermittently annoyed him ever since, especially when he would step on the outer side of the foot. It was relieved by taking off shoe and rubbing foot.

Physical Examination.—The foot was long and slender. Second, third and fourth toes were "hammer toes" of mild degree. The second joint of the fourth toe was most prominent and caught the brunt of dorsal pressure in this region. The pressure was transmitted through the first phalanx to the head of the metatarsal. The pain could be reproduced at will by squeezing the foot and pressing the first phalanx downward on the metatarsal.

Operation.—Oct. 18, 1907. Amputation of toe at first joint.

Result.—There have been no more attacks since the operation. Two months after, patient could "hike" several miles over rough ground without any symptoms which before operation were very severe on such occasions.

CONCLUSIONS.

1. In some cases, if not all, the depression of the transverse arch is caused by the shoe pressing the first phalanx downward against the head of the metatarsal.
2. The condition can be relieved entirely in some cases, if not all, by amputation at the first joint.

CARDIAC ASTHMA AND SCLEROSIS OF THE RIGHT CORONARY ARTERY.

E. O. JELLINEK, M.D., and C. M. COOPER, M.D.
SAN FRANCISCO.

We desire to advance a suggestion, for the partial corroboration of which we have long waited for postmortem material, viz.: that cardiac asthma is a right-sided angina, and that the common postmortem lesion will be found to be sclerosis or its equivalent of the right coronary artery. Our reasons for this suggestion we will bring forward later, but now simply wish to record the postmortem findings by Keith of two cases of Mackenzie's, to whom one of us lately communicated the idea, and whom we desire to thank for his courtesy.

Case 1.—During life: Angina pectoris plus cardiac asthma. Postmortem: Sclerosis of both coronary arteries.

Case 2.—During life: Cardiac asthma, no angina pectoris. Postmortem: Marked sclerosis of the right coronary artery, left artery normal.

German Hospital.

A PIECE OF PAPER IN THE MALE BLADDER.

ERNEST G. MARK, M.D.
KANSAS CITY, MO.

The following case is of interest from the fact that it adds to the already long list of foreign bodies found in the male bladder a unique specimen:

Patient.—Mr. F. M., contractor, aged 59 years, married, was referred to me by Dr. H. D. Hamilton, of this city, and was first seen by me on Jan. 5, 1908.

History.—Two weeks previously, on Dec. 22, 1907, he had, while intoxicated, rolled up a long slip of paper which he introduced deeply into the urethra. He could give no explanation for this maneuver other than his intoxicated condition. About a week following he called on Dr. Hamilton, suffering from a fairly severe cystitis. He then stated that he had passed bits of paper during urination. He was placed on treatment, but without relief from his symptoms. Dr. Hamilton, suspecting the presence of more paper in the bladder, referred him to me.

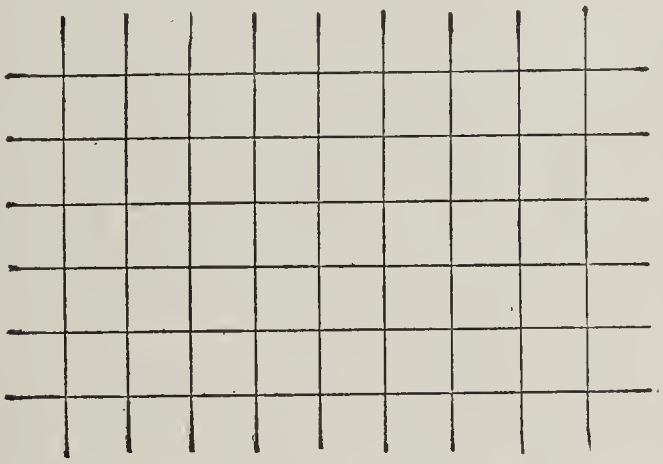
Treatment.—He was sent to the South Side Hospital, and on January 5 I examined him with the cystoscope under general anesthesia, for the reason that, in the event of the cystoscope proving the diagnosis, removal of the foreign body was, of course, essential. Examination revealed the paper in a fairly deep bas fond, rolled on itself and partially incrusted with urinary salts. The patient was put in an exaggerated Trendelenburg position and my air-inflation urethroscope inserted, using a No. 28, French, tube 15 centimeters in length. Forced air inflation gave a good view of the bladder and piece of paper, and an attempt was made to tear the paper to pieces by means of a pair of alligator forceps, as the piece, in its entirety, was too large to be removed through the urethroscope. Three small pieces were removed in this manner, but the paper, contrary to expectations, proved hard to tear, and, as the patient was taking the anesthetic badly, further procedure was deferred. The following day suprapubic cystotomy was done, Dr. Hamilton assisting, and a large piece of paper was removed. The patient made an uneventful recovery.

AN AID TO INSPECTION.

K. HEBERDEN BEALL, M.D.
FORT WORTH, TEXAS.

In looking for pulsations which were not well defined and in the study of the outlines of organs and tumors I have had much help from the following simple maneuver:

Over the area under inspection there is drawn with a skin pencil a square plaid figure, the squares of which are from 1.5 to 2.5 cm. in diameter and from 12 to 50 in number, according to the size of the area being studied. Any slight movement of the skin at any point in such a marked area causes a change in the direction of some of the lines and a distortion of the figure, and so renders visible movements of the internal organs which are not to be detected otherwise.



In one case, a distended gall bladder, which gave no sign of its presence, was plainly visible at a distance of several feet when the plaid figure was drawn on the skin over it. To be convinced of the value of the procedure, one has only to experiment with a cardiac impulse which is not, or is just barely, visible.

Efficacy of Calcium Chlorid in Arresting Albuminuria.—L. Rénon has found calcium chlorid surprisingly efficacious in arresting albuminuria of various origins. It cured a number of patients after the complete failure of dietetic measures and prolonged repose. In half the cases treated the albuminuria showed great improvement and in a fourth of the cases it vanished entirely. In another fourth no effect was apparent, or the albuminuria became aggravated, which occurred in a few instances He gave 0.1 gm. (1.5 grains) for five or six days, and gradually increased the dose if necessary to a maximum of 0.5 gm. (7.5 grains), keeping up the treatment for a month if the albuminuria persisted. In his communication on the subject presented to the Paris Société de Thérapeutique, November 19, he said that the calcium chlorid proved thus effectual in his experience without any supplementary measures or repose.

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[*For other information see second page following reading matter.*]

SATURDAY, FEBRUARY 29, 1908.

THE EARLY ACCOUNTS OF EPIDEMIC POLIOMYELITIS.

The early accounts which tend to establish any particular disease as a definite clinical entity naturally have a peculiar interest to all who find pleasure in tracing the development of medical knowledge. The recent epidemics of poliomyelitis, especially in Norway, and during the past few months in various parts of this country also, have directed attention to the historical side of this disease, which no doubt occurred in the past in about the same way as it is manifesting itself in these days. At first, Bergenholtz, in Finland, was thought to have been the first to describe an epidemic of poliomyelitis, at least in Europe, his report covering 18 cases. Then it was found[1] that the disease had been clearly described in 1868 by A. C. Bull, a country physician in Norway, under the title of "Meningitis Spinalis Acuta."

Bull reported to the health authorities fourteen cases of this disease, with five deaths. His description is minute and clear; he shows himself a keen clinical observer, as may be seen from the following quotations: "The disease commenced with fever, which in most cases, however, was quite light. Then came pricking pains of a fleeting nature here and there in the different joints and limbs as well as in the back, and in some cases there was also more or less widespread tenderness on pressure along the spinal column, at times only in the cervical region, at times only in the lower part of the dorsal region. The next phenomenon was paresis or in some cases complete paralysis either of one or as a rule of several limbs, appearing from three to four or five days after the outbreak of the disease. In one case, both lower extremities became paralyzed; as a rule, one lower and one upper extremity, either on the same side or on opposite sides, suffered; occasionally the paresis became actually stationary in only one limb, a preceding brief and insignificant paresis of some other limb being, as a rule, demonstrable. Sometimes there was found paresis of the muscles of the back of the neck on one or both sides. There was no sign whatsoever of a simultaneous affection of the cerebrum; a little headache, dizziness, and rarely vomiting were, it is true, observed in a few cases, but were attributable to the fever. Remarkably enough, there was not in a single case convulsions nor was there any anesthesia. . . . When the disease had lasted four or five days a change took place, either th paresis spread, eventually reaching the respiratory center with fatal result, consciousness remaining until th very last . . . or the febrile phenomena disappeare quite rapidly, as did the tenderness in the back as wel as the pains, recovery being prompt except as to the los of use or diminution in use of one or more limbs. In most cases, the paralysis became less and less pronounced and reduced to paresis; while the paralysis at first extended to all the muscles of an extremity it later became limited to only individual muscles so that contractures arose through the predominance of the healthy muscles."

Twelve of Bull's cases occurred in children between 4 and 10 years of age, one in a girl of 15 and one in a man of 20. He also mentions two so-called abortive cases. Bull's anatomic localization of the morbid process in the spinal meninges is, of course, not at all strange when we consider the state of the general knowledge of the anatomy of the nervous system at that time (1868). Nor would it be strange if the same disease was found to have been described by others under other more or less misleading titles. Indeed, this seems clearly to have been done by an American physician so long ago as 1841, namely, by George Colmer in Louisiana. Colmer's statement[2] is very brief and runs as follows:

"While on a visit to the parish of West Feliciana, La., in the fall of 1841, my attention was called to a child about a year old, then slowly recovering from an attack of hemiplegia. The parents (who were people of intelligence and unquestionable veracity) told me that eight or ten other cases of either hemiplegia or paraplegia had occurred during the preceding three or four months within a few miles of their residence, all of which had either completely recovered or were decidedly improving. The little sufferers were invariably under 2 years of age, and the cause seemed to be the same in all—namely, teething."

Colmer's and Bull's observations appear to be the earliest now known to foreshadow clearly the clinical entity of epidemic poliomyelitis. It would be interesting to trace the further growth of our knowledge of this disease to the present time when the actual cause of the infection is the problem that calls most urgently for immediate solution. That, however, lies outside the scope of this statement.

A PHYSICIAN POET.

A movement is on foot to obtain the permission of the Dean of Westminster, on whom devolves the privilege of conferring such permissions, to allow a memorial to be placed in Westminster Abbey in honor of the Canadian poet, William Henry Drummond. Few readers of current literature in this country are ignorant of the name and have not been delighted with some of e work of this poet of "The Habitant." Few even those who know him best, however, realize that for any years he was a practicing physician in Montreal nd that he took his professional work very seriously, nd was, indeed, in many ways the model of a physician his best. His picture of the devotion and self-sacrice of the doctor "on the parish of St. Matthieu" is ndeed claimed by his friends to have contained more of e traits of his own character than of any one else ith whom he or they were acquainted. The picture is uite as beautiful in its presentation of how a doctor ay care for others without too many thoughts for himlf as Ian Maclaren's "Weelum Maclure." Literary en have not, as a rule, written over-favorably of docrs, and these two writers did much to redeem the prossion from undeserved reproaches and to show that it ill cherishes the highest ideals.

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[1] Leegaard: Norsk Mag. f. Laegevidenskaben, 1907, lxviii, 1241.

[2] Paralysis in Teething Children, Am. Jour. Med. Sci., 1843, v, 248.

It seems only proper that physicians generally should now something about a great member of the profession ke this and should lead others to appreciate the work at he has done. Drummond did not write for name r fame, much less for money. As a writer in the Febuary number of *Putnam's Magazine* says: "Many of is poems were well-known in the cities and camps of the ominion of Canada, having crept into newspapers and een circulated from hand to hand long before their uthor was persuaded by his wife, a critic much more ust than he, to turn out the contents of his desk and llow the first collection to be given to the world in an uthorized form." His book had an immediate success. The Habitant" was different from anything heretofore roduced on this continent. It revealed to the English-peaking people of North America an intensely intersting race—the people of New France—described with ympathy by a man who knew them and had the magical ift of making them live. As a proof of how much more nfluential in serious things ideas may be than deeds, it ay be said without exaggeration that Dr. Drummond's ook did more to make the two great divisions of the anadian people, the French of lower Canada and the nglish of upper Canada, sympathetic toward one anther than all their community of government under nglish rule and supposed identity of political intersts for several centuries.

This thoroughly sympathetic poet, who knew his uman beings, humble though they were, and unchooled, and who depicted them so vividly, is a striking xample of what may be accomplished by the patient bserver who sees the best in human nature and reflects t in the mirror of a soul unspoiled by pessimism. Unoubtedly, his profession did much to train Dr. Drumnond in his beautifully sympathetic attitude, and his ife, therefore, becomes an incentive to others to look p, not down, within, not without, and to realize that his may not be the best of all possible worlds, but that here are so many compensations for the bad in it, that t is not more than a half bad place after all.

THE SPECIFIC TREATMENT OF HYDROPHOBIA

Since Pasteur in 1885 gave to the world his method of treating rabies by subcutaneous injection of fixed virus prepared from the spinal cord of inoculated rabbits by the process of drying, a number of other methods have been suggested and tested in a practical way. All, however, must be considered as modifications of the method of Pasteur and are based on the fundamental principles which he first discovered.

Chief among these modifications may be mentioned that of Högyes, who, instead of using the dried cord, begins with injections of a highly diluted virus and gradually increases the concentration until immunity is established. The Babes-Puscariu method is based on the fact pointed out first by Babes and later by Puscariu that the virulence of the cord is diminished by heat and the loss of virulence is proportional to the time of exposure. The same effect may be produced by heating at different temperatures for a given time (ten minutes).

Tizzoni and Centanni found that the virus may be reduced in intensity by exposure to gastric juice, and the application of this fact in the preparation of fixed virus has come to be known as the Italian method.

A third method is that of Ferran. Nitsch demonstrated on himself what had previously long been surmised, namely, that the human organism is not highly susceptible to fresh fixed virus. He injected 2 c.c. of an emulsion made from a piece of fresh cord, 5 millimeters long, removed from an animal of the eight hundred and fifty-eighth passage. This was of such virulence that 1/1,000 of this amount would kill a normal rabbit in seven days; yet in him it caused only a slight local reaction. Now the method of Ferran in Barcelona consists in the subcutaneous injection of fresh fixed virus of full strength. The results are satisfactory, the mortality in the first thousand cases treated being only two. The results also show the harmlessness of the fixed virus when injected into man.

The original Pasteur method of injecting at frequent intervals fixed virus weakened by desiccation and then gradually increasing the strength until the fresh virus is given is still, however, the one most used. The preparation of the virus and the necessity of using it fresh requires that the treatment by this method be carried on in properly equipped institutions, and on this account Pasteur institutes, as they are called, have been established in various parts of the world for this special purpose. The objections to this method are obvious. In the first place, considerable time may be lost in bringing a patient bitten by a rabid animal to such an institution from remote parts of the country. Time is important in all cases, and especially in injuries about the face and head. The expense of traveling long distances must be mentioned, too, as an element of special importance in the case of poor people. To meet these objections to the Pasteur method, as well as others such as the danger of infection, abscess formation or septicemia, is a problem well worth study. Fermi[1] believes that he has met many of the objections, but to what extent has not been determined, since his method has not yet been tested on human beings. His results with animals, chiefly rats, appear promising. By adding 1 per cent. carbolic acid to fixed virus and using large quantities he obtains a satisfactory virus which preserves its efficiency for at least four months. Other antiseptics were tried, but none was found so satisfactory as carbolic acid.

If some such preparation as this proves effective and its potency does not deteriorate rapidly, it may be feasible to keep it on hand at central depots so that in cases of injury from rabid animals the treatment can be started at once and carried out under the direction of the home physician in the same way as we at present treat diphtheria with antitoxin.

THE LANCET LIBEL CASE.

Our British contemporary, the *Lancet,* recently lost a libel suit brought against it by the English agent for an American nostrum; the details have been given in our London letter.[1] That the *Lancet's* criticism of the nostrum should have contained a statement that was not capable of documentary proof is unfortunate. Yet we incline to the belief that out of this evil will come much good. The trial and its result have awakened the public and the medical profession in England to the widespread use of habit-forming nostrums, and a vigorous crusade is now being waged against this evil.

The trial brought to light two facts that are worthy of consideration. One was that no fewer than three physicians—not irregulars, but licensed practitioners—admitted on the witness stand that they either had used the nostrum themselves or had prescribed it for their patients. This indicates that the moral and financial support given "patent medicine" manufacturers by the thoughtless prescribing of nostrums is not confined to this side of the Atlantic. The other was the surprising ignorance of the judge on the subject of chronic cocainism. When the evil of allowing the indiscriminate sale of a remedy containing cocain was before the court, Judge Ridley made the following remarkable statement: "Surely it (the cocain habit) must be infrequent. I thought it was chiefly to be found among the Indians of South America." Another remark of the judge is worth noting as indicative of his attitude toward the defendants throughout the trial. Alluding to the nostrum vendor's practice of supplying his "specific" on trial for a fortnight, his lordship remarked that it seemed to be "a case of no cure, no pay—a thing you don't get from many doctors." When we bear in mind the enormous influence judicial comments have with British juries the verdict is not altogether a surprise.

In an editorial commenting on the result of the trial the *Lancet* states that "the verdict leaves us strictly unrepentant," and, while in the future "the expressions used must be those which can not be so easily challenged . . . our policy must remain unaltered." The unpleasant necessity may, therefore, again arise for the *Lancet* to justify its eminently proper attitude toward quacks and quackery. When this occurs it is to be hoped that the case will not be tried before a judge whose ignorance of drug addictions causes him to think that cocainism is "chiefly to be found among the Indians of South America."

In conclusion, we can not resist the suggestion that while the *Lancet* is investigating American nostrums as sold to the public direct, it might with propriety examine those offered to physicians, whose claims appear in its own advertising pages.

THE RESULTS OF ONE MEETING.

The widespread influence of a frank discussion of existing evils is shown by an editorial in the *New Orleans Picayune,* Sunday, February 2. Nearly a column of space on the editorial page is devoted to a report of a recent joint meeting held by the Chicago Medical Society and the Chicago druggists. After commenting on the war which is being waged on "patent medicines" and the harm resulting from the use of such preparations, the *Picayune* says: "There are many pharmacists who deplore the use by physicians of these ready-made compounds. . . . Many leading physicians are realizing the importance of such a reform and are uniting with the pharmacists in the effort to secure such a result." In such joint meetings the *Picayune* sees a possibility "of a real reform that will put all medication on its merits and redound to the proper protection of the people, both sick and well." That the Chicago meeting was productive of much good locally was recognized. That the influence of the meeting should have extended as far as New Orleans is gratifying. It is even more gratifying to have such newspapers as the *Picayune* recognize the importance of the "patent medicine" evil and the need of united efforts to correct it.

CANADIAN NATIONAL BUREAU OF HEALTH.

Possibly influenced by the suggestions afforded by the movement in this country for a national health bureau and the arguments advanced in favor of it, our Canadian neighbors are also taking up the subject. The medical members of the Dominion House of Commons have started an effort to impress on the government the advisability of federal supervision of health matters instead of leaving it, as heretofore, to be a purely provincial affair. They, like ourselves, can see the evils of ununited effort and with more reason it may be, since there is not the degree of general oversight and control that is to be found on this side of the line in our general pure food law and in the functions of the U. S. Public Health and Marine-Hospital Service. The problems to be met in Canada are not so numerous as those existing n this country with its greater climatic range, but there re enough to make their successful solution matters of ational and not merely of local importance, and they re certain to be still larger in the future. The movement does not aim, it is understood, to interfere with the ork of provincial boards in purely local matters, but to upplement and unify their work and to make practiable such needed measures as can not be secured in perection by divided effort. We can cordially wish our anadian brethren success; a scientific dominion health oard cooperating with an organized department or ureau with similar powers on this side of the boundary hould be a far more satisfactory arrangement for setling future problems than that now existing.

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[1] Zeit. f. Hyg., 1907, lviii, p. 233.

[1] The Journal A. M. A., Jan. 11, 1908, 133; Feb. 15, 1908, 543.

Medical News

ARKANSAS.

Hospital Opened.—The new hospital for colored people at Fort Smith was opened with formal ceremonies February 17.

Epidemic Diseases.—Whooping cough and measles are reported to be epidemic at De Witt.——On account of an epidemic of measles at Bearden, the public schools have been losed for two weeks.

Personal.—Dr. Pearl H. Tatum, Eureka Springs, has been appointed a member of the Eclectic State Medical Board.——Dr. Harry Payne, Hot Springs, has accepted the position of chief surgeon of the Stillwell railroad over the Andes, and will have his headquarters at La Paz, Bolivia.——Dr. Robert L. Caldwell, Pine Bluffs, has been placed in charge of the medical department of the Arkansas National Guard.

Arrested and Fined.—James S. Fulton, an unregistered practitioner of Hot Springs, who was charged with assaulting an officer, is said to have been sentenced to pay a fine of $50 and to be imprisoned for 70 days in the city jail.——Dr. George W. Fulton, son of the foregoing, was arrested January 25, charged with violating the act of Congress, by giving a prescription to a patient, instructing him to take baths on the reservation.

Society Meetings.—At the annual meeting of the Pulaski County Medical Society, held in Little Rock, the following officers were elected: President, Dr. John R. Dibrell; vice-president, Dr. Orange K. Judd; secretary, Dr. John G. Watkins; treasurer, Dr. Stradder U. King, all of Little Rock.——At the annual meeting of the Phillips County Medical Society, held in Helena, Dr. Montague Fink, Helena, was elected president; Dr. John W. Bean, Trenton, vice-president, and Dr. Clifford H. Trotter, Helena, censor.——The Sebastian County Medical Society, at its annual meeting, held in Fort Smith, elected Dr. Herbert Moulton, president; Dr. James G. Omelvena, vice-president; Dr. Charles S. Holt, secretary, and Dr. James A. Foltz, treasurer, all of Fort Smith. Dr. St. Cloud Cooper succeeded himself as censor.——The Benton County Medical Society held its annual meeting in Gentry and elected Dr. Joseph L. Clemmer, Springtown, president, and Dr. James H. Beard, Gentry, secretary-treasurer.

CALIFORNIA.

Progress in the Fight Against Plague.—The special correspondent of THE JOURNAL in San Francisco telegraphed February 25, that there had been no cases of human bubonic plague since his last report, and that the proportion of disease in the rats examined had decreased to 1.3. About 200 more men have been placed on the work of rat extermination, and are paid from the fund raised by subscription. This fund will aggregate about half a million dollars. During five days of last week, 10,345 rats were caught, or almost double the number caught in the previous week. Proceedings against the nuisances in Butchertown have been taken; many buildings in that section will be condemned and destroyed. The work is being actively supported by the citizens, and backed by the Bar Association.

Society Meetings.—At the annual meeting of the San Joaquin County Medical Society, held December 30, the following officers were elected: Dr. Edgar A. Arthur, president; Drs. J. Porterfield Hull and Mary C. Taylor, vice-presidents, and Dr. B. F. Walker, secretary-treasurer, all of Stockton.——The Redlands Medical Society at its meeting held recently, took over the San Bernardino County Medical Society, which had been moribund for two years, and then submitted its local name for that of the county organization and elected the following officers: President, Dr. D. C. Strong, Redlands, and secretary, Dr. Antoinette M. Bennett-Nash, San Bernardino.——At the annual meeting of the San Diego County Medical Society, held January 3, the following officers were elected: President, Dr. Fred R. Burnham; vice-president, Dr. Fred Baker, and secretary-treasurer, Dr. R. E. Austin, all of San Diego.——At a meeting of the Yolo County Medical Society, held in Woodland, January 14, Dr. Thomas W. Gallion, Davisville, was elected president; Dr. Hiram D. Lawhead, Woodland, vice-president, and Dr. Frances L. Newton, Woodland, secretary-treasurer.——At the annual meeting of the Butte County Medical Society, held in Chico recently, the following officers were elected: President, Dr. Lewis Q. Thompson, Gridley; vice-president, Dr. Charles L. Browning, Chico; secretary-treasurer, Dr. Ella F. Gatchell, Chico, and censor, Dr. Newton T. Enloe, West Branch.——The Santa Barbara County Medical Society, at its annual meeting, January 13, elected the following officers: President, Dr. William T. Barry, Santa Barbara; vice-president, Dr. William A. Rowell, Goleta; secretary-treasurer, Dr. David A. Conrad, Santa Barbara; vice-presidents at large, Drs. Lambert B. Coblenz, Santa Maria, and Reuben W. Hill, Carpenteria; and members of the house of delegates, Drs. William T. Barry and Rexwald Brown, Santa Barbara.——At the annual meeting of the Stanislaus County Medical Society, held in Modesto, January 16, the following officers were elected: Dr. W. J. Wilhite, president; Dr. Herbert C. Watts, vice-president; Dr. Benjamin F. Surrhyne, secretary and treasurer, and Dr. Herbert C. Watts, delegate to the state society, all of Modesto.——At the annual meeting of the Fresno County Medical Society Dr. Albert H. Taylor was elected president, and Dr. Thomas M. Hayden, treasurer, and Dr. L. R. Willson was re-elected secretary, all of Fresno.

ILLINOIS.

Chicago Personal.—Dr. and Mrs. E. Fletcher Ingals have returned from an extensive tour of Mexico.——Dr. Jacob Frank has had conferred on him the insignia of the Red Cross of Japan.

Must Not Spit.—Chicago has resumed enforcement of the antispitting ordinance. February 24, twenty-one men who had been arrested in the downtown districts for spitting on sidewalks and platforms, were found guilty and fined $1 and costs each.

Cocain Case.—One of the officers and two clerks of a prominent firm of wholesale druggists have been arrested on complaint of the State Board of Pharmacy, charged with selling cocain without a physician's certificate or failure to keep a register of the cocain sold. The cases were continued.

Gynecologists Mourn.—Resolutions regarding the death of the late Nicholas Senn were passed at the last meeting of the Chicago Gynecological Society, February 21, setting forth the indebtedness of the society and its members to the late Dr. Senn, acknowledging their obligations to him, and expressing their loss in his death.

Communicable Diseases.—The Waukegan board of health has procured 4,000 vaccine points from the State Board of Health, and general vaccination is ordered.——At a meeting of the health officers and the authorities of the University of Illinois, in Champaign, it was agreed that the local boards carry out the instruction of the State Board of Health regarding vaccination.——Smallpox is reported from Astoria, Loami, Lacon, Chandlerville and Melvin.——An epidemic of diphtheria is threatened at the Illinois Central Hospital for the Insane, Jacksonville, where 3 cases have occurred, with one death.——Diphtheria is still present in Whitehall.——The health department of Chicago discovered 4 cases of scarlet fever among the inmates of the John Worthy School, February 18.

INDIANA.

Hospital Notes.—The Good Samaritan Hospital, Vincennes, which has been built and equipped at a cost of $50.000, was thrown open to the public February 6. The lower floor contains two public wards with accommodation for six patients and five private wards; the second floor contains six private wards, a children's ward and operating apartments. An emergency operating room is located in the basement.

Communicable Diseases.—There are reported to be 400 cases of measles in Montgomery County, and several of the county schools will be closed on account of the epidemic.——Three cases of smallpox have developed near Wawaka.——During the smallpox visitation at Alexandria, about 69 cases had occurred up to January 16. The epidemic is now believed to be at an end.——Two fully developed cases of smallpox have been discovered at Marion.——Several cases of smallpox are reported in one family in Wanatah.——"Wabash scratches" is said to be prevalent at Mexico.——There are said to be 54 cases of scarlet fever and diphtheria in Allen County.

Personal.—Dr. William H. Wishard, the oldest member of the Indianapolis Medical Society and the State Medical Society, celebrated his ninety-second birthday anniversary January 17.——Dr. T. Victor Keene, former state bacteriologist, has taken the Pasteur treatment on account of accidental inoculation from the brain of a dog suffering from hydrophobia.——Dr. Warren R. King, Greenfield, has been appointed assistant surgeon of the Indiana State Soldiers' Home, Lafayette.——Dr. Joseph F. Somes, Vincennes, is said to be seriously ill with septicemia.——Drs. Robert J. Kemper, Ferrell W. Dunn and John A. Leas have been appointed house physicians of the Deaconess Hospital, Indianapolis.

Society Meetings.—At the December meeting of the Elkhart County Medical Association Dr. J. Albert Snapp, Goshen, was elected president, and Dr. George W. Spohn, Elkhart, secretary.——The preliminary meeting for organization of the Eleventh District Medical Society was held in Peru, January 31. The following officers were elected: President, Dr. Charles H. McCully, Logansport; county vice-presidents, Cass County, Dr. Henry B. Hill, Logansport; Miami County, Dr. Edward H. Griswold, Peru; Carroll County, Dr. Charles M. Kennedy, Camden; Grant County, Dr. Daniel A. Holliday, Fairmount; Huntington County, Dr. Helen K. McIlvaine, Huntington; White County, Dr. Madison T. Didlake, Monticello; and Wabash County, Dr. Lorin W. Smith, Wabash; and secretary-treasurer, Dr. Maurice H. Krebs, Huntington. The next meeting of the society is to be held in Logansport, April 29.

IOWA.

Cows Inspected.—Beginning with February 18, all milk and cream sold in Iowa Falls must be from inspected cows. The city council on February 10 passed an ordinance requiring milk inspection as provided by the State Board of Health.

Itinerant Physicians.—The State Board of Health announces that there are now only four physicians licensed as itinerant physicians in the state of Iowa. The licenses of three of these individuals expire Aug. 23, 1908, and that of the fourth on Jan. 21, 1909.

Election.—At the annual meeting of the Iowa Society of Clinical Surgery, held in Des Moines, February 5, Dr. Wilton W. McCarthy, Des Moines, was elected president; Dr. Donald Macrae, Council Bluffs, vice-president, and Dr. David S. Fairchild, Jr., Clinton, secretary-treasurer.

Communicable Diseases.—Two cases of cerebrospinal meningitis are reported near Morning Sun, with one death.——Several smallpox patients and suspects of an itinerant band of musicians are under quarantine at Alden.—Graettinger reports two cases of smallpox.——Several cases of smallpox are said to exist near Eddyville.——On account of the prevalence of smallpox, rural school No. 7, Liscomb Township, Marshall County, has been closed.

Personal.—Dr. Albert De Bey, Orange City, has been appointed a member of the State Board of Health, vice Dr. Fred W. Powers, Waterloo, term expired.——The medicolegal committee of the state medical association, composed of Drs. David S. Fairchild, Clinton; Joseph M. Emmert, Atlantic, and Lawrence W. Lettig, Iowa City, has employed the firm of Wade, Dutcher & Davis to look after all cases of malpractice brought against members of the association.——Dr. William L. Becker, Dubuque, has been reappointed physician for Dubuque Township.

State Sanatorium.—The State Sanatorium for the Treatment of Tuberculosis, Iowa City, was opened February 1 for the treatment of pulmonary tuberculosis in the incipient stage, and now has 11 patients. The sanatorium has been completed at a cost of more than $125,000, and is equipped with all modern appliances. A very large list of applications for admission has been received, but many persons have been refused on account of the advanced stage of the disease. Inquiry in 1904 by the State Board of Control disclosed the fact that there were 8,000 cases in the state at that time, and that nearly 2,000 deaths occur each year from the disease.

Society Meeting.—The monthly meeting of the Dubuque County Medical Society was held February 10. There were 3 present. The members of the Dubuque District Dental Society were the guests of the evening. The annual dues were raised from $4 to $5. Rev. A. E. Kepford, lecturer for the Iowa State Board of Control, who had just finished a week's campaign of education against tuberculosis in the city, gave a short address and incidentally complimented the physicians of the county on their unity of purpose and the effective manner in which the public lectures were arranged and carried out. Twenty lectures on tuberculosis, many with stereopticon views, had been given by Mr. Kepford and over 5,500 people reached in this way. In addition hundreds of tracts were distributed to school children and mothers. The society committee having the matter in charge consisted of Drs. George Minges, John S. Lewis, Albert H. Blocklinger, Lily Kinnier and Mary A. Killeen. The remaining portion of the program was as follows: 1. "Anesthesia," Dr. Charles M. Linehan. Discussion by Drs. William P. Slattery, Bernard A. Michel, William L. Becker, Joseph Schrup and John M. Walker. The following doctors of dental surgery took part in the symposium: Drs. J. V. Conzett, J. F. McParland and J. A. Meshinger. 2. "Clinical Findings of Autointoxication," by Dr. Alanson M. Pond. Discussion (surgical), Dr. John C. Hancock; (medical), Drs. George A. Staples, Frank W. Wieland, Albert H. Blocklinger, Mary A. Killeen and Langworthy. 3. Demonstration of pathologic specimens.

MARYLAND.

Pure Food Law.—Dr. William H. Welch, president, and Dr Marshall L. Price, secretary, of the State Board of Health, appeared before the committee on hygiene of the House of Delegates, February 20, to urge that the enforcement of the provisions of all the pure food laws be lodged in the State Board of Health.

Drainage Commission.—William M. Hill has had a bill introduced in the legislature for the appointment of a sanitary drainage commission, consisting of the governor, secretary of the State Board of Health, commissioner of health of Baltimore, state entomologist and state geologist. This bill provides for the drainage of swamp lands, the extermination of the mosquito, and also provides for the appropriation of $25,000, of which $15,000 is to be used for drainage.

Care for the Indigent Insane.—A bill has been introduced into the legislature by Senator Gorman repealing the law by which the state is obligated to take over and care for the indigent insane beginning Jan. 1, 1909. He claims that the law is impracticable and would involve the state in enormous expense. Dr. George J. Preston, Baltimore, has protested against this action, claiming that the state treasury is in excellent shape, and that the state is well able to take care of its insane and to provide suitable quarters for them.

Personal.—Dr. Harry Nalley, Mount Rainier, has been elected medical advisor and physician to the Maryland Agricultural College, College Park.——Dr. Howard Bratton, Elkton, has been appointed a member of the State Board of Health.——Dr. Charles M. Ellis, Elkton, has been appointed a member of the board of managers for the Hospital for Consumptives of Maryland, Baltimore.——Dr. W. Frank Hines, Chestertown, has been appointed superintendent of the bureau of immigration.——Dr. John Mace, Cambridge, has been appointed election supervisor.

Baltimore.

Personal.—The governor has appointed Drs. G. Milton Linthicum, Frederick Caruthers, William T. Riley, Patrick F. Martin, Roland T. Abercrombie, Silas Baldwin, Herbert Black, Otto M. Reinhardt and Thomas Sudler as coroners of Baltimore City.——Douglas H. Thomas, Jr., Baltimore, has been appointed a member of the State Board of Health.——J. S. Ames, Baltimore, has been appointed a member of the board of managers of the Hospital for Consumptives of Maryland.——Dr. J. Dimmitt Norris has been appointed police examiner for Baltimore.——Dr. Anna V. Hoffman left for Pekin, China, February 17.

The Johns Hopkins Hospital Report.—The superintendent of Johns Hopkins Hospital reports that during 1907 there were 4,576 patients in the hospital, 2,137 males and 2,439 females. At the close of the year there were 231 white patients and 72 colored patients in the hospital. There were 4,859 persons treated, of whom 3,779 were white and 1,080 colored; 1,466 were medical cases, 1,685 surgical, 986 gynecologic and 439 obstetric. Of these 3,543 were discharged well and improved; 107 remained unimproved; 353 discharged without improvement; 282 were transferred, and 271 died. The lowest mortality on record occurred during the year, 5.57 per cent.

Antituberculosis Movement.—The movement against tuberculosis, which Dr. William Osler started in Baltimore in 1904, has borne good fruit. Several institutions are now open or about to be established for the treatment of tuberculosis. Among these are the State Sanatorium, Blue Ridge, which is to be opened April 1, with accommodations for 250 patients. The work on the Jewish Hospital for Consumptives, to accommodate 60 patients, is now well in hand. The Knights of Columbus are urging to completion the Catholic sanatorium to accommodate about 60 patients. The free tuberculosis dispensary, the fifth to be established, will be opened in South Baltimore, thus giving one dispensary to every section of the city. The Instructing Visiting Nurses' Association is now supporting four nurses, who have 1,100 patients on their lists. The work is now extending to the counties, and the Maryland Association for the Prevention and Relief of Tuberculosis now has branches in four counties. In Frederick City a fund is being raised to support a visiting nurse and a dispensary. An addition is also being made to the Eudowood Hospital for Consumptives with the Bloede fund, and an addition is also being made to Bayview Hospital of a department for consumptives, accommodating 100 patients.

MASSACHUSETTS.

Contract for Hospital Awarded.—The contract for the construction of a ward building, power house and tunnel for the Consumptives' Hospital, Mattapan, has been awarded on a bid of $87,434.

Physician Fined.—Dr. Charles P. Feeley, Cambridge, formerly inspector of the local board of health, charged with having failed to report two cases of scarlet fever, while acting as medical inspector for the schools, is said to have been fined $100 February 15, $50 on each of two counts. Dr. Feeley took an appeal.

Communicable Diseases.—On account of the prevalence of measles one school in Middleboro has been obliged to close. ——Scarlet fever is reported to be epidemic in the Ingleside Home for Girls, Revere; 4 patients have been removed to the Lynn Isolation Hospital and 19 others are quarantined in the house.

Personal.—Dr. Henry J. Millard, North Adams, has been re-elected medical examiner of the Massachusetts department of the G. A. R.——Dr. Frank H. Chase has been appointed city physician of Chelsea, vice Dr. E. Frank Guild.——Dr. Daniel J. Hanlon, Hyde Park, was seriously burned while saving his wife from a fire, February 10.

Publicity Not Desired.—At the annual meeting of the Essex North District Medical Society resolutions were adopted deprecating the publication in the daily press of physicians' names, in connection with their cases, operations and professional work; declaring that such publication is against the wishes of the members of the society, and that it is the duty of each physician to prevent the appearance of his name in such connection, and requesting the publishers of the daily press to omit such mention.

Society Meetings.—At the annual reunion and banquet of the Boston City Hospital Alumni Association February 15, Dr. Morton H. Prince was elected president; Dr. Henry W. Broughton, vice-president; Dr. William H. Robey, Jr., secretary, and Dr. William H. Prescott, treasurer.——At the annual meeting and banquet of the Eastern Hampden District Medical Association, held in Springfield February 13, Dr. Herbert G. Stetson, Greenfield, was elected president; Dr. Harry C. Martin, Longmeadow, Springfield, vice-president; Dr. Morgan B. Hodskins, Monson, secretary-treasurer, and Dr. W. I. G. Craig, Springfield, censor.

MINNESOTA.

Societies Meet.—At the annual meeting of the Brown-Redwood Counties Medical Society, held in New Ulm, February 5, Dr. John S. Shrader, Springfield, was elected president; Dr. Jacob W. B. Wellcome, Sleepy Eye, vice-president; Dr. William A. Brand, Redwood Falls, secretary-treasurer, and Dr. George F. Reineke, New Ulm, delegate to the state society.——At the annual meeting of the Red River Valley Medical Society, held in Crookston, January 28, Dr. J. Calvin Cummings, St. Hilliare, was elected president; Dr. Halvor Holte, Crookston, vice-president; Dr. Herbert H. Hodgson, Crookston, secretary-treasurer; Dr. Henry C. Stuhr, Argyle, censor, and Dr. Israel Lemieux, Red Lake Falls, delegate to the state society.——The Nicollet-Le Sueur Counties Medical Society held its annual meeting at Le Sueur, January 24, and elected Dr. George F. Merritt, St. Peter, president; Dr. Joseph E. Le Clere, Le Sueur, vice-president; Dr. Jared W. Daniels, St. Peter, secretary-treasurer, and Dr. Fred P. Strathern, St. Peter, delegate to the state society.——At the annual meeting of the Clay-Becker Counties Medical Society, held in Moorhead, January 27, Dr. George W. Frazier, Detroit, was elected president; Dr. W. H. Aborn, Hawley, vice-president; Dr. Edgar R. Barton, Frazee, secretary-treasurer, and Dr. William J. Awty, Moorhead, delegate to the state society.——At the annual meeting of the Washington County Medical Association, held in Stillwater, January 15, the following officers were elected: Dr. Frederick A. Stevens, Lake Elmo, president; Drs. James H. Haines, Stillwater, and Arthur Steen, Cottage Grove, vice-presidents; Dr. Frank G. Landeen, Stillwater, secretary-treasurer, and Dr. Oscar F. Thomas, Lakeland, censor.——The Park Region Medical Society held its annual meeting in Fergus Falls, January 16. The following officers were elected: Dr. Luther A. Davis, Dalton, president; Drs. Frank J. Brabec, Perham, and Jorgen G. Vigen, Fergus Falls, vice-presidents; and Dr. Otto M. Haugen, Fergus Falls, secretary-treasurer.——The annual reunion and dinner of the Minnesota Wiener Medicalverein was held January 18 in Minneapolis. Dr. William S. Kelly, St. Paul, was elected president; Dr. Louis A. Nippert, Minneapolis, vice-president; and Dr. Charles G. Freeman, St. Paul, secretary-treasurer.——The Upper Mississippi Valley Medical Society at its meeting in Little Falls, January 21, elected Dr. Lemuel M. Roberts, Little Falls, president; Dr. Oliver T. Batcheller, Brainerd, vice-president; and Dr. Paul E. Kenyon, Wadena, treasurer.——Alpha Omega Alpha is the name of the new fraternity installed in the University of Minnesota College of Medicine and Surgery, Minneapolis. Dr. G. Marx White is the faculty member of the local organization, the remainder of the membership being composed of senior and junior students.——The Blue Earth County Medical Society held its annual meeting in Mankato, January 2. The following officers were elected: Dr. Julian H. Hielscher, Mankato, president; Dr. J. Theodore Schlesselmann, Good Thunder, vice-president; Dr. Thomas C. Kelly, North Mankato, secretary; Dr. Lida Osborn, Mankato, treasurer; Dr. George R. Curran, Mankato, censor for three years; Dr. John S. Holbrook, Mankato, censor to fill unexpired term; Dr. John W. Andrews, Mankato, delegate to the state medical association, and Dr. John Williams, Lake Crystal, alternate.——At the annual meeting of the Winona County Medical Society, held in Winona, January 7, the following officers were elected: Dr. Frederick H. Rollins, St. Charles, president; Dr. John Steinbach, Winona, vice-president; Dr. James B. McGaughey, Winona, secretary; Dr. Leland H. Munger, Winona, treasurer, and Dr. William F. C. Heise, Winona, censor.

MISSOURI.

State Society Meeting.—The Missouri Medical Society will meet at Springfield instead of at Sedalia as originally announced, May 18 to 20.

Personal.—Dr. Charles J. Orr is reported to be dangerously ill with grippal pneumonia at his home in St. Louis.——Dr. William M. Wallis, Maryville, has been appointed health officer and physician of Nodaway County, vice Dr. Francis R. Anthony.

State Sanatorium.—Work is progressing rapidly on the second (Eaton) villa and on the medical building for the Missouri State Sanatorium for Incipient Pulmonary Tuberculosis at Mount Vernon. The villa is practically completed, and it is hoped that it will be ready for occupancy by the middle of next month. Thus far the number seeking admission will not be sufficient to fill the villa.

NEBRASKA.

Society Meetings.—At the annual meeting of the Gage County Medical Society, held in Beatrice, January 7, Dr. Frank E. Osborn was elected president; Dr. Charles S. Curry, vice-president; Dr. Charles I. McGirr, secretary, and Dr. Thomas M. Triplett, censor, all of Beatrice.——At the annual meeting of the Buffalo County Medical Society, held in Kearney, January 22, Dr. Edwin L. Smith, Shelton, was elected president; Dr. Ole Grothan, Kearney, vice-president and delegate to the state society; and Dr. Joshua S. Blanchard, Kearney, secretary-treasurer.——At the quarterly session of the Howard County Medical Society, held in St. Paul, the following officers were elected: Dr. Edward R. Fletcher, St. Paul, president; Dr. Peter M. Pedersen, Dannebrog; secretary-treasurer, Dr. Wilson J. Raynor, South Auburn, delegate to the state society.——The Johnson County Medical Society at its annual meeting, January 21, elected the following officers: President, Dr. Charles H. Ziegler, Vesta; vice-president, Dr. George J. Rubelman, Tecumseh; secretary-treasurer, Dr. C. R. Snell, Tecumseh;

censor, Dr. Sullivan Howard, Elk Creek, and delegate to the state society, Dr. Albert P. Fitzsimmons, Tecumseh.

NEW YORK.

Diphtheria in Yonkers.—Because of the outbreak of several cases of diphtheria in Yonkers, the health department has begun a complete investigation of the sources of milk supply.

Money for Hospital.—At a combination of luncheon, matinee and tea arranged by Mrs. William K. Vanderbilt for the Nassau Hospital, Mineola, L. I., more than $5,000 was cleared for the institution.

Antispitting Ordinance.—The board of health of Olean has provided an ordinance, making it a finable offense to spit in street cars, railway cars or on the floor or stairs of any store or public building, or any office or public place in that city.

Champlain Valley Hospital.—This hospital has received a bequest of $25.000 to complete a building on which $50,000 has been raised by popular subscription and already spent, and an endowment of $200,000 from the late Royal L. Smith, Plattsburgh.

Optometry Bill Again Introduced.—Senator Wilcox has introduced a bill at Albany which recognizes optometry as a profession. The committee of legislation of the Medical Society of the County of New York is active in the prevention of its passage. Heretofore this bill has been defeated.

Communicable Diseases.—At Newburgh 4 cases of smallpox were reported in 36 hours, one of the patients being a principal of a school containing 800 pupils. The school has been closed, and the board of health has commandeered a large house on the outskirts of the city, to be used as an isolation hospital.——At Peekskill 70 cases of typhoid fever are said to exist.

Personal.—Dr. Thomas A. O'Hare has been elected president; Dr. Joseph R. Culkin, vice-president; Dr. Philip Conboy, secretary-treasurer, and Dr. James P. Brady, a member of the staff of St. Mary's Hospital, Rochester.——On the retirement of Dr. Albert J. Browne as attending physician of the Masonic Home, Utica, February 6, he was presented by the superintendent and nurses with a cut-glass decanter and glasses.——Dr. Milton D. Graham, Utica, has resigned as district physician on account of ill-health.——Dr. Scott W. Skinner has been elected president of the Leroy Antituberculosis Association.

Hospital Notes.—The common council of Lockport has decided to build an addition to the City Hospital in memory of Morrison R. Evans, who bequeathed $10,000 for that purpose. ——The physicians of Lockport, at a meeting held recently, formulated plans for the creation of a staff for the City Hospital, which was formally opened February 3. Dr. S. Wright Hurd has been elected chairman, and Drs. Henry H. Mayne, Charles N. Palmer, Flavius J. Baker and William H. Hodson, members of the advisory board.——With one dissenting vote the members of the Auburn Medical Society approved the resolution to turn the Municipal Hospital into a hospital for the treatment of tuberculosis.——A permit has been issued to the Buffalo General Hospital for the building of a new hospital on the other side of Goodrich Street, to cost $35.000. The funds for the purpose were bequeathed by the late Dr. D. W. Harrington.

Meat Inspection Needed.—The Citizens' League declares there is a need for state meat inspection and regulations to restrict the spread of bovine tuberculosis. There is no effective inspection in the state, and diseased cows are killed and sold to consumers without any check on their healthfulness as food. It was evident that in a large number of small establishments which escaped adequate inspection up to the time of the passage by Congress of the law of 1906 nearly two and a half times as many tuberculous cattle were being killed and prepared for consumption, and nearly twice as many cattle affected with all kinds of diseases. The federal postmortem inspection of cattle in New York State, Oct. 1, 1906, to Sept. 3, 1907, shows the following: At establishments having inspection before July 1, 1906, total inspected postmortem, 473,411; total condemned, 451; per cent. condemned of total inspected 0.095. At establishments put under inspection July 1, 1906, total inspected postmortem, 112,549; total condemned, 343; per cent. condemned of total inspected, 0.304. In this state 138 establishments which had previously escaped federal inspection were brought under such inspection by the law of 1906. Of these 2 are in Binghamton, 28 in Brooklyn, 9 in Buffalo, 8 in Canajoharie, 1 in Cortland, 1 in Hudson, and 83 within the boundaries of the old city of New York, 2 in Rochester, 2 in Syracuse and 1 in Troy.

Bovine Tuberculosis.—Prof. Veranus A. Moore of the New York State Veterinary College has prepared a report for th joint committee on the prevention of tuberculosis of the New York Charity Organization Society and the milk committee o the New York Association for Improving the Condition of th Poor, showing the extent of the spread of bovine tuberculosi in this state. Making a total of all tests to which his atten tion has been called, he finds that 61.7 per cent. of 626 herds are affected, and that more than 33 per cent. of all cattle exam ined were affected. Professor Moore bases his conclusions o data obtained from the State Department of Agriculture and on statistics obtained from practicing veterinary surgeons throughout the state. Professor Moore says that about 2 per cent. of the affected cattle have the disease localized in the udder and that of the remainder 15 per cent. give off the bacteria at some time in the course of the disease. He recommends that the state pass more rigid laws regarding the introduction of infectious cattle into the state, providing for an equable disposition of the reacting animals, extending the power of inspection to properly qualified veterinarians and providing instructions for the owners of herds.——Five of eight cows kept on the Watervliet Arsenal Reservation were found to be infected with tuberculosis. One of the animals killed for beef showed that it was badly diseased. State Veterinarian W. H. Kelly examined the living animals and caused four to be killed.

State Hospitals.—Dr. Charles F. MacDonald states that there are in this state 29.000 certified lunatics, not to mention the large number of border-line cases who were at any time likely to require medical care and attention. The average life of the insane is twelve years and the annual per capita cost of maintenance is about $200; therefore, each person who fails to recover during this period represents a loss to the state of $2,400; whereas, a sane man for a like period represents a gain of $2,400. To-day there are fifteen state hospitals for the insane (two for insane criminals), and twenty-two licensed institutions for the insane. The whole number of committed insane in the public and private hospitals of the state at the end of the fiscal year, Sept. 30, 1907, was 29,093 (13,927 men and 15,166 women). The whole number of insane in licensed private institutions was 977. The net increase for the fiscal year in all institutions was 791; in the state hospitals, including the criminal asylums, the net increase was 799. The number of resident medical officers in state hospitals was about 150, and attendants, nurses and other employés, 5,000. The cost of the state hospitals represented an investment of more than $26,000,000, while the average annual expenditure for their maintenance was about $5,000,000. The average weekly per capita cost of maintenance was for the last fiscal year $3.53. This weekly rate was somewhat higher than the average for the whole United States, in which the number of insane was roughly estimated at 200,000.

Report of State Department of Health.—Dr. Eugene H. Porter, commissioner of this department, in his report to the governor states that there is greater activity in the protection of the streams and their purity than ever before. The system in use for many years in Massachusetts has been adopted. He predicts that in a short time there will be a complete stoppage of the pollution of the streams which now cause about 20,000 cases of typhoid yearly, with 2,000 deaths. Cohoes, Niagara Falls, Elmira, Poughkeepsie, Ogdensburg and Newburgh have been investigated and special examinations made of the topographic, geologic, industrial and sociologic conditions, together with the water supply, sewage facilities, ice and milk supplies and garbage collections. He also declares that from one-seventh to one-tenth of all the deaths and an enormous proportion of invalidism are due to tuberculosis, and states there are probably 50,000 cases and 15,000 deaths annually from tuberculosis in New York. He asks that the state grant authority to the department for a registration and necessary investigation of all cases of tuberculosis, and for this campaign an initial appropriation of $75.000 should be made. In order to check the disease the following steps have been decided on:

> 1. The completion of the state's tuberculosis exhibit, the one constructed last year having been shown in many places. The department should have at least three complete exhibitions to be used simultaneously in different parts of the state.
>
> 2. Participation in the International Tuberculosis Congress to be held in Washington, D. C., next September in a manner worthy of the Empire State.
>
> 3. Necessity of the registration of all cases of tuberculosis. You can not give aid to any consumptive or protect his neighbors until you know what help he requires—until the case is properly reported and the conditions described. The state should give the department the necessary authority in this matter.

The vital statistics show a death rate of 17.5 per 1.000 inhabitants, as against 17.1 for 1906, and an average of 17.2

for the last five years. Deaths from typhoid fever, scarlet fever, diphtheria, pulmonary tuberculosis have increased, and there has been a very large increase in the number of deaths from cancer. In pneumonia and measles there has been a decrease in the mortality. Dunkirk has the highest birth rate, 34.2, and Schenectady follows New York with 28.3, New York having 28.4 to every 1,000 inhabitants. He recommends that the authority to enforce vaccination be taken from the school trustees and placed entirely in the hands of the health boards. Among the more important recommendations are the following: The registration of all cases of tuberculosis; the more complete registration of vital statistics; the passage of an act enabling county authorities to maintain laboratories working in cooperation with the state laboratory and the state health department, and the enactment of a pure food law and the authorization of one department to enforce it.

New York City.

Contagious Diseases.—From January 1 to February 14, last year, there were 3,446 cases of measles and 42 deaths; this year there have been 8,117 cases, with 181 deaths. Scarlet fever is assuming almost epidemic form; last year up to February 14 there were 73 deaths; this year there have been 261 deaths.

Personal.—Dr. Ernest J. Lederle reached New York from Naples February 19.——Dr. John L. Bauer has been appointed assistant surgeon on the visiting staff of German Hospital Brooklyn.——Dr. Edwin W. Kellogg has been commissioned surgeon of the Ninth Infantry, N. G. N. Y., with the rank of captain.

Babies' Hospital.—The annual report of this hospital, just published, gives the history or records of 20 years. During this time 5,500 babies out of a total of 9,165 admitted have been discharged as cured. Last year it had 30 supported beds which yielded an income of $7,500. Last year 975 children were treated in the wards and 2,250 in the crib department for patients. The summer branch of this hospital is at Oceanic, N. J.

Society Meetings.—At the annual meeting of Kings County Medical Society, Dr. Onslou A. Gordon was elected president; Dr. Joshua M. Vancott, vice-president; Dr. Henry G. Webster, secretary, and Dr. John R. Stivers, treasurer.——At the annual meeting of the Medical Association of the Greater City of New York, Dr. Robert T. Morris, New York City, was elected president; Dr. Frank C. Raynor, Brooklyn, secretary (reelected); Dr. A. Ernest Gallant, treasurer, and Dr. J. Scott Wood, chairman for the borough of Brooklyn.

Fatalities on Railroads and Street Railways.—The public service commission has given out the following figures for January: Car collisions, 170; persons and vehicles struck by cars, 934; boarding, 479; alighting, 416; contact with electricity, 34; other accidents, 1,888, a total of 3,921. The following injuries to persons were recorded: To passengers, 1,444; to persons not passengers, 570; to employés, 486, a total of 2,500. These are the statistics offered: Killed, 44; fractured skulls, 15; amputated limbs, 6; broken limbs, 32; other serious injuries, 91, a total of 188. The total number of accidents in December was 3,993, with 51 deaths.

New York Orthopedic Dispensary and Hospital.—During the year 1906-1907 the total number of visits made by the surgeons and nurses to the homes of patients aggregated 27,798. Patients visiting the dispensary were to the number of 18,541; the visits to patients outside the institution by surgeons, 1,744; to patients at their homes by nurses, 7,513, making a total of 27,798 visits, the largest number in the history of the institution. A cash balance of $8,799.41 was in the bank Sept. 30, 1907, available for current expenses. The surgeon's report shows that during the year ending Sept. 30, 1907, the number of patients receiving treatment was 4,085; of these 1,409 were new patients, the remaining 2,676 continued under treatment from past year. Among these were 512 cases of Pott's disease, 404 cases of hip disease, 188 of tuberculous disease of the smaller joints, 286 cases of lateral curvature of the spine, 190 cases of clubfoot, 533 cases of flatfoot, 508 cases of infantile paralysis, and the remaining number represented a great variety of deforming diseases. There were cured 443, and 209 were discharged relieved, making a total of 652 restored to useful positions. The discharged incurable numbered 9; one was discharged for neglect; 398 received home treatment, 21 died, and 3,004 were continued under treatment.

NORTH CAROLINA.

Hospital Notes.—The Asheville-Biltmore Sanatorium was reorganized February 1 with the following officers: President, Dr. Paul Paquin; vice-president, Dr. Owen Smith, and secretary, Dr. Charles L. Scott, formerly of Greensboro.——At a meeting of the Buncome County Medical Association, held at Asheville, January 22, steps were taken to insure the erection and opening in Asheville of a hospital for eruptive fevers; the widespread prevalence of scarlatina and other eruptive diseases in the state being due, in the opinion of the society, to the inefficient and necessarily lax management of the infection in private houses.

NORTH DAKOTA.

Hospital Notes.—St. John's Hospital, Kenmare, was formally opened January 18.——St. Michael's Hospital, Grand Forks, which was opened recently to the public, is a four-story brick structure, 48x112 feet, heated by steam and lighted by electricity from its plant, equipped with an electric elevator, etc. In a separate building the heat and power plant, laundry, etc., are contained. The cost of construction of the building was more than $100,000, of which the citizens of Grand Forks contributed nearly one-half.——The corner-stone of the Bismarck Hospital and Deaconess Home was laid a few days ago. The building will have accommodations for 50 patients, will, it is expected, be ready for occupancy early in the spring, and will cost about $40,000.

Society Meetings.—At the annual meeting of the Northwestern District Medical Society, held at Minot, January 21, the following officers were elected: President, Dr. Henry C. Windel, Williston; vice-president, Dr. Olin W. Rowe, Towner; secretary-treasurer, Dr. Roy W. Pence, Minot, and censors, Drs. James T. Newlove, Minot; Josiah S. Davies, Granville, and Julius Frankel, Anamoose.——At the annual meeting of the Sheyenne Valley Medical Association, held recently in Valley City, Dr. Willis C. Nolte, Dazey, was made president; Dr. Macdonald, Valley City, vice-president, and Dr. Jacob Van Houten, Valley City, secretary.——At the annual meeting of the Sixth District Medical Association, held in Dickinson, the following officers were elected: President, Dr. Charles L. Chambers, Bismarck; vice-president, Dr. William H. Bodenstab, New Salem; secretary-treasurer, Dr. Jacob Bursma, New Salem; censor, Dr. W. L. Gordon, Steele, and delegate to the state society, Dr. Victor H. Stickney, Dickinson. The society passed a resolution against unethical advertising.——At the annual meeting of the Cass County Medical Society, held January 6 in Fargo, Dr. Frederick H. Bailey, Fargo, was elected president; Dr. Henry G. Fish, Wheatland, vice-president; Dr. Albert W. Skelsey, Fargo, secretary, and Dr. Paul H. Burton, Fargo, treasurer.

OHIO.

Physician Fined.—On February 3 Dr. Frank Cowan, Ashland, charged with writing a prescription for Charles Wharton to secure whisky, is said to have been fined $250 and to have been enjoined from making prescriptions for intoxicants.

Plead for Pardon.—A number of local organizations of Dayton, including the medical societies, are said to be circulating a petition asking for the pardon of Dr. James A. Ambrose, who is serving a sentence of 18 months in the penitentiary for malpractice.

Ill and Injured.—Dr. Charles W. Stroup, village physician of Somerville, is seriously ill with smallpox.——Dr. Clarence A. Force, Attica, is reported to be ill with inoperable intestinal tumor.——Dr. James A. Park, Columbus, is suffering from concussion of the brain due to a fall on an icy sidewalk, February 5.——Dr. Samuel Nickels, a pioneer physician of Cincinnati, is reported to be critically ill.

Tuberculosis Hospital Bill Passed.—The House of Representatives on February 7 arranged to pass the Braun bill, which authorizes the establishment of a county tuberculosis hospital by county commissioners, who may, instead, contract for the care of consumptives in hospitals in other counties. The hospital is to admit consumptives from county infirmaries, and $3 a week or less may be charged patients who are able to pay.

Society Meetings.—At the annual meeting of the Butler County Medical Society, held in Hamilton, Dr. Louis H. Frechtling was elected president, and Dr. H. L. Burdsall, secretary, both of Hamilton.——At the annual meeting of the Dayton County Academy of Medicine Dr. Albert H. Lane was elected president; Dr. George D. Gohn, vice-president; Dr. Jost D. Kramer, secretary; Dr. Harry F. Patton, treasurer, and Dr. William F. Prather, censor.

Personal.—Dr. John J. Thomas has been appointed city physician of Youngstown.——Dr. Eric E. Sattler, Cincinnati, has returned after two years in Europe.——Dr. William N. Alderman, Athens, has sailed for Europe.——Dr. A. Per Lee Pease, Massillon, has left Vigo, Spain, on his way to South America.——Dr. George D. Lummis has been elected health officer of Middletown.——Dr. Winifred M. Johnston has been appointed city physician of Findlay.——Dr. Corliss Keller, Hamilton, has been appointed assistant house physician of Longview Hospital, Cincinnati.——Dr. Charles R. Pontius has been elected vice-president of Fremont City Hospital.

Communicable Diseases.—The schools of Blanchester have been closed on account of three fatal cases of cerebrospinal meningitis among the pupils.——Measles is reported to be epidemic at Youngstown.——Typhoid fever is reported to be very prevalent at West Manchester and vicinity, Preble County, where 44 cases have been reported, with one death. The infection is said to have been due to contaminated water from an abandoned well.——An epidemic of scarlet fever which has prevailed in Pigeon Run for some time, is now said to be under control, the schools and churches have been reopened and the quarantine has been removed from the houses.——Several cases of smallpox of mild type are reported from Columbus Grove and Gilboa.——Several cases of smallpox are reported in North Urbana.——It is reported that there are a number of cases of smallpox at Three Locks, near Chillicothe, and north of Urbana.

OREGON.

Hospital Notes.—The new Eugene General Hospital, erected at a cost of $20,000, was opened recently.——The Sisters of St. Francis have purchased a site in Baker City on which to erect a hospital to cost about $100,000.

Guilty but Recommended to Mercy.—Dr. William T. Eisen, Portland, charged with contributing to the delinquency of a minor, by performing a criminal operation on her, is said to have been found guilty, but recommended by the jury to the mercy of the court.

Personal.—Dr. Robert E. Lee Steiner, Klamath Falls, has assumed charge of the Oregon State Insane Asylum, vice Dr. John F. Calbreath.——Dr. L. L. Rowland, Salem, for many years connected with the state asylum, is reported to be critically ill.——Dr. E. W. Barnes, North Powder, sustained a severe injury to his head by a fall while traveling on the steamer *Alliance* to Portland, January 23.

Communicable Diseases.—Smallpox is reported to be epidemic throughout eastern Oregon.——Le Grande reports 20 cases, Baker City several cases, and at Durkee 25 cases have occurred.——At Clackamas Heights 9 cases of smallpox have developed.——The scarlet fever epidemic northwest of Brownsville is reported to be subsiding; only one case has recently developed.——There are several cases of scarlet fever in Pendleton.——Physicians estimate that there are 1,500 cases of influenza in Umatilla County.——The public schools of Forest Grove have been closed on account of diphtheria.

Medical Board Elections.—At the annual meeting of the State Board of Health, Dr. Alfred Kinney, Astoria, was elected president, and Dr. Andrew C. Smith, Portland, vice-president.——Drs. Herbert C. Coffey, Portland, and Edward B. McDaniel, Baker City, have been appointed members of the Board of Medical Examiners of the State of Oregon, vice Drs. Walter E. Carll, Oregon City, and Angus B. Gillis, Salem. At the annual meeting of the board, held January 9, the following officers were elected: President, Dr. William S. Mott, Salem; secretary, Dr. Byron E. Miller, Portland, and treasurer, Dr. Robert C. Coffey, Portland.

PENNSYLVANIA.

Personal.—Dr. Milton A. Hengst, Birdsboro, is seriously ill at his home as a result of cerebral hemorrhage.——Dr. J. T. McCaskey was elected mayor of Lancaster February 17.——Dr. Richard H. Simmons, Shamokin, medical inspector of Northumberland County, has been placed in charge of the state tuberculosis dispensary, Shamokin.——Dr. Bertrand K. Wilbur has been elected to the board of health of Lower Merion Township and has been assigned to the division comprising Rosemont and Bryn Mawr.

Prevalent Diseases.—Measles continues in epidemic form in Pittsburg, where more than 1,200 cases have been reported since February 1. Measles is also epidemic in other sections of the state, and reports show that more than 40 cases have recently been reported in the vicinity of Glenside and Edge Hill. The Glenside public schools have been closed on account of the disease.——An epidemic of typhoid fever has broken out in Boswell and the disease is said to be increasing at an alarming rate. The town has a population of 1,000 and thus far 175 cases have been reported. The source of infection is attributed to the water supply.

Philadelphia.

Personal.—Dr. Albert P. Brubaker was elected president, and Drs. Charles F. Taylor and Bertha Lewis were elected trustees of the Society for Ethical Culture, February 19.——Dr. J. Torrance Rugh has been appointed consulting surgeon to the Eastern Pennsylvania State Institution for Feeble-Minded and Epileptics, Spring City.——Dr. Jay F. Schamberg was elected first vice-president, and Dr. Samuel W. Gadd, sixth vice-president of the Philadelphia County Medical Society, February 12, to fill vacancies made by recent legislation.

Hospital Note.—The Northwestern General Hospital of Philadelphia elected the following staff February 12: Consultants:—Physician, Dr. William E. Hughes; surgeon, Dr. William L. Rodman; ophthalmologist, Dr. S. Lewis Ziegler; laryngologist and otologist, Dr. Joseph S. Gibb; genitourinary surgeon, Dr. Hilary M. Christian, and pathologist, Dr. Allen J. Smith. Visiting Staff:—Physician and secretary of staff, Dr. H. Brooker Mills; surgeon, Dr. J. Thompson Schell; ophthalmologist, Dr. Luther C. Peter; laryngologist and otologist, Dr. Carl L. Velt; genitourinary surgeon, Dr. Hugh P. MeAniff, and pathologist, Dr. W. Taylor Cummins.

Health Report.—The deaths reported for the week ended February 22 was 590, a decrease of 33 from the previous week and a decrease of 60 from the corresponding week of 1907. The principal causes of death were: Typhoid, 32; measles, 4; scarlet fever, 4; whooping cough, 6; diphtheria, 11; consumption, 76; cancer, 17; apoplexy, 18; paralysis, 9; heart disease, 78; acute respiratory diseases, 105; diseases of the arteries, 10; enteritis, 20; cirrhosis of the liver, 6; acute nephritis, 6; Bright's disease, 34; puerperal septicemia, 8; congenital malformation, 6; premature birth, 6; congenital debility, 9; old age, 8; suicide, 7; accidents, 10, and marasmus, 5. There were 341 cases of contagious diseases reported, with 47 deaths, as compared with 260 cases and 34 deaths reported in the preceding week.

TENNESSEE.

Dinner to Trenton Profession.—The medical profession of Trenton was entertained at dinner by Dr. Thomas J. Happel January 24. For a number of years Dr. Happel has celebrated his anniversary by giving a dinner to the profession of the city.

Society Meeting.—At the annual meeting of the Rutherford County Medical Society, held in Murfreesboro, Dec. 4, 1907, the following officers were elected: Dr. James J. Rucker, president; Dr. Andrew J. Jamison, vice-president; Dr. Rufus Pitts, secretary-treasurer; Dr. Enoch H. Jones, delegate to the state society, and Dr. Harry C. Rees, alternate.

Communicable Diseases.—Measles is reported to be epidemic in the vicinities of Neptune, Henrietta, Chief Hill and Thomasville.——On account of the prevalence of smallpox, general vaccination has been ordered throughout Columbia and Maury counties.——Several cases of smallpox are reported in Franklin.——Smallpox is reported to be prevalent in and around Murfreesboro.——Several cases of smallpox are reported in Crossville and Harriman.——Winchester reports 14 or 15 well-developed cases of smallpox, all of mild type.——Grip and pneumonia are reported to be epidemic at Humboldt, Milton, Kenton and Trenton.

Personal.—Dr. E. William Carney, Shelbyville, fractured his arm in a runaway accident February 6.——Dr. James A. Albright, Nashville, has been re-elected secretary, and John Hamil, assistant secretary, of the State Board of Health.——Dr. Blackburn G. Tucker, Nashville, has been elected health officer of Davidson County, and chairman of the board of health.——Dr. George W. Booker, Knoxville, has been elected physician of Knox County.——Dr. William E. Hibbett has been elected health officer of Nashville, vice Dr. Larkin Smith.——Dr. James L. Andrews has succeeded Dr. Frank S. Raymond as president of the board of health of Memphis, and Dr. John C. Bell has been made secretary of the board.

TEXAS.

Epileptic Colony.—The board of directors for the State Epileptic Colony has awarded a contract for the building of two additional brick cottages to accommodate 40 male patients.

Yellow Fever.—The steamer *Crispin*, which arrived in Galveston roads February 16 from Para, Brazil, has been placed in quarantine on account of the presence of two cases of yellow fever among its officers.

Smallpox.—Bells reports 4 cases of smallpox.——During Janary there were 59 cases of smallpox in Wolfe City.——The st smallpox patient in Guadalupe County has been disharged.——Several cases of smallpox are reported in Victoria. ——Helena reports several cases of smallpox.

Personal.—Dr. Edward Doak, Taylor, has been appointed ocal surgeon for the Missouri, Kansas & Texas Railway.——r. William H. Davis has been elected city physician of Arngton.——Dr. Felix P. Miller has resigned as a member of he board of health of El Paso, and Dr. Marcus O. Wright has een appointed his successor.——Dr. George Brunner has resigned as assistant city physician of El Paso, to take effect March 1, and Dr. A. Howard Butler has been appointed his uccessor.

Reregistration Required.—The new Texas law providing for single board of medical examiners likewise provides that ach physician in that state, of whatever school of medicine, hall obtain a certificate from the new board previous to July 3, 1908. Any physician not securing such a certificate will ot be legally authorized to practice medicine in the state, and will thereafter be liable to prosecution for practicing without license. This measure was apparently necessary owing to he confusion which heretofore existed in the licensing of physicians. It is claimed that many irregularities have been disovered on the part of the old boards of examiners operating under the law of 1901. Every physician is urged to put in his application for a certificate as early as possible and not ater than July 13, 1908.

Society Meetings.—At a meeting of the Kerr-Kendall-Gillespie-Bandera Counties Medical Society, held in Kerrville, Dr. Francis L. Fordtran, Kerrville, was elected president; Dr. Robrt L. Combs, Kerrville, vice-president; Dr. W. K. Lawrence, Comfort, secretary; Dr. Lindsey K. Tainter, Fredericksburg, ensor, and Dr. Ernest E. Palmer, Kerrville, delegate to the tate society.——At a meeting of the Central Texas District Medical Association held in Waco, the following officers were lected: Dr. William A. Wood, Hubbard City, president, and Dr. Milton P. McElhannon, Belton, secretary. The next meetng of the association will be held in Cleburne.——At a meetng of the physicians of Brownsville, February 8, the Cameron County Medical Association was organized with the following officers: President, Dr. Frederick J. Combe, Brownsville; vice-president, Dr. B. O. Works, and secretary-treasurer, Dr. G. W. Cox.

WASHINGTON.

Society Meetings.—At the annual meeting of the Pierce County Medical Society, held in Tacoma January 7, the followng officers were elected: President, Dr. Royal A. Gove; vice-presidents, Drs. Claude H. Kinnear and John R. Brown; secreary-treasurer, Dr. Edward O. Sutton, and censors, Drs. Fred. W. Rinkenberger, Frank R. Hill and Charles E. Case, all of Tacoma.——At the annual meeting of the Spokane County Medical Society, held in Spokane, the following officers were elected: President, Dr. Wallace W. Potter; vice-presidents, Drs. John G. Cunningham and Matthew B. Grieve; secretary, Dr. Carroll L. Smith; treasurer, Dr. Frank Rose, and censors, Drs. Charles S. Kalb, Wilbur W. MacKenzie and Harold H. McCarthy.——At the quarterly meeting of the Whitman County Medical Society, held in Palouse, January 20, Dr. Frank E. Whittaker, Palouse, was elected secretary-treasurer, vice Dr. Herbert M. Greene, La Crosse, resigned.

WISCONSIN.

Elections.—At the annual meeting of the Milwaukee Medical Society, January 14, the following officers were elected: President, Dr. James A. Bach; vice-presidents, Drs. George P. Barth and James Cavaney; secretary, Dr. George A. Carhart; treasurer, Dr. Robert C. Brown; librarian, Dr. James D. Madison; member of membership committee, Dr. Daniel Hopkinson, and councilors, Drs. Gustav J. Kaumheimer, William H. Washburn, Gilbert E. Seaman, Arthur J. Patek, Lorenzo L. Boorse, and Robert G. Sayle.——At the annual meeting of the Fox River Valley Medical Society, held in Green Bay, January 21, the following officers were elected: Dr. William E. Fairfield, Green Bay, president; Drs. Clarendon J. Combs, Oshkosh, and Maurice D. Bird, Marinette, vice-presidents, and Dr. Robert A. Walker, Menominee, Mich., secretary-treasurer. The society voted to postpone for one year the matter of merging in the district organization.

GENERAL.

Yellow Fever in Cuba.—A focus of yellow fever has developed in the barracks at Santa Clara; four confirmed and two suspicious cases were reported February 20, and also one suspicious case of a Spaniard from Santiago. The chief surgeon has asked for the detail of an additional medical officer.

Army Medical Corps Examinations.—Preliminary examinations for appointment of assistant surgeons in the Army, to fill 23 existing vacancies, will be held on May 4 and Aug. 3, 1908, at points throughout the country to be hereafter designated. Full information can be had on application to the Surgeon General, U. S. Army, Washington, D. C. The essential prerequisites are that the applicant shall be a citizen of the United States, of good character, between 22 and 30 years old, holding the degree of doctor of medicine from a medical school legally authorized to confer it, and possessed of at least one year's hospital training or its equivalent in practice. Complete applications for the examinations of May 4 must be in the hands of the surgeon general by April 1, and early attention is, therefore, enjoined on intending applicants.

Society Meetings.—At the regular meeting of the Manila Medical Society, held January 6, the following officers were elected: President, Dr. Harry T. Marshall; vice-president, Dr. James M. Phalen, U. S. Army; secretary, Dr. Philip E. Garrison, U. S. Navy, and councilor, Dr. Henry D. Kneedler. ——At the annual meeting of the New England Electro-Therapeutic Association, held in Boston, February 13, the following officers were elected: President, Dr. Frank A. Davis, Boston; vice-presidents, Drs. Richard J. Thompson, Fall River, and George E. Allen, Haverhill; secretary, Dr. Samuel J. Harris, Boston, and treasurer, Dr. Wallace M. Knowlton, Brookline. The retiring president, Dr. Fred H. Morse, in his address spoke in protest against the use of electro-therapeutics by fraudulent physicians, and urged vigorous action by the authorities against unqualified practitioners.

The Archives of Diagnosis.—This new contribution to periodical medical literature made its first appearance, under the editorship of Dr. Heinrich Stern, in January. It is a well-appearing quarterly review, consisting of original articles on diagnosis and prognosis, in which the various articles on given subjects scattered through the important medical journals of all countries are listed, and then commented on *en masse*. After these come a series of individual abstracts classified under various subjects and book reviews. There are no editorials. The review is purely scientific and contains no advertising pages. The quality may be gleaned from the fact that the contributors of articles to the present number are: Delancey Rochester, L. Harrison Mettler, Thomas F. Reilly, Marcell Hartwig, Henry Wald Bettmann, H. J. Boldt, J. H. Carstens, C. Greene Cumston, F. M. Johnson, A. Ravogli and Seymour Oppenheimer. The general retrospects are by S. Phillip Goodhart and Wilhelm Mueller. The first issue is one of remarkable promise. The publication office is New York City.

CANADA.

Health Bureau for Canada.—Dr. Judson B. Black, Windsor, M.P. for Hants, N. S., proposed a resolution in the Canadian House of Commons, February 5, calling on the government to perfect an organization and create a department of public health, whereby all matters in connection with the health of the dominion would be consolidated under one responsible head, instead of, as at present, being scattered through five or six other departments. All the medical men in the house spoke strongly favoring the resolution, but the debate was adjourned before the government stated its position on the subject.

The Victorian Order of Nurses.—The year 1907 has seen a steady increase in the extent and scope of the Victorian Order of Nurses in Canada. In Montreal the number now employed is 17; and during that year 2,912 patients have been attended. The nurses made in connection with these persons 29,073 visits, answering 929 night calls. The receipts of the order in Montreal were $10,938.66; and the expenditures, $10,431.14. In Toronto in the past year 312 physicians employed these nurses. The number of persons attended was 2,219. Montreal has adopted a new system of school inspection whereby nurses visit the schools and give treatment to pupils when required, under the direction of the medical health office.

Smallpox.—At the annual meeting of the Ontario Board of Health in Toronto during the week ended February 15, Dr. Charles A. Hodgetts, Toronto, secretary of the board, stated there had been an increase in smallpox in the province in 1907 over the year 1906. Although the total cases reported was 833, it, according to the secretary, does not represent the actual number of cases in the province in the year; for as the result of inquiries it has been learned that there have been undoubtedly many cases which had not even been treated by a physician, while others had been concealed for fear of quarantine. In January there were vaccinated in Winnipeg by the health authorities 971 persons, and there had been 37 cases of smallpox in that city since the first case was discovered early in December. Of the persons who had the disease only six had been vaccinated.

Personal.—Dr. A. D. Unsworth, superintendent of the Mountain Sanitarium, Hamilton, Ont., has resigned and gone to Europe for graduate work.——Dr. John Stewart, Halifax, N. S., has returned from Europe.——Dr. Thomas A. Davies, Toronto, has returned from abroad.——Dr. J. G. McKay, Montreal, has been appointed assistant superintendent at the Provincial Hospital for the Insane, New Westminster, B. C.——Lieut.-Col. G. Carleton Jones, M.D., director general of the army medical service, Ottawa, was tendered a banquet in Toronto February 5, by the officers of the army medical corps in Toronto.——Dr. Jean Phillippe Rottot has retired from the deanship of the medical faculty of Laval University, Montreal, which he has held since 1891.——Dr. E. J. Turnbull, who for the past two years has been assistant physician at the Protestant Hospital for the Insane at Verdun, Quebec, has resigned and has been succeeded by Dr. Robert King, Montreal.——Dr. Forrestor of the Mimico (Ont.) Provincial Hospital for the Insane has been appointed assistant superintendent at a similar institution at London.

Hospital News.—The Nicholas Hospital, Peterborough, Ont., which was endowed to the extent of $200,000 by the Charlotte Nichols estate, has recently received an additional grant from the same source, which with the income from pay patients and the grant from the Ontario government, will make the institution self-sustaining.——A free dispensary has been started in Winnipeg, Man.——Glengarry private hospital, Montreal, which has been conducted for a number of years by Dr. Fernand Monod, has been closed and Dr. Monod will practice with his father in Paris.——The General Hospital at Brandon, Man., may be closed for want of funds. The total indebtedness of the hospital is placed at $29,000. The total amount received from municipal and government grants last year was $11,272. There were not so many patients treated as in 1906.——The Royal Jubilee Hospital at Victoria, B. C., is looking for more money. At present Victoria contributes $5,000 a year to the hospital; and the council will be asked largely to increase this grant. During December 78 patients were admitted, of whom 59 were treated free of cost.——The Manitoba legislature, now in session, is considering the question of the grants to the various hospitals of the province.——Delegates representing the various hospitals recently conferred with the government and it was suggested that a minimum of $1 per day should be provided by municipalities for each of their charitable patients.——The Protestant Hospital for the Insane at Verdun, Que., has been presented by Dr. James Douglass of New York with a farm adjoining the institution, valued at $42,000. Dr. Douglass is a son of Dr. James Douglass, who for a long time was identified with the Beauport Asylum.——Last year between 600 and 700 children were treated in the various wards of the Winnipeg hospitals, so a movement has been started in that city toward the establishment of a hospital for children only.——The number of patients treated in the Royal Victoria Hospital, Montreal, during 1907 was 3,398, a decrease of 46 from the previous year. Of these 1,994 were Protestants, 1,071 Roman Catholics, 290 Hebrews, and 43 of other faiths. There were 1,656 free patients and 1,280 public ward patients, paying 50 cents and $1 per day. There were 462 private ward patients. The total days' hospital stay were 81,902. On Jan. 1, 1907, there were 224 patients left in the hospital from 1906. During the year 3,404 were discharged, of whom 1,897 were well, 1,002 improved, 165 not improved, and 123 not treated. The deaths numbered 217, and of these 71 took place within forty-eight hours of their admission. During the fourteen years this hospital has been in existence it has treated 36,524 patients. In the out-patient departments the number of patients treated during 1907 was 4,156. The total per diem cost per patient was $1.79.——During 1907 the Toronto General Hospital treated 1,098 city-order patients; St. Michael's, 719; Grace, 231, and Western, 253. In view of the fact that the three latter are asking Toronto's city council for grants of $50,000 each, Dr. Charles Sheard, the city medical health officer, asks for a written agreement that the money granted will be spent on city patients and not for a scheme of general improvement.——The Hospital for Sick Children, Toronto, is asking the city council to raise its annual grant from $10,000 to $16,000.——The annual meeting of the Protestant Hospital for the Insane at Verdun, Que., was held in Montreal recently. At the beginning of 1907 there were 507 patients in the hospital, while at the opening of 1908 there were 533, 284 men and 249 women. The admissions during the year numbered 168. The discharges numbered 104 and the deaths 39. The total receipts from all sources amounted to $118,269, and the expenditures, $121,641. In his report Dr. Burgess, the superintendent, emphasized the need for drastic preventive measures to offset the growth of insanity, both as to heredity and immigration.——There is a proposition before Grace and the Western hospitals, Toronto, which is also being discussed by the city council, looking toward the amalgamation of these two hospitals, preliminary to a prospective grant of $100,000 to the institutions. The Western Hospital has a fine site for a large hospital, and in the event of amalgamation taking place, the present Grace Hospital building would be abandoned.——The Toronto General Hospital will shortly open its outdoor department, a short distance from Toronto University. Temporary quarters will be occupied until the new hospital buildings are erected.

FOREIGN.

Fifth Pan-American Medical Congress.—This congress is to meet at Guatemala, Aug. 6 to 10, 1908, and arrangements are being made for twenty-one sections. English, Spanish, French and Portuguese are the congress languages, and articles intended for the congress must be in the hands of the secretary, Dr. José Azurdia, Escuela de Medicina de Guatemala, before July 15. The last Pan-American congress was held at Panama in 1905, except for the delayed contingent, whose steamer broke down, and whose "proceedings" in their improvised "congress" on board were accepted as part of the regular congress.

Smallpox in China.—The Pekin correspondent of the *Lancet* states that every winter sees a recrudescence of smallpox in China, and suggests that perhaps it is caused by the Chinese taking their winter clothes from the pawnshops. These garments consist of two layers of cotton between which is a thick layer of cotton wool. In North China inoculation is still practiced to some extent, though in recent years it has been supplemented by calf lymph, a supply of which has been imported from Japan. At various points throughout Pekin the government has established vaccination stations where those who care to submit themselves can be vaccinated without any regard for asepsis.

Fourth International Congress for Medical Electrology and Radiology.—The first international congress was held at Paris in 1900, the second at Berlin in 1903, and the third at Milan in 1905. The fourth is to convene at Amsterdam, Sept. 1 to 5, 1908, and will be accompanied by an exhibition of appliances for clinical and laboratory work and collections of skiagrams, etc. Professor Wertheim Salomonson is president of the congress, and Dr. J. G. Gohl, Vondelstraat 53, Amsterdam, is the general secretary. Membership in the congress is open to all taking an interest in the development of the electrobiologic and radiologic sciences. English, French and German are the congress languages, and the membership fee is $5.

Publication of Ancient Medical Writings.—Prof. H. Diels of Berlin is said to be mainly responsible for the inauguration of the publication of the works of the great medical writers of antiquity, although several scientific academies are to cooperate in the undertaking. It will require, he estimates, from sixteen to twenty years. The collection is to be called the "Corpus medicorum," and is to be published by the firm of B. G. Teubner, who are now issuing the comparatively recently discovered works of Philomenos on pharmacologic subjects. The *Allg. med. Ct.-Ztg.* states that the Greek writers will fill thirty-two volumes, Hippocrates requiring two and Galen thirteen. The Latin writers are to be issued under the auspices of the Puschmann endowment for the history of medicine.

Nostrums in Japan.—It appears that proprietary medicines and civilization, to some extent, go hand in hand. It is well known that Japan has been extraordinarily apt in acquiring western civilization. Perhaps much of it is veneer, but it can not be gainsaid that in the art of war and in the tricks of the trade, Japan has now little or nothing to learn from her erstwhile teachers. With the advent of civilization has come into existence in Japan a remarkably flourishing business in nostrums of all descriptions, and it is said that the wily Japanese is capable of meeting on equal terms the American vendor of proprietary medicines. It has been frequently said that the first products of civilization to be introduced to a primitive race are the Bible, gunpowder and whisky. It would seem that in some instances, as in the case of the Boers and the Japanese, "patent medicines" follow gunpowder and whisky; whether they are as harmful it would be hard to say.

Suits Against Irregulars in Germany.—A cigar manufacturer n Germany has been posing as a "nature healer" at Küllstedt or the last five years; among his patrons was a woman of 62 hom he treated for articular rheumatism by ordering col- odium cantharidatum for application to the hands, with alicylic acid and aspirin internally. He gave her no warn- ng in regard to the local application, which she indus- riously applied to her hand, with the result that the hand is ow stiff and comparatively useless. He was sentenced to ix weeks' imprisonment. The *Allg. med. Centr.-Ztg.* com- nents on the way with which these irregulars, who claim to eal without drugs, do not hesitate to make use of the reme- ies of the "old school" which they are constantly assailing. he defendant has a brother who is also plying a lucrative rade in "nature-healing. . . . The proprietress of a so- alled magnetic healing institute at Hanover was recently fined 7.50 for advertising extravagant claims.

Physicians in Japan.—The *Cor.-Bl. f. schweiz. Aerzte* pub- ished recently a report from the Swiss consul at Tokyo con- aining the official figures in regard to the medical profession n Japan. It states that in 1903, 1,456 physicians received icenses to practice, including 17 who presented diplomas from ome foreign medical school. At the end of the year there were 34,611 physicians and 706 dentists engaged in practice, ncluding 83 graduates of foreign medical schools, 33 foreign hysicians. This was an increase of 740 over the number of he preceding year, and gives one physician for each 1,348 in- abitants; in the city of Tokyo, there is one to 810. During he year, the report states, 187 physicians came into conflict with the laws and 102 were sentenced, 12 more than in the preceding year. In 71 instances the penalty was for disregard of the very rigorous laws in regard to contagious disease. The penalties were withdrawal of the right to practice, permanently or for one to six months. The consul adds that the Japanese do not hesitate to burn down a whole quarter when it becomes a focus of infection, the expense of rebuilding and refurnishing being very small, owing to the prevailing style of architecture. He adds that the Japanese are remarkably docile in such matters, and that the daily hot bath, taken even by the poorest, is an effectual factor in repressing the spread of disease.

Physician Sentenced for Pharmacologic Ignorance.—Dr. B. of a small town near Aschaffenburg was attending a child with measles and purpura; on the request of his parents, Dr. K., the district physician, was called in consultation. Dr. K. advised that the child should be given 150 gm. of "Mixtura sulfurica acida" (sulphuric acid mixture or Haller's acid elixir), the average dose of which is 8 minims. The attending physician was not acquainted with this preparation, and wrote on the prescription, "Dose, a teaspoonful every hour." The child vomited freely after the first dose and died in great pain the next day. Suit was brought against the attending physician, and he stated that he was not acquainted with the remedy and had no book at hand to inform him in regard to the dosage, but claimed that he had shown the prescription to the consultant, and as the latter had made no remark, he supposed his dosage was correct. The consultant stated that he had not read the prescription and was not aware that the other physician was not familiar with the preparation. The court decided that the attending physician had done wrong in not inquiring of the consultant in regard to the composition and dosage of the preparation before prescribing it. The prosecution asked for $25 fine or ten days' imprisonment, but the final verdict was a fine of $12.50 or five days' imprisonment. The verdict was milder on account of the assumption that the drug had only injured the health, but was not responsible for the death of the patient.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Feb. 15, 1908.

Presentation to Lord Lister.

The Liverpool School of Tropical Medicine has presented to Lord Lister the Mary Kingsley medal which was struck by the school for presentation to distinguished savants and others who have aided the cause of combating disease in the tropics. In the letter of presentation it is stated that no one has accomplished more for this cause, or indeed for the whole cause of medicine, than Lord Lister.

Examinations in Hygiene.

A series of examinations in hygiene has been organized by the Incorporated Institute of Hygiene of London which should stimulate the acquisition of knowledge in regard to those important subjects which affect the health and well-being of the people, and which may be expected also to have most beneficial and far-reaching results on the physical fitness of the race. These examinations will be held at the leading centers throughout England, Scotland and Ireland, and are of special interest to women, as they will include not only the necessary examination showing general proficiency in hygiene, but the following additional honors subjects, viz.: The hygiene of the home; the hygiene of motherhood; the feeding and rearing of children; food and cooking; home nursing and first aid; school hygiene; physical training. The future heads of households are those to whom this syllabus particularly appeals, as the young women of the country have much to learn in connection with personal and domestic hygiene. Great Britain is first in regard to water supplies, drainage and public health generally—largely due to the effective efforts of the health officers—but in personal and domestic hygiene it lags behind other countries and especially France, where cleanliness, cooking and other branches of hygiene have been studied and practiced for so many years that they are now assimilated in the habits of the people. Every assistance and encouragement will be given to candidates—who may carry on their studies at school, college or at home. They will receive the certificate of the institute for proficiency in elementary knowledge and the diploma of the institute for proficiency in advanced knowledge should they pass the examination.

Successful Action Against a Local Authority for Contamination of a Well with Typhoid Sewage.

Dr. J. C. Ferguson, proprietor of a hydropathic establishment at Malvern, has won an action against the district council under peculiar circumstances. In May, 1905, an outbreak of typhoid fever occurred in this establishment involving fourteen persons, of whom several died. This was found to be due to the water supply. As in his prospectus he guaranteed the perfection of his sanitary arrangements, an action was brought against him by the family of one of the patients who died and he was mulcted in damages to the extent of $5,000. This case was reported in THE JOURNAL. Other claims followed and he had to pay in all $35,000 to the various persons. Dr. Ferguson therefore brought an action for damages against the district council on the ground that the outbreak was caused by pollution of the well from which he obtained water by sewage under the control of the council. The jury found that the council was guilty of negligence in allowing sewage to escape from the sewer and assessed damages at $37,500. Although the responsibility of local authorities for polluting water has been established in various trials, no case appears to have been recorded in which responsibility has been fixed on them for polluting a private supply of drinking water.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, Feb. 10, 1908.

A Night Fee for Druggists.

The filling of prescriptions and the purchase of pharmaceutical preparations after regular business hours has become such a burden on druggists in Austria that efforts have been made to remedy it. The government now permits registered pharmacists to charge a uniform night fee of 50 hellers (about 10 cents) in addition to the regular price of the prescription. In cases of emergency the physician may add the letters E. N. (expeditio nocturna) to the prescription, which makes the dispensing free from the night tax.

To Prevent Phosphorus Necrosis.

New rules have been issued by the government regulating the manufacture of matches where yellow phosphorus is used, the old regulations being insufficient. The most important changes are as follows: No person under 17 years of age and no woman more than five months pregnant nor within six weeks after childbirth, is allowed to work on the premises. The factory hands must change their occupation at least every four weeks so that they work alternately in the mixing department, the wood preparing department and the assorting department. Double doors must separate the departments and the ventilation must be examined daily. Special suits of clothes, separate washing rooms and utensils for mouth rinsing must be at the disposal of the workers. Material for first aid as well as antidotes for acute poisoning must be ready at hand. A dentist, paid by the manufacturers, must regularly inspect the teeth of the factory hands. The number of cases of phosphorus necrosis reported during the decade 1895-1905 was 382 for the three largest Austrian factories.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Arthritis.

Treupel, in the *Münchener med. Wochenschrift*, Sept. 24, 1907, reports on clinical observations made on 529 patients suffering with various forms of articular rheumatism. Four hundred and seventy-one patients having acute or subacute articular rheumatism were treated with salicylates, by the mouth or intravenously, and with local hyperemia. The sodium salicylate was always at first given internally, and when this failed to be of benefit, after five or six days, it was used intravenously. If it then failed, other salicylic preparations were tried.

Of several salicylic preparations used, none acted better than the sodium salicylate. During the first two days from 4 to 6 grams (1 to 1½ drams) of sodium salicylate were given each twenty-four hours. As soon as there was improvement the quantity was reduced to 3 grams (45 grains) in twenty-four hours, and this amount continued until the temperature was normal and there was no more pain. It seemed to be demonstrated that pure sodium salicylate does no harm to the kidneys.

Besides the above medication, in all of the 471 patients the painful joints were given rest and as much immobilization as possible. The use of cotton bound around the joints and fixation by bandages and cushions also did good by inducing a local hyperemia. Hot air and venous stasis proved valuable.

Antistreptococcic serum treatment was not encouraging, Treupel believing that the general and local bactericidal treatment is met by salicylic acid.

GONORRHEAL ARTHRITIS.

Dr. Robert N. Willson of Philadelphia, in the *Boston Medical and Surgical Journal*, Nov. 7, 1907, says that "gonorrhea is not merely a local infection of the urethra, but in every case it is a systemic infection of the blood and lymphatic glands."

Treupel (*Münchener med. Wochenschrift*, Sept. 24, 1907), says that besides the healing of the primary disease in gonorrheal arthritis, the chief reliance should be placed on venous hyperemia, hot air, and later, massage and baths.

In an editorial of the London *Lancet*, Oct. 12, 1907, a discussion of the above subject by the Société Médicale des Hôpitaux of Paris, on July 26, 1907, is quoted. Dr. Queyrat described a method of treatment of this disease "which, if practiced from the onset, enables the patient to walk with ease at the end of three weeks, and prevents the stiffness and ankylosis which so frequently occur." The treatment advised is: "1, Early aspiration; 2, energetic counter-irritation; 3, early movement."

1. After shaving and rendering the skin aseptic, aspiration is performed on the outer side of the joint about two fingers' breadth below the patella. Aspiration should be done early, as later the fluid has changed to a fibrinous mass and could not be drawn off. A large needle (3 millimeters) is used, and the quantity of liquid removed may vary from 50 to 100 c.c. Queyrat has aspirated such knee joints 200 times without any ill result. After the puncture he applies the pointed actua cautery 200 to 400 times and sears the puncture by cauterizin it; then he applies compression to the joint. Four days late progressive movements are begun, and for this purpose he uses a pulley and weight apparatus, the patient lying in bed. This exercise prevents the muscles from atrophying, performs extension of the knee, and hastens the absorption of the residue of articular effusion.

At a meeting of the Section on Surgery of the New York Academy of Medicine, held May 3, 1907, the serum treatment of gonorrheal arthritis was discussed (*Medical Record*, Oct. 26, 1907).

Dr. John Rogers stated that the antigonococcus serum found best was that prepared from the sheep, and the dose of an active serum is about 2 c.c. (30 minims). This was injected "into the loose subcutaneous tissue between the deep fascia and skin in the back of the upper arm, first on one side, then on the other, at intervals of from two to six days." If thorough asepsis was maintained and the serum was clear and not contaminated, suppuration would not occur. Following the local reaction there would be an increase in the joint symptoms for a few hours, which was later followed by more or less marked improvement. Rogers stated that "in cases treated early in the disease, before there had been time for much effusion or anatomic changes, two or three of these injections at intervals of 24, 48 and 72 hours, might effect a complete cure, but the urethritis or the original source of the infection should not be neglected, as the serum had little or no effect on it, and unless the usual local antiseptic and astringent treatment was energetically carried out, a reinfection or recrudescence of the metastasis could be expected."

Patients who had had gonorrheal joint symptoms for several weeks might require a dozen or more injections, but "in at least 75 per cent. of all of the acute or subacute or early chronic forms of the disease success might be expected." The failures would be in those individuals suffering from a mixed infection, and the chronic gonorrheal joints were not helped.

Dr. John Torrey, in the same discussion, confirmed the opinion of the previous speaker that "the antigonococcus serum exercised a specific curative influence in a high percentage of cases of gonorrheal rheumatism." The serum had been used in 70 patients with gonorrheal arthritis with 55, or 78 per cent., either entirely cured or much improved. In the remainder there was slight or no improvement. The average number of injections per patient was 5, and 20 individuals were cured in 10 days or less. Even some of the chronic cases were improved, though it required many more injections, and the improvement was tardy.

Pleurisy with Effusion.

Sir James Barr, in the London *Lancet*, Nov. 9, 1907, discusses at length the physiology and dynamics of the lungs and pleural spaces.

He says "owing to the marvelous provisions of Nature the two lubricated pleural surfaces can move freely over one another, but any force that separates them must be greater than the atmospheric pressure in the lungs. It takes at least an atmosphere to separate the two pleural surfaces, and when the surfaces are separated by fluid, it must have been secreted at a greater pressure than the atmosphere."

He believes that every attack of pleurisy is due to some micro-organism or its toxin, and that even a pleurisy following an injury means that the part has become more vulnerable to such organisms. He, also, believes that it is important to decide if possible to what germ the pleurisy is due, and that in pleurisies due to chronic illness, as granular kidney, the germ or toxin present attacks the pleura because its vitality is diminished. He finds that a vast majority of pleurisies are tuberculous, but a considerable number are rheumatic or due to pneumococci, streptococci, staphylococci the colon bacillus, typhoid bacilli, the influenza bacilli, etc. Many of these organisms may be readily found in withdrawn serous fluid, but not the tubercle bacillus. If there is a tuberculous focus elsewhere, especially in the lungs, and tubercle bacilli in the sputum, of course the presumption is that the pleurisy is tuberculous. If no such causative evidence is present, he advises "adding a little citrate of sodium to the withdrawn fluid to prevent coagulation, then centrifuging and examining the sediment for leucocytes, tubercle bacilli and other microorganisms." If pleurisy "is tuberculous the cells will be mostly lymphocytes, whereas if it is due to other microorganisms the polymorphonuclear cells will predominate." Even in undoubted tuberculous, pleurisies the tubercle bacilli may not be demonstrable in the fluid, but, as is well known, injections into a guinea-pig will demonstrate the presence or absence of tubercle bacilli in three or four weeks. He also recommends a white blood count, as in tuberculous pleurisy there is no leucocytosis, while in other pleurisies there is. If the fluid withdrawn from the chest contains blood, the cause of the pleurisy is probably tuberculous, or due to a malignant growth.

"Dry pleurisies are frequently tuberculous, though not necessarily so. In these dry pleurisies there is a small effusion of plastic lymph which is gelatinous in appearance and consistence, and contains a large number of cells with a relatively small amount of fibrin. This effusion quickly organizes and joins the two pleural surfaces together."

These "dry pleurisies require very little treatment except some counter-irritation, a diaphoretic, a purgative, perhaps a sedative to relieve the pain, or some strapping of the chest to limit the amount of movement."

Barr believes that it is difficult to say exactly when an effusion should be removed, and that in tuberculous pleurisies the fluid can remain a little longer to perhaps the advantage of causing a tuberculous lung to be quiescent. He also believes that the aspirator should not be used except with great care, as the suction pressure is great enough to cause considerable congestion of the lung tissue which may tend to encourage the spreading out of the tuberculous pus and perhaps cause acute infection from tubercle bacilli. He, therefore, advises the use of a trochar, thus withdrawing the fluid slowly by siphonage, so that the patient shall not feel any discomfort from its withdrawal. When all the fluid is withdrawn he injects "4 cubic centimeters (1 fluidram) of adrenalin solution (1 to 1,000) diluted with 10 cubic centimeters (2½ fluidrams) of sterile physiologic saline solution," and leaves this in the pleural cavity.

If there is any discomfort to the patient from the withdrawal of the fluid, he introduces a little sterile air into the pleural cavity, but this would require such good judgment as to when it is necessary and how much should be introduced, as to preclude its use in the majority of cases. On the other hand, when the fluid has been long left in the pleural cavity, and from the adhesions of the lung it is impossible for it, at least immediately, to expand to the full capacity of the chest, there will occur sufficient negative pressure in the pleural cavity, after the withdrawal of the liquid, to in the first place cause sinking in of that side of the chest; secondly, not only the replacement of the pushed-over heart but perhaps even a displacement of it to the affected side, and lastly, a dilatation of the blood vessels in the pleura. Hence, under such conditions, as Barr emphasizes, the introduction of sufficient sterile air to prevent these undesired occurrences is doubtless good treatment.

There are few more disagreeable medical mistakes than a neglected pleural effusion; whether the fluid is ultimately withdrawn or whether it is finally absorbed, a portion of the lung is often permanently carnified, the rest of the lung respiring at a disadvantage, the chest contracted, the shoulder drawn down, the heart displaced, and more or less permanent invalidism, and, often, a future tuberculosis ending the clinical story.

It is so simple with an aspirating needle to determine whether or not there is fluid when there is any doubt, that the omission of the diagnosis of a large amount of fluid in pleurisy is inexcusable.

When a compressed lung does not immediately return to its full size, breathing exercises should be inaugurated, and even, perhaps, the use of the pneumatic cabinet should be considered.

Barr advises that common salt, sodium chlorid, should be eliminated as much as possible from the diet, he believing that in its absence the pleural fluid does not so readily recur. When there is believed to be a large quantity of fibrin in the pleural cavity, he advises the use of lemons, citric acid, or the citrate of potassium, calling these "decalcifying agents." The citrate of potash acts, also, as a diuretic, and may be given as follows:

℞.	gm. or c.c.		
Potassii citratis	40	or	℥i
Aquæ	200		fl℥v

M. et Sig.: Two teaspoonfuls, in water, three times a day, after meals.

If the heart's action is weak and the arterial tension low, the potassium citrate may be combined with digitalis, as:

℞.	gm. or c.c.		
Potassii citratis	40	or	℥i
Infusi digitalis	200		fl℥v

M. et Sig: Two teaspoonfuls, in water, three times a day, after meals.

Pharmacology

Honesty in Advertising.

As a part of the reform in business matters, greater care is being taken that advertising be made honest and truthful. The Associated Advertising Clubs of America, at a convention in Cincinnati, adopted resolutions opposing fraud in advertising. They did this as a simple business proposition, taking the ground, in the preambles, that all business in general is harmed if the public can not depend on the truth of advertising matter, and that every legitimate, conscientious and capable advertising man must feel it his duty to assist in protecting the public by eliminating incompetent and unscrupulous hangers-on of the advertising profession, and by promoting truthful advertising. They, therefore, endorsed for enactment in all states a law to prohibit advertisements of damaged goods, fire sales and bankrupt sales when the merchandise offered does not come truthfully under these heads; advertisements in which quality is exaggerated or misrepresented; those which announce "no cure, no pay," and those which proclaim superior skill and enumerate symptoms of disease which are to be "cured." This is another indication that in the future the reader of advertisements is more likely to have a square deal.

Roche's Embrocation.

HUMBOLDT, TENN., Feb. 10, 1908.

To the Editor:—Kindly publish formula of Roche's Herbal Embrocation, a "patent medicine" made in England. It is vaunted by its promoters for whooping cough and, of course, people unacquainted with the facts are prone to grasp at anything, however irrational, which promises relief.

G. W. PENN.

ANSWER: Roche's Herbal Embrocation is an English "patent medicine," exploited in this country by E. Fougera & Co., of New York. Not only is it recommended by its promoters for whooping cough, but also as being "very effective" in lumbago, rheumatism, bronchitis, etc.! As to its formula, the following appeared in The Journal, Aug. 17, 1907, page 617: Roche's Embrocation is a nostrum and its exact composition is not known. From published formulas it appears that it is prepared by digesting a fatty oil with asafetida. The following formula for a similiar preparation has been published: Coarsely powdered asafetida and alkanet, each 5.0 gm. (75 grains), are digested, with olive oil, 180 gms. (6 fluidounces), during eight days and then filtered. To the clear filtrate are added oil of caraway, oil of turpentine, each 9.0 gm. (2.25 fluidrams), oil of pine needles, 1.2 gm. (18 minims), and oil of bergamot, 0.8 gm. (12 minims). Another published formula directs that 2.5 gm. (38 grains) asafetida be digested for a few hours with 60.0 gm. (2 ounces) olive oil; the clear oil is decanted and mixed with 2.0 gm (30 minims) each of oil of caraway and oil of turpentine, and a few drops of oil of bergamot.

LEHN & FINK'S METHODS.

How They Advertise and How the Testimonial Market Is Supplied.

By a curious coincidence we received by the same mail two communications from physicians in different parts of the country regarding the advertising methods of Lehn & Fink of New York City. One of our correspondents, Dr. John A. Hawkins of Pittsburg, Pa., who enclosed a letter from Lehn & Fink to which we refer below, calls attention to this firm's method of reaching physicians. Dr. Arthur R. Elliott of Chicago, who sent the other letter, shows the attitude of Lehn & Fink toward the public. Dr. Elliott's letter is so illuminating that we give it in full:

> *To the Editor:*—The enclosed two pamphlets were received through the mail recently by one of my patients and he being very much impressed by their contents and fully persuaded that he had "uric acid poisoning," brought them to me to ask my advice about the advisability of at once beginning treatment. The one marked "Fourth Series" was received first and prepared the way nicely for its successor. It is apparent that the profession now being able to discriminate between the truth and poetry regarding uric acid, Lehn & Fink, who for so long a time have sought our favors, have decided that it will be more profitable for them to work the public direct. I would particularly invite your attention to the effusion in the second pamphlet by Edward P. Adams, a member of the American Medical Association. [While the article written by Dr. Edward P. Adams states under the title that he is a member of the A. M. A., this information, like much of the "scientific" matter in the article, lacks the element so essential for conviction—truth. He is not a member.—Ed.] and more especially to the footnote on page nine. [This footnote is referred to later. It has reference to the author's willingness to give advice by mail. —Ed.] This comes precious near being quackery. It seems to me that the conduct of this firm should be brought to the attention of the profession.
>
> Arthur R. Elliott.

It appears from the enclosures that the firm in question is at present "pushing" Piperazine Water—advertised as a gout and rheumatism "cure." To awaken interest in this preparation two series of pamphlets are published. One, entitled "Notes on New Remedies," is sent, presumably, only to physicians; the other, which presents a gaudier appearance and a more attractive cover, is sent through the mails to the public direct. Each of these publications contains an eleven or twelve-page article by Edward P. Adams, M.D., of Cincinnati. This gentleman's articles are written to suit his audience. In "Notes on New Remedies" he discusses learnedly—for physicians—the causal relation of uric acid to gout and rheumatism, and gives—for physicians—an imposing bibliography in the most approved style. In the other series he discourses fluently —this time for the public—on "Uric Acid Diseases and Their Treatment with Piperazine Water." In yet another pamphlet of the same series the "Cause and Cure of Rheumatism and Gout" are popularly discussed—also for the public—and his readers—still the public—notified, that *"the author is at liberty to give advice by mail!"* [Italics ours.—Ed.]

The question may arise in the physician's mind as to how Lehn & Fink obtain these voluminous testimonials exploiting their products. Dr. Hawkins enclosed with his letter a communication he received from Lehn & Fink which sheds some light on this subject. We give it in full.

> *Dear Sir:*—Our attention has been directed to the December issue of the *Proctologist*, in which there appears your paper on constipation. We have read this with very much interest, particularly that portion where you make reference to the value of phenolphthalein. From the wording of this portion we infer that you may have mentioned the preparation Purgen[1] also, and that probably the editor cut it out when the article was published, in fact, we have been told as much.
>
> Under separate cover we are sending you the latest issue of our publication, "Notes on New Remedies," which is just off the press. We should have been very pleased to reprint in full your paper in our "Notes" had it not been mutilated in the way we assume. We accordingly desire to ask if you can not find it within your time and inclination to prepare an original communication, treating of the use of Purgen in intestinal troubles, for publication in the next issue of "Notes."
>
> We should value such a paper highly and we are sure our readers, who number some 16,000 among the most representative of the medical profession, would likewise appreciate the information that you may give. *Our customary remuneration for papers of this character is $10.00 per printed page,* [Italics ours.—Ed.] which we are pleased to offer you if the offer meets with your approval. Awaiting your early reply, we are,
>
> Very truly yours,
>
> Lehn & Fink.

This letter causes one to wonder whether the twelve-page disquisition on the "Treatment of Gout and Rheumatism with Piperazine," by Dr. Edward P. Adams, is really, what it purports to be, a scientific article of general interest to the medical profession or merely a $120 testimonial made-to-order "by request." One is doubly suspicious, too, that the four-page article in the same publication on "The Internal Treatment of Gonorrhea" (with Gonosan), represents but $40 worth of "copy." This Gonosan testimonial was written by the renowned A. H. Ohmann-Dumesnil, A.M., M.E., M.D., Ph.D., etc., editor of the, now defunct, *St. Louis Medical and Surgical Journal* of unsavory reputation. Possibly, however, Lehn & Fink vary their schedule of rates for such testimonials according to the professional standing of the authors furnishing them.

TUBERCULOIDS TABLETS.

Another "Consumption Cure" and Its Fraudulent Claims.

Chicago, Jan. 14, 1908.

To the Editor:—The card, of which the following is a copy, is so evidently exploiting a fraud that the fact should be made known to the profession:

> PHTHISIS PULMONALIS CURABLE.
>
> By the Germicidal, Antiseptic (non-irritating), Alterative, Reconstructive, and Restorative properties of Tuberculoids Treatment for Tuberculosis. The medicinal factor being Tuberculoids Tablets, a chemical production proven efficacious by bacteriological tests, substantiated by practical use by physicians under all kinds of climatic and systemic conditions. Full size package ($1.50 size, 200 tablets) furnished free to accredited practicing physicians on return of the attached card. Ample information furnished by personal letter for intelligent administration. Originated and manufactured only by Columbus Pharmacal Company, Columbus, Ohio. Serial No. 3219, Guaranteed under the Food and Drugs Act, June 30, 1906,

All who are in touch with the literature of tuberculosis pulmonalis know that there is no "germicidal antiseptic or alterative," etc., cure for the disease; the people and the profession should be protected from such impositions by full information. Can you not tell us what is in tuberculoids tablets and once more make plain what "guaranteed under the Food and Drugs Act" means?

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[1] Purgen is the trade name for the aperient drug phenolphthalein. In Europe this product seems to be advertised in street-cars omnibuses and even on hotel toilet paper. (See The Journal, Nov 2, 1907, 1541.) Extravagant claims are made for it, and while phenolphthalein may be bought for 40 cents an ounce, Purgen is quoted wholesale at $3.20 an ounce in tablet form. For further information see The Journal, Sept. 14, 1907, 954.

I regret to think that physicians will use the attached returnable postcard by which samples of the drug may be obtained, for it means that they are willing to use drugs, the composition of which they do not know, and for the therapeutic action of which they must rely on statements of the manufacturer.

I appeal to you because of the good work which The Journal has done and is doing in showing up the uselessness and often harmfulness of the majority of proprietary remedies.

N. S. Davis.

Comment: Some of the circulars advertising Tuberculoids, and also specimens of the product, were submitted to the chemical laboratory of the American Medical Association for an opinion and a report. The chemists report as follows:

> The statements regarding the chemical composition of Tuberculoids are typical of those made for "patent medicines." While pretending to give exact information regarding the composition of the remedy, the literature contains only mystifying phrases. Thus in one circular we read:
>
> > Starting with guaiacol, cinnamic acid and compounds of potassium, bismuth and iodin, careful research indicates that the following formulæ represent the final chemical compounds: $KC_9H_7O_2$, $C_6H_4OCH_3OBiO(H_2O)x$.
>
> In another circular we read:
>
> > Starting with guaiacol, cinnamic acid and compounds of potassium, bismuth and iodin, careful research indicates that the following formulæ represent the final chemical compounds: $C_{17}H_{21}NO_4$. $KC_9H_7O_2$, $BiC_7H_{16}O_5I$.
>
> Thus, starting with the same chemical substances, the final chemical compounds are not always the same! The second formula names a compound having the composition $C_{17}H_{21}NO_4$; this is not contained in the first formula. Again, while in the second formula a bismuth compound is given which contains iodin, the bismuth compound in the first formula does not contain this element.
>
> The purpose of the formula is evidently to mislead. In view of this and the ridiculous and unwarranted statements made regarding the therapeutic action of this product, it has not been deemed of sufficient importance to submit the nostrum to an extended analysis. Qualitative examinations have determined the presence of bismuth, guaiacol and a substance which responded to tests for cinnamic acid. Apparently, therefore, these tablets contain bismuth, possibly a nitrate of bismuth, a compound of guaiacol and a salt of cinnamic acid.

It has long been realized that the drug treatment of tuberculosis is secondary to hygienic treatment, and no intelligent physician who knows the actual pathologic condition is expecting a specific for the disease. Guaiacol, arsenic and some other drugs may have a place in the therapy, but not by any means as curative agents.

There is no class of patients whom the nostrum maker can influence so easily as consumptives; they are always hopeful and ever ready to praise any remedy they happen to use. This is undoubtedly the reason why the "consumption cure" promoters succeed in getting so many testimonials.

As to the significance of the statement, "guaranteed under the Food and Drugs Act," the Secretary of Agriculture says: "The statement does not mean that the United States Government guarantees the purity of the article or guarantees that it is what the label says it is. . . . On the contrary, the serial number is assigned to fix the responsibility where it belongs—on the manufacturer—and to protect innocent dealers." Any nostrum—no matter how fraudulent—may carry a government serial number, even though it does not comply with the Food and Drugs Act.

Mixed Skin Diseases.—Dr. L. Duncan Bulkley, in the *Therapeutic Gazette*, gives a reminder that a patient may have several entirely distinct diseases of the skin at the same time, one of which may mask the other and confuse the diagnosis.

Correspondence

Postgraduate Work in Mission Hospitals.

Chittabalbie, Korea, Sept. 17, 1907.

To the Editor:—I ask you to make public to the more ambitious and better element of the student bodies the fine opportunities for experience in the hospitals in the Orient. I have been through many in Korea and China, and the plan I attempt to outline here is indorsed by all the physicians I have talked to. The greatest handicap that confronts the graduate is lack of experience; experience in any line develops skill and this is doubly true in medicine and surgery. It is for this reason that interneships are so zealously sought in our hospitals. But, unfortunately, these are not open to all who are qualified to enter them in such capacities. I recommend to the better element of our ambitious graduates, therefore, the great advantages and opportunities of spending some time in the hospitals in the Orient, which are for the most part missionary enterprises. These hospitals are in charge of overworked physicians, and many thousands of cases are seen annually. While the graduate would be qualifying to enter his profession, he would be incidentally assisting a most worthy cause. Of course, he would have to defray all his expenses, both traveling and living, but these would not exceed $1,000 a year. By corresponding either with me (enclosing stamp), with the mission boards or with the hospitals, instructions may be had. Of course, only those of good moral character would be acceptable.

J. W. Nolan, M.D.

OPINIONS OF FOREIGN MISSIONARY BOARDS.

In view of the above suggestion, The Journal entered into correspondence with certain foreign missionary societies. Dr. James L. Barton, secretary of the American Board of Commissioners for Foreign Missions, wrote at length regarding the plan, and from his letter we quote the following:

> "The condition which you outline in your letter certainly prevails in nearly all the mission hospitals of the board. The patients so press on the physician in charge that it is practically impossible for him, without putting his health in peril, to keep up with it. I believe in every case an earnest, able, Christian physician, recently graduated from a worthy American institution, would be welcomed as an assistant and an associate, and would be given every opportunity to study the diseases and cases coming before the missionary physician in charge, and he would also be given, without question, a large share in the work to be done. . . You ask what requirements the board would probably demand. I am sure these would be simple, but I feel equally sure they would commend themselves to all who enter on this work. Whoever goes out in this way would from the moment he entered the hospital become fully identified with our mission and with the hospital, and the mission and this board would be held by the people as responsible for what he did, both within and without the hospital. . . . For this reason . . . we should wish whoever went in this way to have taken commendable rank throughout his medical course. Second: We should probably want him to obtain from some leading state in this country a diploma for practice in that state. This we require of all our medical missionaries. Third: We should want him to send us the names of at least six people who know him best, to whom we could write for testimonials as to his character, ability and Christian standing. Fourth: We should want evidence that the man is a member of an evangelical Christian church, and is thoroughly interested in Christian things, and especially in Christian missions abroad. . . . Perhaps I should add that in every appointment under our own board as a regular medical missionary, we require not only the medical course with the degree from a worthy medical institution, but we require from one to two years of postgraduate work, in addition to the diploma, from some leading state like New York, Massachusetts, Illinois or Ohio, where the state examinations are close and where the certificate means something. . . . Two thousand dollars ought to cover the necessary expenses for a period of two years, including passage out and back."

Mr. Arthur J. Brown, secretary of the Board of Foreign Missions of the Presbyterian Church in the U. S. A., cordially welcomed the plan suggested in Dr. Nolan's letter, but he conservatively adds:

"We feel that we ought to state frankly, however, that we fear that the opportunities would be less valuable to the young men than they might imagine. The conditions of missionary life are often trying. The hospitals, while usually having an immense medical and surgical practice, have an equipment that would be decidedly disappointing to a young man accustomed to the large and costly plants in the United States. The house accommodations might be inconvenient and the climate debilitating. Moreover, such a man would not know the language of his patients, and would therefore be wholly dependent on an interpreter for communicating with them."

THE NEED OF MEDICAL MISSIONARIES.

Dr. W. H. Forsyth, a medical missionary in Korea, writing of the need of regular medical missionaries (not assistants), says:

"The work is hard and the salary varies from $600 for single men to $1,200 or $1,500 for married missionaries. It is a wonderful opportunity to reach and relieve thousands of suffering people who are without help, to train natives to take up the practice of medicine and to win many to the Christian faith. It is a work that deserves the active interest and support of all Christian physicians."

He sends a list of medical missionaries needed by various boards. It does not claim to be a complete list, but we print it because of its connection with the subject under discussion.

AMERICAN BAPTIST UNION.

Three for various fields.—Rev. F. P. Haggard, Secretary, Ford Building, Boston.

BOARD OF FOREIGN MISSIONS OF EVANGELICAL LUTHERAN CHURCH.

One for Liberia, Africa.—Dr. Marion J. Kline, Secretary, 21 W. Saratoga Street, Baltimore.

GENERAL CONFERENCE OF FREE BAPTISTS.

One (married) for Bhimpore, India.—Mr. Harry S. Myers, Secretary, Hillsdale, Mich.

BOARD OF FOREIGN MISSIONS OF METHODIST EPISCOPAL CHURCH.

One for Good Samaritan Hospital, Guanajuato, Mexico; one (unmarried) for Foochow, China.—Dr. H. K. Carroll, Secretary, 150 Fifth Avenue, New York.

BOARD OF FOREIGN MISSIONS OF PRESBYTERIAN CHURCH IN U. S. A.

Two for Korea; two for China.—Dr. Stanley White, Secretary, 156 Fifth Avenue, New York.

BOARD OF HOME MISSIONS OF PRESBYTERIAN CHURCH IN U. S.

One for work among Navajo Indians.—Dr. Charles L. Thompson, Secretary, 156 Fifth Avenue, New York.

DOMESTIC AND FOREIGN MISSIONARY SOCIETY OF PROTESTANT EPISCOPAL CHURCH.

Three for Wusih, Wuchang and Shasi, China; one for Japan.—Mr. John W. Wood, Secretary, 281 Fourth Avenue, New York.

BOARD OF FOREIGN MISSIONS OF REFORMED CHURCH IN AMERICA.

One for Amoy, China. Dr. H. N. Cobb, Secretary, 25 East Twenty-second Street, New York.

BOARD OF FOREIGN MISSIONS OF REFORMED CHURCH IN U. S.

Two for China.—Dr. A. R. Bartholomew, Secretary, 1306 Arch Street, Philadelphia.

UNITED EVANGELICAL CHURCH MISSIONARY SOCIETY.

One for Hunan, China.—Rev. B. H. Niebel, Secretary, Harrisburg, Pa.

SUDAN UNITED MISSION.

One for the Sudan, West Central Africa.—Mr. Charles B. Kurtzhalz, Secretary, 329 East Walnut Lane, Germantown, Philadelphia.

For missionary work in general, address the Student Volunteer Movement, 3 West Twenty-ninth Street, New York City.

MEDICAL MISSIONARY WORK IN CHINA.

Apropos of this subject, a letter received from Dr. Charles F. MacKenzie, at one time located at Nashville, Tenn., now at Kinhwa, China, where he is stationed as a medical missionary, is of interest. We quote:

"This is a great country for medical work. I am the only foreign physician among 300,000 people, there being no other nearer than 200 miles. The chances for a young man just out of medical school are great, and the experience he would gain here would be far ahead of any chances he would have at home. The great drawback is the language, of course. One has to have that before he can do much, as no Chinese speaks English where I am. The ordinary Chinese doctor knows nothing of surgery and very little medicine. Santonin is our mainstay, as about 85 per cent. of our Chinese patients are full of ascarides. Smallpox is considered a matter of course, about the same as we consider a child having measles. The people around us inoculate the children with smallpox scabs in the nostril, hence many children are blind from this practice.'

In this connection also we refer to an interesting and elaborately illustrated article in the December *World's Work*, which describes the work done in mission hospitals.

An Antivivisection Play, in Three Acts.

New York, Feb. 20, 1908.

To the Editor:—The scene of the first act is laid in Carnegie Lyceum, in New York City, where there was recently an enthusiastic gathering. Dinners, of which roasted or broiled meats (animals, by the way, almost invariably meet tragic deaths) were a part, were being comfortably digested; so that everybody was in a position to take an amiable interest in the proceedings. The great majority in this audience were women, who wore the plumes of slaughtered birds in their hats; and (it being evening) pet dogs, whose tails had been docked, and whose ears had been clipped, were reposing undisturbed at home. The lady president of the Antivivisection Society (in alliance with the International Antivaccination Union) spoke with the precision of statement so characteristic of the feminine mind. The great difficulty in getting started in this country, she declared, is because, "while no doubt 50 per cent. of the medical profession are to-day at heart opposed to vivisection, its leaders in New York, confident in their eminence and power to punish, have sent out a practical prohibition to all physicians that they should not approve or sustain in any manner any movement toward a restriction of vivisection." Several public-spirited gentlemen were on the platform. One among these, in terms conspicuous for man-like temperance of expression, stated that those medical experimenters who vivisected animals were "virtuosos of agony, in whom curiosity, vanity or scientific zeal has supplanted humanity, and to whom harmonies or discords of agony or long-drawn cadences of torture struck from quivering nerves are music." One clergyman contended that the practices condemned are continued for "the purposes of commercialism, to obtain antitoxins, which have not yet proved their efficacy, and in some instances have been known to have increased disease instead of decreasing it." Another maintained that vivisection is "contrary primarily to the law of God;" this clergyman would no doubt a generation ago have denounced the administration of chloroform to women in labor, on the basis of some scriptural expression. The Rockefeller Institute was especially stigmatized and "resoluted" against as being "the principal theater of vivisection operations in this part of the world to-day." A bill was read, which had been introduced in the legislature at Albany; and the assemblyman who was responsible for it naively observed that in passing it the state would incur no expense, for the Antivivisection Society and the Humane Society had offered to provide the salaries of the inspectors proposed in the bill.

The second act of this play takes place in the city of New Brunswick, N. J., where the two villains of the cast, by name Dr. H. H. Janeway and Dr. E. I. Cronk, have been laboring under the obsession that without animal experimentation medicine would be "but a savage art—not even the shadow of the present science of cure and prevention." Being desirous of perfecting an operative procedure for gastric cancer and tuberculosis, they have done tentative operations on animals; and have also, in a spirit equally unscientific and calloused, removed a lobe of one lung from a dog named Pete. The sufferings which a veracious lady of that city had alleged this dog was enduring have divided that generally peaceful and sane community into two camps. A somewhat Gilbertian warfare has resulted; most of the contestants, especially the feminine participants, "did not know what it was all about anyway." A superb strategic move was the arrest of Drs. Janeway and Cronk on charges of cruel usage of the dog Pete, made by the aforesaid tender-hearted lady; the miscreants happily regained freedom when bail of $300 for each was paid. Pete, because of whose agonies the arrests were made, was sought for in his usual comfortable bunk in Dr. Janeway's barn. But the martyr, who "for the sake of science, had given most of himself away," was absent; he (or what remained of him) was found near by, engaged, with all his old-time zeal, in his favorite occupation of chasing the New Brunswick cat which he, in his turn, was trying to vivisect.

The third act takes place on a bleak bank of the East River, with the reprehended Rockefeller Institute providing the back scene. Several hours before dawn a venerable gentleman rang the bell at the entrance door of the building. But there was no one to respond to his ringing. He therefore sat down before the doorstep, or waited about it in most inclement weather, until daylight. Being then admitted, he made known his errand. He is connected with Berea College, where either a real or suspected case of epidemic cerebrospinal meningitis has developed; and he was most anxious to secure some of the serum which Dr. Flexner and his associates have, largely through animal experimentation, evolved both for curative and prophylactic purposes, against that dreadful disease. At first it was thought to refuse his request, for the reason that the work on this serum is still in the experimental stage. Finally, however, on his assurance that it would be given only by skilled physicians, who would be responsible for its proper use, several vials of this serum were entrusted to him; and they were at once rushed off to Kentucky, in the hope that they would reach their destination within twenty-four hours. All men and women of really humanitarian instincts may reasonably entertain the belief that in this circumstance valuable human lives have thus been saved, and that much of the ghastliest sufferings in all medical experience has thus been averted.

The reader must decide for himself if this play has been a farce, a comedy, a drama or a tragedy. B.

Winter Cholera.

Escanaba, Mich., Feb. 18, 1908.

To the Editor:—Your editorial on "Winter Cholera" in The Journal, February 15, leads me to say just a few words on that form of bowel trouble. Many cities will undoubtedly proclaim priority to Lansing, and it may be well to state that many widespread epidemics have been recorded in southern Michigan as far back as 1880. These were given consideration and discussed by the health authorities in Michigan in 1881. The Indiana State Board of Health also called attention, in their report of 1901-1902, to an epidemic on winter cholera at Michigan City. The report reads, in part, as follows: "December 27 information was received by telephone from Michigan City that a severe epidemic of winter cholera existed at that place. My informant, Dr. Tilotson, said he believed the outbreak was due to sewage that had been introduced in the water supply. He explained that there were two intakes in the water-works, one reaching about half a mile out into the lake and another a few hundred feet, opening into the creek. The latter intake was put in as a precaution against fire, because it was known that lake intakes sometimes freeze up. In the event of the freezing of the long intake, then, water could be pumped into the creek. On December 21, without any warning, the engineer at the water-works turned in the water from the creek, and within twenty-four hours hundreds of people were prostrated with severe diarrhea, attended with pain, and having many of the minor symptoms which reminded one of cholera. It was for this reason that the disease was called winter cholera."

Escanaba for a number of years has experienced winter epidemics of gastrointestinal disturbances, similar to those cited above. In fact, winter cholera, as it is here, is a household word. This vague nomenclature has been adapted to an intestinal flux, occurring during the winter months, and characterized by a most varied symptomology. Because of much mysticism that has held sway in this community on such disturbances, and because of an authorized high mortality, I was prompted, in the early months of 1903, to conduct an investigation as to the causal factors back of these troubles. Such observations on winter cholera have been briefly stated in a paper read before the Upper Peninsular and Fox River Valley medical societies at Menominee, July 16, 1907. This paper was published in the *Journal of the Michigan State Medical Society*, November, 1907, and was abstracted in The Journal, Jan. 11, 1908, page 152.

I have been prompted to make these remarks because of the fact that I am not aware of a detailed study of any epidemic of winter cholera that has in any way established the relationship of this term to any positive gastrointestinal pathology. I believe that my efforts have been the first that have been put forth in this direction. I am at the present time engaged in further work along this line, and hope to be able to make a final report of my observations at Chicago this summer.

O. C. Breitenbach.

Tuberculin for the Ocular Reaction.

Detroit, Feb. 15, 1908.

To the Editor:—In The Journal, Jan. 25, 1908, page 260, there appears in the text, with a footnote reference, statements relative to the nature and process of manufacture of purified tuberculin for the ocular reaction. The statements attributed to me were made to one of the authors of the article over the long-distance telephone, the result being that they are not entirely correct, and at the author's suggestion I desire to offer the following correction which embodies the process as finally adopted for the manufacture of the material:

A well-grown culture of human tubercle bacilli on 5 per cent. glycerin bouillon is concentrated over a water-bath at about 80 degrees C. to one-tenth its volume. The concentrated culture is filtered to remove the germ bodies. This filtrate constitutes the so-called old tuberculin of Koch. To a given volume of this old tuberculin is added from two to five volumes of 94 per cent. alcohol, which throws down a voluminous, sticky precipitate. The alcohol is decanted, and the precipitate redissolved in distilled water and filtered through porcelain to remove any insoluble particles that may have been left in the precipitate. The filtrate, containing precipitate in solution, is then precipitated a second time with 94 per cent. alcohol, the alcohol removed, the precipitate washed with absolute alcohol and ether, and dried quickly in vacuo. The residue is then powdered under aseptic conditions, and manufactured into tablets.

The sample referred to in the paper was a portion of a small experimental lot, and inadvertently contained a few broken-down, dead bacilli, but the reaction does not depend on these, as the results obtained from a product which did not contain the germs have been found to be equally satisfactory.

E. M. Houghton.

Miscellany

Dietetic Treatment Before and After Operations on the Stomach.—C. Wegele contributed an article on this subject to the *Zeitschr. f. phys. u. diät. Therapie*, April, 1907, in which he asserted that much of the benefit of surgical operations on the stomach is annulled by unsuitable eating afterward, not only at first but in the months and years later. He ascribes the comparatively frequent development of cancer later to the lack of dietetic restrictions. The tardy disturbances are most liable in cases in which the operation had been undertaken on account of dilatation of the stomach from atony, especially when accompanied by gastroptosis and neurasthenia. If the diet of such patients is regulated for weeks and months after the operation they are able to escape the dyspeptic disturbances almost inevitable otherwise. The development of peptic ulcer should be prevented by combating hyperacidity and hypersecretion by restricting the diet to milk, fats, white meat and purées, refraining from coffee, bouillon, spices, alcohol, cabbage and nuts. Bismuth, alkalies or Carlsbad water should be given to prevent injury of the intestinal mucosa from the acid chyme. He has succeeded in curing by lavage of the stomach and dietetic measures alone two patients suffering from reflux of bile in a very severe vicious circle. His experience indicates that adhesions are less liable to develop, the smaller the surgical wound. In case of achylia, an acid before meals and pancreatic extract afterward will aid digestion, restricting the food to chopped meat, light puddings, acorn coffee and a decoction of huckleberries. Opium should be given only in very small doses or in a suppository. Constipation is seldom observed after a gastroenterostomy, but if it occurs it should be combated with stewed prunes, whole wheat bread, buttermilk, cream and sugar of milk, with mild laxatives as needed and oil enemas. Patients should be impressed beforehand with the fact that the operation is not the last resort in treatment of their chronic stomach trouble, but quite the contrary. It aims to lay the foundation on which rational dietetic treatment will lead to a permanent cure.

Electric Treatment of Aneurisms of Aorta.—Brazilian Method.—A. de Freitas states in the *Brazil Medico*, Nov. 22, 1907, that aneurism of the aorta seems to be on the increase in Brazil. Syphilis, alcoholism and the food seem to be the principal causes, especially an excess of meat and adulterations in articles of food. He reports 31.8 per cent. cured, 50 per cent. materially improved, and only 18.1 per cent. mortality in an experience with 22 cases during the last five years, all treated with what he calls "positive cutaneous voltaization" or the "Brazilian method." This has a marked local action on the lesion, modifying local conditions and relieving the symptoms. The value of this method lies in the properties of the anode. The anode has a retracting action on the walls of the dilated vessel, and a coagulating action on the fibrin of the blood, as well as an action on the vasomotors, improving the nourishment of the parts. This same coagulating action of the anode has proved useful in treatment of hemorrhage from uterine fibromas and hemorrhagic metritis, utilizing the electrolytic introduction of metallic ions into the tissues. It has also proved effectual in inducing the production of a retractile eschar in treatment of angiomas and vascular nævi. The mechanism of the cure is the same in all these processes, except that it is more intense in the aneurism. The passage of the current causes an inflammatory reaction which induces a deposit of fibrin after the primary irritative coagulation has ceased. This phenomenon can be readily recognized by the subsidence of the tumor. As the aorta decreases in size the symptoms resulting from compression of other organs subside with it. He has found ionization with iodin or zinc an excellent aid in the treatment, as also auto-conduction or D'Arsonvalization. His later experience has amply confirmed his first favorable results from the use of a current of relatively large quantity under medium or feeble tension—voltaization, as described in The Journal, Nov. 21, 1903, page 1310. He finds aneurism of syphilitic or alcoholic origin the hardest to cure.

Plea for Scientific Cooperation Between Physicians to Follow Up Cases.—I. Boas of Berlin has been preaching the urgent necessity for some arrangement between physicians which would make it possible to keep track of the course of the more interesting chronic affections as the patients wander from place to place and consult one medical man after another. The often constant change of physicians causes the case to be lost to science with all its obvious lessons in regard to the course of the affection, the clearing up of diagnostic problems, the success of various therapeutic measures and the autopsy findings. The value of a case to science is comparatively insignificant now on account of the gaps in our knowledge concerning it. He pleads for a more exalted ethical appreciation of the single case. Not only the patient himself but the physician and entire suffering humanity have an interest in knowing the course of the affection, the results of treatment and the outcome. The physician should not regard the patient as "my case," but as belonging to the totality of physicians, to the profession at large. Patients should be instructed to report later to the physician or reply to letters of inquiry. Still more important is the cooperation of physicians. They should make a point of replying to an inquiring physician with careful and minute information. A printed form might be useful for the purpose, with blanks for diagnosis, course, duration, treatment used, its results, outcome, and eventual operative and autopsy findings. Boas did not propose any means of setting the desired mechanism to work, but merely that a committee should be organized to discuss ways and means to bring the entire medical world thus into closer touch. His talk on the subject is reproduced in the Berlin letter in the *Münch. med. Wochenschrift*, November 12.

Discuss Sanitary Themes.—The Proceedings of the Seventh Annual Conference of Sanitary Officers of the State of New York, held in Buffalo, Oct. 16 to 18, 1907, form an interesting volume containing much useful material. The presidential address of Dr. Porter has already (The Journal, Nov. 16, 1907, p. 1715) been abstracted. Other papers were: "The Dissemination and Control of Tuberculosis as Illustrated in the Bovine Species," by Veranus A. Moore, M.D.; "The Early Diagnosis and Treatment of Pulmonary Tuberculosis," by John H. Pryor, M.D.; "The Duty of the State in the Prevention of Tuberculosis," by Edward Devine, M.D.; "Labor Legislation in Its Relation to Public Health," by Adna F. Weaver, Ph.D.; "Sewage Disposal for Institutions in Small Communities," by Theodore Horton, C.E.; "The Laws Relating to the Pollution of Streams," by A. H. Seaman, Esq.; "Sanitary Inspection of Wells and Their Surrounding," by L. M. Wachter; "Practical Points on Quarantine," by John T. Wheeler, M.D.; "The Detection of Communicable Diseases in Schools as a Part of Medical School Inspection," by H. D. Schmidt, M.D.; "The Prevalence of Physical Defects in School Children," by Harlan P. Cole, M.D.; "The Detection of Defects of the Eye, Ear, Nose and Throat," by H. C. Schenck, M.D.; and finally, a symposium on "What Health Departments Can Do to Secure Pure Milk," in which Dr. Thomas Darlington urged the inspection of dairies and farms; Dr. Ernest Wende championed the permit and license system; Dr. Henry R. Hopkins spoke of the "Tell Tale Milk Register;" Dr. George W. Goler advocated educational methods; and Dr. Ellis M. Santee described the advantages attending the use of the Score Card System. The papers are all eminently readable and well-marshaled presentments of their respective subjects.

Treatment of Sciatica by Perineural Injections.—A. Bum of Vienna announces in the *Wien. Med. Presse*, Nov. 17, 1907, that he has found local injection of a fluid extremely effectual in the cure of chronic peripheral sciatica. He has occasion to treat from fifty to sixty patients with sciatica every year, and since 1904 has been systematically applying these perineural injections. He ascribes the benefit to the mechanical distension of the parts, and thinks it is important to inject the fluid in a constant stream and under considerable pressure. Physiologic salt solution is injected through a needle cannula from 7 to 8 cm. long, inserted at the point of the inner aspect of the thigh where the long head of the biceps femoris is crossed by the gluteus maximus. The patient must be in the knee-elbow position; the cannula is introduced for half its length, and is then lowered a little and pushed in for 3 or 3.5 cm. farther. This brings the tip to the sciatic nerve at the point where it is most easily and safely reached without fear of injury of the soft parts, as he learned from experiments with colored fluids on the cadaver. The injected fluid enters the perineurilemma. When the needle reaches the sciatic nerve the leg twitches or there is sharp pain or paresthesia in leg and foot. The tube connected with the syringe holding just 100 c.c., is attached to the cannula and the fluid is injected. The patient lies down for a half hour or so, and then goes home and rests for the next day or two. In a few cases the neuralgia recurs, requiring from two to four injections before the patient is entirely cured. In 62.6 per cent. of 67 cases, the cure was complete; in 20.8 per cent. there was marked improvement, and in 8.9 per cent. no effect was apparent.

The Fissure Pain in the Chest.—Sabourin calls attention to painful points corresponding to the fissures between the lobes of the lungs, and describes a number of cases to show their diagnostic value. His first article on the subject appeared in the *Revue de Méd.* for April, 1907, and later experience has confirmed his assertions. The most frequent painful point of the kind is near the spine, close to the third and fourth ribs, accompanying tuberculous pleuro-pulmonary lesions at the edge of the large fissure separating the upper and lower lobes of the lung. Another point is back of the axilla, at the head of the small horizontal fissure, but a lesion anywhere over the entire surface of the fissures may be the cause of a painful point or strip above. An "aberrant" painful point sometimes occurs at the anterior extremity of the sixth or fourth rib. The pain is not neuralgic in character, but is a dull ache with acute pain during coughing or exertion of any kind. These fissure pains may be observed in cases of bronchial embolism close to the fissure, in interlobar pleurisy with effusion, in case of apoplexy of the walls of the middle lobe, in fissural pneumothorax and in pleurisy without effusion. The fissure pains seem to be the external manifestation of the morbid activity of the interlobar pleura. In many cases of pleurisy without effusion, in which the physical signs are minimal, the fissure pain alone will differentiate the affection and confirm the diagnosis by inviting closer examination. He describes a number of typical cases to illustrate his remarks.

Treatment of Neuralgias.—In an address on the therapeutics of neuralgia, delivered by Schultze at the last German Congress for Internal Medicine, he stated that he had frequently found hot sand baths effectual in the treatment of sciatica. Bloodless stretching of the nerve frequently cures neuralgia, but he warns that too severe measures are liable to induce paralysis. He has noted the disappearance of the knee jerk after moderate stretching of the crural nerve. In the early stages of sciatica he finds rest the best treatment. The correct principle of stretching and working the nerve is to commence it only after the first phase, when the pain begins to subside somewhat after prolonged repose, or the pain can be artificially arrested. Injection of alcohol or other substances directly on the nerve causes a kind of medicinal resection of the nerve, but it may entail severe degeneration. It should be used with caution for all nerves not exclusively sensory. Many clinicians have reported brilliant results from these perineural injections. Some used small amounts of solutions of carbolic acid, antipyrin, cocain, eucain, etc., or merely air or water. Alexander injects Schleich's solution, and stretches the nerve under its influence. In case the nerve is resected, Schultze advises to plug the foramen with some permanent filling. Dry heat and hot baths are still as ever the main reliance in neuralgia, he said, and intelligently applied may cure without surgical interference.

Warning Precursor of Hemorrhage or Perforation in Typhoid Fever, Etc.—H. Huchard and Amblard refer to the periods of arterial hypertension observed in typhoid fever and other intestinal affections. The hypertension may lead to hemorrhage, to perforation, or merely entail an aggravation of the general condition. In any event, it is important that it should be recognized and treated early, and thus avert the menacing complications. The hypertension is only relative, the arterial tension being low in typhoid fever. The sphygmomanometer shows a sudden increase from 7 or 8 to 12 or 14 degrees and this warns of impending trouble. They cite four cases in which this sign, in an apparently mild typhoid fever, was followed a few hours later by fatal hemorrhage and perforation. The pulse grows slower as the arterial pressure rises, and the heart action shows the effect. Either the general condition grows rapidly worse or hemorrhage or perforation occurs, after which the arterial pressure falls and the pulse becomes weak and thready. The systolic effort, encountering unusual resistance in the periphery, drags and seems to make two attempts, causing a mesosystolic pulse gallop sound. They discuss the probable origin of the disturbance, and remark that something of the kind probably precedes hemoptysis in the tuberculous. Their communication on the subject was published in the *Revue de Méd.*, July, 1907

Criminality and Immigration in Cuba.—Dr. Fernando Ortiz, Havana, discusses in the *Archivos de Psiquiatria, Criminologia y Ciencias Afines*, of Buenos Aires, the question of immigration as related to criminality in Cuba, where the subject seems to be one of some importance. The population of Cuba, as is well known, is mixed and somewhat more so of late years owing to the importation of Asiatics. The phenomenon observed in this country that the immigrants furnish more than their share of criminals has been observed also in that island. In 1866, the latest year for which complete statistics are available, there was one native Cuban convict to every 1,072 native Cubans; one for every 373 Spaniards, and one for every 322 Asiatics. The proportions of criminality in every immigrant race are greater than in their home countries. Dr. Ortiz sees at least a partial remedy or prophylactic of the influx of foreign-born criminality in a multiplication of sources of immigration, that is to say, it is better to have 10,000 immigrants each from a number of countries than 100,000 from one. He would have a general registration of immigrants with a regular system of identification, preferably the thumb-print method rather than the elaborate and fallible Bertillon system.

Medicine's Earnings.—Medical science makes temperately a claim on the gratitude of the race. In London, New York and Chicago, the profession announces that recent progress in the cure and prevention of disease has gone far enough to diminish distinctly the incomes of practicing physicians. If this be true, it is a magnificent message of service to humanity. Without asking for further proof it may be accepted as true. Sanitation, the conquest of infant diseases, the lowering of typhoid percentages, aseptic surgery, the acquaintance with food values, the development of scientific nursing and the control of germ enemies are achievements known to everybody. Medical practice has simplified itself at its own pecuniary cost, while it has never faltered in promoting the investigations which result in the diminution of its earnings. To medical science and practice we can bow with respect and gratefulness. Their labor has been incessant, their intelligence lavishly applied, and the collective reward is a reduction of income. Their title to the name benefactors should at least have hearty recognition.—*Philadelphia Press.*

Effects of Dust on the Human Organism.—H. Brooks, in the *Dietetic and Hygienic Gazette*, December, 1907, states that dust in itself is productive of serious disease conditions, particularly of the respiratory and digestive tracts. These primary conditions predispose to secondary lesions, particularly pulmonary and lymphatic tuberculosis. Many contagious and infectious diseases are transmitted through the agency of dust. In a city the size of New York the production of large quantities of dust, often of a highly dangerous character, can not be prevented. In most instances dust can be relatively and economically collected and disposed of, and the production of unnecessary dust can and should be prevented by properly framed and enforced regulations.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

LITERATURE ON HEADACHE.

To the Editor:—In what issues of The Journal have articles been published on headache, its diagnosis, significance, treatment, etc.? Geo. C. Bicknell, M.D.

The following is a list of articles and abstracts on headache that have been published in The Journal since 1901:

Sinkler, W.: Headache from Ovarian Disease (abstr. from System of Pract. Ther.), June 8, 1901, p. 1658.
Headache from Ocular Defects. (Editorial), March 15, 1902, p. 713.
Leszynsky, W. M.: Headaches (abstr. from *Med. Record,* Jan. 3, 1903), Jan. 17, 1903, p. 17.
Zimmerman, M. W.: Ocular Headaches (abstr. from *N. Y. Med. Jour.*, Nov 28, 1903), Dec. 12, 1903, p. 1496.
Robertson, C. M.: Headache from Non-Suppurative Inflammation of Nasal Sinuses, March 5, 1904, p. 645.
Wilkinson, O.: Headaches and Disease of the Nose (abstr. from *N. Y. Med. Jour.*, Oct. 1, 1904), Oct. 15, 1904, p. 1171.
Carstens, J. H.: Headache (abstr. from *Physician and Surgeon,* April, 1904), July 2, 1904, p. 80.
Norstrom, G.: Chronic Headache and Its Treatment by Massage (abstr. from *N. Y. Med. Jour.*, Nov. 4, 1905), Nov. 18, 1905, p. 1606.
Whitehead: Nasal Headache (abstr. from *Brit. Med. Jour.*, Jan. 28, 1905), Feb. 25, 1905, p. 662.

Reber, W.: Ocular Headache, April 15, 1905, p. 1221.
Drein, W. C.: Headache, April 15, 1905, p. 1220.
Ross: Calcium Salts in Headache (abstr. from *Lancet*, Jan. 20, 1906), Feb. 17, 1906, p. 544.
Saundby: Headaches of Renal Origin (abstr. from *Practitioner*, July, 1906), Aug. 11, 1906, p. 463.
Hammond, P.: Headache with Aural Disease, Nov. 10, 1906, p. 1523.
Walton, G. L.: Constitutional Headache, Nov. 10, 1906, p. 1524.
Davenport, F. H.: Headache with Pelvic Disease, Nov. 10, 1906, p. 1525.
Gould, G. M.: Headache and Eyestrain, Nov. 10, 1906, p. 1531.
Williams: Headache (abstr. from *Clinical Jour.*), Feb. 23, 1907, p. 729.
Thoms, S. W. S.: Relation of Headache to Eyestrain, March 23, 1907, p. 1009.

LITERATURE ON PSYCHOTHERAPY.

———Ill., Feb. 10, 1908.

To the Editor:—Please give a list of some of the books held in esteem by the medical profession, on the subject variously known as "suggestive therapeutics," "psychological medicine," "applied hypnotism," etc. This subject has apparently been so monopolized by the charlatans and impostors, until recent times, that any one interested in the subject to day is at a loss to choose between the trash and the worthy contributions.
A. C. P.

Answer.—The following, being more or less text-books of psychotherapy are standard works on the subject.

Tuckey: "Psychotherapeutics," G. P. Putnam's Sons, 29 West Twenty-third St., New York, $3.00.
Milne Bramwell: "Hypnotism, Its History and Practice," Alex. Moring, London.
Dercum: "Rest, Suggestion, Mental Therapeutics," a volume of S. S. Cohen's "System of Physiologic Therapeutics," P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia.
Quackenbos: "Hypnotic Therapeutics," Harper Bros., Franklin Square, New York, $2.
DuBois: "Psychic Treatment of Nervous Disorders," Funk & Wagnalls Co., 44 East Twenty-third St., New York, $3.00.
Forel: Hypnotism, or Suggestion and Psychotherapy, Trans. by H. W. Armit, Rebman Co., 1123 Broadway, New York.

The following works also are of value, as bearing on the principles involved:

Sidis: "Psychology of Suggestion, a Research into the Subconscious Nature of Man and Society," D. Appleton & Co., 436 Fifth Ave., New York.
Schofield: "Force of Mind, or the Mental Factor in Medicine," Blakiston's, $2.00.
Schofield: "The Unconscious Mind," Funk and Wagnalls, $2.
Schofield: "Unconscious Therapeutics," Blakiston's, $1.50.
Monro: "Handbook of Suggestive Therapeutics, Applied Hypnotism and Psychic Science," Mosby Medical Book Co., 2313 Washington Ave., St. Louis, $3.

Before engaging in the practical study of the subject, a perusal of Schofield's "Force of Mind" will be found an excellent preparation.

BOOKS ON PRACTICAL DIAGNOSIS AND TREATMENT.

Pisgah, Md., ———.

To the Editor:—What books can you recommend as practical guides for clinical diagnosis and treatment?
Geo. C. Bicknell, M.D.

Answer.—1. Forchheimer: "Prophylaxis and Treatment of Internal Diseases," D. Appleton & Co., 436 Fifth avenue, New York, $5.00. This is an excellent work in regard to treatment, combining comprehensiveness and detail in an unusual degree.

2. Fenwick, Samuel: "Medical Diagnosis," J. & A. Churchill, London, price about $1.75. This book was devised for the use of senior students at the bedside. It takes the most prominent feature and, by differentiating phenomena, classifies the conditions in which that might occur into groups. It then excludes all groups but one, and finally all members of that group but one, thus arriving at the diagnosis. It will for all time be a first-class work in regard to a large part of internal medicine, but unless there is a recent edition it will be somewhat out of date in regard to the more recent advances in certain diseases, particularly those dependent on micro-organisms.

3. A companion hand-book on medical treatment by the same author in the same series. The same remark about recent edition applies here, but the author's admirable method will still keep the book in the forefront of valuable works owing to the remarkable systematization that characterizes it.

4. Caille: "Differential Diagnosis and Treatment," Appleton, $6.00.

5. v. Jaksch: "Clinical Diagnosis," J. B. Lippincott Co., Washington Square, Philadelphia, $7.50.

VEGETABLE FARMING BY CONSUMPTIVES.

———, Ark., Feb. 11, 1908.

To the Editor:—Would there be any danger to the consumers of vegetables produced by consumptive labor in a colony hygienically conducted. It is intended to cultivate a large tract of land, using such patients as would be able to do the labor, thereby affording necessary outdoor exercise and at the same time enabling the worthy needy to help defray the cost of board and treatment. In this way it is believed that a great deal of good could be done and the undertaking made lucrative to the stockholders.
Respectfully, J. P. B.

Answer.—The emphasis now being laid by experimenters on the possibilities of alimentary tract infection in tuberculosis points to the need of great caution in employing consumptive patients for handling or preparing articles of food. Under ordinary conditions, the hands of tuberculous patients must not infrequently become soiled with tubercle bacilli and the danger in handling fruits, berries or vegetables that are eaten uncooked can not be ignored. Furthermore, it is by no means true that tubercle bacilli in large masses of sputum will be quickly destroyed by external agencies. In fact, there is reason to believe that they might survive for a long time in soil. In any event, there would probably be a prejudice more or less well-founded against articles of food known to have been handled by consumptive patients. Again, the question of exercise is one that should be determined with absolute regard to the welfare of the individual patient. The trend of opinion in the treatment of tuberculosis is distinctly toward rest rather than exercise for many patients, and it may be questioned whether the interests of patients in general would be conserved by measures that would make their labor "lucrative to the stockholders."

TAMARAC.

Belt, Montana, Feb. 17, 1908.

To the Editor:—Please give the botanical name of tamarac, the preparations derived from it, their properties, uses, and doses.
C. R.

Answer.—Tamarac is the common name of *Larix americana*, the American larch, of the natural order of *Coniferæ*. This is the *Pinus pendula, Pinus microcarpa*, and *Abies americana* of various botanists and is known by the several names of black larch, American larch, hackmetack, etc. It is not mentioned in the "National Dispensatory," the "United States Dispensatory," or standard works on materia medica. According to "King's American Dispensatory," an eclectic publication, a decoction of the bark is said to be laxative, tonic, diuretic, and alterative, and is recommended in obstructions of the liver, rheumatism, jaundice, and some cutaneous diseases. A decoction of the leaves has been employed in hemorrhoids, hemoptysis, menorrhagia, diarrhea, and dysentery, and externally in cutaneous diseases, ulcers, burns, etc. In dropsy, combined with spearmint, juniper berries, and horseradish, it has proved valuable. The dose of the decoction is from two to four fluid ounces from two to four times a day.

PASTEUR INSTITUTIONS IN THE UNITED STATES.

The Pasteur Institute of Paris is asking for a list of the Pasteur Institutes for the treatment of rabies in the United States and Canada, with their location and names of officers. Will such institutions write us, giving a list of their officers, directors, etc?

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Feb. 22, 1908:

Peed, G. P., asst.-surgeon, will proceed on or before the expiration of his present leave of absence to Fort Ontario, New York, for duty.

Flagg, C. E. B., asst.-surgeon, resignation as an officer of the Army, has been accepted by the President, to take effect April 15, 1908.

Dale, F. A., asst.-surgeon, ordered to Fort Lincoln, N. D., for duty.

McAndrew, P. H., asst.-surgeon, ordered to Fort Slocum, N. Y., for duty.

Hanner, J. W., asst.-surgeon, granted leave of absence for two months and seven days, from Feb. 19, 1908.

Siler, J. F., asst.-surgeon, will proceed on or before expiration of present leave of absence, to Fort Des Moines, Iowa, for duty.

Craig, C. F., asst.-surgeon, advanced to rank of captain, to date from Feb. 18, 1908.

Gray, W. W., deputy surgeon general, granted leave of absence for one month.

Lowe, T. S., contract surgeon, relieved from duty in the Philippines Division, and ordered to San Francisco, for further orders.

Wells, F. M., contract surgeon, returned from temporary duty at Fort D. A. Russell, Wyo., to his proper station, Fort Robinson, Neb.

Bastian, J. E., contract surgeon, arrived at Fort D. A. Russell, Wyo., for duty.

Smith, W. H., contract surgeon, relieved from further duty at Fort Leavenworth, Kan., and assigned to permanent duty at Fort Moultrie, S. C.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Feb. 22, 1908:

Kennedy, J. T., surgeon, detached from duty with Naval Recruiting Party No. 3, February 29, and ordered to the Naval Recruiting Station, Dallas, Texas, March 2.

Richards, T. W., surgeon, ordered to the *Colorado*, February 22, when discharged from treatment at the Naval Medical School Hospital, Washington, D. C.

Wilson, G. B., surgeon, detached from the *Colorado* and ordered to the *Wabash*.

Heiner, R. G., P. A. surgeon, detached from the *Wasp* when placed out of commission and ordered to the *Pennsylvania*.

Baker, M. W., P. A. surgeon, unexpired portion of sick leave revoked; ordered to the Naval Hospital, New York.

Belknap, J. L., asst.-surgeon, detached from the *Wabash* and ordered to the Naval Training Station, Newport, R. I.

Schaller, W. F., asst.-surgeon, detached from the *Pennsylvania* and ordered to the *Relief*.

Taylor, E. C., P. A. surgeon, detached from the Naval Hospital, New Fort Lyon, Colo., and resignation accepted.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 19, 1908:

Bahrenburg, L. P. H., P. A. surgeon, granted leave of absence for 21 days from Feb. 23, 1908.

McCoy, G. W., P. A. surgeon, granted leave of absence for 1 month and 21 days from Nov. 28, 1907, on account of sickness.

Friedman, H. M., acting asst.-surgeon, granted leave of absence for 1 day on account of sickness, Feb. 10, 1908.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for 8 days from Feb. 18, 1908.

Parker, T. F., acting asst.-surgeon, granted leave of absence for 2 days from March 4, 1908.

Stanton, J. G., acting asst.-surgeon, granted leave of absence for 21 days from Feb. 14, 1908.

Tappan, J. W., acting asst.-surgeon, directed to proceed to Douglas, Ariz., for special temporary duty, on completion of which to rejoin his station at El Paso, Texas.

BOARD CONVENED.

A board of medical officers was convened to meet at San Francisco, Feb. 21, 1906, for the purpose of making a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman, and P. A. Surgeon C. H. Gardner, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 21, 1908:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Jan. 25-Feb. 1, 10 cases.
California: Los Angeles, Jan. 25-Feb. 1, 5 cases; San Francisco, Jan. 25-Feb. 1, 10 cases.
District of Columbia: Washington, Feb. 1-8, 13 cases.
Illinois: Chicago, Feb. 1-8, 3 cases; Springfield, Jan. 1-Feb. 6, 10 cases.
Indiana: Indianapolis: Feb. 3-9, 5 cases; South Bend, Feb. 1-8, 1 case.
Iowa: Sioux City, Feb. 1-8, 8 cases.
Kansas: Kansas City, Jan. 25-Feb. 8, 3 cases; Topeka, Jan. 25-Feb. 1, 2 cases.
Kentucky: Lexington, Feb. 1-8, 6 cases.
Louisiana: New Orleans, Feb. 1-8, 5 cases (imported).
Massachusetts: Fall River, Feb. 1-8, 1 death.
Minnesota: Winona, Jan. 28-Feb. 8, 2 cases.
Mississippi: Greenville, Dec. 28-Jan. 18, 3 cases.
Missouri: Hannibal, Feb. 3-10, 2 cases; St. Joseph, Dec. 28-Feb. 8, 32 cases; St. Louis, 6 cases.
Montana: Butte, Jan. 28-Feb. 4, 1 case.
New York: New York, Jan. 25-Feb. 8, 4 cases.
Ohio: Cincinnati, Jan. 31-Feb. 7, 5 cases.
Tennessee: Knoxville, Feb. 1-8, 2 cases; Nashville, 18 cases.
Texas: Galveston, Jan. 31-Feb. 7, 3 cases.
Virginia: Richmond, Jan. 25-Feb. 1, 1 case.
Washington: Spokane, Jan. 25-Feb. 1, 7 cases.
Wisconsin: La Crosse, Feb. 1-5, 10 cases.

SMALLPOX—FOREIGN.

Belgium: Ghent, Dec. 7-14, 1 death.
Brazil: Para, Jan. 11-18, 5 cases, 2 deaths; Rio de Janeiro, Jan. 5-12, 14 cases, 13 deaths.
Canada: Halifax, Jan. 25-Feb. 8, 2 cases; Winnipeg, Jan. 25-Feb. 1, 8 cases.
China: Shanghai, Dec. 22-Jan. 12, 14 cases, 33 deaths; cases foreign, deaths, native.
Ecuador: Guayaquil, Jan. 4-18, 13 deaths.
Egypt: Cairo, Jan. 11-18, 1 case.
France: Brest, Jan. 11-25, 2 cases, 1 death; Paris, 15 cases.
Great Britain: Edinburg, Jan. 18-25, 2 cases.
India: Calcutta, Dec. 2-25, 11 deaths.
Italy: General, Jan. 23-30, 67 cases.
Japan: Nagasaki, Dec. 22-Jan. 12, 3 cases, 1 death; Kobe, Jan. 5-11, 648 cases, 218 deaths; Yokohama, Jan. 6-13, 37 cases, 9 deaths.
Mexico: Mexico, city of, Dec. 28-Jan. 4.

YELLOW FEVER—UNITED STATES.

Texas: Galveston, Feb. 16-18, 2 cases, 2 deaths (in quarantine from S. S. *Crispin*), from Manaos and Para.

YELLOW FEVER—FOREIGN.

Brazil: Manaos, Dec. 21-Jan. 11, 13 deaths; Para, Jan. 11-18, 12 cases, 8 deaths; Rio de Janeiro, Jan. 5-12, 1 case.
Cuba: Cardenas, Feb. 14, 1 case, 1 death (from *S. S. Britannic*); Santa Clara, Jan. 6-Feb. 18, 4 cases.

CHOLERA—FOREIGN.

India: Calcutta, Dec. 14-28, 120 deaths; Rangoon, Dec. 28-Jan. 4, 2 deaths.
Russia: General, Dec. 25-31, 28 cases, 10 deaths; Jan. 1-7, 3 cases, 4 deaths; Tomsk, Jan. 1-8, 2 cases.

CHOLERA—INSULAR.

Philippine Islands: Manila, Dec. 28-Jan. 4, 31 cases, 23 deaths; Mariquina, Jan. 4, present.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Jan. 5-12, 3 cases.
Ecuador: Guayaquil, Feb. 13, present.
India: Calcutta, Dec. 7-28, 70 deaths; Rangoon, Dec. 28-Jan. 4, 2 deaths.
Portuguese East Africa: Lourenço Marquez, Nov. 8, Jan. 12, 8 cases, 5 deaths.

Book Notices

ANEMIA IN PORTO RICO. Report of the Permanent Commission for the Suppression of Uncinariasis, 1906-1907. Paper. Pp. 187.

About seventy pages of this book contain a report of the commission, then reports by directors of stations occupying 120 pages, and nearly as many more pages are given to statistics. This is all in Spanish, but is preceded by a translation of the report of the commission. The commission which formerly had this problem in charge was dissolved on the removal from Porto Rico of Dr. B. K. Ashford and Dr. W. W. King of the United States Army and the Marine-Hospital Service. The commission which makes this report was appointed in June, 1906. It had at its disposal about one-half as much money as was needed, but it is to be congratulated on having accomplished so much with what it had.

It is estimated that 90 per cent. of the population of Porto Rico suffer from uncinariasis. The commission treated 89,233 patients. They aim to exterminate the parasite by killing it, and by educating the people how to avoid it. They instruct farm owners that "ground itch" marks the infection of individuals, and tell how it can be prevented. A little over 37 per cent. of patients are between 15 and 29 years of age; a little more than 24 per cent. between 30 and 49, making between 15 and 49 a total of 61.6 per cent. of all cases. Very few patients are under 5 years of age or among the aged. A complete cure was obtained in 25.71 per cent. of cases, and a practical cure in 17.88 per cent.; 40 per cent. are still under treatment and 0.21 per cent. of those treated died.

It is still undetermined whether one attack confers immunity or not. The parasite in Porto Rico is the same as the one found in some of the southern states and known as *Uncinaria americanus* or as *Necator americanus*. It differs markedly from the European and Egyptian parasite. The latter had not been found on this continent until this last year, when Dr. Gutierrez, the president of this commission, found it in a 20-year-old negro boy, who was born and who had always lived on the island. This discovery was confirmed by others. A section of the report is devoted to a description of these and allied parasites.

The commission believes that the parasite can penetrate the skin without causing dermatitis and that the latter trouble is due to a secondary infection following the primary one by *Necator*. This view does not accord with the views of investigators in our southern states. One case is described in which infection took place through the hands. The commission believes, further, that the anemia is due to hemolysis, not to hemorrhage. Hemorrhage is very rare in these cases, even microscopic quantities of blood are seldom found in the stools. Even examinations at autopsy do not disclose evidence of hemorrhage and the worms do not contain blood. An excellent photomicrograph in this report shows the parasite attached to the wall of the intestine. A small portion of the submucosa is drawn into its mouth, and that part is denuded of epithelium. It is probable that the parasite lives on the epithelium rather than on blood.

Albumin in variable amounts, usually small and occurring irregularly, in the urine of these patients is common. So also are casts, generally hyaline, though granular or fatty casts are also seen. These findings indicate degenerative renal lesions not inflammation. The anthelmintics used to cure uncinariasis often cause temporary albuminuria, but very rarely a complication of importance. At autopsies, renal degeneration is commonly found.

The treatment consisted in the repeated administration of thymol and beta-naphthol, preceded and followed by a saline. Eucalyptol was tried, but was not found as efficacious. The parasite was expelled in a lively condition. Ferruginous preparations are declared useless, but Blaud's pills were often given in order to keep the patient under observation.

This is a creditable report by a most important sanitary commission, for the disease is a formidable scourge in Porto Rico.

Kurzes Lehrbuch der Organischen Chemie. von William. A. Noyes, Professor der Chemie an der Universität Illinois. Mit Genehmigung des Verfassers ins Deutsche übertragen von Walter Ostwald, und mit einer Vorrede von Professor Wilhelm Ostwald. Leipzig: Akademische Verlagsgesellschaft m. b. H., 1907.

The translation into German of Professor Noyes' text-book on organic chemistry is further evidence that the work done in the United States in chemistry—even in organic chemistry, the special field of the Germans—and especially the methods of teaching chemistry, is being recognized abroad. Within recent years a number of text-books on chemistry, written by American authors, have been deemed worthy of translation into other languages; thus, the text-books of Prof. Ira Remsen, of Johns Hopkins University, and of Alexander Smith, of the University of Chicago, have been translated into German. To this now is added the text-book on organic chemistry by Prof. William A. Noyes, who is professor of chemistry at the University of Illinois and editor of the *Journal of the American Chemical Society*. In the introduction to this translation the justification for the translation of this work into the German language, which has a superabundance of similar text-books, is appropriately discussed by the eminent chemist, Prof. Walter Ostwald, of Leipzig. In this introduction Professor Ostwald states that justification for the addition to German literature of a further text-book on organic chemistry, in his estimation, is required, and that it is found in the independence and originality with which the author has taken up and treated the problem before him. Professor Ostwald then notes the necessity of giving a clear and comprehensive view of the field of organic chemistry when this study is first taken up. This, he believes, Professor Noyes accomplishes, and the student who takes up this introductory volume will obtain such a general view of organic chemistry that, in the future, he need not fear being lost in "the wilderness of organic chemistry" (dass er sich in dem Walde der organishen Chemie nicht mehr verirren wird). While this text-book gives the student a simple presentation of the field of organic chemistry the author has nevertheless succeeded in indicating to the reader the vast scope of the subject before him without at the same time causing discouragement. The facts are brought out so clearly that the student comprehends that which is presented to him and, at the same time, gains confidence to master that which is to follow.

In the treatment of the subject the text-book of Noyes differs from similar works in that the author has had the courage and independence to abandon the old classification of dividing organic compounds into the fatty series and the aromatic series, a classification which, with the constantly increasing knowledge of organic compounds, is becoming more irksome every day, and Professor Noyes is entitled to the distinction which the translation of his text-book into the German language carries with it. Medical students who desire to obtain a general knowledge of organic chemistry can do no better than to peruse this little work or its English original.

Immunochemistry. The Application of the Principles of Physical Chemistry to the Study of the Biologic Antibodies. By Svante Arrhenius. Cloth. Pp. 309. Price, $1.60 net. New York: The Macmillan Company, 1907. All Rights Reserved.

This interesting but highly technical book represents a summary of a series of lectures on the "immunity reactions" delivered at the University of California in the summer of 1904. The character of the subjects discussed may be appreciated by citing the following chapter subheads: Reversibility of Reactions Between Antibodies. Velocity of Reactions. Homogeneous Systems. Velocity of Reaction. Heterogeneous Systems. Equilibria in Absorption Processes. Neutralization of the Hemolytic Properties of Bases and of Lysins of Bacterial Origin. Neutralization of Diphtheria Toxin, Ricin, Saponin and Snake Venoms. The Compound Hemolysins, and the Precipitins and Their Antibodies.

Without question scientific medicine is to be congratulated on the entrance of one of the world's greatest students of physico-chemical processes, into the obscure field of the chemistry of the immunity reactions, and that Arrhenius has entered into this subject with a great deal of seriousness is evident from the scope of the undertaking, and the detail presented in this work as well as in the separate articles which have appeared from time to time. It is also fortunate that so skilled a chemist has had as his collaborator a biologist and pathologist of the experience of Madsen, an arrangement which the character of the study would seem to demand.

The results of these studies and similar studies carried on by others, have not received unqualified acceptance at the hands of many who are skilled in both the chemical and biologic aspects of the problems concerned. An important feature of the criticisms which have been made concerns the apparent complexity and unknown character of the toxins, bacterial constituents and the different antibodies, a condition which in the minds of many renders them unsuited to the exact methods employed in physico-chemical determinations. However true this may be, the inauguration of the study can meet only with approval, for in no other way can the applicability or the non-applicability of physico-chemical laws to the reactions of immunity be determined. Arrhenius thoroughly believes that they are applicable, and in this book presents a mass of chemical and mathematical data, bearing on reaction velocities between toxins and antitoxins, between other antigens and the corresponding antibodies, introducing original conceptions as to the agglutination and precipitation reactions, bringing numerous analogies from pure chemistry to bear on the subjects.

The book can be followed in its details only by those specially trained in the mathematical calculations involved, but here and there the author has summarized the results so clearly that it is not difficult to grasp the principles and to appreciate the results.

Cancer of the Womb, Its Symptoms, Diagnosis, Prognosis and Treatment. By Frederick John McCann, M.D. (Edin.), F.R.C.S. (Eng.), M.R.C.P. (Lond.). Cloth. Pp. 172, with illustrations. Price $7.00. New York: Oxford University Press, 1907.

In this monograph the term "cancer of the womb" is used in its very broadest application, since the author devotes space not only to carcinoma, but also to sarcoma and chorionepithelioma. The subject of carcinoma is handled thoroughly, with the usual classification into cancer of the cervix and cancer of the corpus. This work is based on forty-two cases of the author's, which he treated, for the most part, by vaginal hysterectomy. Removal by abdominal section is carefully considered, however, and a detailed description of the Wertheim operation is given. The value of early diagnosis is emphasized, and the method of obtaining this is clearly explained. This is the most valuable feature of the volume. Dr. McCann regards erosion of the cervix as an important factor in the etiology of cervical cancer. The account of sarcoma is well prepared, as is that of chorionepithelioma, though both subjects are treated briefly as compared with the recent extensive literature on these topics. In general, the author is at times not clear, some of his statements being contradictory. He is scarcely dogmatic enough to be of much aid to the general practitioner, while the specialist already possesses other works on these subjects that are more comprehensive and authoritative. References are made almost exclusively to German articles, the literature of Great Britain and America having been largely overlooked.

While but a monograph of 161 pages, the work is printed on heavy paper and supplied with many full-page illustrations, excellently reproduced, so that it takes on the size and form of a text-book.

AN INTRODUCTION TO THE STUDY OF THE INFANT'S STOOL. By Paul Selter, M.D., Solingen, Germany. Translated by Herbert M. Rich, B.L., M.D., Detroit. Detroit Medical Journal Company, Detroit, 1907.

The examination of the stool has always been recognized as a valuable aid in the diagnosis of digestive disorders, and as an indication which should govern therapeutic measures. Experience is showing more and more that success in treatment of digestive disorders depends very largely on perceiving what form of aliment is imperfectly digested and regulating the diet accordingly. The increased definiteness in the conclusions to be drawn from an inspection of the stools is due not so much to perfection of new methods of examination as to the more accurate knowledge of digestion and the recognition that the different forms of indigestion affecting the different classes of food are recognizable by the food remnants that can be seen in the feces. The examination is practically confined to an inspection with the unaided eye, a very simple microscopic examination and to taking the reaction. The study of the infant's stool forms a good introduction to the study of examination of the feces in general, because of the extreme simplicity of its composition and the relative agreeableness of handling it. Selter describes the methods of examination and shows by some clinical cases how valuable such examinations are in the management of infantile digestive disorders. The translation is well done, and the publication of this work in English should be an incentive to many practitioners to make use of this valuable aid to diagnosis and treatment.

TABACO-TABACOMANIA-TABAQUISMO. By E. L. Carvajal, M.D. With an Introduction by E. Liceaga, President of the Mexican National Board of Public Health, and Director of the National Medical School. Paper. Pp. 188. Price, $2. Published by the Department of the Interior. Callejon de Betlemitas, 8, Mexico, 1907.

Carvajal gives us the history of tobacco and its use by man in general and by the individual in particular, and the evils resulting therefrom. This book was published at government expense as a "work of public utility" for the prophylaxis of tobacco poisoning. The irritating action of tobacco on the mucosa of the air passages and digestive tract, on the blood and vessels and nervous system, etc., is reviewed in detail, with citations and examples, some from his own personal experience, as he confesses that he himself is a tobacco user. In prophylaxis he advises strict enforcement of regulations prohibiting smoking in schools, public offices and other public places over which the police have control, as the habit of smoking is almost invariably acquired by imitation. He appeals to the authorities to repress the use of tobacco among boys, and to physicians to dispel the popular idea that the tobacco habit is harmless, and in conclusion he appeals to the "Tobacco Fiends in General—My Companions in Slavery," saying, "We can continue our devotion to tobacco, knowing, as we do, its calamitous results, but let us warn the innocent who sin from ignorance."

WOMAN AND THE RACE. By Gordon Hart. Cloth. Pp. 264. Price, $1.00. Postpaid. Published at the Ariel Press: Westwood, Mass., U. S. A.

This little work is a plea for better instruction in sexual matters, especially in the case of women and children. The author touches on many controversial points—Malthusian practices, divorce, fashion, vegetarianism, the use of alcohol and tobacco, etc., some of them in a hardly orthodox, not to say iconoclastic, fashion, with which it can scarcely be, and clearly is not, expected that all right-thinking people must necessarily be in accord. But a spirit of reverent cleanness and a fairness to differing opinion permeates the book, and its tone is that of an attempt rather to make people think these matters out for themselves and find their own solution, so long as they do think of them, rather than to insist on the acceptance of the particular solutions of the problems as they appear to the author.

TEXT-BOOK OF DISEASES OF THE SKIN. By Arthur Van Harlingen, Ph.B. (Yale), M.D., Emeritus Professor of Dermatology in the Philadelphia Polyclinic. Fourth Edition, Thoroughly Revised and Rearranged. Illustrated. Cloth. Pp. 482. Price, $3.00. Philadelphia: P. Blakiston's Son & Co., 1907.

This edition differs from previous ones in its arrangement. The various diseases, instead of being listed alphabetically, are arranged according to the classification generally used by American dermatologists. The text has been brought up to date and a number of new illustrations have been added.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

CONNECTICUT State Board of Medical Examiners, City Hall, New Haven, March 10. Secretary, Dr. Charles A. Tuttle, 196 York St., New Haven.

CONNECTICUT Homeopathic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

CONNECTICUT Eclectic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. T. S. Hodge, 16 Main St., Torrington.

IOWA State Board of Medical Examiners, Capitol Building, Des Moines, March 10-12. Secretary, Dr. Louis A. Thomas, Des Moines.

MASSACHUSETTS Board of Registration in Medicine, Room 15, State House, Boston, March 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

MAINE Board of Registration of Medicine, State House, Augusta, March 17-18. (Note change of place from Portland.) Secretary, Dr. William J. Maybury, Saco.

Ohio December Report.

Dr. George H. Matson, secretary of the Ohio State Board of Medical Registration and Examination, reports the written examination held at Columbus, Dec. 10-12, 1907. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 27, of whom 23 passed and 3 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
American Med. Miss. Coll.	(1906)	85
Chicago Homeo. Med. Coll.	(1904)	85
College of P. and S., Baltimore (1906) 75;	(1907)	88
Harvard Med. School	(1906)	91
University and Bellevue Hosp. Med. Coll	(1905)	87
University of Buffalo	(1907)	87
Starling Med. Coll.	(1906)	76
Toledo Med. Coll.	(1907)	79
Eclectic Med. Inst., Cincinnati	(1905)	76
Cleveland Coll. of P. and S.	(1907)	86, 88
Ohio Med. University	(1907)	80, 84
University of Pennsylvania	(1907)	87
Western Pennsylvania Med. Coll.	(1907)	87
Jefferson Med. Coll.	(1907)	78, 86
Cleveland Homeo. Med. Coll (1898) 79;	(1906)	83
Med. Coll. of Ohio	(1907)	87
University Coll. of Med., Richmond	(1901)	87
University of Prague, Austria	(1902)	81
FAILED.		
Hering Med. Coll.	(1894)	67
Cleveland Homeo. Med Coll.	(1907)	70
Starling Med. Coll.	(1906)	66

Maine March, July and November Reports.

Dr. William J. Maybury, secretary of the Maine Board of Registration of Medicine, reports the written and oral examinations held at Augusta and Portland, March 5, July 9-10 and Nov. 12, 1907. The number of subjects examined in at these examinations was 10; total number of questions asked, 100; percentage required to pass, 75.

At the examination held at Portland, March 5, the total number of candidates examined was 11, all of whom passed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Baltimore Med. Coll (1905) 83;	(1906)	91.8
Boston University	(1906)	86.4, 87.6, 88.3
Harvard Med. School (1905) 84, 94;	(1906)	85, 90
Dartmouth Med. School	(1906)	84
Jefferson Med. Coll	(1906)	81.5

At the examination held at Augusta, July 9-10, the total number of candidates examined was 52, of whom 50 passed and 2 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Medical School of Maine (1879) 82.3;	(1907)	78.5, 81.4, 81.5, 82.2, 82.3, 84.5, 84.6, 85.1, 85.4, 87, 87.1, 87.1 88.1, 90.1, 90.3, 92.6.
Baltimore Med. Coll	(1907)	86.5
Baltimore University (1890) 88.5;	(1899)	82
Harvard Med. School	(1907)	90.4
College of P. and S., Boston (1905) 82.4, 86.1;	(1906)	89.2; (1907) 79.6.
Tufts Coll. Med. School (1894) 80.4; (1905) 89.3;	(1906)	81.4, 89, 89.1; (1907) 80.4.
Dartmouth Med. School (1895) 84.5;	(1902)	81.2
Cornell University	(1907)	90.2
College of P. and S., New York	(1903)	83.4
Medico-Chirurgical Coll., Philadelphia	(1904)	83.4
Jefferson Med. Coll	(1906)	88.1
Western University of Pennsylvania	(1907)	87.2
University of Pennsylvania (1906) 85.5;	(1907)	87
University of the South	(1903)	76.5
Laval University, Quebec (1905) 84.2;	(1907)	83.2, 85, 86, 86.2
McGill University, Quebec	(1907)	88.5, 91.2, 91.4
Trinity Medical College, Ontario	(1903)	83.4
FAILED.		
Kentucky School of Med	(1906)	69.1
University of the South	(1901)	65

At the examination held at Portland, November 12, the total number of candidates examined was 16, of whom 13 passed and 3 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Kentucky School of Med	(1906)	81.5
Tufts Coll. Med. School	(1906) 88.3; (1907)	89.1, 93.1
Boston University	(1907)	91.4
Woman's Med. Coll. of New York	(1895)	94.4
University of the South	(1901)	81.4
Laval University, Quebec.	(1905) 80.3, 82.4; (1906) 81.6; (1907)	81.2, 84.1.
Bishop's College, Montreal, Quebec	(1901)	77.6

FAILED.

Kentucky School of Med	(1906)	*63.6
College of P. and S., Baltimore	(1905)†	
Harvard Med. School	(1897)†	

* Second failure.

† Failed to make necessary percentage of 60 in one branch.

Maryland December Report.

Dr. J. M. Scott, secretary of the Maryland board, reports the examination held at Baltimore, Dec. 10-13, 1907. The number of subjects examined in was 9; percentage required to pass, 75. The total number of candidates examined was 45, of whom 34 passed and 11 failed. The following colleges were represented:

PASSED.

College.	Year of Graduation.	Anatomy.	Surgery.	Pathology.	Obstetrics.	Practice.	Chemistry.	Mat. Med.	Therapeutics.	Physiology.	Average.
Howard University	1907	86	75	81	63	82	87	95	97	75	82
Howard University	1907	81	85	67	88	91	67	75	85	90	81
Howard University	1906	70	95	50	87	86	68	82	76	75	77
Howard University	1907	86	90	59	88	85	62	72	73	75	77
Howard University	1907	52	80	68	91	76	64	90	94	75	77
George Wash. Univ.	1907	77	85	83	100	90	92	98	92	92	90
George Wash. Univ.	1906	85	90	63	100	87	47	81	76	85	79
George Wash Univ.	1907	76	85	76	100	87	93	80	84	75	84
George Wash. Univ.	1906	76	70	70	92	77	83	76	81	75	78
George Wash. Univ.	1907	77	75	65	78	88	68	75	75	75	75
Amer. Med. Miss. Coll.	1906	67	90	86	90	84	93	75	75	95	84
Johns Hopkins Med. Sch.	1906	84	90	88	100	87	82	89	90	68	86
Johns Hopkins Med. Sch.	1907	89	90	97	100	84	79	74	95	70	86
Johns Hopkins Med. Sch.	1907	77	90	97	92	89	95	90	95	95	91
Johns Hopkins Med. Sch.	1903	84	98	82	91	93	97	96	94	95	92
Johns Hopkins Med. Sch.	1906	94	90	88	100	87	82	89	90	68	86
Johns Hopkins Med. Sch.	1907	89	90	95	100	96	76	96	97	100	93
Johns Hopkins Med. Sch.	1907	75	90	84	76	81	75	95	90	92	84
Woman's Med. Coll. Balt.	1906	61	80	55	90	83	91	93	85	73	79
Coll. of P. and S., Balt.	1907	89	85	80	82	87	90	81	96	80	86
Coll. of P. and S., Balt.	1907	85	80	91	92	94	91	88	87	90	89
University of Maryland	1906	83	85	81	87	80	77	85	86	95	84
University of Maryland	1907	91	80	88	85	77	84	95	91	85	86
University of Maryland	1907	82	85	54	83	75	64	76	76	85	76
University of Maryland	1907	75	90	77	78	75	55	75	90	85	78
University of Maryland	1907	58	85	75	100	76	76	68	62	80	76
Universiy of Michigan	1902	90	95	100	90	94	90	98	98	92	94
Univ. of Pennsylvania	1905	61	90	95	84	88	77	92	95	83	85
Univ. of Pennsylvania	1906	84	80	82	84	80	82	80	77	66	79
Univ. of Pennsylvania	1907	79	80	65	85	79	55	80	72	80	75
Univ. of Pennsylvania	1907	88	80	91	86	80	85	76	81	78	83
Woman's Med. Coll. of Pa.	1903	80	80	72	96	83	84	95	94	86	86
Univ. of Moscow, Russia.	1893	75	80	58	100	86	64	77	80	60	76
Univ. of Turin, Italy	1906	58	80	80	86	85	80	80	80	75	78

FAILED.

George Wash. Univ.	1907	32	80	67	85	79	44	62	71	75	65
George Wash. Univ.	1907	19	85	40	80	89	40	79	86	60	64
Howard University	1907	62	70	26	61	71	41	65	61	75	59
Baltimore University	1907	44	75	34	56	62	53	84	80	75	63
Baltimore University	1907	28	70	18	10	55	39	36	24	56	37
University of Maryland	1907	47	60	55	76	64	23	84	90	70	63
University of Maryland	1907	30	80	68	90	68	47	82	81	70	68
Maryland Medical College.	1907	16	80	36	55	75	10	75	70	85	56
Coll. of P. and S., Balt.	1907	33	85	83	84	68	63	60	45	75	66
Medico-Chir. Coll., Phila.	1905	32	75	23	63	44	32	64	55	67	53
Jefferson Med. College	1907	66	85	56	68	96	58	75	75	67	72

The following questions were asked:

ANATOMY.

1. Name the bones and ligaments entering into the formation of the ankle joint. 2. What anatomic structures pass through the sphenoidal fissure. 3. After ligation of the common carotid artery, how is collateral circulation established? 4. Describe the pancreas, giving its relations. 5. Name muscles attached to the upper third of the femur. 6. Give origin, course and distribution of the phrenic nerve.

PHYSIOLOGY.

1. Name the constituents of normal urine. Name the abnormal constituents of urine also. 2. What is meant by blood pressure and how is it regulated?. 3. Name the glands in the small intestines and state their functions. 4. What is accomplished physiologically by the portal circulation? 5. Name the varieties of epithelium and describe briefly the function of each. 6. Give the physiologic action of normal salt solution.

CHEMISTRY.

1. Define crystalline, colloid, amorphous, crystalloid, nascent. 2. Give composition (formula), mode of preparation and general properties of lime water. 3. Name the halogens and give their general properties and occurrence in nature. In testing for which one is starch used? Describe the procedure in detail. 4. Give chemical composition (formula) and general properties of bismuth subnitrate and explain the dark color of the stools following its therapeutic use. Name its most dangerous impurity, and give test for the detection of same. 5. Describe the element nitrogen, with its occurrence in nature, its general properties and relation to vegetable and animal life. 6. Give in detail two reliable dissimilar tests for the detection of albumin in the urine. Name the substances in each test with which it may be confused and describe the methods of differentiation of each.

PATHOLOGY.

1. Name and describe briefly the various laboratory methods of sterilization by heat. Explain "fractional sterilization" and give reasons for its employment. 2. Name and give method of staining of the specific organism in the following diseases: Meningitis (2 varieties) and gonorrhea. Give Gram's differential method of staining the latter. 3. Give the gross pathology of ulcer of the stomach with usual location of the same and theories as to its causation. 4. Define ascites and give the gross pathology of three diseases giving rise to it. 5. Name the connective tissue tumors and state which are malignant. Of those malignant describe the one most so and name its subvarieties in the order of the malignancy. 6. Give the gross pathology of a severe case of malarial fever (estivo-autumnal type). Describe the parasite causing same and name the insect which acts as an intermediary.

MATERIA MEDICA.

1. What are the preparations of sodium and the dose of each? 2. What is the dose of apomorphin, atropin, caffein, digitalin, elaterium and santonin? 3. What are the preparations of jaborandi: its alkaloid and dose? 4. What is the composition of compound cathartic pill, brown mixture, seidlitz powder and Donavan's solution? 5. Name the preparations of mercury and give doses. 6. How are chloroform and ether obtained.

THERAPEUTICS.

1. (1) Define therapeutics, (2) general, (3) special, (4) empirical, (5) rational, (6) prophylactic, (7) mechanical. 2. What are the therapeutic uses of the preparations of belladonna? Describe symptoms and give treatment of belladonna poisoning. 3. Give physiologic action and therapeutic uses of alcohol. 4. Write a prescription for follicular tonsillitis and one for acute bronchitis. 5. Antidiphtheria serum. (1) How and when to be used; (2) dose, prophylactic: (3) curative. 6. Give the physiologic action and therapeutic uses of salicylic acid and the salicylates.

PRACTICE.

1. a, Define pyelitis; b, define pertussis; c, define urticaria and in addition give its synonym; d, describe Hutchinson's teeth and state in what disease they most commonly occur. 2. a, Give the history of a case of incipient pulmonary tuberculosis; b, how would you make the diagnosis positive? c, what treatment would you recommend and what measures would you take to prevent the spread of infection? 3. a, Give differential diagnosis between follicular tonsillitis and tonsiliar diphtheria; b, give differential diagnosis between measles and scarlet fever. 4. a, Give the treatment of locomotor ataxia; b, give the treatment of lobar pneumonia; c, give the treatment of chorea. 5. a, Give diagnosis of locomotor ataxia; b, give diagnosis of empyema; c. give diagnosis of gallstones. 6. a. What methods would you employ were you called to a case of suspected variola? b, how would you diagnose this case and what treatment would you use for (1) the patient, (2) to prevent the spread of the disease?

SURGERY.

1. Give some of the chief causes of delayed union in fractures and the treatment you would adopt for each of these causes. 2. What are postnasal adenoids, and what is the treatment? 3. Give differential diagnosis, clinical course and treatment of gonorrheal arthritis. 4. Describe several forms of corneal ulcer, their causes and treatment. 5. Differentiate calculus in bladder from calculus in kidney. 6. Give the differential diagnosis of malignant and non-malignant breast tumors.

GYNECOLOGY AND OBSTETRICS.

1. Describe treatment of a shoulder presentation. 2. What method would you adopt to relieve a prolapsed fetal cord. 3. How would you manage a case of retained placenta associated with profuse hemorrhage. 4. Give me your treatment of a prolapsed and retroflexed uterus. 5. Give indications for and methods of applying a vaginal tampon and state how long it should remain in the vagina. 6. Describe the operation for repair of a complete perineal rupture.

Marriages

George W. Bronson, M.D., to Miss Minnie C. Nater, both of Streator, Ill., February 5.

Louis H. Limauro, M.D., to Miss Chiara Longobardi, at New Haven, Conn., February 17.

Fred C. Downey, M.D , to Miss Daisy Vance Dinger, both of Edinburg, Va., February 12.

Tullio A. Rottanzi, M.D., to Miss Alice Deming, both of San Francisco, February 12.

Hugh Munro Miller, M.D., to Miss Florence Raff, both of South Bend, Ind., February 8.

Charles D. Carr, M.D., Philadelphia, to Miss Sophie Ashley of Wilkesbarre. Pa., February 12.

Mortimer A. Hauser, M.D., Arapahoe, Neb., to Miss Flora Wehn of Beatrice, Neb., February 12.

Raymond Wallace, M.D., Chattanooga, Tenn., to Miss Lesley Jeffries of Norfolk, Va., February 25.

Frank E. McCann, M.D., to Miss Catherine Crystal Bellebaum, both of Louisville, Ky., February 14.

John Floyd Murdoch, M.D., Pittsburg, Pa., to Miss Elsie Constance Close of Scranton, Pa., February 11.

Frank A. Lupton, M.D., Birmingham, Ala., to Miss Mary Watts Woods of Charlottesville, Va., February 12.

Arthur Thomas Davis, M.D., Clark Mills, N. Y., to Miss Mary Cerrillia Buckley of Utica, N. Y., January 8.

Joseph Paul Ritenour, M.D., Uniontown, Pa., to Miss Margaret Craig Richmond of Knoxville, Tenn., January 2.

J. R. Bean, M.D., Mullan, Idaho, to Miss Mabel Clare Van Wagenen of Chicago, at Spokane, Wash., January 22.

John William Kissane, M.D., Norwood, N. Y., to Miss Jessie Georgia Marshall of Malone, N. Y., February 5.

Deaths

Aaron K. Baldwin, M.D. New York University Medical College, New York City, 1871; a member of the American Medical Association; surgeon of the First Infantry, N. G. N. J., with the rank of captain; later lieutenant colonel and surgeon of the First Brigade; a member of the State Board of Medical Examiners from 1890 to 1905; police surgeon of Newark in 1875 and in 1884; house surgeon at St. Michael's Hospital from 1873 to 1878; and a member of the visiting staff and once president of the medical board of Newark City Hospital; once president of the Newark Medical Society, and in 1901 president of the Essex Medical Society; a member of the local board of pension examiners; at one time a member of the board of education; died at his home in Newark, February 9, from cirrhosis of the liver, after a protracted illness, aged 58.

Asa Williams Wilkinson, M.D. New York University Medical College, New York City, 1855; interne at the City Hospital at Blackwell's Island; and later physician in charge of the Children's Hospital, Randall's Island; assistant to the chair of chemistry and toxicology in Bellevue Hospital Medical College from 1861 to 1878; assistant to the chair of chemistry and physics in the College of the City of New York; widely known for his practical work in the improvement of carbureting of street gas; the chemical engineering of water gas manufacture, and since 1880 chemist of the Mutual Gas Light Company, New York City; died at his room in the Hoffman House, New York City, January 25, from acute gastritis, aged 75.

George Alfred Baxter, M.D. Bellevue Hospital Medical College, New York City, 1873; president in 1890 of the Tennessee State Medical Association and a member of the Hamilton County Medical Society; for nearly thirty years surgeon of the Alabama Great Southern Railroad and Cincinnati Southern Railroad and the street railways of Chattanooga; formerly assistant surgeon of the Erie Railroad; for many years a trustee and member of the staff of Erlanger Hospital; whose work during the yellow fever epidemic of 1878 will never be forgotten by the citizens of Chattanooga, died suddenly in his office in Chattanooga, February 12, from heart disease, aged 56.

James Wallace Putnam, M.D. Dartmouth Medical School, Hanover, N. H., 1877; a member of the American Medical Association; local surgeon for the New York Central & Hudson River Railroad at Lyons, N. Y.; president of the village for four years; physician of Wayne County for nine years, and pension examiner for thirteen years; died suddenly, from cerebral hemorrhage, in the New York Central station, Buffalo, N. Y., February 9, aged 58.

Andros Palmer Chesley, M.D. Long Island College Hospital, Brooklyn, 1883; a member of the American Medical Association; formerly president of the Center District (N. H.) Medical Society; at one time principal of the Wakefield (N. H.) Academy and U. S. pension examiner; a member of the staff of Margaret Pillsbury General Hospital, Concord; died at his home in that city from nephritis, after a prolonged illness, February 9, aged 52.

Horace B. Wing, M.D. Northwestern University Medical School, Chicago, 1887; a member of the American Medical Association; formerly professor of clinical medicine and physical diagnosis, and later dean of the Medical Department of the University of Southern California, Los Angeles; for many years local surgeon of the Santa Fé System; died at his home in Los Angeles, February 12, from pneumonia, following an attack of influenza, aged 50.

Oscar Burbank, M.D. Medical School of Harvard University, Boston, 1848; a member of the Iowa State and Bremer County medical societies; for 54 years a practitioner of Waverly, Iowa; said to have been the oldest practitioner of Iowa; who was taking a course of lectures on modern surgery in Drake University, College of Medicine, Des Moines; died in that city, February 7, from pneumonia, after an illness of two weeks, aged 88.

Henry Newton Heinemann, M.D. College of Physicians and Surgeons in the City of New York, 1871; formerly chief clinical assistant in his alma mater; visiting physician at Mount Sinai Hospital; who had lived abroad for several years, making his headquarters at Bad Nauheim in summer and spending his winters in Paris; died suddenly in Paris, February 11, aged about 55.

Charles E. Gimbel, M.D. George Washington University, Department of Medicine, Washington, D. C., 1900; of Joplin, Mo.; formerly interne at the St. Louis City Hospital; assistant superintendent of the St. Louis Female Hospital; assistant at the St. Louis Polyclinic Hospital, and assistant at the St. Louis Insane Asylum; died at Fayetteville, Ark., February 6, aged 31.

John Elmer Kerr, M.D. Western Pennsylvania Medical College, Pittsburg, 1903; a member of the Medical Society of the State of Pennsylvania and Fayette County Medical Society; for eight months an officer of the board of health of Pittsburg, and later a practitioner of Belle Vernon, Pa.; died in Mercy Hospital, Pittsburg, January 20, from pneumonia, aged 29.

John W. Graham, M.D. Jefferson Medical College, Philadelphia, 1867; for several terms president of the Colorado State Medical Society and a member of the Denver County Medical Society; a veteran of the Civil War; and for thirty-eight years a prominent practitioner of Denver; died suddenly at his home in that city, January 14, from heart disease, aged 64.

William Badger, M.D. College of Physicians and Surgeons in the City of New York, 1861; assistant surgeon in the Army during the Civil War, and in charge of the Army General Hospital, David's Island, New York Harbor; a member of the New York Academy of Medicine; died at his home in Flushing, N. H., February 13, aged 73.

Joseph Henry Utley, M.D. Bellevue Hospital Medical College, New York City, 1878; a member of the American Medical Association; a graduate of the U. S. Naval Academy, Annapolis; physician for the Thayer (Ill.) Milk Company; died at his home in Thayer, February 16, from pneumonia, after an illness of two weeks, aged 68.

Rush Alexander Jones, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1890; a member of the American Medical Association; surgeon to the Southern Engine and Boiler Works, Jackson, Tenn., and a popular and prominent practitioner of Jackson; died at his home February 4, from intestinal disease, aged 44.

William Washington Talley, M.D. Medical College of Virginia, Richmond; for a time resident physician at the Retreat for the Sick, Richmond, and later at the Tuberculosis Sanatorium, Ironville; died at his home in Richmond, Nov. 29, 1907, from pulmonary tuberculosis, after an illness of six months, aged 21.

John J. Maloney, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1885; of Cincinnati; a member of the American Medical Association; died at the Cincinnati City Hospital, February 13, from erysipelas complicated by *x*-ray burns and pneumonia, after an illness of eight days, aged 43.

Charles Peck Smith, M.D. College of Physicians and Surgeons in the City of New York, 1874; a member of the medical societies of the State and County of New York; formerly a member of the surgical staff of Bellevue Hospital; died from heart disease at his home in New York City, February 8, aged 59.

Orlando Mixter, M.D. New York University Medical College, New York City, 1882; a member of the Massachusetts and Worcester District medical societies; died at his home in Worcester, February 6, from laryngeal tuberculosis, after an illness of a year, aged 66.

Oscar F. Renick, M.D. University of Louisville (Ky.) Medical Department, 1860; coroner of Bates County, Mo.; an assistant surgeon in the Army during the Civil War; died at his home in Butler, Mo., February 14, from influenza, after a brief illness, aged 82.

Joel J. Crook, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1863; surgeon of the Seventh Kansas Volunteer Cavalry during the Civil War, and for many years a resident of Leadville, Colo.; died at the home of his son in Glenwood Springs, Colo., February 14, from pneumonia, aged 80.

Otto P. Dillon, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1890; of Rushville, Ind.; was instantly killed in a collision between his automobile and a passenger train while making a professional call, February 9, aged 39.

Bonnie G. Wood, M.D. Memphis Hospital Medical College, Memphis, Tenn., 1890; a member of the American Medical Association; died at his home in Cominto, Ark., Oct. 11, 1907, from pernicious malarial fever, after an illness of ten days, aged 40.

John S. F. Featherston, M.D. University of Louisville (Ky.) Medical Department, 1869; a member of the American Medical Association; and a prominent practitioner of Macon, Miss., died at his home February 13, after a brief illness, aged 62.

George W. Roffey, M.D. Eclectic Medical Institute, Cincinnati, 1877; for six years in charge of the hospital of the Franklin County Infirmary, Columbus, Ohio; died suddenly from heart disease, in that institution, February 9, aged 60.

Robert Innocence Thomas; for sixty years a practitioner of medicine, and a surgeon in the Army during the Civil War; died at Los Angeles, Cal., Nov. 21, 1907, from hernia and intestinal obstruction, after an illness of ten days, aged 89.

Milford L. Bates, M.D. Berkshire Medical College, Pittsfield, Mass., 1867; a member of the medical societies of the State of New York and County of Columbia; died at his home in Canaan Four Corners, N. Y., January 26, aged 62.

Lucius Lee Ardrey, M.D. Bellevue Medical College, New York City, 1906; formerly of Burgaw, N. C., died at his home in Bandera, Texas, February 12, from pulmonary tuberculosis, after an illness of several years, aged 34.

Henry Clay Wood, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1867; a veteran of the Civil War; died at his home in West Chester, Pa., February 12, from nephritis, after an illness of two years, aged 63.

Thomas W. LeCrone, M.D. Starling Medical College, Columbus, Ohio, 1882; a practitioner of Millersport, Ohio, for 20 years; died at his home in Columbus, February 11, from diabetes, after a long illness, aged 55.

William Holden Chace, M.D. University of Buffalo (N. Y.) Medical Department, 1877; a member of the Amerıcan Medical Association, and a well-known practitioner of Buffalo; died at his home, February 14, aged 45.

Samuel Jeffrey Avery, M.D. Rush Medical College, Chicago, 1864; a member of the Illinois State and Chicago medical societies; died suddenly at his home in Chicago, February 17, from heart disease, aged 80.

Elmer Shirts, M.D. Kentucky School of Medicine, Louisville, 1890; treasurer of Greene County, Ind.; formerly a practitioner of Lyons, Ind.; died suddenly from edema of the glottis, February 6, aged 47.

A. Matthew Bevier, M.D. University of Buffalo (N. Y.) Medical Department, 1866; for more than 40 years a practitioner of Owasco, N. Y.; died at his home in Niles, N. Y., January 27, aged 87.

Daniel A. Langhorne, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1848; a Confederate veteran; died at his home in Lynchburg, Va., February 10, after a long illness, aged 82.

John French Gibson, M.D. University of Wooster, Medical Department, Cleveland, 1873; a veteran of the Civil War; died at his home in Cleveland, February 8, from pneumonia, after a brief illness, aged 62.

James T. Rosser, M.D. Atlanta (Ga.) Medical College, 1876; surgeon in the Confederate service during the Civil War; died at his home in Atlanta, from pneumonia, February 10, after a short illness, aged 71.

George Hilton Wood, M.D. Jefferson Medical College, Philadelphia, 1880; U. S. pension examiner at New Bethlehem, Pa.; died at his home in that city, February 7, from broncho-pneumonia, aged 54.

Richard Douglas, M.D. Medical Department, University of Nashville, Tenn., 1881; died from nephritis February 18. A full notice will appear in the issue of March 7.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Legislation in Ohio.

The joint committee on public policy and legislation of the Ohio State Medical Association met at Columbus January 21 for the discussion of bills now before the state legislature. Dr. J. W. Clemmer stated that an organized effort was being made on the part of proprietary manufacturers to defeat the pure food and drug law. He also stated that the attorney of the proprietary association, Mr. Douglas of Chicago, and the president, Mr. Frank Cheney of Toledo, proprietor of Hall's Catarrh Cure, were at Columbus for that purpose. The committee approved the pure food and drug bill. A committee was appointed to consider the criminal abortion bill and to confer with legal representatives regarding it. The nurses' bill, creating a separate board of examination for nurses, was not approved. The bill forbidding the public advertising of venereal diseases was endorsed. The optometry bill was then considered and Dr. Gibson of Youngstown stated that the bill has been so modified as to place the control of the licensing of oculists under the state board of medical examination. With this understanding the bill was endorsed as read. A bill providing for the establishment of deputy county health officers was endorsed, also a bill authorizing the county commissioners to establish a laboratory in each county. This bill permits two or three counties, by joining together, to establish a common laboratory for pathological and medical examination. A bill regulating the "practice of non-medical healing" was positively condemned.

Vital Statistics Bill Defeated in Virginia.

The bill for registration of deaths in Virginia has been withdrawn. This action has been taken largely on account of the opposition of the undertakers, who did not wish to take the trouble of filling out applications for burial permits. As a result, Virginia must do without any reliable record of deaths or causes of deaths until the undertakers are willing to fill out the necessary blanks. Is it possible that the undertakers in Virginia have more influence with the legislature than has the medical profession?

County Society Scientific Programs.

In the *Journal of the Kansas Medical Society*, January, 1908, appears an article on "Success and Failure in Medical Organization," by Dr. Frank G. Carmichael of Goodland. Dr. Carmichael said in part:

> The value of the organization is determined by the ability, tact, energy and zeal of its members. Its maintenance and life are dependent on the same factors. In our own society in the last two years the meetings have been only fairly well attended. The number of members at any meeting did not exceed seven, out of a total membership of twenty. Our programs at each meeting have announced contributions from members, the majority of whom have not appeared at the meeting, or, appearing, have not prepared or presented their papers. The effect of this failure on the part of those who have promised to contribute has been most detrimental to the interests of the society. I know of no better way to bring about an early demise of any society or organization than a failure on the part of those on its program to do their part. Examining into the reason for this condition, experience shows that at no time has the attendance exceeded 33 per cent. of the membership. The natural conclusion is that the remaining 66 per cent. are either too busy or are not sufficiently interested in the welfare of the society to attend its meetings. If the former supposition were tenable, the unfortunate members whose practices are so exacting as to give them no time to attend medical meetings would be the objects of our deepest sympathy. Such is not the case. There is no member of this society whose time is so thoroughly taken up that he can not spare a day every three months for his own advancement and that of the profession. We may, therefore, frankly ascribe the failure in attendance to lack of interest, disinclination or fear that a competitor may filch one of our patients during our absence.

Dr. Carmichael's account of his own society is a frank description of conditions which prevail in many county organizations. The reason for this is apparent in Dr. Carmichael's question and answer: "Why is it that so many of those who have promised papers have failed to materialize? Every member of the society is capable of producing a first-class paper every three months. During the past two years there have been only six members of the society who have contributed papers, which is less than one-third of the membership." Herein lies the explanation for the failure of many county societies. If every member of Dr. Carmichael's society is capable of producing a first-class paper every three months, this society certainly has a phenomenal membership. Few physicians are able to produce a really valuable paper every three months or every six months. In few county societies will more than one-third of the members contribute original papers. The county society must have some other work and attractions than listening to papers contributed by its members.

This need has been met, in some cases, by the adoption of the postgraduate study course which makes all the members students, as they should be, and opens up the entire field of medicine and surgery instead of restricting the proceedings and discussions of the society to the observation or the experience of individual members. Other county societies have considered it more imperative to take up the needs of the public along hygienic and sanitary lines and to consider and act on such matters as pure food, pure water, drainage, sewage disposal, milk inspection, control of contagious diseases and other questions affecting the general health of the community.

It does not matter what is the particular line of work followed, so long as the society has some object outside of itself. No society whose interest is limited solely to itself nor whose members are restricted to material furnished by their fellow members, will develop the greatest vigor or usefulness.

Dr. Carmichael's paper is a frank and honest criticism of the county society which has attempted to proceed along conventional lines. If societies will cease to confine themselves entirely to the old plan of reading and discussing papers read by their own members and will look for work which needs to be done and will take hold of it with vigor and energy, there will be no difficulty in getting members to the meetings or in securing subjects for discussion.

The County Society and Medical Libraries.

From time to time we have recorded the establishment of, or the good work done by, libraries of medical societies in various parts of the country. In the February number of the *Kentucky Medical Journal* appears the report of the library committee of the Jefferson County Medical Society, which shows what a county society can do. Similar work is being done by medical societies in various parts of the country. What has been done in New York, in St. Louis, in St. Paul, in Louisville, in Los Angeles and in some other cities, and by county societies at Bowling Green, Ky., Jacksonville, Ill., and other places, can be duplicated in all cities and can be imitated on a smaller scale in the smaller cities, and even in counties in which there is no large town.

Few physicians can afford to purchase all the books they need to keep abreast of the times, for this would require many volumes that would be referred to only at rare intervals. Physicians receive monographs, reprints and periodical literature in enormous quantities, which after the first reading becomes unavailable, either for lack of place or of index system.

There are few societies which could not provide a small room and accumulate, by purchase or donation, a few standard works as a nucleus. Then, if each member contributed the journals which now, sometimes unopened and unread, find a resting place in the waste basket, it would be only a few years until a collection of valuable literature could be accumulated. Interest once aroused, the collection would grow rapidly. The days of individual effort are passing. Collectivism and cooperation are the watchwords in all forms of activity to-day, and there is no reason why physicians should not fall in line and enable each individual to profit by the collective resources of all.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

SIXTH MONTH.

DISEASES OF BLOOD AND DUCTLESS GLANDS.

First Weekly Meeting.

Anatomy of Blood.
Physiology of Blood.
Physiology of Spleen, Lymph Glands and Bone Marrow.

Second Weekly Meeting.

Secondary Anemia: Etiology and Microscopic Changes.
Chlorosis: Etiology, Symptoms and Microscopic Changes.
Pernicious Anemia: Pathologic Anatomy, Symptoms and Blood Changes.

Third Weekly Meeting.

Splenomedullary Leukemia: Symptoms, Blood Changes and Treatment.
Lymphatic Leukemia: Pathologic Anatomy and Diagnosis.

Fourth Weekly Meeting.

Hodgkin's Disease: Pathologic Anatomy and Symptoms.
Pathology and Diagnosis of Addison's Disease.

Monthly Meeting.

The Therapeutic Action of Iron.
Treatment of Pernicious Anemia.
The Value and Limitations of Blood Examinations.

First Weekly Meeting.

Anatomy of the Blood.

Origin, Structure, Corpuscles and Plasma.

Plasma: Corpuscles—Red and white.
  Red: Size, shape, number and structure.
  White: Lymphocytes and leucocytes.
    Lymphocytes: Granules, ameboid movement. (a) Transition forms. Nucleus, cytoplasm, staining, number. (b) Polynuclear. Nucleus, granules, staining, number. Eosinophiles. (c) Mast cells. Nucleus, granules, staining.

Physiology of the Blood.

Blood plasma, blood serum and defibrinated blood. Reaction of blood, cause, method of determination. Specific gravity, method of determination, variations, causes.

Red Corpuscles: Structure. Stroma. Hemoglobin, form in corpuscle, percentage of corpuscle. Globin, hematin, hemochromogen. Combination of hemoglobin with gases. Origin of red corpuscles, changes in bone marrow. Destruction of red corpuscles, facts for and against spleen, probable site.

White Corpuscles: Origin of leucocytes and of lymphocytes. Normal number, physiologic leucocytosis. Functions of leucocytes: (1) phagocytosis, (2) aid in absorption of fats and peptones, (3) aid in coagulation of blood, (4) help supply proteids of blood plasma.

Blood Plates: Size, shape, possible functions.

Blood Plasma: Chemical composition, proteids, extractives, salts, enzymes. Coagulation of blood. (1) Fibrogen, (2) prothrombin, (3) calcium salts, (4) thrombin, (5) fibrin.

Physiology of the Spleen.

Histologic structure of spleen. Rhythmic contractions. Theories of function: (1) formation of red corpuscles, (2) destruction of red corpuscles, (3) production of uric acid, (4) production of enzyme.

Physiology of Bone Marrow.

Histologic structure of red marrow. Nucleated corpuscles, non-nucleated cells. Changes in marrow after hemorrhage.

Physiology of Lymph Gland.

Histologic structure. Origin of lymphocytes.

Society Proceedings

COMING MEETINGS.

Association of American Medical Colleges, Cleveland, March 16-17.
Medical Society of the Missouri Valley, Lincoln, Neb., March 19-20.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting of the Section on Surgery, held Jan. 10, 1908.

Dr. Charles H. Peck in the Chair.

Vaginal Drainage of Ureter After Nephrectomy.

Dr. A. Ernest Gallant presented a woman from whom he had removed a retrocolonic tumor made up of dilated kidney and pelvis. When he exposed the ureteropelvic junction an obstruction was found, due to an S-like bending of the ureter, which was bound down by dense adhesions, completely shutting off the urinary flow. Because of the large size of the kidney no attempt was made to suture it, but gauze packing was placed under it and the urine flowed freely for several days. When the packing was removed the obstruction recurred, and it was deemed advisable to do a nephrectomy, leaving a part of the pelvis and the ureter. An incision was made into the vagina and the ureter was pulled down with the finger, rendering its resection quite easy. The ureter was cut off about an inch from the bladder and sutured in such a way as to expose its lumen in the vaginal vault. Two sutures were inserted through the vaginal wall and the bladder end of the ureter, closing it off. Later the vesicovaginal fistula was closed. A small papilla marked the site of the ureteral implantation.

Tuberculosis of the Kidney.

Dr. A. A. Berg presented a patient who had suffered from renal tuberculosis for one year, the disease running the ordinary course. Cystoscopic examination showed large ulcerations of a typical character. The urine contained large quantities of thin pus and tubercle bacilli. The left kidney was secreting sufficient urine to warrant the removal of the diseased kidney. In order to prevent the great amount of bleeding and consequent shock, Dr. Berg did a subcapsular nephrectomy. He cut through the fibrous capsule and shelled out the kidney. This took but five or ten minutes and there was practically no bleeding. A rubber ligature was passed around the pelvis of the kidney and the amputation was performed.

Total Anuria from Obstruction of One Ureter Due to Rotation of Kidney.

Dr. Berg also presented this patient, who had complained for years of attacks of kidney colic on the right side. Suddenly she noticed that she voided no urine and, in spite of the use of all the customary methods for stimulating the secretion of the urine, she passed none for seventy-two hours. No obstruction was found in the ureters up to the kidney pelvis No urine came through the ureteral catheters. On exposing the kidney of the right side it was found to be lying in the transverse position, with its pelvis upward and the cortex downward, the ureter passing over its inner pole. The kidney was stone hard and there was some perinephritis. It was easily restored to its normal position. No calculi were present. A drainage tube was introduced into the kidney pelvis, and immediately urine flowed through it in large quantities. The next day she passed urine through the bladder. A gradual but uninterrupted recovery followed.

Unilateral Surgical Kidney Following Urethral Instrumentation.

Dr. Berg presented a boy who had suffered five years from incontinence of urine. It was suspected that there was a stone in the bladder and an examination was made with the searcher under strict antiseptic precautions. Nevertheless, in twenty-four hours, he was seized with chills, a rapid and high rise of temperature, and marked prostration. Ten days later the right kidney was large and tender, and there was a large amount of pus in the urine. At operation the right kidney was found to be moderately enlarged and to contain many miliary abscesses. The pelvis was much distended and contained purulent urine. The pelvis of the kidney was drained. With the nephrotomy and drainage the boy improved, but later he became worse and it was decided to resort to further operative interference. The left kidney was of normal size, but surrounded by a perinephritis. Supposing from this that its condition was the same as the other, he did a subcapsular nephrectomy. Practically no shock followed the operation. The boy is now in good physical condition. Numerous abscesses were found to be present in the cortex of the kidney.

Nephrolithiasis in a Horseshoe Kidney.

Dr. Berg presented a man who gave the ordinary history of nephrolithiasis. The *x*-ray showed a stone in the cortex of the right kidney. On operation he found a horseshoe kidney, fused at the lower pole. It was impossible to raise the kidney into the wound, and needling the kidney did not reveal the stone. However, the patient subsequently passed a stone, which the manipulation had started down into the pelvis.

Rupture of Kidney.

Dr. Berg presented a woman who had a severe rupture of the kidney caused by being run over by an automobile. The kidney was torn obliquely from the upper junction of the pelvis with the cortex to its middle and lower third. A second rent was in a longitudinal direction along the inner border from the pelvis to the lower pole. The kidney was delivered into the wound, the rents repaired, and an uninterrupted recovery took place.

Simple Cyst of Kidney.

Dr. George E. Brewer presented a patient who had symptoms of intermittent hydronephrosis, having experienced a number of attacks of acute pain in the right lumbar region, extending down along the course of the ureter to the groin. These attacks would be accompanied by swelling, and more or less tenderness over the right kidney region. What appeared to be the round extremity of the upper pole of the kidney could be felt. On exposing the kidney, however, this proved to be a large, translucent, thin-walled cyst springing from the anterior surface of the organ, just above the sinus. This was readily enucleated.

Double Vesiculectomy and Vasectomy.

Dr. George E. Brewer presented a negro, 40 years old, who was admitted to the hospital with an abscess of the scrotum, with distinct induration of the epididymis of both sides. The abscess was found to be tuberculous, and due to an extensive tuberculous orchitis of the left side. It was also found that he had extensive tuberculous disease of the other testicle, both vasa deferentia and both seminal vesicles. The prostate was not involved. As the patient only consented to the removal of the diseased area in the scrotum, both testicles were removed with only a small portion of each vas. When he left the hospital two weeks later, he was advised to return for the complete removal of both genital tracts. A transverse incision was made in the perineum and the seminal vesicles were exposed, separated from their beds and freed as far upward as the ureter. An incision was then made over each inguinal ring, the canal freely exposed, and the free extremity of each secured. These ends were separated from the surrounding tissues of the cord by a blunt dissection, and the intra-abdominal portion liberated by a gradual sawing motion. The structures parted somewhere between the ureteral implantation into the bladder and the brim of the pelvis. Both testicles and vasa were then removed, and the wound in the perineum was closed partly, and the abdominal wounds were closed completely. Practically no reaction occurred and an uninterrupted recovery followed.

Acute Septic Infarcts of the Kidney.

Dr. George E. Brewer presented a woman, 26 years old, who seventeen days before admission suffered from acute pain in the right flank, radiating to the groin, associated with chills and high fever. She had daily chills, continuous fever and general prostration. She vomited frequently. The physical examination was negative, except for costovertebral angle tenderness. The urine from the right kidney contained blood, pus, columnar epithelium, albumin; while the urine from the left kidney contained a faint trace of albumin, very few leucocytes and epithelial cells, and very few red cells. At operation the kidney was found surrounded by a fatty capsule, and showed numerous small infarcts and minute abscesses in the cortex. The capsule was stripped from the organ and the wound closed with a small cigarette drain in place. She has not suffered from renal symptoms since. The pathologist's report showed multiple abscesses in the kidney substance.

Report on Renal and Ureteral Surgery.

DR. GEORGE EMERSON BREWER presented an analysis of 140 operative cases. Of 48 nephrotomies and exploratory incisions, there were 3 cases of new growth, 6 of pyonephrosis, 11 of calculus, 2 of tuberculosis, 14 of septic infarcts, 4 of intermittent hydronephrosis, 2 of pyelonephritis, 2 of polycystic kidney, 1 case of large cortical abscess, and in 5 cases the exploratory incision revealed no lesion. Among the 48 nephrotomies and exploratory incisions there were 9 deaths. Of the 48 nephrectomies there were 6 cases of new growth, 7 of tuberculosis, 18 of pyonephrosis, 17 of calculus, 3 of traumatic rupture, 8 of acute septic infarcts, 3 of hydronephrosis, 2 of ureterovaginal fistula following hysterectomy, and one case each of septic pyelonephritis, severe hemorrhage following nephrotomy, and necrosis of the organ from a twisted pedicle. Among the 48 nephrectomies there were 2 deaths. Among 13 simple decapsulations there were 2 deaths. The 16 nephrorrhaphies were all for the relief of movable kidney. Of the 9 operations on traumatic cases, 7 revealed evidences of injury to the organ, varying from slight capsular rupture to a complete crushing. In two instances a rupture of one or more of the larger branches of the renal vein was present. Of the 9 operations on the lower ureter, in 4 arrested calculi were found, in 2 the ureter was kinked, in 2 the ureter was found to be normal, while in one instance there was an adherent calcified appendix epiploica of the sigmoid, giving rise to an *x*-ray shadow. In his first report of 84 cases, 12, or 14.2 per cent., proved fatal; while in his last report of 56 cases only 2, or 3.7 per cent., terminated fatally as the result of operation. There are 12 cases of new growths in this series; of these 3 were carcinoma, 2 hypernephroma, 2 of solitary cyst, 3 of polycystic kidney, in one case adenoma and in one no accurate diagnosis could be made. One case of carcinoma developed in a man 33 years of age. The kidney was removed. The pathologic diagnosis was adenocarcinoma involving one-half the organ, but not perforating the capsule. He is now well, nearly eight years after the operation. The calculus cases furnished an interesting series, for in reviewing their records it was found that in only 52.6 per cent. of recent cases of suspected calculus did the operation prove the diagnosis correct. The number of cases which in their onset, symptoms and subsequent history led to the belief that stone was present in the kidney or ureter was 57. Of these, stone was found at operation in 32 instances, in 19 no stone was found, but some other definite lesion which furnished a reasonable cause for the existence of the symptoms, while in 6 no lesion was found.

After considering somewhat in detail the subjective and objective symptoms, the results of urinary analysis with reference to hematuria and pyuria, the results of *x*-ray examination and the results of cystoscopy and ureteral catheterization, he said he felt justified in stating that there is no single symptom or sign, or any group of symptoms or signs that is absolutely pathognomonic of renal or ureteral calculus, unless the calculus is in the lower ureter and can be seen or touched by a metal bougie or catheter. The most important factors to be considered in making a diagnosis are pain, tenderness, hematuria, the results of radiography, cystoscopy and ureteral catheterization. Pain and tenderness were present in 100 per cent. of the cases; but it should be remembered that they were present in many cases in which no stone was found. That calculus may and often does exist without pain is evidenced by the statement of Bruce Clark, who reported 24 autopsies on calculous patients, in 13 of whom there had been no subjective symptoms during life. Hematuria was present in 45 per cent. of the stone cases, but it was also present in 41 per cent. of the cases without stone. If all cases are included, the *x*-ray gave positive evidence of stone in 79 per cent. Calculous disease had been noted in both kidneys in five instances. There were 7 intermittent hydronephrosis cases, and in all the afebrile attacks of violent renal neuralgia was present. In all the kidney was at times palpable. In 4 the renal pelvis was found to be enlarged and relaxed; in 3 it appeared normal. One case of complete gangrene of the kidney was observed.

In March, 1906, Dr. Brewer reported 13 cases; since then he has observed 8 or 10 additional cases. Two factors are necessary for the production of this type of renal lesion: 1. A septic focus in the body capable of furnishing a certain number of pathogenic bacteria to the blood current. 2. A diminished resistance of the part of one kidney from trauma, the presence of calculus, an obstructed ureter or a previous septic lesion. The disease not infrequently follows pneumonia, tonsillitis, any of the exanthemata, typhoid fever, a furuncle or possibly obstinate constipation, as the colon bacillus was often found to be the offending organism. With regard to the treatment, the cases should be divided into three distinct groups: 1. The severest type in which nephrectomy is necessary to save life. 2. A milder type which is often relieved by decapsulation, the opening and draining of cortical foci. 3. The mildest type in which no surgical treatment is necessary. The one pathognomic sign present in all cases is a marked unilateral costovertebral tenderness. Nine exploratory ureterotomies have been performed for the removal of a suspected stone. In 4, one or more stones were found, while in 4 the result of the examination was negative. All the 9 cases healed primarily without infection and without leakage of urine.

DISCUSSION.

DR. EUGENE FULLER said that often in hysterical women one obtained a history of pain somewhere in the abdomen, with, perhaps, a slight mobility of the kidney, usually the right. He makes it a rule never to operate in those cases unless they manifest urinary symptoms. In old afebrile patients, with contracted kidneys, little can be done by decapsulation, but much can be done in acute cases.

DR. HOWARD LILIENTHAL reported a case of supposed intra-abdominal sepsis in which at operation he found the right kidney hard as a stone. It was covered by the hardest fatty capsule he had ever encountered. A nephrectomy was done and the patient made a good recovery. With regard to nephropexy, he said that if the movable kidney was caused by trauma, anchoring it will relieve the patient of symptoms. He has seen several cases of crossed pain, i. e., pain on one side and the stone on the other. In cases of hydronephrosis the urine will be extremely poor in urinary salts.

DR. JOHN B. WALKER does not favor packing gauze into the kidney, but around it, to control hemorrhage.

DR. CHARLES H. PECK has seen 4 cases of unilateral septic infarcts of the kidney. In one case he operated and found a kidney similar to the one presented by Dr. Brewer. The other 3 cases were quite mild in type and an operation was unnecessary.

Abscess of Frontal Lobe.

DR. FIELDING L. TAYLOR reported the case of a man, 27 years old, who was struck by a brick above the right eye in May, 1906. One month later there was considerable inflammation about the wound, which had healed. A superficial abscess was opened and pieces of brick and pieces of bone were removed. He suffered from intense headaches, most marked over the occiput. Sept. 12, 1906, he was much emaciated and yawned every few minutes. Pupils were moderately dilated and reacted well. A bilateral optic neuritis was present. There was a slight paresis of the left face without ptosis. The tongue could be protruded only partially and deviated slightly to the left. Patellar reflexes were absent. There was incontinence of urine and feces and persistent vomiting. Two ounces of pus were removed from a cavity about two inches below the surface in the frontal lobe. He returned home and was apparently well except for the eye trouble. Secondary abscesses probably developed, for he died in October, 1907.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, Dec. 5, 1907.

The President, Dr. Wilmer Krusen, in the Chair.

Retrodeviations of the Uterus.

Dr. C. L. Bonifield, Cincinnati, Ohio, employs a modification of the Gilliam operation, which he described as follows:

Make the usual incision in the median line. Deal with complications. Have an assistant catch the fascia at a point about an inch and a half above the lower end of the incision and pull it toward the opposite side, seize the skin and underlying fat and retract them. With a sharp knife dissect them loose from the fascia to a point almost above the internal inguinal ring. Make a vertical incision through the fascia; take a curved clamp and with it separate the muscular fibers down to the peritoneum. With two fingers of the other hand, in the abdomen, the clamp is guided under the peritoneum till it passes where the round ligament is seized and pulled out through the opening in the fascia. It is securely sutured to the outer surface of the fascia with chromicized catgut, and the opening closed with the same material. If the ligament has not been seized at the point which will raise the uterus to the desired level, it is easy to change it by the use of another clamp outside the opening of the fascia. Sometimes, in carrying the end of the clamp over the iliac artery, the peritoneum is perforated. If so, no effort is made to get under it again, but the ligament is seized, covered with the peritoneum and pulled through the opening. The peritoneum is then stripped off with dry gauze, to prevent pulling on the bladder as well as to get firm union of the ligament. The other ligament is treated in the same way, taking care that the opening through the fascia is at the same level as its fellow.

DISCUSSION.

Dr. E. E. Montgomery thought that in bringing forward the ligament, Dr. Bonifield makes the operation unnecessarily difficult, but agreed with him as to the wisdom of utilizing the portion of the ligament toward the uterus because it is the strongest and the part most likely to maintain the uterus. The portion passing through the inguinal canal is weakest and most prone to become attenuated. The operation he is accustomed to perform is a combination of the Gilliam and Simpson operations, one of which is well known. Operative procedure may be avoided by the use of the pessary in the case of a woman whose uterus is retrodisplaced after confinement merely because the process of involution is not completed. The pessary will retain the uterus in proper position until involution is completed.

Dr. Barton Cook Hirst regards suspension as the easiest, quickest and simplest operation for the correction of displacements, and in his personal experience it has not had the disadvantage of complicating subsequent gestation and child-bearing. In more than 500 suspensions he has not yet seen nor heard of a single serious difficulty in subsequent pregnancies and labor. The only objection to suspension is lack of permanency in results. This is not as grave an objection as it might seem to be, because if the uterus is held in place by suspension for a year or two and the woman bears a child, in the majority of instances the uterus remains in good position subsequently without artificial support. The operation he likes best is the modified Alexander operation, the operation in which the round ligaments are shortened in their natural position by laying open the whole inguinal canal. He claimed that if the round ligament, through a median incision, is grasped by forceps through the abdominal walls at the internal inguinal ring and is pulled out of the abdominal cavity at that point, the uterus should be in better position than if the round ligament is threaded through the abdominal wall above the axis of the inguinal canal and at a point nearer the median line than the internal ring.

Dr. William E. Ashton emphasized the fact that no matter what operation is performed for the cure of the condition, the results are often disappointing, unless the body-form is carefully studied and perversions, if they exist, corrected; i. e., the mere correction of the displacement by an operation and the repair of a laceration of the pelvic floor will not result in a permanent cure, if the chest is contracted, the abdominal wall relaxed or a lumbar lordosis absent. It is, therefore, necessary to study the causes of the perverted body form and remedy it either before or subsequent to operating. In many instances he does not operate in chronic cases until the perverted body-form is corrected; while in others when the anatomic perversion is slight or the associated pelvic lesions unimportant, he first remedies the retrodeviation by an operation and then uses suitable means to relieve the structural deficiencies. In a general way the treatment for the perversions of the body-form is carried out as follows: 1. Outdoor exercises which must include those especially directed to develop the capacity of the chest, the strength of the abdominal walls and the anterior projection of the lumbar lordosis. 2. Exercise in the open air. 3. Daily removal of the fecal matter accumulating in the colon. 4. Good hygienic conditions. 5. An abdominal bandage of a non-elastic material or a well-made straight-front corset. The bandage should not reach higher than the umbilicus, and in very thin or relaxed individuals a flat, wedge-shaped pad covering the lower abdomen should be worn beneath it. Usually at the end of six months or a year the abdominal muscles become tense and well developed and the bandage can be discarded.

Dr. J. M. Baldy believes that pessaries are in more than one way a positive factor for harm. Operative measures for relief have their place, and the reason men are jumping constantly from one operation to another is due to the fact that these operations are being done for conditions other than displacements per se, conditions which, in reality, require no operation whatever or an entirely different class of procedure. Of course, under these circumstances the most perfect would fail. As to the operation which is the best for retrodeviations. There is but one operation, in his opinion, that fulfills the anatomic and scientific indication even in part—the one done by Webster and himself. This operation brings the round ligaments posterior to the uterus and unites them together back of it and attached to it at about the level of the internal os. In doing this each round ligament perforates the broad ligament at a point directly under each ovarian ligament. The result is that the uterus lies forward in normal position (in the pubis, where it belongs) by gravity and puts strain on the surrounding round ligaments only at such times as the woman strains or assumes certain postures.

Dr. Charles P. Noble believes that the field for the pessary is in the case of married women with retrodisplacements following labor. For uncomplicated cases in the unmarried he suggests the Alexander operation. This operation is particularly adapted to women who have not been subjected to infection.

Dr. Richard C. Norris believes that all of these operations are suspension operations and that sooner or later the uterus will retrovert unless other factors have been corrected. The Alexander operation has been his choice when it can be employed. For the uncomplicated cases, i. e., retrodisplacement in nulliparæ, unassociated with intrapelvic lesions, any and all suspension operations are liable to fail. The condition is usually congenital. Shortening the round ligaments, utilizing the thicker and stronger proximal portions of the round ligaments to suspend the uterus, has given Dr. Norris the most satisfactory results.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and Second Annual Meeting, held at Albany, Jan. 27-30, 1908.

(Continued from page 640.)

The Mosquito; Its Relation to Disease and Its Extermination.

Dr. Alvah H. Doty, Quarantine, S. I., in 1900 began an investigation of the mosquitoes on Staten Island with the intention of securing such information as would lead to their extermination. In the first experiments a space of about one mile square in the center and north end of the island was mapped out. This section was thickly invaded with mosquitoes. Innumerable breeding places were found and removed, or treated with petroleum oil. Notwithstanding this, the results during the summer of 1900 were not encouraging, as the number of mosquitoes were but slightly diminished. The mosquitoes found and captured were almost all of the "striped-legged" type. But the larvæ brought to the laboratory and placed under wire netting and allowed to propagate never developed the "striped-legged" mosquitoes. It was finally found that the breeding places of the mosquitoes that constituted three-fourths of all those found on Staten Island and along the Atlantic Coast, and known as the *Culex solitans* or as "striped-legged" mosquito, bred only in salt water swamp land. In 1905, at the recommendation of the health department of the city of New York, the government granted an appropriation for the draining of the swamp land along the entire Staten Island coast, and the work was begun in November, 1905. The ditches were made about two feet deep, ten to twelve inches wide, and fifty feet or more apart; these were connected with the main drains, which singly or together discharged into the sea. The swarms of mosquitoes have practically disappeared, screens have been discarded, and meals are served on the verandas of hotels, and the mosquito has ceased to be an annoyance, although a few are still present. Drainage has not only destroyed the breeding places of the mosquito, but it has reclaimed land for building and agricultural purposes. The extermination of the mosquito in swamp land by drainage can only be successfully accomplished and uniform results obtained when the work is carried out under federal, state and municipal control.

Study of Children Fed on the Milk of Tuberculous Cows.

DR. WILLIAM L. STOWELL, New York, said there are 440,000 tuberculous cows in this state. The New York Infants' Hospital is situated on an island of sixty acres, and cares for 2,500 patients. On this island are more than twenty-eight cows. In 1903 two diseased animals were found and killed. In October, 1907, it was found that out of thirty cattle only three failed to respond to the tuberculin test and all were killed. The opsonic index of these hospital children is low and they contract infections easily. There were during this time 4,537 patients, and 180 died; 18 of these died from tuberculosis. This mortality of 10 per cent. in this institution is the same as the mortality for the nation, and yet these children had been fed on tuberculous milk. The milk of tuberculous cows is not so infective as is generally supposed. In tracing the history of the children there was nothing to show that tuberculosis was more common than among the children fed on city milk or on farm milk, or vice versa.

Oxygen in Surgery.

DR. WILLIAM SEAMAN BAINBRIDGE, New York, said that in surgery there is a promising field for oxygen, and reported a number of cases which seemed to prove its therapeutic value. In most cases the gas is not absorbed for thirty-six hours.

DR. J. T. GWATHMEY, New York, said oxygen improves the pulse and has a very good effect on the heart.

Significance of Uterine Bleeding.

DR. JOHN A. SAMPSON, Albany, gave an analysis of 100 cases in which the cause of bleeding had been ascertained by microscopic findings or subsequent history. In 28 cases the bleeding was caused by malignant growths; in 17 cases by polyps; in 14 by threatened or actual abortion; in 13 by myomata; in 11 by hypertrophic thickening of the endometrium; in 6 by laceration of the cervix; in 3 by ectopic pregnancy; in 4 by retained secundines, and in 2 by gonorrheal infection.

Acute Flexures, Angulations of the Sigmoid and Colon.

DR. JAMES P. TUTTLE, New York, said that if the anatomic bendings that served the purpose of retarding the fecal currents became exaggerated, the amount of obstruction is increased. A shortened mesentery may cause a narrowing or obliteration of the intestinal caliber. One important diagnostic point is that when a patient takes an enema he goes to stool several times in order to get rid of it. This is true of acute flexure cases. The treatment is either palliative or radical. Pneumatic inflation with a soft rectal bougie, if persisted in for months, leaving the bougie *in situ*, gives good results. The bougie is introduced through the proctoscope in order to see the aperture, and then it is pushed through. If this treatment fails, the condition is due to fixations or malformations, and the operative method must be varied to suit the case.

Aerotherapy in Certain Toxemias of Childhood.

DR. FREDERICK W. LOUGHRAN, New York, said that this method of treatment lessens the period of acute illness, shortens convalescence and aids in avoiding drugging.

Vascular Crises.

DR. HENRY L. ELSNER, Syracuse, emphasized that arteriosclerosis may exist for many years without a single objective symptom, and that sensory symptoms, paroxysmal in character, are due to vascular spasm. Arteriosclerosis in young subjects is liable to lead to death or to serious complications without delay. There is an abdominal angina and a coronary angina, and they may alternate with each other. The pain in pure angina pectoris may be referred to the abdominal organs.

Causes and Treatment of High Arterial Tension.

DR. LOUIS FAUGERES BISHOP, New York City, stated that high arterial tension is a result of physiologic reaction to pathologic conditions. The excessive demand made on the heart by high arterial tension is the cause of the great increase in the number of persons suffering from heart disease, and the consequent alarming increase in deaths from this cause. He believes that the cause of high arterial tension is found in the wide prevalence of hypertonia vasorum of nervous origin. When this hypertonicity of the blood vessels is resisted by a responsive heart, high blood pressure is caused as long as the heart remains competent. High arterial tension conveys the idea of tenseness of the muscles of the blood vessels, while high blood pressure means that the pressure inside of the vasa vasorum is high. High blood pressure, in the sense of being an important factor in the production of heart disease, is an increased pressure of the blood in the vessels caused by a response of the pressure maintaining mechanism to some demand for such a pressure. In treating high arterial tension, locate the demand for pressure and remove it. It is seldom necessary to interfere directly with the pressure maintaining mechanism; only when that mechanism has become habituated to the maintenance of high blood pressure and responds too freely and too long to the demand, and the pressure may not immediately fall when the demand is removed. In addition to the nervous origin of high arterial tension, we find the cerebral compression of anemia, arteriosclerosis in which there is a definite hardening of the blood vessel, the high tension of defective kidneys. The suspension of respiration, whether voluntary or otherwise, has an immediate action in raising blood pressure, which suggests the question as to whether it is not possible that the high pressure associated with gout and other instances of faulty metabolism may be the result of a reflex similar to that which raises the blood pressure in asphyxia.

In considering the means by which blood pressure can be detected, he believes that the educated touch can detect hypertonicity of the vessels in a manner that can never entirely be replaced by instrumental means, but that it is absolutely impossible, without the fingers, to estimate the degree of tension in cases which are known to be high when they are above 170 mm.; also that low tension cases often appear much lower than they actually prove to be. The educated touch can often decide whether the pulse is normal or not. He experimented for months with all the instruments on the market, and finally invented one for measuring blood pressure. He compared it with all kinds of standard instruments and found its readings correct, and he can read closer with it than with any of the others.

The first step in the treatment is to ascertain the exact condition of the blood, kidneys, metabolism and nervous constitution, including the mentality. Symptoms must be corrected by those drugs which are antagonistic to them and by diet, exercise and environment. The patient must be under treatment long enough for the correction of underlying causes, and the completion of a physiologic re-education which may overcome the high-tension habit.

Dr. A. Jacobi said that arteriosclerosis begins normally at 35 years of age, but it does not begin uniformly. The urine of every man and woman over 40 years of age should be examined, and no urine should be called normal that shows even a slight trace of albumin. He believes in a diet containing less of calcium salts than is generally given. The nitrites are in order and the lactated alkalies and lactic acid.

Diagnosis of Pulmonary Tuberculosis by Tuberculin and Other Tests.

Dr. Lawrason Brown, Saranac Lake, said it is dangerous to wait until the tubercle bacilli occur in the sputum, for by that time there is ulceration of parts of the lung. The examination of the feces for bacilli is often of value. He gave the practical points in making a physical examination. The patient should be told to breathe out, to cough and then to breathe in; this gives râles that can not be obtained in any other way. The apices should receive more attention. Recourse should be had to the tuberculin test only after other methods of diagnosis have been exhausted. He thinks it has about the same value in tuberculosis that the Widal test has in typhoid fever. The ophthalmic test may prove of great value.

Acute Epidemic Anterior Poliomyelitis Occurring in New York City.

Dr. Joseph Collins and Dr. Theodore H. Romeiser reported that this epidemic began in July and ended in October, there being as many as 1,200 or 1,500 cases. In this epidemic one case in 10 or 11 made good recovery and about one in 20 recovered absolutely. The anterior horns of the spinal cord were involved, together with other portions of the cord, and even extended into the medulla and pons, the gray matter around the ventricles and into the cortex. Paralysis occurred in the abdominal and facial muscles as well as in the extremities. There were 202 males and 114 females affected. The dangerous age was between 1 and 3. The youngest patient was four days old and the oldest 15. Vomiting, constipation anorexia or thirst occurred in 114 cases, diarrhea in 11 and anuria in 21. In 104 cases one leg was involved; in 59 cases both legs; one arm in 12 cases, and both arms in one. The abdominal muscles were involved in 5 cases. Rest was the early treatment; later, care as to posture. Massage, electricity and large doses of strychnin, intramuscularly, were of value.

County Laboratories and Their Uses.

Dr. Orlando J. Hallenbeck, Canandaigua, said that in order to prevent the spread of certain infectious and contagious diseases, county laboratories should be provided. In January, 1906, their medical society appointed a committee of three to consider ways and means of establishing a county laboratory. The Ontario Medical Society appointed a similar committee, and these committees formulated a plan to bring about the desired result. Sufficient money was donated by a philanthropic woman in Canandaigua to erect and properly equip the laboratory, provided the state donate sufficient money to employ a pathologist and bacteriologist; for this purpose $1,500 was asked. When it was learned that the board of supervisors had no control in the matter, they interested the senators and assemblymen and had passed an act giving the supervisors this power, and also obtained the required donation. The laboratory is now on a paying basis. They have a first-class pathologist and bacteriologist and, at the end of the first fifteen months they have a balance of $51 in the treasury.

Dr. A. Jacobi, New York, thought that if every member of the legislature had a copy of the paper not one could refuse to grant the request. He recommended that a resolution, accompanied by a copy of Dr. Hallenbeck's paper, be sent to every member of the legislature.

Such a resolution was then adopted and sent to the Council.

Intracranial Complications of Middle-Ear Suppuration.

Dr. S. J. Kopetzky, New York City, concluded his remarks as follows: 1. That intracranial complications result from contact of diseased bone with the dura, or they may come about from an invasion of the cranium through the labyrinthine or other anatomic channels. 2. That trauma, either accidental or surgical, may arouse into activity a latent intracranial lesion. 3. That intracranial lesions are generally, although not invariably, the result of an engrafted acute process on a chronic middle ear suppuration, especially if the chronic suppuration is a disease of the bone. 4. That intracranial invasion, when located in the posterior cranial fossa, will first have involved some part of the labyrinthine channels. 5. That involvement of the middle cranial fossa is more amenable to surgical treatment than when the posterior cranial fossa is the seat of the lesion. 6. That the earlier the surgical intervention the better the prospect of an ultimate recovery. 7. That the evacuation of the pus from the posterior cranial fossa without surgical relief of the purulent labyrinth is useless (when the labyrinth is involved). 8. That lumbar puncture as an aid to surgical treatment is of no value. 9. That no case should be considered as inoperable, as sometimes surprisingly good results have been obtained even in such. 10. That the radical mastoid operation should only be done when a positive diagnosis of bone necrosis is made. The mastoid operation should not be undertaken simply to attempt a cure of a persistent purulent otorrhea.

Chronic Middle-Ear Deafness.

Dr. W. Sohier Bryant, New York, stated that the vast majority of these cases can be improved. Those that can not, are cases of malformation of the middle ear, cases of advanced stapes fixation and cases of extremely advanced otosclerosis. Chronic deafness from middle ear suppuration, either present or past, can always be helped by treatment. The amount of improvement depends on the power of the patient to make repair, and on the power of the physician to substitute parts which have been lost. The aim of treatment should be first, to correct conditions in the Eustachian tube, and then defects of the middle ear. Trophic disturbances are the cause of stapes fixation and these disturbances, as well as their recurrences, must be checked. Suppuration rarely occurs independent of nasopharyngeal disease. If suppuration has begun, the hearing may be preserved by stopping the suppuration and treating the nasopharynx. Where there is deafness, if any suppuration exists, it must be arrested immediately. It is necessary to adjust mechanical appliances to compensate for parts that are lost. Adhesions should be loosened. Twenty-four cases were reported, of which nine showed the three conditions caused by chronic middle-ear deafness treated in nine different ways with success. Thirteen showed various forms of middle-ear catarrh which gave good results, though treated in different ways. His principles of treatment are the removal of obstructions, stimulation and exercise.

Medical Libraries for Smaller Centers.

Dr. Smith Baker, Utica, stated that in nearly five hundred incorporated villages and all but seven of the cities of New York State there is not a medical reference and circulating library. He showed that where each physician purchased his own periodicals he often duplicated the matter, wasted his money and was, after all, inadequately supplied. He urged that the state society should do what it could to stimulate the organization and growth of medical circulating libraries in all centers, large and small. The idea should be advertised and encouraged. The State Library at Albany should be encouraged to stand in a helpful relation to this enterprise.

An Efficient Operative Procedure in Malignant Disease of the Skin.

Dr. Samuel Sherwell, Brooklyn, has used this method for thirty-five years, with good results and comparatively few recurrences. The method consists in thorough, deep and efficient curettage, followed by the application of an escharotic. He prefers a 60 per cent. solution of acid nitrate of mercury. It is necessary to neutralize this by some alkaline medium, as sodium bicarbonate. A scab is thus formed which is allowed to remain until it falls off or is pushed off by the repair process that is going on beneath. The knife may be preferable in pendant or loose portions of the body, as the penis, the ears, the lips, etc., though curettage is preferable even in many of these cases. He does not advocate *x*-ray treatment on account of expense, time and uncertainty of results. One can only learn how much acid nitrate to use by experience, and he frequently allows it to remain on the wound for from ten to twenty minutes. If a general anesthetic is necessary, he prefers oxid gas. The final step is to apply the bicarbonate of soda, pressing it down firmly so as to make an adherent scab, which usually comes off in about two or three weeks. Bandages should not be used and the wound should be kept dry. Inflammation usually follows after a day or two, but does not call for the application of any dressing. With this procedure the chances of recurrence are far less than when the knife is employed.

Medicolegal

Privilege Not Waived by Bringing Action for Personal Injuries—What Constitutes Relation of Physician and Patient—Assistants and Other Physicians at Hospital—Hospital Records.

The Supreme Court of Missouri says that in the case of Smart vs. Kansas City the defendant took the broad position that the plaintiff by bringing this suit and asking damages for personal injuries thereby waived the incompetency of her physician and surgeon to testify regarding information acquired from her while attending her in a professional capacity. The Missouri statute regarding confidential communications between physician and patient in so far as applicable to this case is as follows: "The following persons shall be incompetent to testify: . . . Fifth—A physician or surgeon concerning any information which he may have acquired and which information was necessary to enable him to prescribe for such patient as a physician, or do any act for him as a surgeon."—Section 4659 of Revised Statutes of 1899.

The meaning of this section is not veiled in doubt. It disqualifies the physician and surgeon from testifying to any information acquired by them while attending their patients in a professional capacity. The wisdom of such a law is addressed to the legislative branch of the government and not to the judiciary; the latter has to deal with its meaning and not the policy of the statute. That policy is not only well grounded in this state, but is firmly rooted in the jurisprudence of a majority of the states and territories of the Union. For this reason the courts should give the statute full force and effect, and not nullify it on a mere pretext of an implied waiver of its provisions. Such a rule may and doubtless does work a hardship and an injustice in many cases, but that is greatly overshadowed and outweighed by the benefits it brings to the human family at large, and to society in general.

Mr. Wigmore, in his work on Evidence, says: "The whole reason for the privilege is the patient's supposed unwillingness that the ailment should be disclosed to the world at large; hence the bringing of a suit in which the very declaration, and much more, the proof, discloses the ailment to the world at large, is of itself an indication that the supposed repugnancy to disclose does not exist. If the privilege means anything at all in its origin, it means this as a sequel."—IV Wigmore on Evidence, Section 2389.

It seems to the court that this is too narrow a view to take of the statute. If you could limit the inquiry to the particular injury sued for, there might be some apparent force in the contention for a waiver, but such injuries, when inflicted on weak and diseased people, will more than likely aggravate the previous ailments, and rather than disclose such troubles they might prefer to waive the aggravation and limit the recovery of damages to the apparent rather than to the real extent of the injury; and, again, a person might be suffering from some temporary loathsome disease at the time of the injury, and the one might have no effect on the other, or bear no relation whatever thereto. In either of those cases the court is unable to see any good reason for holding that he or she may not place the seal of secrecy on the lips of the physician or surgeon, who, through his confidential relation to the patient, has learned of those ailments, which, if made known, might and often do injuriously affect the business and social standing of such persons in the community where they reside.

If it was not for this wise and beneficent statute, all the diseases to which the human flesh is heir could, and in many cases would, be uncovered and held up to public view, with no corresponding benefits to be derived therefrom, either as a defense to the case or in mitigation of damages.

But independent of what the court has just stated, if the contention of defendant was true, that the mere filing of the petition in court in such cases waives the statutory privilege, then said section 4659 has no force or effect, and is an absolute nullity, because said section begins by stating "the following persons shall be incompetent to testify," etc. If this statute is waived by the mere filing of the suit, then the patient can not avail himself or herself of its provisions, and the disqualification of the physician and surgeon is removed, and they are thereby authorized to disclose all information acquired by them in the examination and treatment of their patients. If no suit is brought by the patient, there could be no occasion for the physician or surgeon disclosing the confidential communications; but the instant one is brought and trial had, and that being the only possible occasion on which the patient could avail himself of the statutory privilege, he is met with the proposition of implied waiver, and, as an inevitable result, the statutory privilege could not be invoked in that case, nor in any other. In other words, as long as suit is not instituted the physician is disqualified by the statute, and in that case there is *no* express or implied waiver, but under that condition he could not testify because there is no case pending in which to testify; but if suit is instituted, that fact waives the statutory privilege, and he becomes a competent witness, and is authorized to disclose all confidential communications. Such reasoning leads to an absurdity, and totally emasculates the statute.

Coming to a consideration of the competency of two witnesses in the case, the court says that they were assistant physicians and surgeons in the hospital where the plaintiff was taken for treatment on the occasion in controversy, and they assisted in the treatment and amputation of her leg. Under and by virtue of their appointment, contract, or by whatever arrangement they became assistant physicians in that hospital constituted them the physician and surgeon of each and every patient who entered that institution for treatment, and they had no legal or moral right or authority to view, treat or operate on any of them, except by virtue of that appointment or contract. Even their very presence there was traceable to and authorized by that authority and none other.

The intrusion of a physician or surgeon into an institution of the character in question, assuming the authority to observe and examine patients without the permission of those in charge, and by the consent of the patients, would constitute him a trespasser. Such is not tolerated by the law, and would not and should not be permitted by those in charge.

The relation of physician and patient is one of contract, either expressed or implied, and can be created in no other way. In cases of this character, the physician or surgeon in accepting such a position impliedly, at least, agrees to treat such patients as are accepted into the institution, and when he assumes to examine them either by their express agreement, or by their implied or tacit consent, which may be inferred from the act of entrance into the institution, and which will be inferred in the absence of evidence indicating a contrary intention. In either event, whenever the minds of the physician and patient meet by either express or implied contract, the statute places the seal of secrecy on all information acquired by the physician in such professional capacity. The same rule of law applies as fully and effectually to the assistant physician as it does to physician and surgeon-in-chief.

The rule has also been applied to the partner of the attending physician even though the partner never prescribed for the patient.

It makes no difference in principle so far as the physician's disqualification is concerned whether he acquires the confidential communications from a poor or pay patient, in a private residence or hospital, or from a charity patient in a public hospital. The same statute disqualifies an attorney from divulging the confidential communications between himself and his client, and it makes no difference whether the client is poor or rich, nor whether he lives in a palace or in a poorhouse—the same rule applies in both cases. The poor and needy are as much protected by the law as the rich and strong. Certainly the statute makes no distinction or exception, and the court does not feel justified to write such exceptions into the statute.

It necessarily followed from what has been stated that neither of the two physicians was competent to testify to any information he acquired while acting in his professional capacity.

The court also holds that the same principle of privileged secrecy applied to the testimony of a third physician, who had some kind of arrangement by which he had access to the hospital, and the right to examine patients, select such as he wished and take them into an operating room for use in the clinics which he had authority to hold in the institution in which the plaintiff was confined. It appeared that he approached the plaintiff while in bed, pulled up the cover, looked at her leg, and advised her physician to have it amputated at that time, because he thought she had either sarcoma or tuberculosis, and whichever it was, in his judgment, it would have to be amputated. The court says that it can not concur with the defendant in its contention that the relation of physician and patient never existed between the plaintiff and physician simply because he never treated her, nor ever intended to do so. The record showed that he was rightfully in the hospital, was exercising authority over the patients, examining their persons, advising treatment, and removing patients from their wards to the operating room for clinical purposes; and all this with the knowledge and consent of those in charge of the institution. If he was not rightfully there, then he was not only a trespasser in the institution, but was guilty of the crime of assault and battery by approaching the plaintiff's bed, where she was lying, and pulling up the covers and exposing her person and making the examination. The court will not presume he was guilty of a crime, because the law presumes every one innocent until he is proved guilty beyond a reasonable doubt. Besides all this there was no evidence in this record tending to show but that the plaintiff thought and believed he was one of the attachés of the institution, and, as such, had the authority to do what he was doing there.

It is not necessary in order to create the relation of physician and patient that he should actually treat the patient. If he makes an examination of the patient, with her knowledge and consent, she believing that the examination is being made for the purpose of treating her, then the relation is created by implication, and it is wholly immaterial what the secret object or purpose of the physician was in making it; and, in the absence of evidence to the contrary, the plaintiff had the perfect right to assume and rely on the assumption that the physicians who were apparently in charge of the hospital were rightfully there, and, as such, had the authority to examine and prescribe for her, and this one would not afterwards be heard to say he was not connected with the institution and had no authority to examine or treat her. If such a thing as that could be done, then the privilege accorded the patient could be taken from her by trick or fraud.

Nor does the court consider the records of the hospital were admissible in evidence over the plaintiff's objection. It says that the diagnosis of the case was made by an examination of the patient and by interrogating her regarding the complaint. This is necessary to be known by the physician in order that he may prescribe the proper treatment, and when he once acquires that information the law declares it to be confidential communications, and disqualifies the physician from divulging the same on the witness stand. Mr. Elliott, in his work on Evidence, in the discussion of such statutes, says: "It seems to be conceded by both opinions that hospital physicians, who attend such persons at the hospital, could not testify as to what they learned while so attending him."—I Elliott on Evidence, Section 635. This is undoubtedly the rule as announced by all the authorities, and, that being so, it seems that it must follow as a natural sequence that when the physician subsequently copies that privileged communication on the record of the hospital, it still remains privileged. If that is not true, then the law which prevents the hospital physician from testifying to such matters could be violated both in letter and spirit, and the statute nullified, by the physician copying into the record all the information acquired by him from his patient, and then offer or permit the record to be offered in evidence containing the diagnosis, and thereby accomplish, by indirection, that which is expressly prohibited in a direct manner.

The mere fact that the ordinance of the city requires such a record to be kept is no reason on earth why the statute regarding privileged communications should be violated. That record is required to be kept for the benefit of the institution, and not for the benefit of outside litigants. It is not the subject or purpose of the ordinance to repeal the statute in question, but even if it were it would be null and void, because in conflict with the statute. The object of the statute is to guarantee privileged communications between all patients and their physicians, and it is wholly immaterial whether they are in or out of hospitals. The only case where the patient is denied the protection of this statute is where his or her case falls under the rule of necessity.

Contract of Health Officer for Services in Epidemic Is Invalid.

The Appellate Court of Indiana, Division No. 1, says, on the appeal of City of Greenfield vs. Black, that the latter-named party, a resident of the city of Greenfield, and secretary of the board of health thereof, sued said city for compensation for services alleged to have been rendered by virtue of a contract with said city during an epidemic of smallpox in the year 1902. Among others things, he averred that there was no hospital or other place where persons affected could be treated; that for the protection of the citizens of the city, and for the preservation of the lives and health of those effected, it was very urgent that persons so affected should have proper medical treatment; that the ordinary physicians of said city would not undertake such treatment, and that persons affected were wholly without medical aid unless the city authorities provided it; that the plaintiff was secretary of the board of health of said city, but not required to take on himself the treatment of such persons; that the mayor and common council requested him to attend on such persons; that, by reason of the request, he did so treat such persons for a period of 71 days; that his services were worth $20 per day; that no part of said sum has been paid and the persons treated were unable to pay the same. Judgment was asked in the sum of $2,000. There was a trial by jury and a verdict for the plaintiff in the sum of $850. The city appealed and got the judgment reversed, with order for a new trial.

One of the reasons assigned for a new trial was that the verdict was contrary to law. It was shown by the answer, and by the proof as well, that the plaintiff was at and during all the time the services were rendered for which this action was brought the health officer of the city of Greenfield. By section 52 of the Indiana act for the incorporation of cities it is provided that "no member of the common council or other officer of such city shall, either directly or indirectly, be a party to or in any manner interested in any contract or agreement with such city for any matter, cause or thing by which any liability or indebtedness is in any way or manner created against such city, and if any contract should be made in contravention of the foregoing provisions, the same shall be null and void." There could be no doubt that the plaintiff was an officer of the city within the meaning of the statute as quoted. The statute not only prohibits the making of contracts such as that in issue, but it provides that, if made, the same shall be void. It applies to all contracts, both express and implied.

Nor does the court agree with the contention that there was such an emergency in this case that it created an exception to the statutory prohibition. It says that whenever a duty devolves on the authorities to supply medical treatment and attention, as in the cases where the public welfare must be protected or indigent patients are unable to procure such treatment or attention, the authorities are empowered to employ such medical assistance. But, in order to justify the employment of a physician, who is within the positive inhibition of a statute, there must exist such an actual emergency that it would be manifestly unjust to delay action in order to comply with the strict requirements of such statute. And the right to recovery, under such cirumstances, is not to be extended beyond the necessities of the actual emergency.

Taking the evidence as a whole, it failed to establish such a state of facts as to the existence of an emergency for the employment of the plaintiff, which met the requirements, to justify a recovery.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

February 15.

1 *What Shall We Do With Far Advanced Cancer of the Large Bowel? R. C. Coffey, Portland, Ore.
2 *Sanitation of the Canal Zone. W. C. Gorgas, Ancon, Canal Zone.
3 *A Method of Milk Production. C. E. North, New York.
4 Importance of Correct Diagnosis in Diseases of the Eye Is the Chief Reason Why Opticians Should Not Prescribe Glasses. A. E. Davis, New York.
5 *Phthisis in Outdoor and Indoor Life and in Isolated and Cosmopolitan Races. N. B. Jenkins, New York.

1. Abstracted in THE JOURNAL, Aug. 24, 1907, page 713.

2. The principal points in this article were taken up in a similar article by this author in THE JOURNAL, July 6, 1907, page 6.

3. **Milk Production.**—North summarizes his paper practically as follows: The use of sterile, covered pails and sterile milk cans by the ordinary farmer will immensely reduce the number of bacteria in his milk, even though no other sanitary precautions are taken. The dairy house, where washing and sterilizing of utensils and cooling and bottling of milk are done, may be at a distance of several miles from the cow stable without materially increasing the bacterial count, provided the milk is delivered at the dairy house within one hour after milking. Five cents a quart to the farmer will pay him for his trouble of milking in a sanitary way and for making two deliveries a day. In many instances it would compensate him for keeping his herd free from tuberculosis. The functions of the creamery should be increased, so that it becomes a washing and sterilizing plant for all the milking pails and milk cans of all the farmers contributing milk to it. Covered milk cans or "pailcans" should be substituted for the wide-open milking pails now in use. The creamery should do all the cooling and bottling of milk. The cooling should be taken out of the hands of the farmer. Let the milk dealer pay the farmer 5 cents a quart for such milk, and let the public pay the milk dealer 10 cents a quart for milk delivered in the city. High prices of certified milk are due to the expense at the dairy house. Concentration of operations at the creamery for a large number of farmers would be business economy, and would likewise eliminate many sources of contamination.

5. **Phthisis.**—Jenkins says that while outdoor life may cure tuberculosis in the individual it may lead to susceptibility to tuberculosis in the race. North American Indians and other outdoor races when exposed to civilization are unable to resist the disease. On the other hand, while indoor life may cause tuberculosis in the individual, it may tend to immunize the race. Jews and other indoor races have a marked resistance to consumption. Indoor races in centuries of environment favorable to tuberculosis have probably acquired special resistance. Outdoor races in their natural environment probably escape tuberculosis without special resistance, which indoor people require in order to survive contact with the disease in indoor life. Race isolation common in outdoor peoples may be the chief cause of racial tuberculosis. The unhappy mental changes resulting from changed environment undoubtedly play a part in tuberculosis in foreigners and in Indians and other wild or semicivilized races, as they do in animals in captivity.

Boston Medical and Surgical Journal.

February 13.

6 *Control of the Lymphatics in Infections of the Extremities. H. L. Burrell, Boston.
7 *Value of Malachite Green Media in Differentiating Typhoid and Colon Bacilli, with Description of a New Method for Isolating Typhoid Bacilli from Feces. F. W. Peabody and J. H. Pratt, Boston.
8 Six Cases of Acute Perforating Ulcer of Duodenum. E. A. Codman, Boston.
9 *The Optometrist and His Colleges. J. C. Bossidy, Boston.

6. Abstracted in THE JOURNAL, Nov. 30, 1907, page 1869.

7. **Malachite Green.**—Peabody and Pratt discuss the differentiating methods for typhoid and colon bacilli and also describe a new method for isolating typhoid bacilli from feces. The general results of their examinations lead them to hold the malachite green media in high esteem. Their action is not absolutely specific, for other bacteria likely to be confused with the typhoid bacillus, as well as the colon bacillus which is inhibited by it, flourish in them. Also malachite green somewhat checks development of the typhoid bacillus. Still the malachite green method is a great step forward. It is not only more economical in time and money, but has yielded better results in the authors' laboratory.

9. This article will be noted in the department of Medical Economics.

New York Medical Journal.

February 15.

10 Points Regarding Urethroplastic Operations, with Special Reference to the Dislocation Method. C. Beck, New York.
11 Squamous-Celled Carcinomata of the Esophagus. W. T. Cummins, Philadelphia.
12 *Removal of Adenoids. M. J. Ballin, New York.
13 Psychasthenia. J. Collins, New York.
14 *Management of Febrile Conditions After Abortion and Labor. A. Brothers, New York.
15 *Vaccination in the Far East. C. S. Braddock, Haddonfield, N. J.
16 Diseases of the Breathing Apparatus Which Affect the Breath; the Breath as an Aid in the Diagnosis of These and Other Diseases. F. E. Klotz, Lanark, Canada.
17 Treatment of Cold in the Head. H. H. Pelton, New York.
18 Teaching of Dermatology in Medical Schools. C. A. Kinch, New York.

12. **Adenoids.**—Practically the same operation for the removal of adenoids was described by Dr. J. F. Barnhill in his paper read before the Mississippi Valley Medical Association, an abstract of which appeared in THE JOURNAL, Oct. 26, 1907, page 1468.

14. **Postpartum Fever.**—Brothers discusses the various forms of febrile condition that follow delivery or abortion in the hands of midwives and those practitioners who have not profited by the present knowledge of the essentials of aseptic midwifery. These febrile conditions he divides into four groups: Fever due to (1) retention of infected placental débris or of blood clots; (2) pelvic inflammation; (3) bacteriemia (septicemia; (4) general peritonitis. The first group usually begins with chills and rise of temperature between the third and sixth days. There is little or no pain, the discharge, if any is malodorous. He describes the conditions graphically. In the first group the débris may be cleared out by the finger, or the blunt curette may be necessary, and a saline intrauterine irrigation completes the operation. He regularly administers ergot. If the fever does not drop in a reasonable period after treatment it is due either to pelvic inflammation or septicemia, salpingitis, oöphoritis, pelviperitonitis, parametritis. These conditions are a contraindication to curettage or intrauterine irrigation, save exceptionally and at the hands of experts. They may all end in spontaneous absorption, but sometimes suppuration supervenes. Brothers has not been able to convince himself that the usually low grade fever with correspondingly slow pulse rate follows any particular type. Chills are infrequent and mild, and the face is flushed and hopeful. Usually localized pain and an exudation mass clinch the diagnosis. "As a rule, these patients recover under local abdominal refrigeration, prolonged rest in bed and hot vaginal douches at short intervals." Silver ointments or blisters above Poupart's ligament and the pubes can do no harm. The blood should be examined, as pus has often been found when the fever had dropped to normal, but the exudate would not disappear. An increased leucocytosis, between 10,000 and 20,000, and a polynuclear count exceeding 75 or 80 per cent., induces Brothers to advise operation with a view to finding a pus focus. When "pointing" can be waited for, that is the best thing, as an incision at the most dependent spot offers the easiest method, but sometimes the pus burrows upward

beneath the peritoneum, necessitating a laparotomy. The author insists on leaving patients with pelvic exudates alone. He is convinced that many will do as well under prolonged rest in bed and ice locally as under any other measures. Bacteriemia occurring before delivery is very ominous. From the start the pulse usually has a rate of 120 or more, but in nervous women the value of the pulse count holds good only when taken during sleep. Chills are repeated; temperature is fluctuating; there is restlessness usually, but not always delirium; lochial discharge is diminished or absent, and is odorless; usually there is complete absence of abdominal pain. The treatment of the future will probably call for the earliest possible hysterectomy, but with streptococci or staphylococci in the blood Brothers holds that the patient's chances are slim any way. The results of Wright's treatment are indecisive at present. Antistreptococcic serum has been disappointing in Brothers' hands. The gonococcus type of the disease is usually mild and terminates in recovery under prolonged rest in bed. Pus tubes, of course, call for removal. Phlegmasia alba dolens calls for prolonged rest in bed; no rubbings or ointments, and elevation of the limb. Clinically, the cases with general peritonitis can be classed by themselves. Simple intestinal paresis with abdominal distension must not be mistaken for peritonitis. A positive diagnosis, with the patient in fair condition, he thinks is best met by laparotomy. The Alonzo Clark opium treatment he has no use for except for euthanasia. The liberal use of ice bags to the abdomen will often cause complete recovery or result in the localization of pus. Care must be taken, however, not to produce sloughing.

15. **Vaccination in the Far East.**—On returning to America after twenty years in the Far East, Braddock was utterly astonished to read articles in papers denying the protective power of vaccination against smallpox and to learn of so much opposition from parents and of the activity of the antivaccinationists. He wishes he could show them some of the results of vaccination in Siam and the Malay Peninsula. He attempts to describe them. One province with a present population of only 600,000 has lost 100,000 from smallpox alone in the last thirty years. The epidemic of 1903 was responsible for a death rate of 10,000, and these epidemics recur every few years. Dr. Braddock and Dr. Adamson, in 1903, after nine months of long failure and disheartenment, succeeded in making good vaccine. A few weeks after the first successful vaccine was made an epidemic broke out in Tatchin. In thirty days, before they were notified, 145 children died of the disease, which means about 500 cases. A fast steam launch was dispatched, and in a few days 4,000 people had been vaccinated. The epidemic was instantly stopped. Not a person was attacked after the vaccinating, and those who were then incubating the disease had it in a very mild form. Tatchin has never known smallpox since.

Lancet-Clinic, Cincinnati.

February 8.

19 *Mechanism of Spontaneous Version. W. Gillespie, Cincinnati.
20 *The Fallacy of Osteopathy. D. O. Weeks, Marion, Ohio.
21 Dietetic Treatment for Constipation. F. L. Rattermann, Cincinnati.

February 15.

22 *Psychoses of Pneumonia. C. J. Aldrich, Cleveland, Ohio.
23 History of Physiology. F. H. Lamb, Cincinnati.
24 Sleep. J. Burke, Manitowoc, Wis.

19. **Spontaneous Version.**—Gillespie discusses thoroughly the subject of obstetric spontaneous version. In his opinion the spontaneous version of premature or unduly flexible children is due to excessive flexibility of the cervical and upper dorsal vertebræ. The child, under these circumstances, passes through the complete process of turning without presenting a shoulder at the superior strait, because the fetal limbs are folded within the circle formed by the excessively flexed child, and the back presents to the uterine surface during the complete evolution. He has never seen this form of version described, but has seen it frequently in late abortions, and has been accustomed to utilize the mechanical facts thus gained in hastening the termination of such cases.

20. Abstracted in The Journal, Sept. 28, 1907, page 1139.

22. **Psychoses of Pneumonia.**—Aldrich says that the pneumonic psychoses may manifest themselves at any one of five periods in the course of the disease. He describes them in detail under the subheads, prodromal delirium, initial delirium, pyrexial delirium, postcritical delirium, collapse (exhaustion) delirium, and postpneumonic psychoses.

Journal of Infectious Diseases, Chicago.

January.

25 *A Study of Typhoid Opsonins. C. P. Clark and J. P. Simonds, Chicago.
26 *Opsonic Index in Diphtheria. R. Tunnicliff, Chicago.
27 *Splenomegaly and Banti's Disease: Report of Case. J. P. Simonds, Chicago.
28 *The Similarity Between Blood Platelets and Certain Hematozoa. L. D. Swingle, Omaha, Neb.
29 *Qualitative Changes in the Third Serum Component. H. W. Manwaring, Bloomington, Ind.
30 *Factors in Hemolysis. Id.
31 *Significance of Leucocytes and Streptococci in Production of High-Grade Milk. M. E. Pennington and E. L. Roberts, Philadelphia.
32 *Review of Anaphylaxis With Especial Reference to Immunity. M. J. Rosenau and J. F. Anderson, Washington, D. C.

25. **Typhoid Opsonins.**—Clark and Simonds find that after heating normal human and rabbit serum to from 56 to 58 C., there persists in these sera in appreciable degree the power to promote phagocytosis of typhoid and paratyphoid bacilli by washed human leucocytes. As the result of spontaneous infection, as well as of artificial inoculation with these bacilli, this power of the serum may undergo profound modifications and may be augmented in very high degrees. The exact determination of this opsonic power with respect to typhoid bacilli in the course of typhoid fever was found, on account of inconstancy and variations in the induced and spontaneous phagocytability of the typhoid bacillus, to present many difficulties which demand much further study. With respect to paratyphoid bacilli, the variations of the opsonic power of the serum of typhoid-fever patients are more easily determined and appear to follow a fairly typical course, for the opsonic index, as determined by comparison of heated normal and typhoid sera, is high early in the disease when the patients ordinarily come under observation and approaches normal more or less gradually as convalescence sets in. In rabbits injected with either dead typhoid bacilli or dead paratyphoid bacilli there develop in each case immune opsonic substances for both these organisms; these substances, however, appear to be largely specific, no matter whether produced in response to the injection of the one or the other of the bacteria.

26. **Opsonic Index in Diphtheria.**—Contrary to Wright and others, Tunnicliff shows that the diphtheria bacillus is sensible to the opsonic action of human and rabbit blood serum. It was found that in diphtheria the opsonic index for diphtheria bacilli is generally below normal at the onset of the disease. As the membrane disappears and the symptoms subside, the index rises considerably, returning to normal in from two to nine days. In the majority of cases there is a rise in the streptococco-opsonic index in diphtheria, but the indexes for diphtheria bacilli and streptococci rarely correspond. The injection of dead diphtheria bacilli in suitable number into rabbits is followed by a marked rise in the index. By diluting the normal and the immune serum until phagocytosis practically ceases, the comparative opsonic power of the sera on diphtheria bacilli can be measured. The curves representing the opsonic power determined in this way correspond almost exactly with the curves of the opsonic indexes estimated by Wright's method, thus showing that Wright's method, after all, is not altogether unreliable. The suggestion is made that the injection of dead diphtheria bacilli may prove of some service in ridding the throat of bacilli, in the case of chronic carriers and convalescents, as the experiments show that in rabbits such injections are harmless and at the same time cause decided increase in the opsonic power of the blood on diphtheria bacilli.

27. **Splenomegaly.**—Simonds summarizes his study of splenomegaly and Banti's disease as follows: "While there may be some just question whether or not all the cases here collected are properly classified, there can be no doubt that there are

wo distinct conditions associated with an idiopathic anemia nd enlargement of the spleen. One begins usually in patients ver 20 years of age; is characterized clinically by chloronemia, leucopenia, enlargement of the spleen, and frequently y gastrointestinal hemorrhages, ascites, pigmentation of the kin, rarely by jaundice; and anatomically shows fibrous hyerplasia of the spleen with, frequently, cirrhosis of the liver, nd varicose veins in the lower esophagus and cardia. The ther occurs most often in young people and shows a family endency; manifests itself clinically by an anemia with low ndex, absence of leucocytosis, enlargement of the spleen, a rolonged course, hemorrhages from the nose and gums or uner the skin and mucous membranes, and, less frequently, by aundice and brownish pigmentation of the skin; and is haracterized anatomically by diffuse proliferation of endohelium in the spleen and sometimes in the liver and retroeritoneal lymph glands."

28. **Blood Platelets and Hematozoa.**—Swingle shows that lood platelets in various culture media and in the stomach f ticks may develop flagella and move about, manifesting o marked a resemblance in form, size and structure to conained hematozoa that great care must be taken to differeniate between flagellated platelets and the parasites. Certain nvestigators have published results that in view of Swingle's emonstration can be accepted only with some reserve.

29 and 30. **Hemolysis.**—Manwaring's careful work indicates ell the great complexities in the way of the investigator of roblems presented by the sera of immunized animals.

31. **Milk.**—Pennington and Roberts find that a correlation f the finding of streptococci or of many leucocytes in milk y the laboratory, with the physical condition of the cows n a herd maintained for the production of a very clean milk. ould seem to show that in many cases there is a connection etween such findings and the condition of the cow, both in elation to specific udder and to systemic affections. Such arallelism seems to obtain for the end of the lactation period, or the beginning of an udder inflammation, for an attack of owpox, and, possibly, for chemotactic conditions due to high eding of animals constitutionally unable to transform the ncreased feed into increased milk.

32. This subject was discussed editorially in THE JOURNAL, eb. 8, 1908, p. 456.

Annals of Surgery, Philadelphia.

January.

33 *Relation of Mesocolic Band to Gastroenterostomy. W. J. Mayo, Rochester, Minn.
34 *Intracranial Abscess Due to the Typhoid Bacillus. F. B. Gurd and T. B. Nelles, Montreal, Canada.
35 Isolated Fracture of Great Tuberosity of Humerus. H. L. Taylor, New York.
36 Diagnosis of Renal Tuberculosis. R. P. Campbell, Montreal, Canada.
37 Excision of the Whole Left Lobe of the Liver for Sarcoma. G. Torrance, Birmingham, Ala.
38 Splenectomy for Lacerated Spleen After Blood Transfusion. A. H. Bogart, Brooklyn, N. Y.
39 Splenectomy for Gunshot Wound of Spleen. E. H. Fiske, Brooklyn, N. Y.
40 Splenectomy in Banti's Disease. G. Torrance, Birmingham, Ala.
41 Splenectomy for Carcinoma. M. A. Smith, Boston.
42 *Gangrene of Appendix in a Three Weeks' Old Infant. C. H. Dixon, St. Louis.
43 Primary Sarcoma of the Prostate. C. A. Powers, Denver.
44 *Systematic Operation for Penile Hypospadias and Other Defects of the Urethral Floor. G. F. Lydston, Chicago.
45 *Simple Fracture of the Carpal Scaphoid. W. A. Downes, New York.
46 *Treatment of Fracture of the Neck of the Femur in One Hundred and Twelve Cases. J. B. Walker, New York.
47 Open Method in the Treatment of Pott's Fracture of the Leg. H. H. Heath and C. D. Selby, Toledo, Ohio.
48 *Punctured Fracture of the Skull. G. G. Ross, Philadelphia.

33. **Mesocolic Band and Gastroenterostomy.**—Mayo discusses bnormally long mesocolic bands and their relation to the echnic of gastroenterostomy.

34. **Brain Abscess Due to Typhoid Bacillus.**—Gurd and elles report a case in which a patient who had received a low some two weeks before he came to hospital with typhoid ever, showed localized brain symptoms. Examination and reatment showed that the blow had caused a blood clot, hich the typhoid bacillus infected, thus developing an abscess. Whether the bacillus was present in the blood at the time of injury or whether the typhoid developed subsequently it is impossible to say.

42. **Gangrenous Appendix in a Three Weeks Old Infant.**—Dixon reports a case of a baby 24 days old, which he operated on for strangulated right inguinal hernia, with eight centimeters of ileum and an adherent gangrenous appendix in the sac. The appendix was removed, the gut returned, and a radical operation performed. The baby did well. This, he says, is the youngest patient with appendix trouble on record.

44. **Penile Hypospadias.**—Lydston reports a case of penile hypospadias in which he applied the technic as previously prescribed by him for the restoration of the urethra in various forms. His technic exactly reverses that of Carl Beck, which he considers likely in most cases to make a bad matter worse, especially as regards the sexual function. He claims as an advantage that in no case could the patient be worse off after the operation, since, even in the event of complete failure no interference to subsequent operation results.

45. **Fracture of the Scaphoid.**—Downes cites several cases of simple fracture of the scaphoid, and remarks that these cases are more apt to be overlooked than the complicated type. The two most characteristic symptoms are tenderness on pressure with the wrist slightly flexed and adducted just below and to the dorsal side of styloid, with extreme pain on extension. Contact of fractured surfaces and immobilization of the wrist for from three to four weeks will bring about union. Dislocation or considerable uncorrectible displacement calls for removal of one or both fragments without delay.

46. **Fracture of the Neck of the Femur.**—Walker's conclusions are as follows: Fracture of the neck of the femur occurs under 50 years of age more frequently than was formerly believed. Any injury to the hip followed by disability should suggest the possibility of a fracture of the neck, and requires an expert examination, aided by x-ray photograph. Reduction of the deformity, with complete immobilization of the fracture during the period of repair, by means of a plaster bandage in all suitable cases, is advised. This is to be followed by early gymnastic movements, active rather than passive. All weight-bearing on the fracture is to be avoided for from three to four months.

48. **Punctured Fracture of Skull.**—Ross reports the case of a man who gave a history of having been struck four or five days previously about the right eye with an umbrella. Careful examination showed no evidence of fracture: no scalp cuts or bruises, no discharge from nares or ear; no mastoid edema. The tongue was protruded in a median line without tremor; there was neither facial paralysis nor cyanosis of mucous membrane or finger tips; the right eye showed slight injection of bulbar conjunctiva, but without evidence of injury; light reaction, accommodation and pupils were normal. The patient became stuporous and showed severe constitutional symptoms. Two days later the right pupil was more dilated than the left. There was no evidence of paralysis, but the intermittent temperature, the leucocytosis and the chilly feeling suggested cerebral abscess; x-rays suggested doubtfully a fissured fracture of the vertical plate of the frontal bone. Complete left-sided hemiplegia was noticed soon after. The skull was opened over the most prominent part of the right parietal eminence and a quantity of dark, foul-smelling pus was evacuated. The patient improved somewhat after operation; on the second day the pupils became equal and reacting to light, and the paralysis of the left arm became less profound. He answered questions in a rational way. He suddenly stopped breathing, however, became deeply cyanosed and died. At postmortem no external evidences of injury to the face and head were observed, but a tract was found leading from the nose through the antrum of Highmore to the orbital cavity, thence to the middle fossa of the skull, furnishing an avenue of infection direct from the nasal cavity to the temporosphenoidal lobe of the brain, representing the course taken by the umbrella point. A straight probe could traverse the entire tract without obstruction. Ross calls attention to the

wisdom of nose examination in any case of traumatism about the head when the history is at all doubtful.

Philippine Journal of Science, Manila.

October, 1907.

49 Kubisagari or Vertige Paralysant. K. Miura, Tokyo, Japan.
50 *Investigations Carried on by the Biologic Laboratory in Relation to the Suppression of the Recent Cholera Outbreak in Manila. R. P. Strong, Manila.
51 *Treponema Pertenuis Castellani of Yaws and Experimental Production of the Disease in Monkeys. P. M. Ashburn and C. F. Craig, Manila.
52 *Histologic Study of Yaws. H. T. Marshall, Manila.

50. **Cholera in Manila.**—Strong describes the methods employed in bacteriologic diagnosis, the preparation and furnishing of cholera immune sera for diagnosis, the prophylactic inoculations and the efficiency thereof. The advantages of this prophylactic lie in the almost entire absence of local reaction, which renders it possible to inject from fifteen to thirty times as much as would be practical if either living or killed bacteria were inoculated; a higher immunity is thus obtained, and the prophylactic may be stored in flasks and preserves its properties for at least a year. The great disadvantage is the extreme care that is necessary in each step of the manufacture. The statistics are not sufficient to demonstrate conclusively its protective power, but after inoculating one-sixth of the population of a village, 1,078 in number, when cholera appeared a few months later, out of 122 persons stricken 121 were among the non-inoculated. In 3 other villages only 3 out of 2,706 persons inoculated were stricken, but there has not been sufficient cholera in these localities to justify conclusions. In Bilibid Prison, 1,838, or over half the inmates, were inoculated. Out of 24 cases of cholera only 4 were among the inoculated. Strong then reviews recent work on the subject of protective inoculations against cholera, discussing the local reaction following inoculation, the size of the dose and the standardization of the prophylactic, the immunizing power and virulence of the organism and the serum treatment of cholera.

51. **The Micro-Organism of Yaws.**—Ashburn and Craig, as the result of their clinical and experimental observations, conclude, among other things, that *Treponema pertenuis* is the cause of yaws, and that it is constantly present in the serum from yaws lesions; that its morphologic variations are due to artificial deformities produced during the preparation of the serum; that the *Treponema pertenuis* and *Treponema pallidum* can be differentiated by the results obtained from the inoculation of monkeys; that yaws and syphilis are distinct diseases and that *Treponema pertenuis* can be demonstrated in sections of yaws papillomata by the Levaditi method.

52. **Yaws.**—Marshall has examined histologically the tissues from the cases in the preceding paper, and from a study of these specimens concludes that we are dealing with a primary degenerative change resembling colliquative necrosis, affecting the epithelial structure, and caused by spirochetes, which are very abundant in the necrotic material, at least at some stage of the disease. The degeneration leads to ulcer formation. Following the degeneration there is irregular new formation of epithelium in the form of downgrowths which often degenerate. Accompanying these changes vascular dilatation, edema and leucocytic infiltration occur in the corium, with a minor degree of new formation of capillaries and connective tissue. There is no endarteritis, neither are there any other changes suggestive of syphilis. The majority of the infiltrating cells are polymorphonuclears at an early stage of the lesion, while mononuclears, many of which are of the plasma cell type, are almost equally abundant. In the tissue from the human being the plasma cells outnumber the polymorphonuclears. Polymorphonuclear eosinophiles are abundant and have a peculiar distribution. The changes are essentially the same in lesions from monkeys and human beings.

Texas State Journal of Medicine, Fort Worth.

January.

53 *Functional Relation of the Parathyroids to the Thyroid. W. S. Carter, Galveston.
54 Surgical Anatomy of the Parathyroids in Man. W. Keiller, Galveston.
55 *Medical Expert Testimony. P. A. Martin, Graham.
56 Pneumococcic Mastoiditis in the Recent Influenza Epidemic at Dallas. H. B. Decherd, Dallas.

53. **The Parathyroids.**—Carter investigates the relation of the parathyroids to the thyroids experimentally and concludes that the parathyroids are more essential to life than the thyroids. When both sets of bodies are excised the acute nervous symptoms are probably due to toxemia resulting from disturbance of proteid metabolism. On the other hand, the removal of both thyroids in the dog, whether at one or two operations, produces no symptoms, even after two or three months, provided the external parathyroids remain. The subsequent removal of one or two remaining parathyroids is promptly followed by tetany and death in ten days. As a practical lesson, Carter urges that in operating on the thyroid every effort should be made to save the parathyroids, and suggests that probably many of the fatal results from operations on the thyroid have really been due to removal of the parathyroid or to the cutting off of their blood supply.

55. **Medical Expert Testimony.**—Martin suggests that the expert be made an officer of the court, appointed to try the special issue; that specialists in the particular line should be chosen by the judge trying the case and that the decision by the experts be final.

Colorado Medicine, Denver.

January.

57 *Periarthritis of the Shoulder. G. B. Packard, Denver.
58 Bone Cavities and Interspaces and Their Treatment. H. G. Wetherill, Denver.
59 Relation of Vaccine Therapy to Surgery. B. H. Matthews, Denver.
60 Results in Cases of Amputation of the Shoulder Joint. C. A. Powers, Denver.

57. **Periarthritis of the Shoulder.**—Packard considers certain common though obscure lesions of the shoulder, characterized by pain and impairment of function and restriction of abduction and rotation, so that the arm can not be put behind the neck or the small of the back. Various diagnostic names have been given, but the uniformity of the symptoms leads Packard to suspect that there is a constant lesion giving rise to this symptom-complex, which he calls periarthritis of the shoulder. He discusses its relation to an inflammatory condition of the subdeltoid bursa, and believes that in some instances the important lesion is a tenosynovitis of the biceps tendon. Fixation and cauterization will generally relieve pain and subsequent disability, while massage and manipulation before the relief of pain and tenderness favor permanent pain and disability. In the chronic stage manipulation under ether, with subsequent abduction and external rotation of humerus, should be used.

Ohio State Medical Journal, Columbus.

January.

61 *Surgical Pathology of Tuberculous Cervical Glands. H. J. Whitacre, Cincinnati.
62 *Surgical Treatment of Tuberculous Lymph Glands. C. A. Sawyer, Cleveland.
63 *Medical Treatment of Tuberculous Cervical Glands. J. P. Hamann, Cleveland.
64 *Roentgen Treatment of Tuberculous Cervical Glands. W. C. Hill, Cleveland.
65 *Radical Operation for Removal of Tuberculous Cervical Glands. J. H. Jacobson, Toledo.
66 Case of Chronic Partial Intestinal Obstruction Due to Adenocarcinoma of Cecum with Autopsy Findings. C. D. Slagle, Centerville.
67 *Etiology of Psychoneuroses, Commonly Called Traumatic Neurasthenia and Traumatic Hysteria. C. J. Aldrich, Cleveland.
68 *Report of the Ohio League for the Suppression of Fraudulent Advertising. D. R. Silver, Sidney.
69 Tri-Chlor Acetic Acid in the Treatment of Diseases of the Nose. E. H. Porter, Tiffin.

February.

70 Clinical Notes on Acute Dilatation of the Stomach, or Arterio mesenteric Ileus. W. B. Laffer, Cleveland.
71 Clinical Study of Five Hundred Gastric Cases. J. D. Dunham, Columbus.
72 *Surgery of the Stomach Based on One Hundred and Four Personal Cases. G. W. Crile, Cleveland.
73 Need of State Organization of Eye, Ear, Nose and Throat Practitioners. M. D. Stevenson, Akron, Ohio.
74 Lupus Erythematosus: Its Differentiation from Eczema and Other Chemically Allied Affections. M. L. Heidingsfeld, Cincinnati.
75 *The Fallacy of Osteopathy. D. O. Weeks, Marion.

61. **Tuberculous Glands.**—Whitacre discusses the pathology of tuberculous glands of the neck, and says that while occasionally tuberculous infection of the cervical glands is of

ematogenous origin, secondary to a focus elsewhere, the inection is usually transmitted through the lymphatics from a eripheral port of entry. It is established that the bacilli ay penetrate the intact mucous membrane and produce landular tuberculosis without attendant disease at the point f passage. Portals of entry are carious teeth, the tonsils, brasions of the scalp or mouth, eczema of the scalp and ediculosis. In most cases a predisposition may be assumed. he clinical picture may vary considerably. In most cases he anatomic lesion differs in no way from that usually preented by tuberculous infection. Recurrence will follow an complete operation which removes only those glands affected. n infected gland may continue for a long time as a tuberulous nodule with a caseous center or the caseation may beome complete. A mixed infection occurs in a fairly large perentage of cases. He cites a case of his own in which a aseating gland ruptured into the trachea with the formation f a gaseous tumor in the neck, followed promptly by pulonary involvement. He considers the evidence at variance ith the view that tuberculosis of the glands of the neck erves to protect against further invasion; rather it forms a trong argument for radical removal of such glands in this egion.

62. **Id.**—Hamann describes the technic of extirpation, and ives the following contraindications: In young children, beause under medicinal and hygienic treatment subsidence often akes place; in anemic run-down individuals with marked ulmonary involvement; in patients with tuberculous glands different parts of the body.

63. **Id.**—Sawyer considers the medical treatment in which he aim is to favor and increase the cellular vigor of the atient, by rest during fever, open-air living, diet, removal f adenoids and diseased tonsils, care of the mucous membrane f the mouth. Drugs have a subordinate place. Iron iodid nd the hypophosphites have been most satisfactory in his ands. Creosote is sometimes of use. Tuberculin has not yet und general favor. Local applications and injections are of oubtful value.

64. **Id.**—Hill says that suppurating and large discrete glands hould be removed by operation supplemented by *x*-ray therpy, which renders recurrence much less frequent. There is no ain. It is not necessary for the patient to remain in a hosital; he can be in the open air and follow out the proper hyienic measures which are so important. There is no danger f scarring when the treatment is administered by a compeent operator. The results in certain classes of cases are beter than results from operation.

65. **Id.**—Jacobson describes the anatomy and technic of the dical operation as regards the incision, injury to nerves, esecially the facial and pneumogastric, and to the internal gular vein and also the pleura. The records of operation stify the following assurances: (a) In favorable cases: afety of operation (many operators reporting more than 100 ses without mortality); a scar which is hardly to be seen; robable confinement to bed two or three days; the wearing f a bandage or dressing from one and a half to three weeks; eedom from recurrence in about 75 per cent., ultimate reovery in about 90 per cent. of the cases. (b) In less favorble cases: Safety of operation; less disfigurement from scars an discharging sinuses will cause; freedom from recurrence from 50 to 55 per cent. and ultimate cure in from 70 to 5 per cent. of the cases.

67. **Traumatic Psychoneuroses.**—Aldrich means by trauma jury to either the body or the psyche. He cites Hippocrates s saying that no injury to the head should be despised. It a well-recognized law that continued attention causes inensification of sensation in an organ. This has a general, s well as an individual, significance, since a latent psychic ndition underlies many of the results of such injuries, such condition as is produced chiefly by the incessant and starting prominence given by the press to accidents, etc. We live an age whose strenuousness leads to the frequent occurnce of accident, and whose rapidity of communication makes every one cognizant of much disaster that in previous times was confined to the knowledge of those in the vicinity of its occurrence. This induces a latent fear, which is a most powerful emotion that may effect even organic changes. Charcot's experiments showed that suggestion proved effective in proportion as it was in accordance with propensity. A hypnotized thief would steal when a hypnotized honest man would not. So that all that is needed sometimes to convert a possible result of injury into an actual one is suggestion. Railway employés (except engineers who are under constant strain of responsibility, and who, moreover, see many narrow escapes that others do not) are less liable to develop psychoneuroses than passengers because they are always in training, so to speak.

68. Abstracted in THE JOURNAL, Sept. 28, 1907, page 1139.

72. Abstracted in THE JOURNAL, Sept. 21, 1907, page 1050.

75. Published in the *Lancet-Clinic*, Feb. 8, 1908, and an abstract appeared in Society Proceedings, THE JOURNAL, Sept. 28, 1907, page 1139.

Interstate Medical Journal, St. Louis.

January.

76 *Annual Review of Medical Progress Number.

76. This issue is entirely taken up with a systematized review of medical literature for the preceding year. The review is more than a mere compilation; it is an effort to set forth, by comparison, departures or diversions, to readjust or correct old principles and corroborate or sustain established procedures.

New York State Journal of Medicine.

January.

77 Tetanus Following Surgical Operations. F. Flaherty, Syracuse, N. Y.
78 *Cesarean Section. W. B. Reid, Rome.
79 *Solution of the Milk Problem. J. Johnston, Bradford, Pa.
80 General Consideration of Radiotherapy. G. M. Mackee, New York.
81 Advantages of a Country Water Shed. C. G. Rossman, Hudson.
82 Neurasthenia or Nervous Exhaustion. J. D. Bonnar, Buffalo.
83 Recent Advances in Medicine. D. Rochester, Buffalo.
84 Address of President of Fifth District Branch of Medical Society of the State of New York. N. Jacobson, Syracuse.

78. **Cesarean Section.**—Reid describes clearly the various steps of his personal technic, and emphasizes the importance of judgment and caution on the part of the operator.

79. **The Milk Problem.**—Johnston points out that the milk business is really two businesses—dairying and distributing. Dairying is a charming, natural, wholesome occupation, with a history interwoven with the traditions of all civilized peoples. It has high ideals, good financial prospects, and offers possibilities to tempt the scholarly as well as the practical man. Distribution of milk is a commercial matter entirely. The sort of knowledge employed in the distribution consists mostly of tricks. The average citizen thinks that he knows good milk, a natural food, when he gets it, but he overlooks the fact that milk is not taken in an exactly natural manner, and that modern methods of handling it call for his better acquaintance with them. The public has for some time taken on itself the regulation of the business, but only, or at least chiefly, from the purse point of view—full milk, full measure and a minimum legally fixed to adulteration or deterioration. As the milkman sees the law it does not prevent dishonesty, but merely limits it. A legal standard composition for milk must necessarily be made low in fat, so as not to hit any innocent man. Before enactment of laws, the milkman was forced to skim down timidly, with one eye on his customers and the other on his competitors. Now all may skim with easy consciences, for when the law says to a dealer that he must not furnish anything worse than this or he will be prosecuted, it says in effect that if he furnishes anything better than what is required he is a fool. The author considers that protection by law works badly every way. It is impracticable to examine in detail as delivered, and when examined in bulk there is such a wide opportunity for subsequent changes that the work of the inspector becomes useless. The public must take a fresh start in controlling the milk business. Johnston considers that the only solution of the milk

problem would be for each community to declare the distribution of milk a public service and employ its own servants. A cooperative company might be started in any city by anyone at any time. No particular breed of cows has yet been evolved for the spcial duty of providing milk; but the best milk for household use is not that which is richest in cream. Native or grade cows are to be preferred to thoroughbreds for all-round richness, flavor, and even balance of nutritive values.

Northwestern Lancet, Minneapolis.

January 1.

85 Sanatorium Treatment of Pulmonary Tuberculosis. H. L. Taylor, St. Paul.
86 *Strangulated Hernia. C. C. Allison, Omaha.
87 Unusual Case of Inguinal Hernia. W. F. Keller, Sioux Falls, S. D.
88 *Treatment of Inebriety. H. Sneve, St. Paul.
89 Hernia. H. J. Rock, Aberdeen, S. D.

January 15.

90 Surgical Therapeutics of Gastric Ulcer. J. T. Rogers, St. Paul.
91 Diagnosis of Organic Diseases of the Stomach. T. W. Stumm, St. Paul.
92 *Autointoxication as a Factor in Disease. W. J. Maytum, Alexandria, S.D.
93 Indications for Technic of Hyperemia Work of Professor Bier. J. H. Beaty, St. Cloud, Minn.

86. **Strangulated Hernia.**—Allison considers the two stage operations in advanced cases of strangulated hernia safer than the primary complete operation, and later anastomosis safer than the end-to-end operation. The postoperative dangers of ileus are many, and in strangulated hernia, which differs in this from the usual obstructive symptoms of appendicitis, the hope of escaping them by delay is groundless.

88. **Inebriety.**—Sneve comments on Minnesota's plan to care for the slaves of alcohol and narcotic drugs. He discusses the questions of psychology, heredity, alcohol, the classification of inebriates, the prognosis and the treatment, and expresses skepticism as to the possibility of inheriting a taste for liquor.

92. **Autointoxication.**—Maytum discusses this subject clearly in its relation to disease. Nearly all cases of melancholia and neurasthenia he considers to be forms of autotoxemia. Elimination is the secret treatment. He advises stopping all food and using saline laxatives and intestinal antiseptics, with charcoal to absorb the gases. Restriction of food, however, is the sheet anchor.

American Journal of Surgery, New York.

January.

94 Hip Disease. J. Graham, Durham, N. C.
95 Operation of Grafting the Rabbit's Cornea on the Human Eye. F. Valk, New York.
96 *An Inguinal Colostomy Permitting Control of Intestinal Contents. L. F. Garrigues, New York.
97 Cases of Ovarian Tumors. A. Hall, Mt. Vernon, Ill.
98 Cases of Kidney and Urethral Stone. G. K. Swinburne, New York.
99 Appendicitis. Ventral Hernia, Old Dislocation of the Shoulder. Tuberculous Adenitis of the Neck. R. T. Morris, New York.
100 Restoration by Primary Operation of a Nose Mutilated by a Horse's Kick; Support of Depressed Septum by Suspensory Suture. W. M. Brickner, New York.

96. **Inguinal Colostomy.**—Garrigues has applied the gastrostomy operation of Ssabanijew-Frank to inguinal colostomy with a view to obviating the disagreeable effects of leakage of feces, fluid and gases. He has performed the operation once, and while the patient lived only three days after operation (it was a case of cancerous masses), it seemed to answer thoroughly the purpose for which it had been devised. A three-inch incision is made through the left linea semilunaris at the level of the superior iliac spine, into the peritoneal cavity, and a loop of the colon is pulled out. A second incision, about two inches long, is made about two or three inches outside the first, and the subcutaneous tissue and the skin are undermined between the two incisions; the exact position of the second incision depends somewhat on the length of the mesentery, which should be put gently on the stretch. A running suture is inserted between the peritoneum and deep fascia on the one side and the muscular layers of the intestines on the other, at the base of the loop of intestine that has been pulled out. The intestine is now drawn through from the first to the second incision underneath the bridge of skin and subcutaneous tissue. A running sutur is inserted, uniting the skin and the end of the loop of intestine to the second incision. The skin and subcutaneous tissue of the first incision are now sutured. The intestine is opened in the second incision if the case is an urgent one, but i possible twenty-four hours should be allowed to elapse before the intestinal incision is made.

Journal of Cutaneous Diseases, New York.

February.

102 *Tropical Diseases of the Skin. H. Radcliffe-Crocker, London
103 *Relation of the Navy to the Study of Tropical Diseases. P. M. Rixey, U. S. Navy.
104 *Skin Diseases in the Negro. H. Fox, New York.

102 and 103. Abstracted in The Journal, Oct. 12, 1907, pages 1304 and 1305.

104. Abstracted in The Journal, Sept. 28, 1907, page 1138.

Archives of Pediatrics, New York.

January.

105 Three Cases Illustrative of the Occurrence of Typhoid in the First Year of Life. J. P. C. Griffith, Philadelphia.
106 Case of Hemothorax in Infant Five Months Old: Aspiration, Recovery. W. P. Northrup, New York.
107 Case of Myxedema. A. M. Davis, Germantown, Pa.
108 Cases of Subcutaneous Emphysema Following Exploratory Puncture of the Chest. J. C. Gittings, Philadelphia.
109 Tetanus Neonatorum Complicated by Pneumonia. R. O. Clock, Philadelphia.
110 Examination of Incised Tonsils. Case of Tuberculous Infection by a Bacillus of the Bovine Type. A. F. Hess, New York.
111 Epidemic Anterior Poliomyelitis in Philadelphia, with an Analysis of Cases Occurring in the Past Four and a Quarter Years at the Children's Hospital. R. S. McCombs, Philadelphia.
112 Indications For and Against Removing Adenoids, and Method of Operating. S. W. Thurber, New York.
113 Ocular Symptoms and Diseases Accompanying Adenoids. C. H. May, New York.
114 Adenectomy During Acute Middle-Ear Disease. P. D. Kerrison, New York.

Archives of Ophthalmology, New York.

January.

115 Case of Recurrent Palsy of the Third Nerve. C. E. Finlay, Havana, Cuba.
116 Extraction of Cataract in Capsule. Report of a Visit to Major Henry Smith in Jullunder, India. A. Knapp.
117 Case of Fleeting Paralysis of Some Ocular Muscles. J. S. Wyler, Cincinnati.
118 Optic Neuritis After Disease of Posterior Ethmoidal Cells. A. Knapp.
119 Anatomic Basis of Blindness Following Orbital Abscess. M. Bartels, Marburg, Germany.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

February 1.

1 *Inherited Syphilis. R. C. Lucas.
2 Unequal Distribution of Filariasis in the Tropics. G. C. Low.
3 Case of Severe Ecthyma from Which the Diphtheria Bacillus Has Been Isolated. A. Eddowes and J. G. Hare.
4 *Value of Cytodiagnosis in Practical Medicine. J. E. H. Sawyer.
5 Acid Intoxication Following Ethyl-Chlorid Anesthesia. H. H. B. Cunningham.
6 Development of Secondary Nodules in Suture Scars After Operations for Removal of Cancer. C. W. M. Moullin.
7 Two Cases of Uretero-Pyeloplasty. A. H. Burgess.
8 *Severe Spasmodic Contraction of Finger Cured by Stretching Median Nerve. J. Adams.

1. **Inherited Syphilis.**—Lucas first discusses the three terms, congenital, hereditary and inherited, as applied to this form of disease. Congenital and hereditary he dismisses as not being universally true, preferring the term inherited, as implying only something derived from the parents which is detachable, like a fortune or misfortune. He describes the *Spirochæta pallida*, which is now generally accepted as the cause of the disease, and the discovery of which now puts inheritance from the father alone entirely out of court, as well as the possibility of the infection of a mother by her syphilitic fetus; for it seems impossible that a highly motile organism exceeding in length the diameter of an ovum, could possibly penetrate and multiply in it without destroying it. Therefore he lays it down as an axiom that inheritance is invariably through the syphilized mother, which conclusion is supported by Colles' law. When virulent the spirochetes penetrate the chorion or placenta and occasion miscarriages, macerated

etuses or premature births; when the virus is attenuated the lacenta protects the developing fetus, and infection takes place nly through the umbilical vein on the separation of the plaenta, thus explaining the appearance of secondary symptoms n the infant from two weeks to three months after birth. n these cases the separation of the placenta is the first stage, nd corresponds to the chancre of acquired syphilis. This is qually in accordance with Colles' law, which has hitherto een explained on the theory that during gestation the mother ecomes mildly syphilized through her syphilitic child inheritng from the father. With regard to transmission, by milk e reproduces an important case, reported by him in 1881, n which a mother having borne a healthy child in December, as inoculated by her husband at the subsequent Easter with yphilis, but continued to nurse her child for three months fter infection before any treatment was begun. Yet for two ears, so long as the case was under Lucas' observation, the hild remained in perfect health. He concludes that the milk f a syphilitic woman, when received into the alimentary tract f an infant, need not convey any infection to the child. As o transmission by semen, it is certain that the spirochete can ot be carried by the spermatozoon, though it is possible, but ot proved, that it may be present in the fluid portion and beome absorbed through the uterus after the disintegration of ts mucous lining at a menstrual period. The question of ransmission to the third generation he considers doubtful, and eports a case in which both parents showed marked evidences f inherited specific disease. Their condition was so characeristic that he sent for their child, then two months old; it howed no signs of syphilis during the period that it was nder his observation, notwithstanding this double presumable nheritance.

Lucas discusses infant mortality, the relation of various rgans, as well as nervous changes, etc., to syphilis, and nsists on the importance of weighing carefully all the evience before determining that a particular affection is due to nherited syphilis. Every conceivable defect has been ascribed o it, and the term parasyphilis only adds to the confusion.

4. **Cytodiagnosis.**—Sawyer describes the method and disusses the value of determining the nature of cells from erous effusions or cerebrospinal fluid in diagnosis. His conlusions are: 1, A large number of small lymphocytes, anging in Sawyer's series from 59 to 100 per cent., n cerebrospinal, pleuritic or ascitic fluid, indicates that he exudation is due to an irritative process and not to an cute inflammatory condition—effusions of tuberculous origin, or instance. The absence of the tubercle bacillus in the film rom pleuritic effusion would not exclude the tuberculous rigin of the disease, but the absence of lymphocytosis would. he presence of an approximately equal number of small ymphocytes and polymorphonuclears in a pleuritic fluid may ause difficulty, but if the lymphocytes are numerous the conition is probably tuberculous, the number of polymorphonuellar cells probably being due to extremely acute onset or to econdary infection. High percentage of small lymphocytes n the cerebrospinal fluid of a child probably means tuberulous meningitis, but it is also found in locomotor ataxia nd any syphilitic disease of the meninges. Sawyer suggests, ithout having had an opportunity to verify it, that cerebral umors may be similarly diagnosticated, lymphocytosis sugesting a tuberculous or syphilitic tumor as distinguished rom other forms. 2. An excess of polymorphonuclear cells in ny serous fluid, ranging from 64 to 97 per cent., points to its eing of an acute inflammatory origin. These cells can only ave been derived from the blood, by diapedesis through the essel walls, so that effusions of acute inflammatory origin ontain a large percentage of polymorphonuclears. 3. A large ercentage of endothelial cells indicates that the effusion is echanical in origin. The highest count made was 98.8 per ent. By mechanical effusion is meant one occurring in erous cavities as part of general edema or in the peritoneal avity from portal obstruction. 4. Effusions due to malignant isease can readily be diagnosed by cytologic methods alone, ut when such condition is suspected the predominance of enothelial cells would greatly support that view.

8. **Contraction of Finger.**—Adams reports the case of a woman who in 1902, while sewing, pricked the thumb of her left hand. Severe inflammatory complications ensued, which finally resulted in an amputation in the forearm, necessitated by a spreading septic infection. Without further injury, in 1905, the middle finger of the right hand began to contract. After a complete failure of all external measures, combined with internal treatment for gout, rheumatism, syphilis, etc., this finger was removed at the metacarpophalangeal joint. Six months later, the ring finger began to contract, so that it could not be opened by any effort on the patient's part, and by the physican only by causing extreme pain; on being released, the finger returned at once to its vicious position like a strong spring set free. It was not abnormal in any external condition. Hesitating to amputate a second finger, Adams adopted the suggestion of stretching the median nerve. Separating it from its bed at the junction of the middle and lower third of the upper arm, he took it up with forefinger and thumb, stretched the distal portion forcibly for four or five minutes, and then the proximal portion. Under the anesthetic the finger could be readily extended. A palmar splint for three weeks, with passive exercise, and then only at night for a while, resulted in a cure, which was complete when the patient was seen twelve months later. A curious fact was that the subsequent numbness was only in the ring and little fingers, supplied by the ulnar nerve, there being no numbness in the thumb and forefinger. Adams says the etiology of the case is obscure, and he can only state its negative side. It was not Dupuytren's contraction or an osteoarthritic condition, neither was it inflammation, nor a sequel of inflammation, not gout or rheumatism, or an example of neuromimesis. The tissues and joints of the finger he amputated were all healthy. The contraction was not organic, but was a true spasm, and became more violent the more one attempted to oppose it.

British Medical Journal, London.

February 1.

9 Medical Aspects of Life Insurance. J. Barr.
10 Second Report on Clinical Experiences with Spinal Analgesia, with Second Series of 100 Cases. A. E. Barker.
11 *Inherited Syphilis. R. C. Lucas.
12 *The Medical Inspector of Schools as a Psychiatrist. T. S. Clouston.
13 *Critical Solution Point of Urine: A New Physicochemical Method of Examination. W. R. G. Atkins.

11. See Abstract No. 1.

12. **The Medical Inspector of Schools.**—Clouston thinks that while all other hygienic necessities in regard to school children seem to be engaging attention, there is some danger that the brain, the dominating organ of all, may be neglected. The investigation of the mental condition is of the utmost importance, and while the data are not so exact and easily applicable as those of chemistry and bacteriology, there are relevant facts and data which can be used for the public benefit. The study of environment is important, and the medical officer of health should take into consideration the social customs of the community as affecting the mental condition of the children. In the case of the tramp, for instance, his clothes, dirt, and power of carrying infection are at present the principal objects of investigation, but his mental condition is the real danger to society. The well-known bodily stigmata of degeneration indicate mental potentialities and risks, in many cases, rather than mental actualities. It must not be forgotten that heredity, even of the worst kind, is, at some period of life of the child, chiefly a potentiality. The highest psychologic faculty is that of inhibition or control. The studies and efforts of parents, teachers, school inspectors and psychologists will be needed to teach precisely the laws through which inhibition is developed in the young brain and the principles that should guide us in educating that great faculty on right lines. The medical school inspector of the future will need the help of most of the specialties of medicine, but more especially of psychiatry.

13. **Critical Solution Point of Urine.**—Atkins outlines the critical solution point theory, and describes a new physicochemical method of examination. His conclusions are as follows: The examination of urine by the critical solution point method gives a reliable measure of the functional activity of

the kidney producing it, and may be employed in all cases in which cryoscopy can be used. The difficulty of obtaining a clear solution with blood or blood serum has so far prevented the application of this method to their examination. The rise in critical solution point should not be less than 8° C. for the urine from a healthy kidney; ordinarily the rise is from 11° to 16° C. Each determination can be made in ten minutes, without weighing and without any special or costly apparatus. Only a small quantity of urine is required, not more than 5 c.cm. for each determination; when specimens have to be collected by catheterization of the ureters this is a saving of time and occasions less inconvenience.

Medical Press and Circular, London.

January 29.

14 *Modern Theories of Diet in Their Relation to Practice. R. Hutchison.
15 Hemorrhage into Pons Varolii as the Immediate Cause of Death in Eclampsia of Pregnancy. N. Carver and J. S. Fairbairn.
16 Treatment of Lateral Sclerosis. W. Murrell.
17 Deductions from One Hundred Consecutive Operations for Appendicitis. J. W. Dowden.
18 The Woman of the Future from the Gynecologist's Point of View. E. O. Croft.

14. **Diet.**—Hutchison discusses at length modern theories of diet in relation to practice. Among his own personal conclusions are, that climate has less influence than is commonly supposed; that the variations in metabolic activity of cells in different people may be due to variations in the activity of the thyroid; that the physiologists' views, based on a mere calculation of how much nitrogenous material people in a state of balance consume in twenty-four hours, are unsound, whereas the real indication that a person is eating too much is continued increase in weight; that a too low body weight renders people liable to certain diseases, especially tuberculosis, and that the risk of taking too little protein may be greater than that of overworking the excretory organs with too much; that the claims of contradictory systems to cure the same conditions are probably due to the fact that it does not matter whether one eliminates the "protein sparers" or cuts out the protein, leaving little for combustion, the result being the same in the end; and that the best method is "an intelligent omnivorism, eating everything which comes handy, but not too much of it." People who can not do that are not normal but pathologic.

Practitioner, London.

February.

19 Causes and Operative Treatment of Umbilical and Ventral Hernia. A. E. Barker.
20 *Mode of Production of Presystolic Murmur in Mitral Stenosis. E. H. Colbeck.
21 Infantile Paralysis. G. Rankin.
22 Radical Treatment of Cancer of the Prostate. J. W. T. Walker.
23 *Metastatic Affection of Pancreas in Mumps. W. Edgecombe.
24 Ophthalmia Neonatorum (to be continued). S. Mayou.
25 Contracted White Kidney. W. M. Robson.
26 Review of Tropical Diseases. R. T. Hewlett.
27 Review of Diseases of the Blood and Blood-forming Organs. H. B. Shaw.
28 *Treatment of Chilblains. F. Gardiner.
29 Statistical Inquiry into Cases of Cancer Occurring at Twickenham from 1882 to 1902. J. R. Leeson.
30 Chorea and a Convenient and Trustworthy Method of Administering Arsenic Therein. J. G. Sharp.

20. **The Presystolic Murmur.**—Colbeck thinks the presystolic mitral bruit due to vibrations excited in the large anterior flap of the valve by the impact of the blood stream during the auricular systole. The valve is suspended obliquely in front and to the right of the smaller posterior flap, and is attached at its base to the fibrocartilaginous ring, being thus more or less fixed and permanent. Normally, the course of the blood stream from auricle to the ventricle is directly in the perpendicular axis of the ventricle, so that should anything interfere with the falling back of the anterior flap of the mitral valve this segment would lie directly in the path of the blood stream. Interference with the diastolic expansion of the left posterior portion of the auriculoventricular orifice, or the falling back of the posterior flap, would have the same result of throwing the blood stream on to the anterior flap. Again, the essential feature of the bruit is its rough, vibratory crescendo quality, whereas other murmurs lack the vibratory quality of the presystolic and have a diminuendo quality. The properties of the presystolic bruit suggest the vibration of a thin membrane. The increase in intensity is due to the increase in force and intensity of the impinging blood stream from auricle to ventricle. The changeability is explained by the variation in tension of the anterior flap or in the force and rapidity of the blood stream. The disappearance of the murmur is perhaps sometimes due to total destruction of the flap, at others to failure of the *vis a tergo* consequent on the establishment of tricuspid incompetence. The restricted area of the murmur is explained by the attachment of the base of the flap to the fibrous portion of the ventricular septum, along which structure it would naturally be conveyed, and which comes nearest to the surface, just internal to and above the apex beat. This also explains the presystolic thrill. The occasional presystolic murmur of aortic incompetence is due to affection of the posterior coronary segment of the aortic valve, which would direct the regurgitant stream on to the flap of the mitral. The rare occurrence of a tricuspid presystolic bruit is accounted for by the difference in the arrangement of the valvular flaps.

23. **Parotiditis and Pancreatin.**—Edgecombe says that it has long been known that the pancreas may be involved in the general infection of mumps. He has recently observed an epidemic of mumps in a boys' school (33 cases). Five patients presented symptoms pointing to a metastatic affection of the pancreas. These cases he reports. The features common to all were: Rapid subsidence of the parotid swelling, vomiting, pain and tenderness in the epigastrium, and constipation. Fever occurred in all but one. In two there was a distinct swelling of the pancreas. In all but one acetone and diacetic acid were found in the urine; glycosuria was not observed. In the last case urine taken on the ninth day from the onset of the mumps was reported as showing a well-marked pancreatic reaction, and also a well-marked deposit of calcium oxalate crystals.

28. **Chilblains.**—Gardiner thinks that no case need go beyond the erythematous stage. The two chief etiologic points are that the lesions occur at the extremities of the circulation and that they are started by cold, and more especially by rapid transition from heat to cold. Mild cases of Raynaud's disease must be looked out for. Chills should be avoided; tepid water should be used to wash in; there should be no sitting over the fire, and particularly no going directly therefrom into a cold outside atmosphere. Foot and hand wear must be carefully chosen. Massage is helpful, especially as a prophylactic. Calcium chlorid in 15 grain doses daily, or tincture of strophanthus with liquor trinitri may be given internally. Locally two drugs stand out pre-eminent, ichthyol and formalin; the former, 19 to 20 per cent. in lanolin, the latter as an ointment, in 10 to 50 per cent. strength. There will be much smarting in the presence of abrasion. Simple lanolin or petrolatum should be substituted after a few days for a short time. Treatment may be started with ichthyol and finished with lanolin. Iodin, tincture or as 2 per cent. iodin in collodion, silver nitrate solution, or camphorated spirit may be used. Galvanism, faradism and *x*-rays have all been used with benefit, the last in ten-minute doses with a hard tube and 0.5 milliamperes in the secondary circuit; when continued thrice weekly, stopping short of reaction, it causes eventual disappearance. In the ulcerating stage Gardiner recommends: Ammoniated mercury, grains v (0.32); ichthyol, min. x (0.16); starch powder, powdered zinc oxid, of each 2 drams (8.); petrolatum, ℥ss (15.). If all local means, coupled with general treatment, fail, lupus erythematosus should be suspected.

Journal of Tropical Medicine and Hygiene, London.

January 15.

31 Diseases Found in the Gilbert and Ellice Islands. A. Robertson.
32 Inexpensive Warm Stage for Microscope. O. T. Logan.

Clinical Journal, London.

January 29.

33 Aspiration of Portion of Tooth into a Bronchus. W. Murrell.
34 Surgical Diseases of Children. A. H. Tubby.
35 Intestinal Perforation of Typhoid. L. McGavin.

Bulletin de l'Académie de Médecine, Paris.

January 14, LXXII, No. 2, pp. 33-80.

36 *Idiopathic Hereditary Tremor. R. Le Clerc and Raymond.
37 Work of Native Physicians in Madagascar, 1906. (Assistance médicale indigène.) Kermorgant.
38 *Importance of Ocular Reaction to Tuberculin in the General Campaign Against Tuberculosis. (Ophthalmo-diagnostic de la tuberculose et son rôle daus la défense sociale anti-tuberculeuse.) A. Calmette. Id. Delorme, in No. 3.

January 21, No. 3, pp. 81-108.

39 *Present Status of Cholera. (Positions actuelles du choléra.) A. Chantemesse and F. Borel.
40 Medicolegal Expert Service in France. (L'expertise médicale criminelle.) Thoinot and Lacassagne.

36. **Idiopathic Hereditary Tremor.**—Le Clerc has encountered ree cases and has collected seventy-six authentic ones from e literature, discarding fourteen on record as belonging to her categories of tremor. He has been studying the tremor ith the aid of Ughetti's "tromograph" and finds that the emor shows a constant rate of nine or ten movements to the cond. Treatment should aim to avoid causes liable to ex- ggerate the motor disturbance, especially stimulants. Psychic eatment has given good results in his hands.

38. **Sociologic Importance of the Ocular Diagnosis of Tuber- losis.**—Calmette calls attention to the great advantages of ing able to differentiate tuberculosis in its incipiency, as is ow possible, he says, "with the entirely reliable and harmless action to ocular instillation of tuberculin." It shows that ewly born infants of tuberculous mothers are not infected, as rule. None of the infants of 12 tuberculous mothers recently elivered gave a positive reaction, showing that the infants re not infected when born. By applying the test in tubercu- us families it may be possible to detect the onset of tubercu- sis in its readily curable stage, before other clinical signs ecome manifest. Negative findings show the freedom from berculosis of children from tuberculous families whom it is esired to board out in country homes free from tuberculous fection. Children giving a positive reaction can be placed at ace in a suitable sanatorium. The test will also confirm the re of patients under treatment for surgical tuberculosis. almette's experience suggests that after such a cure the indi- iduals are henceforth protected against the ordinary forms of e disease. The ocular test will also serve to weed out from e teaching force persons already infected, turning them aside some occupation less dangerous for others. It will also eveal incipient tuberculosis in recruits, and in various ways hospitals, schools, families, etc., the ocular test is destined, e thinks, to prove an important aid in detecting and thus llowing early treatment and other measures which otherwise ould not be applied until the disease had reached a much more lvanced stage. More than 10,000 applications of the test date have demonstrated its harmlessness and the certainty at a positive reaction means an active tuberculous process mewhere in the organism. All tuberculous persons do not ive a positive reaction, but when it occurs it can be relied on. positive reaction has been observed in certain typhoid pa- ents, and if this finding is confirmed it suggests, he adds, that ere may be some connection between the presence of a few bercle bacilli in the mesenteric glands and the typhoid infec- on of these glands and thence of the entire organism by the yphoid bacillus, which is a normal inhabitant of the intestine a number of healthy persons. This suggests further that e typhoid bacillus may be virulent only for individuals al- eady bearing tuberculous lesions in their lymphatic system. e urges research to determine this question, especially inocu- tion of guinea-pigs with scraps from glands taken from cad- vers of typhoid patients who gave a positive response to the cular instillation of tuberculin during life. In the discussion at followed at the next session Delorme protested most ener- etically against applying the tuberculin test in any form to ecruits. In case of incipient tuberculosis, the open-air life of e military service is the best means of cure, while a positive iagnosis would alarm the recruits unnecessarily. The or- inary tuberculin test has been dropped in Germany and rance for these reasons. In conclusion he cited 39 cases of xcessive conjunctival reaction.

39. **Present Status of Cholera.**—Chantemesse and Borel give diagrams which show the remarkable coincidence of epidemics of cholera at Mecca with the pilgrimages in midwinter and midsummer. The Mohammedans reckon time by the lunar month and thus the date for the pilgrimage is eleven days earlier each year. The forty days' caravan trip and the sanitary surveillance at the embarking points have hitherto kept the epidemics from spreading from Mecca to any extent, but the completion of the new railroad from Asia Minor by way of Damascus to Mecca is bound to revolutionize conditions in regard to the spread of cholera. The railroad is completed now two-thirds of the way from Damascus to Mecca, and will probably be finished before the close of the year. It will have branches down to the coast towns, so that the opportunities for the spread of epidemic disease will be multiplied immensely. Chantemesse remarks that if Mohammed had selected the Julian instead of the Jewish calendar he would have saved the country from cholera and spared his people incalculable misfortunes, as when the pilgrimages occur in spring or fall no epidemics have been observed in the past. Official advices state that between December 13 and January 10 2,260 cases of cholera, with 1,690 deaths, occurred in the Hedjaz—a strip of land along the east coast of the Red Sea where Mecca is situated. All this territory belongs to Turkey. They remark in conclusion that next summer cholera will probably prevail in Syria, in the Black Sea region and in Russia, at least, and that the stream of emigrants passing across Europe on the way to America is liable to scatter infection broadcast unless vigilance is redoubled.

Presse Médicale, Paris.

January 25, XVI, No. 8, pp. 57-64.

41 Protection of Infancy. (Puériculture à Lille.) V. Bué.
42 *Hard Paraffin for Correction of Nasal Defects. R. Leroux.
43 Combined Tongue Depressor and Lamp. (Abaisse-langue éclairant.) P. Desfosses.

January 29, No. 9, pp. 65-72.

44 *Paratyphoid Bacilli and Paratyphoid Affections. J. Courmont and C. Lesieur. Id. G. Fischer.
45 *Alcoholism and Insanity. Legrain.

42. **Paraffin Prothesis for the Nose.**—Leroux has been much pleased with the immediate and remote results of injection of a very hard paraffin, not melting below 172 F., to correct defects in the frame of the nose. He heats the paraffin until it softens and then takes it up in a sinusitis trocar and pushes it with the guide into the desired place. The main point is to prepare a cavity of exactly the proper shape and size for the reception of the paraffin; this is done with a fine bistoury and spatula.

44. **Paratyphoid Bacilli and Paratyphoid Infections.**—The articles by Lesieur and Fischer comment on the unscientific term "paratyphoid," which, they state, should be banished from the literature with all similar "para" or "pseudo" appellations for diseases or affections. The trouble is really a "paradiagnosis" or "pseudodiagnosis" when such vague and conflicting terms are applied. In paratyphoid, they say, there is nothing to suggest typhoid fever, either bacteriologically or clinically. The diagnosis should be based on examination of the blood, as the agglutination test is frequently misleading.

45. **Alcoholism and Insanity.**—Legrain compares conditions in Italy and France, the statistics in Italy showing that during the period from 1903 to 1905 in 10 per cent. of the 38,764 insane patients admitted to 43 out of the total 49 insane asylums in the country alcoholism was directly responsible for the insanity. In 36 per cent. alcohol was a known cooperating factor, and its share in a still larger proportion was probable. The mortality in the alcoholic cases was about 10 per cent. The statistics in France are not collected with sufficient uniformity for direct comparison, but the general proportion of insane from alcoholism is cited at 13.6 per cent.

Semaine Médicale, Paris.

January 29, XXVIII, No. 5, pp. 49-60.

46 *Jaundice with Destruction of Red Corpuscles. (Les ictères hémolytiques.) A. Chauffard.
47 Differential Diagnosis of Spring Conjunctivitis.

46. **Hemolytic Jaundice.**—Chauffard presents evidence to demonstrate the peculiar fragility of the red blood corpuscles

in certain cases of jaundice and the necessity for differentiating this condition in order to avoid operating in such cases. The serum and blood plasma are apparently normal, but the bone marrow produces red corpuscles which succumb to some unknown factor. No measure is known which will affect this causal factor. He shows that the "white" and the "yellow" forms of pernicious anemia should be differentiated, as arsenic and bone marrow are liable to give good results, transiently at least, in the "white" form. He has found that it is possible to differentiate hemolytic jaundice by the small size of the red corpuscles and their granulated appearance when blood specimens are dried and stained with the Pappenheim technic without fixing. When the jaundice is due to retention of bile, the red corpuscles are normally resistant and of normal size and free from the granulations noticeable in the hemolytic form. He gives illustrations of the blood picture and sustains his assertions by the results of experimental research and clinical experience, giving an illustrated description of a typical example of hemolytic jaundice.

Archiv für klinische Chirurgie, Berlin.

LXXXV, No. 1, pp. 1-342. Last indexed, Feb. 1, p. 408.

48 *Experiences with Fifty-eight Cases of Suppuration or Gangrene of the Lungs; Forty-five Operations. W. Körte.
49 Primary Otogenic Thrombosis in Jugular Bulb. F. Grossmann.
50 Heteroplastic Formation of Bone in the Kidneys. (Heteroplastische Knochenbildung in Nieren.) E. Liek.
51 *Boilable Catgut, Using Anterior Chamber of Eye for Inoculation Tests. C. F. Heerfordt.
52 Fate of Defectively Healed Fractured Bones, Especially in Children. (Spätere Schicksale difform geheilter Knochenbrüche.) Fritz König.
53 Cysts and Fistulas of the Thyroglossal Duct. S. Erdheim.
54 Lessons Learned from Thirty-one Operations on the Stomach. Improved Technic for Gastroenterostomy. E. Bircher.
55 *Lateral Abdominal Hernia. Pseudohernias. (Seitliche Bauchhernien.) R. von Baracz.
56 *Serologic Research on Cancer, Especially from Surgical Standpoint. G. Kelling.
57 Etiology of Noma. A. D. Pawlowsky.
58 *Ascarides Affections in Surgery. H. Miyake.

48. **Operative Treatment of Suppurative and Gangrenous Processes in the Lungs.**—Körte's experience with 58 cases of this kind has convinced him that acute suppuration in the lungs, without putrid decay or formation of sequesters, should be treated for a few weeks with internal measures. If the process then shows no signs of subsidence, and if fever persists, pneumotomy should be done without delay. The prospects are especially good in this class of cases. Acute gangrene in the lung should be treated as soon as possible by extensive opening up of the process and splitting the lung. He does not advocate operating on a bronchiectatic cavity unless it is restricted to a single lobe of the lung. In this case extremely radical measures are required: extensive resection of the thorax, extensive slitting and, if the process does not promptly heal, isolated flaps of lung tissue should be resected. The general condition and whether the focus is single or multiple are the main factors in the ultimate outcome. Twenty of the 28 patients operated on for gangrene and abscess in the lung are still in good health, including 10 who were operated on more than four years ago. In three instances sudden death occurred during the operation, evidently, he thinks, due to reflex action from some branch of the vagus. The fatalities with bronchiectasia demonstrate anew the rarity of cases in which conditions are favorable to operation. Only five such patients recovered out of 17 operated on. He did not use the air cabinet for under or overpressure in any case, and is inclined to doubt whether the overpressure might not predispose to aspiration of pus into the sound parts of the lung or into the sound lung during an operation. Pneumothorax can be avoided by drawing the lung forward with forceps after a small incision has been made in the pleura. He found adhesions in all but 11 of his 42 pneumotomies. His mortality was 28.5 per cent. of 29 cases of gangrene and abscess, and 73.3 per cent. of 17 cases of bronchiectatic cavities. All but 13 of the total 58 were men or boys; the majority were between 20 and 50 years old. Four children between 4 and 19 were cured, although their lesions were extensive. The oldest patient who recovered was 65.

51. **Catgut that Can Be Boiled.**—Heerfordt thinks that nothing can compare with the anterior chamber of the eye for testing catgut. He draws the catgut through the anterior chamber of the eye of a rabbit, cutting off both ends as they project through the cornea. The results of these experiments showed that none of the methods of sterilizing catgut in vogue are thoroughly reliable, and that there is urgent need for some official establishment where catgut can be prepared under the strictest scientific guarantee as to its sterility. While waiting for this he has found the most reliable method of sterilization to be impregnation with formaldehyd, leaving the catgut for from twelve to sixteen hours in a 4 per cent. solution of formaldehyd. The formaldehyd is then removed by rinsing in 5 per cent. ammonia water. Catgut thus prepared can be boiled without injury for ten or twenty minutes just before using, and this treatment does not affect its absorption in the tissues. The catgut must be stretched during the boiling and it is rolled on a special suture holder for this purpose and is threaded into the needle beforehand. He believes that this "boilable catgut" (Kochcatgut) is a great improvement in the line of a reliable suture material that can be used safely even in the eye.

55. **Lateral Abdominal Hernia.**—von Baracz reports a case of abdominal hernia into the right side evidently the result of paralysis of the muscles from an acute anterior poliomyelitis. In an earlier, similar case there had also been paralysis of the left leg and paresis of the right. He also gives the summaries of eight similar cases from the literature in which abdominal hernia into the right or left side had followed infantile spinal paralysis. The hernia may be the result of a congenital defect, but as a rule it is due to partial paralysis of the lateral abdominal muscles resulting from acute anterior poliomyelitis. It is not a true hernia, and electric tests will reveal the condition of the muscles. Operative treatment has little chance of success, as it is impossible to cover the defect adequately, the neighboring muscles generally sharing in the paralysis. Only in case of a small, circumscribed congenital defect it might be possible to remedy the condition with a muscle plastic operation. Under other conditions intervention must be restricted to supplying suitable trusses or girdles, with appropriate treatment of the concomitant paralysis of the leg.

56. **Serologic Research on Carcinoma, Especially from the Surgical Standpoint.**—Kelling has been studying for more than three years the possibility of diagnosing carcinoma from the patient's serum both with the precipitin test and the hemolytic test, and here states that he has succeeded in determining the presence of cancer even in the absence of conclusive signs of its presence. He asserts that these biochemical reactions unfailingly reveal malignant tumor formation, and that they can thus call for surgical relief in the very earliest stages of cancer. They will also reveal recurrence in its earliest inception. He adds that Bier's method of injection of foreign blood as a means of treating malignant tumors should be specialized, that is, the blood from an animal of the same species as that to which the patient's blood shows the specific reaction should be used for the injection. It is particularly applicable for recurrence after operative treatment. He has applied the tests in 600 cases, the hemolytic in 400 and the precipitin in 200. More than a third of the 600 patients had cancer. In 28 cases the diagnosis of cancer was made solely on the positive response to the tests, and the operation confirmed the diagnosis. He has not much hope of successful serum treatment of primary malignant tumors which generally develop on chronically inflamed tissues. The cancer cells nestle between thick sheets of connective tissue and it is hard to see how the serum can reach and act on these nests of malignant cells. The outlook is different, however, with recurring malignant disease after radical operations. Serum treatment has every prospect of success in this case. He describes the technic of both tests and his findings with each. The Journal has duly chronicled Kelling's announcements in regard to the origin of cancer from embryonal cells from some other species. He makes the serum for his tests on this assumption, using beef, sheep, pig or poultry livers and extracts of chicken and pig

ubryos to prepare the six serums for the precipitin test. he chopped substance is kept in glycerin, macerated, filtered ad diluted to one part in one thousand of normal salt soluon. One of these six serums becomes cloudy on addition of alf the amount of the patient's serum in case of cancer, but ever otherwise.

58. **Ascarides Affections.**—Miyake reports from Japan a case f fatal ileus from accumulation of ascarides in a loop of ie small intestine in a boy of 8; 83 ascarides were clumped ad obstructed the lumen completely. In another case, an scaris 9 inches long in the gall bladder simulated a gallstone ffection in a young man. In another young man numerus ascarides colonized in the abdominal wall, causing an bscess from which 30 ascarides were discharged in the pus, nd others came later. In this case the worms had evidently erforated through a tuberculous abscess, and he adds that ie stools should be examined carefully for worms in every ıse of tuberculous peritonitis, and if such are found, a course f medication to expel them is urgently indicated.

Centralblatt für die Grenzgeb. der Med. u. Chir., Jena.

January 22, XI, No. 1, pp. 1-48.

59 *Inflammation of the Omentum. (Epiploitis.) O. Lederer. Collective Review of the Literature Since 1900.

59. **Inflammation of the Omentum.**—Lederer comments on ie more conservative tendency evident in the writings on this ıbject during the last few years. Formerly, pseudotumors in ıe omentum were operated on without fail, but the discovery ıat even extensive inflammation in the omentum is liable to ubside if the patient is put at rest and compresses applied ıstifies more conservative treatment. Diagnosis of inflammaion of the omentum alone is no longer treated surgically, unss the pseudotumors compress the intestine or suppuration ıuses fever. The fatal cases noted were all of postoperative ıflammation, death occurring during or soon after the second peration that became necessary.

Deutsche medizinische Wochenschrift, Berlin.

January 23, XXXIV, No. 4, pp. 137-176.

60 *Hemisystole. (Hemisystolie.) E. von Leyden.
61 Bacteriolytic Property of Lecithin. R. Bassenge.
62 *Experiences with Antimeningococcus Serum. E. Levy.
63 *Technic and Actual Value of Tendon Transplantation in Treatment of Spinal Paralysis in Children. (Sehnenüberpflanzung bei spinalen Kinderlähmung.) Vulpius.
64 *Intraperitoneal Rupture of Bladder. (Ruptur der Harnblase.) O. Nordmann.
65 *Placenta Prævia. R. Freund.

60. **Nonsynchronous Contraction of the Two Ventricles.**—von eyden adds a fourth to the number of cases of "hemisystoly" hich he has published, and discusses the mechanism of the nomaly. He explains them by the myogenic theory, although e thinks that there are probably functioning nerve fibers in he left ventricle. The foundation for the hemisystoly is an xceptionally pronounced insufficiency of the mitral valve and nlargement of the orifice. As the ventricle fills and the heart ontracts, the resistance on the side toward the aorta is greater han that toward the auricle and the blood is forced back into he auricle under full pressure. It is even driven back into he pulmonary vein, reversing the current of the blood flowing aturally into the left auricle. The pulse in the arterial system is thus very small, but during the diastolic pause the lood returns into the left heart. The right ventricle contracts nd expels the blood, but it does not reach the left ventricle, nd the latter does not contract, as it has no blood in it. Not ntil the second contraction of the heart does the blood pass ıto the arterial system. The left auricle in these cases is lways much enlarged, while the left ventricle is scarcely enırged at all.

62. **Antimeningococcus Serum Treatment of Epidemic Cererospinal Meningitis.**—Levy reports a mortality of over 78 per ent. in 14 cases not treated with the serum, while the mortalty was only 21.74 per cent. in 25 serum-treated cases, and nly 11.76 per cent. in 17 cases in which the serum was inected by lumbar puncture. He is convinced that the latter echnic has a promising future. The disease became so modied immediately after the injection that it seemed like another type, and the complications were mild, if any appeared. No by-effects were observed from the lumbar technic, even when unusually large doses were administered. He injected 20 c.c. in children and from 30 to 40 c.c. in adults, using the serum produced at the Institute for Infectious Diseases at Berlin.

63. **Tendon Transplantation for Infantile Spinal Paralysis.**—Vulpius reports 50 per cent. extremely satisfactory and 30 per cent. satisfactory results in his numerous cases of tendon transplantation for spinal paralysis in children, although he says that it is impossible to give classified statistics, as each case is a law unto itself. Failures are due to too early operating—the first year after the onset of the paralysis is too soon—or there may have been some blunder in the technic or after-treatment, or the plan of operation may have been unwisely selected. On the other hand, durable results have been obtained both on the arms and legs in long series of cases with partial or total transplantation, using functionally allied substituting muscles or antagonists. Very extensive paralysis should not be treated in this way, but requires arthrodesis.

64. **Intraperitoneal Rupture of the Bladder.**—Nordmann calls attention to the reflex stiffening of the abdominal wall as the most important symptom of intraperitoneal rupture of the bladder, in connection with desires to urinate which do not bring any urine. After the laparotomy, if the bladder suture holds and there is no suppurative peritonitis and the intestines are not much distended, the abdominal cavity can be sutured after cautious rinsing with salt solution. The bladder wound should never be tamponed. On suspicion of rupture of the bladder the patient should be placed in the hands of a surgeon who alone should catheterize the patient to confirm the diagnosis, very cautiously and only once. After operating, a retention catheter should be left for a week and the bladder should be rinsed out once or twice a day, and internal medication used to avert cystitis. He reports a case personally observed and reviews the literature on the subject.

65. **Placenta Prævia.**—Freund thinks that the division of the uterus into three segments is necessary for comprehension of the physiologic and pathologic features of childbirth, especially of placenta prævia, as he describes in detail with diagrams. In treatment of placenta prævia he preaches the necessity for absolute bed rest, in case of moderate bleeding, with strict clinical supervision. The vagina should never be tamponed except as a last resort, and only when the patient is to be transported to the maternity. In case of profuse hemorrhage, with the cervix still undilated, he advises firm tamponing of the entire vagina with sterile moist gauze for a few hours. In case of profuse hemorrhage with the cervix passable, he refrains from tamponing, but ruptures the amniotic sac and waits; if the sac is out of reach, the child viable and the mother in good condition, he introduces the inflated rubber bag and then awaits spontaneous delivery or does version according to indications. The metreurynter should not be left longer than four hours, and in case it fails to relieve or the child is non-viable or the mother in a threatening condition, he does version and then waits. In case of hemorrhage persisting after the legs are drawn down, he pulls with moderate, continuous traction, stopping with each labor pain and as the breech forces its way through. Extraction should be done only with the os completely dilated. In case the os still seems too narrow, it may be cautiously stretched, allowing access of air to the child. Cesarean section should not be done outside of a hospital, and there mainly as a prophylactic operation.

Deutsche Zeitschrift für Chirurgie, Leipzig.

December 1907, XCI, Nos. 3-4, pp. 197-432.

66 Clinical Study of Malignant Tumors of the Thyroid. (Bösartige Geschwülste der Schilddrüse.) T. Kocher.
67 Origin of Intestinal Actinomycosis. E. Schümann.
68 Subcutaneous Laceration of Tendons in the Fingers. (Sehnenzerreissungen.) C. Schlatter.
69 Intratracheal Goiter. (Intratracheale Strumen.) H. Meerwein.
70 Radical Operation for Umbilical Hernia. (Nabelbrüche.) P. Esau.
71 Mesenteric Cysts. S. Kostlivy.
72 *Histologic Study of Bone Transplantation in Man. (Knochentransplantation.) Axhausen.
73 Case of Volar Luxation of Ulna. M. Haedke.

72. **Fate of Transplanted Bone.**—Axhausen had opportunity to examine the amputated leg of a young man fifty-one days after an extensive defect in the metatarsus had been filled with a piece of bone taken from the anterior aspect of the tibia. The graft had healed rapidly in place and histologic study of the tissues later showed that there can be no doubt that fresh bone tissue implanted in a defect dies throughout, but the periosteum remains alive and capable of reproducing bone tissue; and it is probable that the bone marrow retains its vitality. The implanted dead piece of bone gradually is supplanted by new formed bone tissue. The new bone is formed from the implanted periosteum and possibly also from the bone marrow and from the adjacent tissues if they are capable of producing bone. When macerated bone is implanted, only the last mentioned factor can carry on the process of new bone growth, and this only when the tissues are capable of bone production as in case of trephining and resection in solid walls—but not when implanted in place of large defects in the long bones. Under these circumstances fresh bone still covered with its periosteum is much to be preferred. He suggests that bones taken from children's cadavers might answer the purpose admirably. Tomita comes to practically the same conclusions as the result of extensive experiments on young rabbits and dogs (see No. 95 below). He found, however, that the implanted bone retained some vitality as late as the ninety-fifth day, and that it was not entirely destroyed until about 110 or 130 days after the implantation. This long retained vitality aids in the healing-in process, the piece soon growing into connection with the environing tissue. The bone cells do not possess the property of forming new bone—this is exclusively the prerogative of the periosteum and bone marrow, which should, therefore, be carefully preserved when implanting bone.

Medizinische Klinik, Berlin.

January 12, IV, No. 2, pp. 39-76.

74 *Meningitis or Meningism. N. Ortner.
75 Cracking Sounds in the Scapula. (Skapularkrachen.) Lotheissen.
76 *Hot Gelatin Enemas in Intestinal Hemorrhage. (Heisse Gelatinklystiere bei Darmblutungen.) E. Michaelis.
77 *Treatment of Exophthalmic Goiter by A. von Strümpell, Eulenburg, and Eichhorst. (Morbus Basedowii.)
78 Study of the Cutaneous Reaction to Tuberculin. (Impfpapel bei der Tuberkulosediagnose nach v. Pirquet.) F. Daels.

January 19, No. 3, pp. 77-110.

79 *Diagnosis by Palpation, Gymnastic Exercises, Massage, Etc. (Mechanodiagnostik.) A. Bum.
80 *Polycythemia. R. Stern. Commenced in No. 2.
81 Cutaneous and Ocular Reactions to Tuberculin in Adults. (Kutan- und Ophthalmoreaktion.) H. Curschmann.
82 Conservative Treatment of Inflammatory Affections of Adnexa and Pelvic Connective Tissue. (Was leistet die konservative Behandlung?) A. Hörrmann.
83 Catalysis in Relation to Medicine. H. Schade. Commenced in No. 2.

74. **Differentiation of Meningitis.**—Ortner reviews the various affections liable to induce symptoms on the part of the meninges and enumerates the differentiating points. Examination of the blood, cerebrospinal fluid or of a scrap of muscle will differentiate malaria, anthrax, trichinosis or other infections; the main point is to think of the possibility when confronted with a syndrome suggesting meningitis. Early paralysis will sometimes differentiate acute encephalitis. Thrombosis of the transverse sinus may be differentiated by the edema over the mastoid process, the only partial filling of the external jugular vein on the affected side, the twisting of the head toward that side, and the tenderness to pressure of the inner margin of the sternocleidomastoid muscle. This tenderness is due to descending phlebitis of the internal jugular vein and is thus a companion to the external jugular vein sign. Sarcomatosis, carcinosis and cerebral echinococcus cysts may induce meningeal symptoms, but the absence of fever and the findings in the spinal fluid readily differentiate them. In one case, a hard drinker with a subfebrile tuberculous process in one lung and cirrhosis of the liver with enlargement of the spleen suddenly presented symptoms of supposed incipient tuberculous meningitis with increasing delirium. On suspicion of possible delirium tremens large doses of chloral were given, soon followed by subsidence of all the meningitic symptoms. In another case the cerebrospinal fluid was clear, but the other symptoms indicated meningitis, possibly of typhoid origin. as the abdomen was soft and there was some meteorism, with diarrheic stools. As the agglutination test gave constantly negative results and the respiration and pulse became rapid with increasing cyanosis, the diagnosis was corrected to miliary tuberculosis with tuberculous meningitis, but autopsy confirmed the first assumption of typhoid meningitis. Ortner has encountered but one instance of diarrheic stools with tuberculous meningitis. Meningeal symptoms from lead poisoning are readily differentiated, as a rule.

76. **Hot Rectal Injections of Gelatin to Arrest Intestinal Hemorrhage.**—Michaelis reports the successful arrest on two occasions of severe typhoid intestinal hemorrhage by rectal injection of a 5 per cent. solution of gelatin, one liter being injected at a temperature of 50 C. (122 F.) in four portions. The procedure was repeated the next day when the hemorrhage recurred. The fine results in this case encouraged further trials, and 11 other typhoid patients with intestinal hemorrhage were treated with rectal injections of a 5 to 20 per cent. solution of gelatin at temperatures ranging from 115 to 122 F., in amounts of 250, 300, 500 c.c. up to one liter, from two to four times a day. The hemorrhage was completely arrested by this measure in every instance. Not a trace of injury to the intestines from the injections could be detected in any case, even in those that came to autopsy. The hot gelatin cured the hemorrhage in some cases after failure of all other measures. The foot of the bed was raised and the fluid was injected very slowly and under low pressure to avoid inducing a desire for defecation. This measure also proved successful in a case of recurring intestinal hemorrhage of unknown cause in a young woman. An exploratory laparotomy failed to clear up the diagnosis, but after a week of two daily injections of the hot gelatin solution not a trace of blood could be discovered in the stools, and she rapidly regained weight and strength. A child with hemorrhagic stools for a few days was also cured in three days with injection of 1,000 c.c. of the hot gelatin, fractioned.

77. **Treatment of Exophthalmic Goiter.**—von Strümpell lays the greatest stress on the regulation of the diet. Complete mental and physical rest, fresh air rest cures and artificially carbonated baths and electricity are all valuable adjuvants. He gives iron and arsenic in anemia and emaciation, bromids in case of much nervousness, valerian or exceptionally digitalis when the heart disturbances are distressing. In many cases of the so-called "goiter heart," which can scarcely be distinguished from the latent forms of exophthalmic goiter, he has found ergot useful. He has never witnessed any objective benefit from the serum of thyroidectomized sheep, but the patients are often subjectively much benefited by it. He tells of several fatalities following operative treatment; in certain other cases no objective improvement can be detected. At the same time he knows of several cases with successful results of operative measures and he would certainly operate in severe cases after failure of all other measures. Eulenburg echoes Strümpell's remark that treatment can be only symptomatic as no specific treatment is yet known. He has given the serum of thyroidectomized sheep in 17 cases and never observed any ill effects nor any important and permanent benefit. Even at the best, the goiter was only slightly reduced in size, with transient improvement of the cardiovascular symptoms. He has noted considerable improvement in the general health after a course of treatment with nerve tonics. The resisting powers must be adequate and the local symptoms very serious, he asserts, to justify operative interference. Eichhorst regards physical and dietetic measures as the principal reliance in the treatment of exophthalmic goiter. Rest for mind and body is the main point. Remaining in bed may give good results without other measures. He orders a warm bath for fifteen minutes daily, and has obtained surprisingly excellent results from a change of air, especially a sojourn in the mountains. His experience with the serum of thyroidectomized sheep was entirely negative; it did neither harm nor good, and his experience with Roentgen treatment was the same. If no benefit is apparent after three months of internal treatment, he pro-

poses surgical intervention without making any promises on its behalf, although he knows of a number of patients who have been permanently cured by it.

79. **Diagnosis by Behavior of Muscles and Joints, Massage, Etc.**—Bum comments on the prevalent disregard of the information to be learned from gymnastic exercises and palpation. It requires a knowledge of the laws regulating the mechanism of the muscles and joints, and also skill in palpation, but aside from this no instruments or appliances are needed for this "mechano-diagnostics," as he calls the science. The tough doughy consistency of rheumatic muscles, the small intramuscular extravasation after rupture of muscle fibers, the discovery of infiltration in the muscle, the relics of circumscribed inflammation in the muscle, which may be the cause of a reflex neuralgia—all these findings may have great differentiating importance, as also the discovery during palpation of inflammatory processes in the genitalia or appendix. In case an individual claims that his arm is paralyzed after an injury to the shoulder, if the arm is passively raised to a level with the head and the individual is told to bring his arm down slowly, and does so, this is a proof of malingering; in true paralysis the arm drops when released. He cites a number of other points useful for detecting simulation, among them his observation that the thumb is always abducted when the individual pretends that he is unable to close his fist. The hand closes naturally with dorsal flexion and palmar flexion suggests malingering, as also the way in which the individual holds the neighboring joints stiff with the assumed ankylosed joint instead of showing the natural vicarious action of the neighboring joints.

80. **Polycythemia.**—Stern analyzes the autopsy findings in the ten cases of polycythemia that have been published; nothing has been found special to the symptom-complex of polycythemia with enlargement of the spleen. Polycythemia seems to be a symptom of several different morbid conditions and may last for years without appreciable disturbances. The urine frequently contains albumin and tube casts when there is considerable enlargement of the spleen, but this finding does not seem to have the same significance with polycythemia as under other conditions. The condition may persist for years without threatening signs of kidney disease, although contracted kidney was observed in some of the cases on record. Venesection has proved useful and measures for treatment of the frequently coexisting arteriosclerosis and nervousness. Some of the patients do well on a milk and vegetable diet, with only a little meat once a day.

Monatschrift für Geburtsch. und Gynäkologie, Berlin.

January XXVII, No. 1, pp. 1-186.

84 Structure of the Uterine Mucosa with Special Regard to Menstruation. (Bau der Uterusschleimhaut.) F. Hitschmann and L. Adler.
85 Case of Simultaneous Ectopic and Uterine Pregnancy. Recovery After Operation at Second Month. (Gleichzeitige Schwangerschaft innerhalb und ausserhalb der Gebärmutter.) T. Immel.
86 *Gonorrheal Ophthalmia Acquired in the Uterus. (Intrauterin erworbene Ophthalmoblennorrhoe des Neugeborenen.) E. Holzbach.
87 Fibrosarcoma Developed from Side of Ovary. H. Hellendall.
88 Papillary and Colloidal Adenocarcinoma of Female Urethra. R. Puppel.
89 Present Status of Theories in Regard to Absorption of Bacteria. (Bakterienresorption.) O. Rolth.

86. **Intrauterine Gonorrheal Infection of the Eyes.**—Holzbach reports a case in which the child of a woman with gonococci in the birth passages was born with evidently fresh ulcerations in the cornea of both eyes; gonococci could be cultivated from the conjunctival secretions. The literature contains a number of similar cases which he summarizes. Comparison of these cases shows that this congenital gonorrheal infection probably occurred from some rupture in the bag of waters allowing access to the germs. The eye seems to offer particularly favorable conditions for infection when the membranes fail to protect the fetus against the invasion of the amniotic fluid by the gonococci. The eye may show actual maceration from the effect of putrefying amniotic fluid, even with a living child. Intrauterine gonococcus infection of the eye seems to be merely a contact infection, and the danger is greater the earlier the bag of waters is ruptured and when the birth is prolonged from any cause. Under such circumstances special attention should be paid to prophylactic measures. There do not seem to be any means of preventing this uterine infection altogether.

Virchows Archiv, Berlin.

January CXCI, No. 1, pp. 1-170.

90 Intravasation of Anthracotic Pigment into the Blood Vessels of the Lungs. S. Ohkubo.
91 Fate of Fetal Atelectasia. O. Lotmar.
92 Influence of Fatal Burning on the Histologic Picture of the Thyroid. (Einfluss letaler Verbrennungen auf das histologische Bild der Schilddrüse.) F. Valentin.
93 Accumulations of Parathyroid Cells in the Thyroid. (Intrathyreoidal gelegene Zellhaufen der Parathyreoidea.) L. Michaud.
94 Stenosis of Rectum from Metastatic Carcinoma with Simultaneous Myeloma Inducing Metastasis. H. Toyosumi.
95 *Experimental Research on Transplantation of Bone. (Knochentransplantation.) C. Tomita.
96 The Question of Regeneration of a Peripheral Nerve Stump Permanently Separated from Its Center. A. Marguliés.
97 Morphologic Changes in the Spleen After Infection of Passively Immunized Animals. (Veränderungen in der Milz, etc.) A. Jarotzky.
98 Measurement of the Vessels and Arteriosclerosis. (Gefässmessungen und Arteriosklerose.) O. Schecl.
99 Senile Changes in the Ganglion Cells in the Brain. (Altersveränderungen der Ganglienzellen im Gehirn.) M. Mühlmann. Id. von Hansemann.

95. See abstract No. 72.

Hospitalstidende, Copenhagen.

November 13, L, No. 46, pp. 1217-1240.

100 Cesarean Section Postmortem with Living Child. E. Høeg.

November 20, No. 47, pp. 1241-1264.

101 Epidemic of Microsporon Alopecia in Children. (Mikrosporl-Epidemi.) H. Bang.

November 27, No. 48, pp. 1265-1300.

102 *Multiple Myeloma. C. Permin. Commenced in No. 47.

December 4, No. 49, pp. 1301-1332.

103 Case of Hysteric Lethargy. K. Malling.

December 11, No. 50, pp. 1333-1356.

104 *Otogenic Osteomyelitis of Parietal Bones of the Skull. J. Møller.
105 Retractor for Use in Extirpation of Lachrymal Sac. (Saarhage til Taaresaeksexstirpation.) Kiilerich.

December 18, No. 51, pp. 1357-1380.

106 Perineal Prostatectomy. D. Nordentoft.

January 1, LI, No. 1, pp. 1-24.

107 *Temporary Osteoplastic Resection of Chest Wall for Chronic Empyema in the Pleura or Abscess in Lung. T. Rovsing.

January 8, No. 2, pp. 25-48.

108 *Importance of Esophagoscopy and Tracheoscopy for Diagnosis and Treatment. E. Schmiegelow.
109 Annular Syphilid at the Margin of Cicatrix from Primary Sore. (Annulat Syphilid i Randen af Arret efter Indurationen.) L. Nielsen.

102. **Multiple Myeloma.**—Permin remarks that there are only about forty cases of myeloma on record, but he thinks that the condition is in reality more common than this would indicate, and reports three cases from his own experience. The first patient was a man of 60 who was in the hospital for six months on account of pains in the chest. The pains then subsided for two or three months and then recurred, very severe under the left scapula. Signs of myelitis also developed and death occurred suddenly from embolism in the pulmonary artery. The lower dorsal vertebræ were found studded with small nodules and one vertebra was entirely transformed into a tumor. In the second case several vertebræ had been destroyed and the bone tissue was substituted by a tumor mass with the same characteristics as in the first case, that is, composed of cells resembling myelocytes. The third patient was a man of 50 with pains suggesting sciatica for some time, but finally subsiding. Five years later pains and oppression in the chest were noted and increased for two years, when a tumor simulating an abscess developed near the articulation between sternum and clavicle, with tenderness in the lumbar region, destruction of several dorsal and lumbar vertebræ and substitution of the bone by cells resembling myelocytes. There were also tumors in the sternum and in two ribs. The age, the spinal symptoms, and the manifestly primary myelomas in the vertebræ were strikingly alike in the three cases, as also the total absence of any lesion or growth in the other organs. In one case there was an evident encroachment of the myeloma on the adjacent vessels, which suggests a tendency toward

malignancy. Another case is described in which multiple tumors at various points of the skeleton suggested myelomas. The urine gave a pronounced Bence-Jones reaction for albumose. Fever was occasionally noted and the macroscopic findings at autopsy also suggested myeloma. The microscope, however, differentiated the tumors as multiple sarcomas.

104. **Otogenic Osteomyelitis of Flat Bones of Skull.**—Moller reports a case and reviews fifteen others from the literature, remarking on the rarity of this affection when circumstances seem so often to favor it. In eleven cases the osteomyelitis developed in connection with acute otitis. In some cases the process was discovered early, but in others it dragged along for months or years, with intervals of latency. It is always a serious affection, but instances of recovery are known. The process may flare up again months after it is supposed to have been entirely cured, or a new focus may develop elsewhere. The defect left in the skull heals over, as a rule, especially in children, if the periosteum is preserved. Laurens has seen even very large defects heal over in time. In some cases the process was restricted to the temporal bone, but in others it extended to the occipital or involved all the flat bones of the skull to some extent. When not sure that sound tissue has been reached, in excising the focus, Schilling makes an artificial demarcation by cutting a furrow down to the dura in the assumed sound tissue all around the defect left by excision. The patient in the case reported was a girl of 5 with otitis media and mastoiditis. After the mastoid operation the temperature remained high and continued to rise until a secondary osteomyelitic focus was discovered and cleaned out, when the patient recovered and has had no recurrence during the year since. Certain symptoms had suggested meningitis, but lumbar puncture showed the fluid clear. In one case on record the process induced epileptiform attacks, in certain others it ran an almost symptomless course. The aspect of the bone is unmistakable.

107. **Temporary Osteoplastic Resection of the Chest Wall.**—Rovsing gives an illustrated description of a case of chronic empyema of the lung, which had much reduced the patient during the eight years since symptoms on the part of the lung first attracted attention. The empyema had constantly recurred notwithstanding an operation which included resection of the eighth rib. Rovsing cut a U-shaped flap extending from the spine of the scapula down to the eighth interspace. The lowest part of the flap was 12 cm. wide, forming a rounded rectangle. This allowed ample access and rendered it easy to mobilize the lung and tampon the pleural cavity with gauze medicated with silver nitrate, over which the flap was replaced but not sutured. The operation was done under ether, and afterward the patient lay on the operated side. The temperature dropped at once to normal and the secretion of pus stopped as if by magic. The tampon was gradually removed and the flap restored to place, which was easily done, thanks to the precaution of resecting about 1 cm. of each end of each rib when the flap was first cut. The patient was in perfect health four months after the operation with full earning capacity restored and only a linear scar left from the operation. The shape of the thorax was not altered in any way. Rovsing has also applied this technic of temporary resection of a large flap of soft parts in the exploration and treatment of a deep-lying abscess in the lung of a man of 43, the results being equally good in this case. He regards this technic as signifying great progress in operations on the lungs, allowing ample oversight of conditions and the best prospects for treatment and drainage. It is almost impossible for an abscess to escape discovery.

108. **Importance of Esophagoscopy and Tracheoscopy for Diagnosis and Treatment.**—Schmiegelow reviews his experience with these measures during the last year or so, citing examples of the great benefits of direct visual inspection. In one case, a young man presented symptoms suggesting obstruction at the cardia, but the esophagoscope showed a bleeding new growth which escaped observation at the first application of the esophagoscope. It proved especially useful in differentiation of cancer in the stomach or esophagus, spastic stricture, dilatation or diverticulum of the esophagus and foreign bodies. Important information was also derived in a case of stenosis of the trachea from pressure of a substernal goiter, showing the necessity for removal of the goiter which was successfully done—the disturbances had previously been ascribed to nervousness. In another case stenosis of the trachea in a child was seen to be due to perforation of a tuberculous bronchial gland into the trachea. The débris was removed through the tracheoscopy tube and respiration became normal, while microscopic examination of the scraps confirmed the diagnosis. In another case stenosis of the right bronchus was traced to a syphilitic gumma. A grain of corn was removed from the bronchus of a child with the aid of the bronchoscope, but severe cocain poisoning followed to which the little patient succumbed.

Gazzetta degli Ospedali, Milan.

January 19, XXIX, No. 8, pp. 73-88.

110 Case of Puerperal Endocarditis with Thrombophlebitis of Left Subclavian. Recovery. S. Radaeli.
111 *Splenomegaly with Cirrhosis of Liver. (Morbo di Banti.) F. Schupfer.
112 Diplococcus Lanceolatus Meningitis Following Fracture of Base of Skull. A. Balduzzi.
113 Renal Pyorrhea During Pregnancy. G. Baroni.
114 *Determination of Hemoglobin and Iron in Blood. (Ematimetria con metodo decolorante e con il ferrimetro modificato.) E. Debenedetti.

111. **Splenectomy for Splenomegaly with Cirrhosis of the Liver.**—Schupfer reports a case of Banti's disease, treated by removal of the spleen; he believes that in this condition the spleen is the organ primarily at fault. The patient was a man of 42, and three years after the operation he was in good health, the previously much enlarged liver being reduced to nearly normal size. Before the operation the large mononuclears were found in normal proportions, but three years later they formed from 27 to 37 per cent. of the total. The splenectomy in Schupfer's case evidently improved the condition of the liver and arrested the cirrhosis, but the blood showed three years later from 5,780,000 to 6,270,000 reds, with cyanosis of the hands and ears now and then, more pronounced when the patient stood or when he was exposed to cold. The heart was normal and the hyperglobulia was general and constant. In most cases the number of reds is at the lower range of normal after splenectomy; or merely transient hyperglobulia was observed. To have it occur tardily and especially in Banti's disease is unprecedented, he thinks. The blood did not show nucleated reds, myelocytes or neutrophile leucocytes, but the leucocytes, which numbered 14,000 a month after the operation, three years later numbered between 16,200 and 20,300. He tabulates the blood findings before and late after the operation in this and in six other cases that have been reported. In his case the neutrophile polynuclears ranged from 68 to 78 per cent. before and from 50 to 58.91 per cent. three years later, while the lymphocytes dropped from 17 to 8.99 per cent., and the eosinophiles increased from 2.1 per cent. to 4.28 per cent.

114. **Determination of Hemoglobin and Iron in Blood.**—Debenedetti describes a chemical test for hemoglobin and a modification of the Jolles ferrometer, both of which, he claims, furnish very accurate and simple tests of the proportion of hemoglobin and iron in the blood. He determines the proportion of hemoglobin by the amount of chlorin water required to decolorize the sample of blood. The iron test is based on the property possessed by potassium permanganate of oxidizing the iron in the blood.

Sei-i-kwai Medical Journal, Tokyo.

November, XXX, No. 11, pp. 218-230.

115 *Firearm Wounds of Nerves and Their Plastic Repair. S. Namba.

December, No. 12, pp. 231-242.

116 Typhoid Epidemic on Man-of-War Arrested by Isolation of Two Healthy Bacilli Carriers and Preventive Serum Injections for the Crew. K. Momose.

115. **Plastic Operations of Nerves.**—Namba describes two cases in which radial or popliteal neuroparalysis following firearm wounds was successfully treated by implantation of the sciatic nerve from a cock.

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Original Articles

SYMPTOMATOLOGY AND DIAGNOSIS OF ACUTE ARTICULAR RHEUMATISM.*

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Our uncertainty as to the etiology of rheumatism makes impossible an accurate definition of the disease and obliges us often to differentiate it by symptoms alone from allied and closely similar disorders, some of which we know to be caused by definite bacteria.

The disease known as acute articular rheumatism, to which I shall refer hereafter as rheumatism, has been shown to have a definite relation to seasons, a relation which differs in different parts of the world. On our North Atlantic Coast, hospital reports show that a majority of the cases occur between January and April, although Morris J. Lewis finds an exacerbation both of rheumatism and of chorea in the fall also—the favoring seasons being when the humidity is excessive and the barometric pressure low. The Roosevelt Hospital statistics for the past twelve years show 743 cases admitted in the first half-year, against 253 cases in the second half. In the British Isles, on the other hand, the fall months are apt to show the greatest number of cases. Along our Pacific Coast, where the rainy season lasts from December to May, the disease is commonest in mid-winter, but in its acute and severe form is comparatively uncommon at all times, whereas chronic rheumatic manifestations, tonsillitis, "growing pains" and chorea are always very common.

The hospital statistics of New York and Boston show an interesting and suggestive difference in frequency of the disease in these two neighboring cities. In thirteen years ending 1905, 999 cases of acute and subacute articular rheumatism were admitted to the Massachusetts General Hospital among 23,505 medical cases, or 1 in 23; whereas 1,702 cases among 27,884 admissions, or 1 in 16, were admitted to the Roosevelt and the Presbyterian Hospitals in New York in a similar period.

The relation of rheumatism to sex depends doubtless on the difference in exposure and occupation, which account for the fact that males are more frequently affected. The preponderance of males is variously estimated, as from 2 to 1 in some statistics, 3 to 2 in others. Its dependence in any way, on heredity is not proven. Like its near relative tonsillitis it does not confer an immunity and even predisposes to further attacks. The complicating or accompanying endocarditis is more merciful in this particular, for the Roosevelt Hospital statistics show that endocarditis occurred in first attacks in 139 out of 537 cases, whereas of 541 patients who entered for a second or later attack, 187 had old lesions and only 40 developed fresh endocarditis.

The onset of true rheumatism, with its frequently preceding tonsillitis, its diffuse pains settling shortly in the joints, its chilliness, weakness and fatigue on slight exertion, are familiar enough. The pulse and temperature may be normal for a day or two and then suddenly rise; more commonly they rise abruptly at the start, particularly when there is marked tonsillitis. One or more joints become red and swollen and intensely painful. At this point let us try to decide in a given case what are the diagnostic possibilities, for no disease with which we have to deal presents at times a greater difficulty in diagnosis, and this is especially true of cases which develop in hospitals under our closest observation, where a preceding illness may falsely suggest itself as the cause of the swollen joints. A septic finger in a lead worker may lead one to treat his arthritic pains more vigorously than they need. Septicemic joint involvement, following a simple throat infection, may give one a picture deceptively like that of acute articular rheumatism.

One must be on the watch for cases of rheumatism in which a pericarditis or a pleurisy marks the onset of the disease. A long period of fruitless attention to a swollen and painful joint should awaken a suspicion that a gonorrheal infection is present, whether the patient admits the possibility of such trouble or not.

In the chart of diseases with acute joint manifestations in which I have tabulated also the accompanying or complicating conditions most frequently met with, one finds that the whole septicemia group presents a chain of symptoms and complications largely identical with those of acute articular rheumatism. Even the occurrence of a true chorea has been noted in puerperal fever and pyemia (Osler) and transient erythemata are common to both the septicemia group and acute articular rheumatism. Heberden's nodes have been reported in septicemia. Acute articular rheumatism is almost unknown in infants, and the acute arithitis of infants is almost always monarticular and a complication of pyemia. Weiderhofer has not met with acute articular rheumatism in 70,000 medical cases in infants and Rauchfuss only five times in 15.000 infants. The differential diagnosis must, therefore, rest on a thorough investigation of the etiology, which alone may enable us to differentiate the case from acute articular rheumatism, and class it where its etiology puts it. Time alone establishes the correctness or incorrectness of most of our diagnoses of this disease.

Gonorrheal arthritis offers only too frequently almost insurmountable diagnostic difficulties. It may distribute itself through the joints in absolute imitation of true rheumatism, subsiding in one only to reappear in another, possibly settling itself finally in one or more joints for a long stay. But who has not seen true rheumatism do the same thing? One may even find meningeal, pleural and lung complications in gonorrheal arthritis and iritis may occur in the same form that it takes in true rheumatism. Osler states that chorea is a rare complication. True rheumatism is not infrequently excluded only by the occurrence of suppuration in the joints. It is wise, in all doubtful cases, to look carefully for urethral infection.

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* Read in the joint session of the Sections on Practice of Medicine and on Pharmacology and Therapeutics of the American Medical Association at Atlantic City, June, 1907. This paper and that of Dr. Lambert, which follows, were only recently received by The Journal, the original manuscripts having been lost at Atlantic City. Drs. Brown and Lambert kindly rewrote their articles, and they are now published. These articles were part of the symposium on rheumatism, the discussion on which was published Dec. 21, 1907.

Scarlet fever joints offer less difficulty in separation from true rheumatism on account of the antecedent infection, which is usually obvious. Like septicemic joints they occur with almost every manifestation known to true rheumatism, even including chorea. As scarlet fever is a disease of definitely infectious etiology, the arthritis which complicates it suggests a similar bacterial etiology for acute rheumatism. The other infectious diseases with joint manifestations emphasize this point.

Acute arthritis deformans (especially Still's type with its swollen and tender glands, large spleen and boggy, enlarged joints) can not be differentiated in the early stages from acute articular rheumatism. The early involvement of small joints, especially in the hands, the long course, with low fever disappearing early, and the evidence of early and definite bone changes may suggest the diagnosis, but time alone settles it in most cases. Chronic arthritis deformans needs no special mention. McCrae, in his analysis of Osler's cases, calls attention to the frequency of the disease in young adults, a frequency greater than was supposed from earlier studies. Edsall and Lavenson's studies show definitely the occurrence of tuberculosis in certain of these joints. Cases have been reported where typical chronic arthritis deformans has followed infectious diseases.[5] I have now two young women under care, the disease in one following a neglected abortion and the other following a low-grade tonsillar infection, which did not show plainly its import until the buried tonsils were removed by dissection and the presence of foul-smelling, deep-seated small abscesses was shown.

The distinction of acute rheumatism from the erythema group with acute joint symptoms is also sometimes difficult, but not so difficult as the distinction between a scarlet fever joint and one occurring in the course of a general desquamative erythema. I have reported two such cases with multiple visceral lesions (one having also purpura), in which a diagnosis for several days was very doubtful. Both patients had high fever and very definite joint symptoms. The variety of skin manifestations in this group needs no further mention than that made in the chart. The diagnosis from true rheumatism has been simplified by Osler's four articles on the subject of visceral lesions in the erythema group. A review of the subject and literature may be found in my article on desquamative erythema.[6]

Infantile scurvy (Barlow's disease) is separated from acute rheumatism in practically every case by the age alone. In adults the characteristic symptoms of scurvy, the spongy gums, loose teeth, anemia, big spleen, the tendency to hemorrhage from gums, stomach, kidneys, bowels, or from any bruise, the absence of temperature, the joint effusions, separation of the epiphyses, and in severe cases the necrosis of bone, serve to separate the disease from rheumatism.

Hemophilia is distinguished by the history of bleeding and the characteristic involvement of knees or elbows, most often without fever. This fever is always slight in proportion to the subjective signs. The condition is often chronic, and offers difficulty in diagnosis chiefly from the so-called rheumatic purpura.

Of tuberculosis and syphilis nothing further need be said, except that the joint symptoms are not usually acute.

TABLE OF COMPLICATIONS FOUND IN DISEASES WITH ACUTE JOINT MANIFESTATIONS.

DISEASES WITH ACUTE SYMPTOMS IN		SEROUS MEMBRANES AND CONTIGUOUS TISSUES.				NERVOUS SYSTEM.			EYES.		SKIN.	
	Joints.	Endo-Peri- and Myocardium.	Pleura, Lungs.	Meninges.	Peritoneum.	Delirium, Coma, Hyperpyrexia Convulsions.	Neuritis.	Chorea.	Iritis.	Conjunctivitis, etc.	Erythema, Purpura, etc.	Due Possibly to Throat Infection.
Acute articular rheumatism	+	+	+	+	+	+	+	+	+	+	+	+
Septicemia, etc.[1]	+	+	+	+	+	+	+	?	0	0	+	+
Gonorrhea	+	+	+	+	+	+	0	?	+	+	0	0
Scarlet fever	+	+	+	+	+	+	+	?	+	+	+	+
Other infectious diseases[2]	+	+	+	+	+	+	+	0	+	+	+	+
Acute arthritis deformans	+	+	0	0	0	0	+	0	0	0	+	+
Erythema group[3]	+	+	+	+	+	+	0	0	0	0	+	+
Syphilis	+	+	+	+	+	+	+	0	+	+	+	+
Tuberculosis	+	+	+	+	+	+	0	0	+	+	+	+
Osteomyelitis	+	+	+	+	+	+	+	0	0	0	+	0
Gout	+	0	0	0	0	0	+	0	+	+	+	0
Scurvy	+	0	0	0	0	+	0	0	0	0	+	0
Hemophilia	+	0	0	0	0	+	0	0	0	0	+	0
Spinal cord diseases[4]	+	0	0	0	0	0	0	0	0	0	+	0
Lead poisoning	+	0	0	0	0	+	+	0	0	0	0	0

SUMMARY.

1. Diseases with acute joint symptoms which resemble each other in the character of the joint involvement and in the accompanying complications belong to a definitely infectious group.

2. The nature of the infection is clear in the following group:

Group 1.—Septicemia, pyemia, puerperal fever, typhoid, pneumonia, epidemic meningitis, influenza, dysentery, gonorrhea.

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[1] Including pyemia, puerperal fever, acute arthritis of infants.

[2] Including typhoid, smallpox, epidemic meningitis, dengue, measles, pneumonia, influenza, dysentery, etc.

[3] Including arthritis as it occurs in the erythema group of skin lesions (Osler: Amer. Jour. Med. Sciences, January, 1904); intermittent hydrarthrosis (Wiesinger: Deutsche med. Wochschr., Aug. 27, 1903); polyarthritis with psoriasis (Adrian: Mitth. a. d. Grenzgeb. d. Med. u. Chir., vol. xl, No. 2); Schoenlein's purpura, etc.

[4] Including tabes, acute myelitis, and syringomyelia.

[5] Bersheim: Berl. klin. Wochschr., 1906, vii, 439.

[6] Boston Med. and Surg. Jour., Feb. 1, 1906.

3. The character of the disorder is established as definitely infectious in:

Group 2.—Scarlet fever, smallpox, dengue.

4. An infectious origin is presumed on good analogical evidence in:

Group 3.—Acute articular rheumatism, acute arthritis deformans, Still's type, and the erythema group.

5. When the infectious diseases with acute joint symptoms and known etiology and also those infectious diseases with established identities but still doubtful etiology have been taken out, there remains another group which contains acute articular rheumatism, acute arthritis deformans and the erythema type of lesions. That specific toxic agents are responsible for these conditions seems a matter of no doubt, and that these agents differ from each other seems likely.

6. The final diagnosis of acute articular rheumatism can be made only when Groups 1 and 2 have been excluded and when there are clinical differences clearly separating the diseases in question from the other members of Group 3.

7. There are cases in all groups which can be diagnosed only by the lapse of time, and some which can not at present be differentiated at all.

CARDIAC COMPLICATIONS OF ACUTE RHEUMATISM.*

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In presenting this paper I have accepted the title given me, although I believe that in so stating the occurrences of cardiac involvement in rheumatism we misstate the real condition of affairs and thus tend to create a false conception. Cardiac complications of rheumatism are but one manifestation of a symptom of the disease, and the involvement of the heart, in any attack of acute rheumatism, should be accepted as one of the possible and unfortunately very probable symptoms that will be manifested in the course of any attack.

This is equally true of endocarditis, pericarditis and myocarditis and in my opinion there are but few attacks of the disease which do not show some involvement of the valves, the muscle or the surrounding envelope of the heart.

It is a familiar observation in children to see the cardiac involvement be the main manifestation of the disease, and the joint symptoms of slight intensity. In adults, it has probably occurred in the experience of nearly all of us, to have observed a pericarditis or endocarditis manifest itself several days before the joint symptoms became evident. It certainly, therefore, seems wrong to consider as complicating occurrences lesions which occur with so great frequency and which may be the primary or even the principal manifestation of the disease.

The frequency with which rheumatism attacks the heart is usually given as from 25 to 33 per cent. In the cases recorded by Church there were 889 in which 494 or 57.5 per cent. showed signs of old or recent endocarditis; Thompson records 706 cases, occurring in the Presbyterian Hospital of New York, in which the cardiac manifestation occurred in 329, or 46.6 per cent. In 500 cases admitted in the last three years to Bellevue Hospital 253 showed recent or old endocarditis, or 56.6 per cent. We have, therefore, a total of 2,095 cases in which 1,076, or 51.3 per cent., showed cardiac manifestations. What percentage of the others here quoted were other forms of infective arthritis and not genuine acute articular rheumatism it is impossible to say. But in the 500 cases in Bellevue Hospital, just quoted, there were no cases included in which the small joints of the hands and feet were involved, and always two or more of the large joints showed an inflammatory arthritis. This was done to reduce to a minimum the chances of including any forms of arthritis, except the genuine acute articular rheumatic affection.

It seems safe to conclude that half the cases of acute rheumatic fever will show cardiac involvement. The age at which rheumatism occurs modifies greatly the liability to cardiac involvement; under ten years of age the liability is the greatest. The figures of Church give over 80 per cent. as the occurrence for this decade. The liability decreases with each decade, until over forty years of age the percentage is but 34 per cent. The liability to cardiac involvement in the first attack, for all ages, is 50 per cent. Here, too, taking the figures of Church, the age at which the attack occurs manifests its influence, in children under ten, 75 per cent. showed acute endocarditis and the percentage diminished until in patients over forty endocarditis was present in 12.5 per cent. In 244 first attacks his figures show 124 cases of acute endocarditis, or 50.8 per cent. In 177 cases in my statistics 89, or 50.6 per cent., showed acute endocarditis. Osler shows that while the liability to endocarditis diminishes as age advances, it increases directly with the number of attacks, while of 116 cases 58 per cent. had endocarditis in the first attack, 63 per cent. in the second attack and 71 per cent. in the third attack.

Rheumatic endocarditis forms such a large proportion of all the cardiac cases going into a general hospital, that it occurred to me that it would be of interest to see what proportion of patients, suffering from a breakdown of cardiac compensation, gave a rheumatic origin as the cause of their disease. In 200 cases of chronic endocarditis in Bellevue Hospital 125, or 62.5 per cent., were of rheumatic origin, and 75, or 37.5 per cent., were of nonrheumatic origin. As is well known, rheumatism usually attacks the left side of the heart and usually remains confined to that side, and in the majority of cases its lesions are confined to the mitral valve. In severe cases, however, there is frequently an involvement of the right side, particularly of the tricuspid valve, for involvement of the pulmonary valve is rare. In fact, in severe cases involvement of the tricuspid valve is more common than is usually recognized. Sansom cites 28 necropsies of recent simple endocarditis in which the tricuspid valve was found involved in 50 per cent., but in 83 cases, old and recent, it was involved in only 16.28 per cent. He concludes that acute inflammation of the tricuspid valve is of frequent occurrence in acute endocarditis, and that in severe cases it is usually present. Chronic disease of the tricuspid valve, the result of chronic endocarditis, is of much less frequent occurrence. He draws the further inference, that acute inflammation of the tricuspid valve in many instances subsides and is completely cured.

The preponderance of mitral lesions in any statistics of either acute or chronic rheumatic endocarditis is very striking. In the 89 cases in Bellevue Hospital there was a mitral systolic murmur in 68.5 per cent. of the cases. There were no cases of mitral presystolic murmur, the aortic valves were involved alone in 7.8 per cent., both aortic and mitral valves were involved in 23 per cent., and in the cases in which both aortic and mitral valves were involved the aortic and mitral systolic murmurs were present in 20 per cent. of the total, and in 78 per cent. of the cases in which both valves were affected. The aortic diastolic murmur was the least common of any murmur. This fact, together with the absence of the mitral stenotic murmur is probably due to the same cause that the processes necessary for the production of these murmurs belong, particularly to the chronic processes, as retraction and fusion of the valves must occur to produce the lesions necssary for the production of these murmurs. It is a well-recognized fact that mitral stenosis occurs most frequently in the subacute and persistent inflammations which extend over a long period of time and are more frequently connected with the chronic myocardial changes than with acute valvular affection. Sansom quotes 300 cases, in which the mitral valve alone was involved in 157, or 52 per cent., the aortic in 40, or 13 per cent. In all of the 300 cases the mitral was affected in 255, the aortic in 129, the tricuspid in 29 and the pulmonary in three. In 283 cases of chronic rheumatic endocarditis recently analyzed by me in Bellevue Hospital, the aortic valves alone were involved in 51, or 18 per cent., and the mitral valves alone in 159, or 56.5 per cent.; both aortic and mitral valves were involved in 73, or 25.8 per cent. The tricuspid was involved in eight instances, but always in combination with other valves.

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* See footnote to Dr. Brown's article, page 739.

Considering the murmurs more in detail we find that in the 51 cases of aortic lesions there was an aortic systolic alone in 22, or 43 per cent., an aortic diastolic in five, or 9.8 per cent., and a double aortic murmur in 24, or 47 per cent. In the 159 murmurs at the mitral valve alone 124, or 77.9 per cent., were mitral systolic; 11, or 6.9 per cent. were mitral presystolic and 24, or 15 per cent. were double mitral. These statistics are interesting as showing the relative proportion as to the situation in the valves; they do not show or show but little as to the extent of the lesion which is likely to occur. It is a well recognized fact in cardiac affections that the extent of the damage done in the valve can only be gauged by the amount of hypertrophy and dilatation necessary to compensate the valvular lesion, and the mere record of the compensation of the lesion does not help us in this all-important point. The important point to our patient is for us to be able to estimate the extent of the lesion as judged from the compensation and to make a prognosis as to how long this compensation may be expected to continue. These questions are also intimately involved with the pericarditis and with the intensity of the myocardial changes.

In considering pericarditis in a paper of such short duration that we are only able to consider the various forms of rheumatic cardiac involvement, the ratio in which they are liable to occur in rhematic fever, and the effect on the heart in general, we can deal but briefly with this portion of the subject. Last year Dr. Davis read an interesting paper before this section on the effects of pericarditis on the heart, and he considered the clinical changes which this condition produced; I will therefore, not touch on this aspect of the question. Pericarditis, like endocarditis, is more likely to occur in children than in adults. In a paper read last year in Boston before the Section on Diseases of Children Dr. Dunn showed that in 300 cases of rheumatism in children, pericarditis occurred in 58 cases. In my 500 cases in Bellevue Hospital, which were practically all adult cases, pericarditis occurred in 24. Sibson, in 1877, reported 32 mixed cases in children and adults occurring in the fifteen years ending in the autumn of 1866; of these 6 showed pericarditis.

Patients in whom pericarditis develops are usuall also afflicted with endocarditis and the heart is inflamed without and within. In Sibson's cases, 9 of the 63 had pericarditis without endocarditis. In my 24 cases 4 escaped endocarditis. In Dunn's 58 cases but 2 did not show some endocardial murmur. In Sibson's cases pericarditis developed in one-sixth from the third to the sixth day after the commencement of the disease; in one half the friction murmur was audible on or about the eleventh day. In only 7 of the cases did the pericarditis show itself so late as the twenty-fifth day and from that to the sixty-third after the onset of the acute rheumatism; in one-eighth of these cases it was evident that the onset of the cardiac inflammation, both internal and external, took place at the very beginning of the disease, and at the same time with the onset of the inflammation of the joints. Dunn shows that primary pericarditis, that is pericarditis without other manifestations, is fairly common in children, and that in 30 of his 58 cases there was pericarditis alone or pericarditis with endocarditis as the sole manifestation of the infection.

In adults, pericarditis as the primary manifestation of acute rheumatism is not common, but it does occur, and I can remember three cases in the last ten years in my service in Bellevue Hospital in which the pericarditis has been the only symptom manifest for several days before the outbreak of the inflammation of the joints.

Sibson also draws some interesting deductions in regard to sex, age, occupation and the occurrence of pericarditis in rheumatics, which show that below the age of twenty-one it occurs in the two sexes in nearly equal proportions, but a little more frequently in the male than in the female. Above the age of twenty-five men were attacked three times more frequently than women. He draws attention to the great frequency of pericarditis in young servant girls. He concludes that in acute rheumatism affecting the female, that youth with labor is nearly always attacked or threatened with endocarditis or pericarditis or both, that youth without labor is thus attacked with comparative infrequency. Mature age with labor is attacked less frequently and much less severely with inflammation of the heart than youth with labor. He shows also that men following indoor occupations seem to be affected in the same ratio as the female patients, and that in men pursuing outdoor occupations, pericarditis occurs much more frequently in those of mature age when their work is hard but not when it is comparatively easy.

It is thus seen that endocarditis and pericarditis are most commonly the recognized manifestation of a general infection in children, and that in young adult life, in those whose resistance to the infection is reduced by overwork, the number of cardiac inflammations are disproportionately large. The liability to endocarditis and pericarditis disappears with advancing age, and only in those whose resistance is reduced by overwork and exposure does the liability to cardiac inflammation become great. When the pericardium is inflamed the inflammation is not limited to the serous membrane, but it extends down to the muscle of the heart, and we have to deal with a rheumatic myocarditis as well.

So far as the permanent effect on the heart is concerned, the pericarditis is much less serious than the endocarditis, for in the majority of cases the pericarditis clears up entirely, and it is only in those cases in which the inflammation has been so severe that the two pericardial surfaces remain adherent that the permanent results from the pericarditis are at all serious. The rheumatic inflammation of the heart, whether it starts in the pericardium or the endocardium, or begins as an inflammation of the muscular substances of the heart itself, sooner or later, whenever the heart is at all affected, produces an inflammatory condition in the heart muscle, which is being more and more clearly recognized as the greatest danger in the cardiac involvement in acute rheumatism.

Pathologically, the changes in acute myocarditis seem to be acute parenchymatous degeneration of the muscles. This can be recovered from, but when the process is protracted, it can go on into fatty degeneration which may recover or which may go into brown atrophy or fibroid degeneration. This degenerative condition is seen in the old chronic rheumatic hearts in which the inflammation is intense in the pericardium or endocardium. It may extend into the muscular substances of the heart and show a round cell infiltration of inflammatory changes. In the acute stages we see, therefore, a process which is especially prone to diminish the function and produce the dilatation of the muscle. In the chronic changes we have a process which prevents the vigorous hypertrophy necessary for the increased demands of compensation and a muscle in which brown atrophy and fibroid degeneration are prone to develop and weaken its contractile powers.

A complete description of myocarditis in rheumatism, its physical signs, its course and its varying influence on acute and chronic endocarditis is yet to be written. It seems to be true that we must accept the fact that in all severe cases of endocarditis and pericarditis the myocardium is also involved. This can be a general or a local involvement, and the varying course of its intensity and of its local or general involvement, coupled with the varying degrees of involvement in a single valve or in several valves, makes the accurate unraveling of the varying influences at play in any given heart, a very difficult task. We realize from clinical evidences alone that it follows the same liability to be especially prevalent in children and apparently it follows the same laws of occurrence as endocarditis and pericarditis. It may occur in a heart in which neither pericarditis nor endocarditis show any evidences of being present.

This winter, in my wards in Bellevue Hospital, in a strong young adult man afflicted with acute rheumatism in several of the large joints, the heart suddenly became more and more rapid in its action, the pulse rose from 80 per minute, in the morning, in a few hours to 110, then to 130, then to 160, and finally became uncountable. He was restless, cyanotic and suffered from intense dyspnea. This continued for several hours, but gradually subsided and after a few days of rapid action his heart came down to normal. At no time, in this heart, were there any evidences of pericarditis or endocarditis. After ten days or two weeks the man left the hospital apparently recovered, but after a few weeks he returned with a relapse of his rheumatic joint symptoms, and his heart again showed intensely rapid and weakened action. He again recovered from this without any evidences of pericarditis or endocarditis.

Another young man of nineteen, who had an acute attack of rheumatism and showed but a slight mitral murmur, when the joint symptoms subsided, insisted on leaving the hospital, although I tried to make him stay because I was suspicious that the cardiac processes had not subsided. In forty-eight hours he returned with an excessively dilated heart, his body generally edematous, with a large, throbbing and painful liver, face cyanotic, practically in a state of collapse.

These two cases impressed me as evidences, the first of a pure myocardial inflammation and the second of a cardiac inflammation of slight extent around the mitral orifice and of intense degree in the cardiac muscle. Myocarditis can pursue three courses, it can begin acutely, run an intense acute course and end in death (this is the least common), or it can begin with acute myocarditis, and gradually subside, or go into a long continued chronic course and last for years.

It can not be reiterated too often or emphasized too strongly that the cardiac affections of rheumatism occur in all their intensity without any ratio to the extent of the joint manifestations, and the intensity of the cardiac involvement in both children and adults is not necessarily in any ratio to the intensity of the other symptoms. Many of the symptoms which we have heretofore believed due to endocarditis occur with the myocarditis and must be considered as equally due to this condition. There is the sensation of pressure, of shortness of breath, of smothering oppression, of sensation of pain in the region of the heart, independent of any pericarditis, and these symptoms may all be present or any one or all be absent and still the myocarditis exist. Careful examination may show an increase in the area of the heart dulness or a disturbance of the cardiac rhythm or an insufficiency of the mitral valve as the first symptom. After the acute condition has subsided slight deviations from the normal are more common than severe symptoms. The physical signs of acute myocarditis are first the deepening and dulling of the muscle tone, the reduplication of the heart sounds, and, if dilatation occurs, a still further loss of muscle tone, and the sound becomes slappy and valvular. The reduplication of the sound not infrequently goes on into the so-called galloping rhythm. This is most often best heard in the fourth or fifth space, near the sternum or out toward the apex; the triple sound at the apex generally means myocardial change, and the triple sound at the base a pericardial infection.

After the acute joint symptoms have subsided, it is often noticeable that the patient's temperature does not come down to normal and remain there; there is a continued run of temperature from subnormal to subfebrile, from 97 or 98 to about 100, and it may rise as high as 101. This, in my opinion, invariably means an actively continuing endocardial or myocardial inflammation. The pulse may range near normal or be slightly above. In the subacute forms, in which the degeneration of the muscle is more common than in the acute inflammatory condition, and in the chronic condition, the pulse rate may be distinctly below normal.

Heart disease, in the early half of life, is mainly of rheumatic origin, and we have come, in late years, to realize that the treatment of heart disease has more and more become the treatment of the cardiac muscle. We have now reached the position where we must realize that our knowledge of rheumatic endocarditis is still fragmentary and very incomplete. Heretofore our knowledge has been chiefly focused on the endocardial and pericardial involvement to the exclusion of the myocardial, but to-day we realize that the cardiac involvement of rheumatism includes endocarditis, pericarditis and myocarditis, and the most serious is myocarditis.

THE VACCINE TREATMENT OF GONORRHEAL VULVOVAGINITIS IN CHILDREN.

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AND
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Among the bacterial infections in which local antiseptic treatment does not always prove satisfactory, gonorrheal vulvovaginitis may be well included.

It appears clear that whatever organisms are on the surface of the mucosa in such an infection will be disposed of, in great part at least, by the action of antiseptics, but those at a deeper level will be inaccessible to their action. Many such organisms so located may be taken care of by being washed to the surface by lymph. A great task, however, will still remain for the body to accomplish, namely: Destruction of gonococci beyond the reach of local medication through its immunizing mechanism.

As the immunizing apparatus is ordinarily slow in effecting this, we attempted to call on it in a number of cases for increased labor through the stimulus of vaccine therapy, withholding at the same time all other treatment, and we present below our findings in the cases so treated.

Wright's technic was adhered to in estimating the index. As this latter has been so frequently discussed we feel that we can dispense with describing it.

It may, however, prove of some interest to those busy with the gonococcus in this work, to mention some of our experiences with it. Contrary to what we expected, we have not found it a difficult organism to work with. The media employed for its cultivation were blood serum and blood agar. It seems to bear considerable variations in temperature and to remain viable for a number of days. Blood agar has proved especially satisfactory for propagating its growth.

In regard to the preparation of an emulsion, we have found that if a culture of gonococci of from six to eight hours old is used there is no trouble with clumping. It is our custom, therefore, to make a culture from six to eight hours before we wish to use it. Cultures twenty-four hours old give rise to so much clumping that we can not well understand how accurate results can be obtained when they are used. We think that the use of young cultures is one of the important points in minimizing the difficulties of opsonic work in general.

We employ an emulsion that will average from four to eight gonococci to a cell, believing that less inaccuracy will result than when an emulsion averages one or two to a cell.

What holds good in the preparation of the emulsion for the testing of the blood also holds good in the vaccine emulsion.

If in this instance young cultures are used, standardizing of the vaccine is possible and practical, in contrast to the impracticability of breaking up the clumps found in emulsions prepared from older cultures.

The time for incubating in the technic for obtaining the index with the gonococcus depends on the thickness of the emulsion. Our usual time is fifteen minutes.

A word as to staining may not be out of place, as the plan we adopted proved especially serviceable. After fixing in a bichlorid solution and washing, we place the slide in a 2.5 per cent. solution of sulphuric acid for several seconds, until the coloring of the smear fades; it is then washed off in water and stained with an alkaline aqueous solution of methylene blue for one minute. This makes an excellent slide for counting.

In determining our index we have taken the average phagocytic count of four healthy children as our normal.

The vaccinations were interspaced according to the index, making an effort, so far as possible, to give the patient the injection before an index declined below normal. We do not feel justified in generalizing as to dosage of vaccine, nor in making any statements as to the time the index will remain above normal after vaccination. We have found that the dosage varies in different cases, and can be determined only by investigating for each individual case the immunizing response to a given dose as indicated by the index. This may be observed on inspection of some of the charts in which can be seen that while little or no response may follow a small dose, and likewise a large dose, apparently, for the individual, a marked rise in the index will be found following a dose between the two extremes. The minimum dose used was one million and the maximum fifty millions.

We used two vaccines, which are designated vaccine *a* and vaccine *b*.

Vaccine *a* was prepared from a culture taken from one case of gonorrhea. Vaccine *b* was prepared from cultures made from four cases of gonorrhea. They were both standardized to 20.000,000 per cubic centimeter.

No effort was made to isolate the gonococcus in each individual case. The children treated ranged in ages from one and one-half to twelve years. Ten of the cases were the result of a ward epidemic. The other two patients entered the hospital with gonorrhea. No unusual complications referable to gonorrhea developed in any of the children.

CASE REPORTS.

In view of the importance of the charts in following the course and result of treatment, a few words of explanation may render them clear, at a glance. The figures at the top of the charts represent the days of the month. The figures to the left of the charts represent the index figures. At 1 (of these figures), which is the normal index, a heavy line is drawn through to right of chart. The diagonally joined lines represent the abnormal indices with relation to the normal.

The arrows directed downward represent the vaccinations, the figure at upper end of them the amount of vaccine used in millions, and (a) or (b) the vaccine injected. The notations in the lower part of the chart relate to vaginal discharge of patient and result of examination of smears, taken either from vaginal mucosa, in case there is no discharge, and in case there is, from same. The abbreviations: No D = no discharge; —S = negative smear; + D = discharge present; + SD = slight discharge; + S = positive smear. As few notations as possible are used to avoid confusion.

CASE 1.—Age 21 months. Profuse vaginal discharge was found September 17, 1907, and smears showed gonococci. On September 20, treatment was instituted with the result noted in Chart 1. Prompt improvement was observed in the general well-being of the patient, and lessening of the discharge, which is noted as absent October 10, and had been so for several days previously. The discharge did not recur; two smears, taken on October 13 and 17 were negative and the child was discharged from hospital October 22, free from all traces of gonorrhea.

CASE 2.—Age 4 years. Vaginal discharge was first reported Aug. 13, 1907. Microscopic examinations of stained specimens of discharge revealed gonococci. The girl was treated daily by douches of a potassium permanganate solution, followed by vaginal instillation of 20 per cent. argyrol solution from August 13 to September 27, without any apparent effect. The discharge was reported as profuse on September 27, when a smear was found to contain gonococci. She was then placed on vaccine therapy with the result noted on Chart 2. In less than two weeks all discharge disappeared and did not recur. Smears made from wipings from the vaginal mucosa taken at an interval of 10 days were negative. An interesting observation in the chart is the unusually high index reported on two occasions, which might be referred to a summation of phases.

Case 3.—Age 4 years. Vaginal discharge was noticed August 12, and its specific nature was confirmed by finding the gonococcus. She was given daily douches of potassium permanganate solution followed by 20 per cent. solution of argyrol as in Case 2. Notwithstanding this, a profuse discharge, with positive smears, was found September 23, when she was placed on vaccine treatment. Following first vaccination, the discharge diminished and finally disappeared entirely (Chart 3). There was no discharge after October 10. Smears taken on October 13 and 28, were found without gonococci. Patient left hospital October 28, 1907.

Case 4.—Age 2 years. Vaginal discharge began August 9. Stained smears made from discharge contained gonococci in cells. The child was treated by douches of potassium permanganate solution, followed by 20 per cent. argyrol injections, till September 23, without any noticeable effect. Douches were then stopped and vaccine treatment instituted. Following the second injection of vaccine, there was a decided diminution in quantity of discharge, which disappeared October 5. Stained smears made from vaginal mucosa on October 17 and 28, were found negative (Chart 4). She was removed from hospital on latter date.

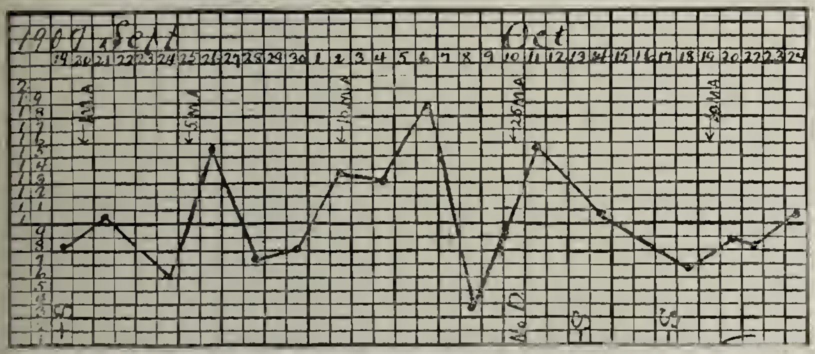

Chart 1.—Illustrating the opsonic index in Case 1.

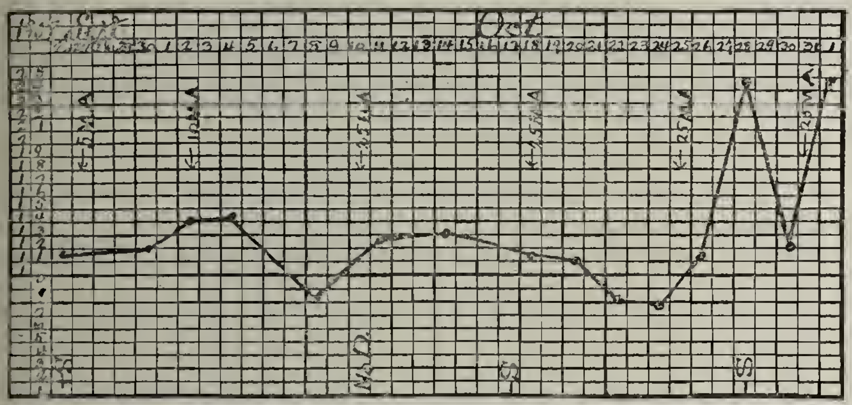

Chart 2.—Illustrating unusually high index observed on two occasions in Case 2.

Case 5.—Age 7½ years. This child had gonorrhea about four weeks before coming under our care. She had received during this time the local antiseptic treatment described in previous cases, without result. Vaccinations were started September 26. A striking feature in this case is the failure of response to what might be termed small or large doses for the child and the prompt effect following a suitable dose of vaccine. The discharge ceased with the first marked rise of the index. A slight recurrence was subsequently noted but promptly subsided. She left the hospital November 12, without discharge and with a negative smear.

Case 6.—Age 8 years. A vaginal discharge which proved to be gonorrheal was observed in this child September 5. On September 26, gonococcus vaccinations were instituted. A prompt reaction followed, the discharge diminishing in quantity, and then disappearing. No discharge was noted after October 10. On October 13, a smear was found negative as to gonococci. A few gonococci were seen in a smear made a few days later, taken at a low index time. Subsequent smears proved negative, the last one being on December 7 (Chart 5).

Case 7.—Age 1½ years. A discharge in which gonococci were found appeared in this child August 30. She was placed on vaccine therapy September 16. The discharge promptly diminished and disappeared, and barring a slight recurrence October 28, no discharge was noted after October 10. Several smears made from the vaginal mucosa proved negative as to gonococci.

Case 8.—Age 3½ years. A profuse discharge was found in this case on September 16, and microscopic examination showed gonococci in smears. The opsonic index to gonococci on September 17, was 0.4. Vaccinations were begun September 19. A prompt reaction was noticed, the discharge greatly lessening with the rise of the index, and returning slightly with its decline up to the first week in October, after which time, with the exception of a slight recurrence October 28, the discharge disappeared entirely. Smears in this case, however, were persistently + until November 29, since which time no gonococci have been found (Chart 6).

Case 9.—Age 12. This patient had gonorrhea three months before admission to hospital for cervical tuberculous glands. For the gonorrhea she received local antiseptic treatment as in the cases previously described until September 26, when she came under our care still having a profuse discharge. Her index at this time was 1.4; two days later it was 1.06. She first received an injection September 30, being given 5 million dead gonococci. The index did not show any special response and it declined October 5 to 0.68. She then received 15,000,000 which was followed by a positive phase, during which the discharge ceased and a stained smear was negative. For some unknown reason November 7, her phagocytosis for gonococci fell to 0.1 and a slight discharge reappeared and persisted on and off for several days. From November 26, she was reported free of discharge and smears from vaginal mucosa were negative. There was subsequently, however, slight recurrence of the discharge. Smears still remained negative, and discharge again ceased.

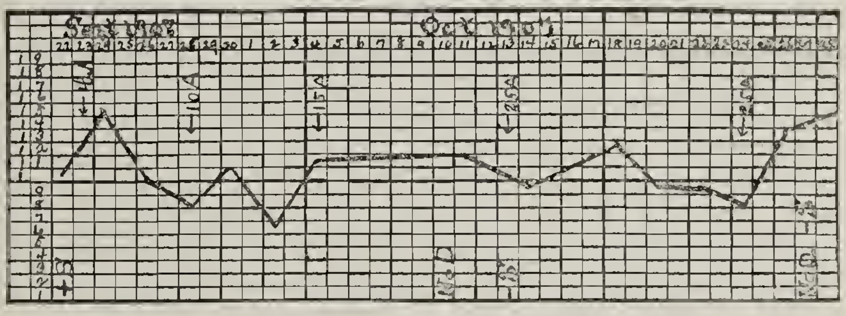

Chart 3.—Illustrating the opsonic index in Case 3.

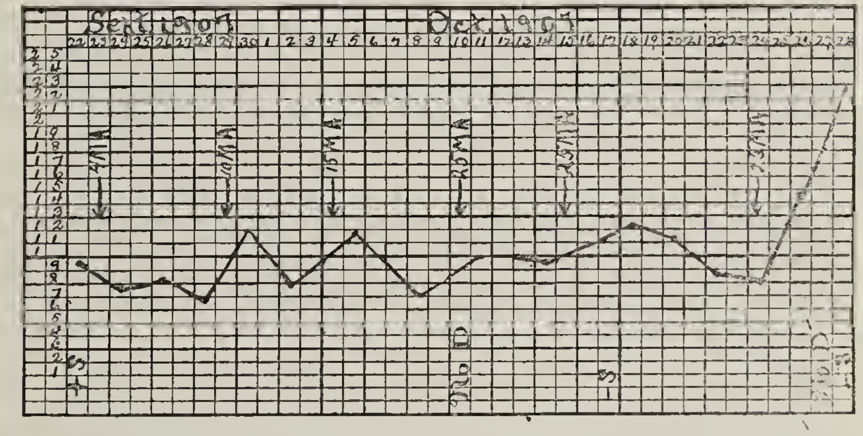

Chart 4.—Illustrating the opsonic index in Case 4.

Case 10.—Age 5 years. This patient entered the hospital with gonorrhea; the discharge was profuse, and microscopic examination revealed gonococci. Vaccine therapy in this case was commenced September 30. The index responded well to inoculations, but the discharge persisted more or less up to November 4, when she was reported without any. It recurred slightly November 10 and again disappeared in a few days. The vaginal smears have usually contained a few gonococci. The last two reports were negative. A recurrence occurred after stopping treatment.

Case 11.—Age 4 years. The patient was reported with a vaginal discharge, which proved to be caused by the gonococcus, September 5. She was given local antiseptic treatment without any improvement being observed. Vaccinations with dead gonococci were started September 17. The discharge diminished considerably but persisted as a "perceptible discharge," with occasional reports of "considerable discharge," following closely the rise and fall of the index, until November 28, when it ceased and has not recurred. Several smears since this time have proved negative (Chart 7).

Chart 12.—Age 4½ years. A vaginal discharge, which contained the gonococci, was found in this child August 31. She was given the usual local treatment from September 13 to 26, when she came into our care. The discharge at this time was very profuse, and smears showed gonococci. Her phagocytosis for gonococci was practically *nil*. She responded well to vaccine treatment, the discharge lessening promptly. A slight discharge persisted on and off until November 5, when it ceased and all smears proved negative.

SUMMARY OF CASES.

Before discussing the results of vaccine therapy in the above cases, we would like to direct attention to the results obtained by local treatment. The following are twelve cases of gonorrhea in female children treated by douches of potassium permanganate usually at four-hour intervals followed by instillation of 20 per cent. solution of argyrol. There were no special complications in these cases. For purposes of brevity we will mention merely date of beginning and ending treatment and their status as to gonorrhea on the latter date.

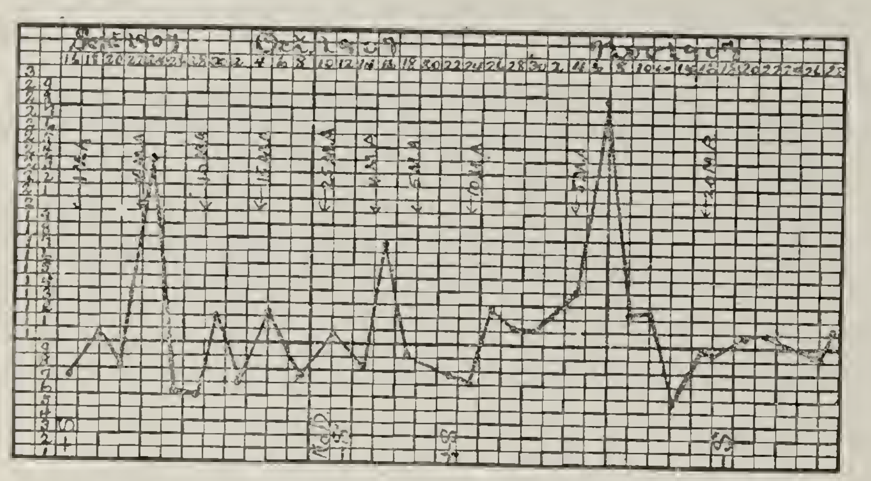

Chart 5.—Illustrating the opsonic index in Case 6.

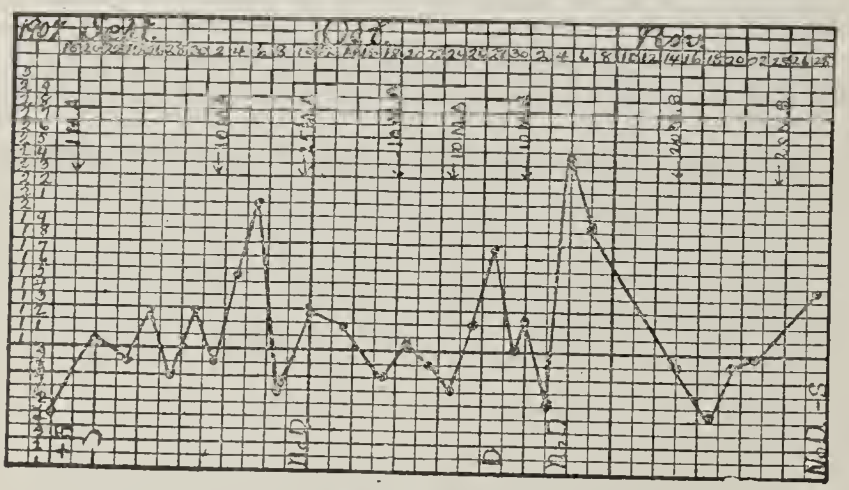

Chart 6.—Illustrating the opsonic index in Case 11.

Case 1.—Treated from January 10 to February 28, when patient left hospital, still discharging and smears showing gonococci.

Case 2.—Treated from January 31 to February 26; removed from hospital; discharge profuse.

Case 3.—Treated from January 8 to February 9; said to have had no discharge five days before leaving, and negative smear on leaving.

Case 4.—Treated from January 12 to February 7; reported as having scant discharge on leaving hospital same day.

Case 5.—Treated from January 4 to February 4; said to have had no discharge on leaving on this date; no report on smears.

Case 6.—Treated from January 6 to February 1; reported with moderate discharge on leaving hospital on latter date.

Case 7.—Treated from November 19 to January 22; left on latter date with slight discharge.

Case 8.—Treated from January 24 to February 20, when she was taken from hospital still having slight discharge.

Case 9.—Treated from November 30 to December 29; discharge present when leaving hospital on latter date.

Case 10.—Treated from November 14 to December 24, when patient left hospital still discharging.

Case 11.—Treated from June 14 to September 18; three days before leaving hospital had profuse discharge.

Case 12.—Treated from February 7 to July 26, when patient was reported without discharge; no report on smears. Patient was 5 months and 19 days under treatment.

A comparison of clinical cases, for the purpose of finding the results of different lines of treatment, becomes of value chiefly when a large number of cases come under consideration, in which circumstance a better average as to intensity of infection and resistance of patients may be expected than in a limited number of cases, as in the above instances. The differences observed in these cases are sufficiently pronounced, however, to attract one's attention to the possibilities of vaccine treatment in gonorrhea in the female.

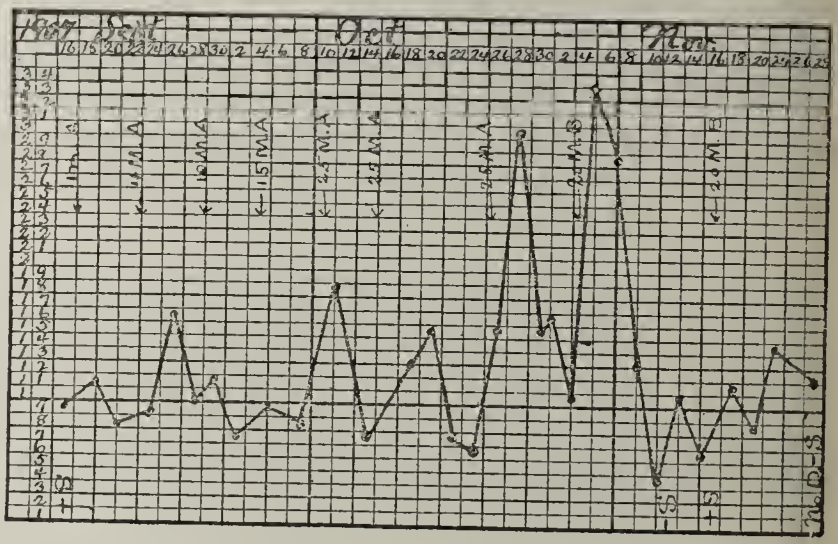

Chart 7.—Illustrating the opsonic index in Case 11.

It will be observed that in four of our cases treated with vaccine the clinical evidences of gonorrhea disappeared in from ten days to three weeks, and that the gonococcus was not to be found in smears made from wipings from the vaginal mucosa, taken at intervals of several days. Of the remaining eight cases in all but three (Cases 9, 10 and 12) a cessation of discharge and disappearance of gonococci from smears was attained after several weeks of treatment.

In the more protracted cases a change of vaccine was made to *b*, with very prompt results in two of the cases (Nos. 11 and 12).

In three (Cases 9, 10 and 12) of our cases the sequences of treatment have been not a little handicapped by inability to control the disposition of them. When a child under treatment shows subsidence of clinical symptoms, and a disappearance of discharge, and even has only one negative smear, she should be removed at once from a general venereal ward; in other words, she should be isolated, to protect her at least from reinfections.

The opportunities for infection and reinfection of female children in a gonorrheal ward are well known to pediatricians. Detention in a venereal ward after the patient has been apparently cured means either opportunity for reinfection or necessity for endless immunization, at the same time recognizing the possibility of a recurrence.

The three cases in question did clean up, but a slight discharge recurred in two of them after treatment was stopped. In the third the discharge, which recurred, disappeared and smears continue negative, although patient, on account of a surgical disease, has remained in the venereal ward two months after stopping treatment.

Referring to the other twelve cases, the results of treatment in which are used for comparison, it will be noted that in only three instances had the discharge disappeared under treatment and in only one were negative smears reported.

The finding of negative smears is of course necessary and all-important. In employing vaccine therapy one may find positive smears for some time after disappearance of the discharge.

Four of the second twelve cases were under treatment respectively 41, 48, 64, 96 and 176 days, the latter being the only one of the four patients in whom the discharge stopped. The remaining patients were under treatment from 24 to 31 days.

As previously stated, we believe that comparisons as to the respective merits of different methods of treatment are ordinarily unsatisfactory unless they involve a large mass of material, still we believe that the above results are not without value in establishing the efficacy of vaccine therapy in gonorrhea in the female.

The contention might be raised that gonorrhea is aggravated in female children by local treatment and that the discontinuance of such treatment might be expected to be followed by betterment. The possibility of this should be conceded, but when we are able to trace daily variation in the clinical manifestations with the ebb and flow of the wave of immunity, when we see within twenty-four hours a profuse discharge cease and find negative smears coincident with a marked rise in the opsonic index, the above contention loses much of its weight, and in the cases treated must be excluded from consideration in calculating results.

If from our work any conclusions are permissible, we believe it no exaggeration to state that vaccine therapy has a place in the treatment of gonorrhea in the female, that it appears to be far more efficient and at the same time scientifically more tenable than local antiseptic treatment.

THE COMMON GROUND OF MEDICINE AND DENTISTRY.*

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NEW YORK CITY.

The divorce of dentistry from medicine, before the days when specialism was recognized as a necessity, has resulted in placing those diseases classified under stomatology in a peculiar position. The clinical aspects of these diseases are observed, for the main part, by the dentist. The etiology and pathology remain mainly with the physician or those who are fortunate enough to combine the degrees of M.D. and D.D.S.

Different curricula and training tend to keep the professions apart. Concurrent interests should weld them together, and it is with a plea for a clear conception and interpretation of these interests in the broadest sense that I lay before you this paper.

Before entering into the detailed elaboration of the conditions which the physician and dentist should and must fight together, it is of the greatest interest to note that in England and continental Europe the professions are working much more closely together. At the time when the opsonic index, its meaning and importance, was as Greek to the American dentist, his English brother was confirming the work of Dr. Talbot, basing his findings on what seem to be the conclusive and scientific methods of Wright. It can not be, surely, that the ever, and rightly, vaunted superior mechanical skill of the dental profession in America is to forever keep him classified as a mechanic.

Let us who are dentists burn at least part of our bridges and cease putting too much trust in gold, and begin to regard our profession solely as the most important specialty of medicine, a specialty to be based on a thorough knowledge of physiology, histology, pathology, human and comparative anatomy and allied subjects. If the degree of M.D. is lacking, let us fill in the want by postgraduate courses. Let us be in a position at least to interpret along broad scientific lines the etiology and pathology of those conditions met in the mouth.

HOSPITAL RECOGNITION OF DENTISTRY.

All the faults, however, which lie at the bottom of the passive schism between medicine and dentistry must not be laid to the dentist. What is to be thought of the large New York hospitals without an active dental visiting staff? One need not, of necessity, be an explicit follower of Hunter to give the patient suffering from pernicious anemia the benefit of an off-chance in the etiology and treatment of the disease, especially in cases in which the mouth is one mass of rottenness; and yet such is not the custom of New York town.

Hospitals and hospital practice have been the main factors producing that which is best in medicine, and never can dentistry hope to achieve a scientific and sure basis until it leaves aside its perpetual pulling of teeth and filling of cavities, its inertia toward scientific investigation, its petty state politics, and, entering into the fight, forces the physician to its recognition by superior and well-founded methods of diagnosis, prognosis and treatment. It is only by an accumulated experience that the dentist can hope to occupy and to maintain his share of the common ground, and this experience can be obtained, under the present dispensation, only by perfecting the knowledge pertaining to stomatology so that it may become a necessity to medicine in its broadest sense.

EARLY RECOGNITION BY THE DENTIST OF SYSTEMIC DISEASE.

It seems but logical to me to divide the common grounds of medicine and dentistry into two parts, based on the clinical manifestations of the diseases as met with in stomatology, first taking up the diseases which are manifested especially in the mouth, the discovery of which means that the dentist should automatically refer the patient back to his physician for treatment and consultation.

Here we immediately strike one of the difficulties which inhibit a free interchange of courtesies and consultations, a difference in diagnosis leading to at least an irritation between the physician and dentist. An excellent example occurred in my own practice during the writing of this paper. Mr. S., 58 years old, consulted me as regards "saving his teeth." I found a lack of tonicity present in the alveolar processes to a moderate degree, together with marked pyorrhea alveolaris. Following my usual routine, I had his urine examined and 0.75 per cent. of sugar was found. I mailed the report of the urinalysis to his family physician with a request that Mr. S. be kept under observation and treatment, in order that the best results might be obtained from the dental work which was being done. The family physician informed me that the quantity of sugar was not to be regarded as pathologic, and did not institute any form of treatment. The ethics of a situation like this are clean cut. The expediency of the resultant course is somewhat blurred, as the patient in the above case can not gain satisfactory results while suffering from a lowered resistance, due to what I believe to be a low grade, slowly progressing case of diabetes.

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* Read in the Section on Stomatology of the American Medical Association at the Fifty-eighth Annual Session, June, 1907.

The second division of the common ground is made up of those cases where the highly specialized knowledge of the dentist should make him the natural consultant to the physician trying to unravel some of the many obscure conditions which confront him, obscure particularly in etiology.

Taking up in detail the first division which I have made, we may further subdivide these conditions into poisonings and systemic diseases, where the mouth first shows the clinical picture and keynote of the diagnosis.

To the classical poisonings of lead and mercury from therapeutic or trade sources may be added those of copper, silver, phosphorus, and the less often recognized iodin and bromid poisonings or saturations. And here let me emphasize the absurdity of undertaking extensive dental operations while the patient is on even small doses of bromids. Not infrequently patients are referred to me on account of acute subjective symptoms, carrying in their pockets prescriptions containing bromids, "something to quiet them until they get relief at the hands of the dentist." It is impossible to get ideal results in a patient whose physician is thus tiding over the strain incidental to, or the cause of, extensive dental operations. I believe this to be true in spite of the fact that many of the best men in the profession are advocating bromids as a routine treatment when the patient shows the effect of nervous strain during prolonged dental work.

The mouth, it would seem, is particularly sensitive to systemic diatheses and diseases. Rheumatism, gout, diabetes, Bright's disease, syphilis, less often tuberculosis, and many other diseases, will often show themselves there first, and the dentist, if he is a good diagnostician, may read the diagnosis plainly long before the subjective symptoms would force the average patient to consult a physician.

Time after time have I appealed to the physician to aid me by building up the general resistance of his patients when the condition of the mouth was either the immediate or the predisposing cause of a series of obscure symptoms involving the digestion immediately, and, more remotely, the entire body. Time after time have I seen the patient receive nothing more extensive than a few kind words about "a malarial tendency" or "a little anemia," together with a few Blaud's pills or an empirical iron, quinin and strychnin mixture. Before these conditions can be changed entirely, perhaps a more general scientific, diagnostic and therapeutic medicine must be practiced. In the meantime I would make a plea for the recognition of the fact that a diagnosis made from observations based on the condition of the patient's mouth may be a scientific one and is not to be discarded because made by a dentist. Let the physician recognize that the mouth is often the keystone of diagnosis and that the dentist, if he is an observer, must acquire clinical experience in using the mouth as such.

It is but right to say that within the last five years I have noticed a great change in the attitude of the medical profession as regards courtesy in weighing a suggestion.

Without taking up in detail the local effects, as shown in the mouth, of the various systemic diseases and poisonings, I would make a special appeal for the sure and conservative recognition of syphilis, whether in its primary or secondary stage. This is especially the case where a negative diagnosis is the correct one. The following case at present under my care will illustrate exactly what I mean:

Case 1.—Mrs. X., 20 years old, while being treated for incipient pyorrhea alveolaris, developed a suspicious chancrelike sore on the base of her left tonsil. Her physician, after some difficulty, got a history of possible exposure (innocent). After observations of a few days he made a diagnosis of a primary syphilitic infection of the throat. Fortunately, I was interested in seeing whether the *Spirochæta pallida* was present, and with his permission I had a number of cultures and smears made. The report, coming within a few hours, cleared up the situation. The smears showed numerous bacilli present, and for the most part these were the bacillus of Vincent.

I believe that there are many more cases of concurrent throat complications during dental operations than one would gather from literature. These complications, while in part due to faulty technic, are, I think, in the main part due to the common rheumatic etiology of tonsillitis and dental conditions, such as pyorrhea alveolaris.

The conditions which make up the second division of the common ground for the dental and medical professions will naturally vary, as the mental and technical equipment of the individual; the rhinologist and laryngologist and the specialist in orthodontia have much in common that can not especially appeal to the busy family physician and the dentist buried in bridge work. But this may be said, that in every man's practice cases often occur where the specialized knowledge of the dentist will solve some of the problems of treatment. The obscure stomach cases, the cases of facial neuralgia, the adenoid face that has not yielded to removal of organs, these and many more every-day problems are part of the common ground.

To take up some of the aspects of the condition common to all mankind, here surely has the physician had full control for centuries, and to-day it is interesting to get the ideas of a body of physicians as to whether the disorders commonly associated with first dentition are physiologic or to be regarded as a relic of the dark ages, with "milk fever"?

THE DEVELOPMENT OF THE ORAL CAVITY.

Without entering into a prolonged discussion as regards the embryologic development and the evolution of the digestive tract in the infant, some of the commonsense factors in the building up of the oral cavity and its boundaries in early life may be mentioned. The alveoli especially are pliant in the baby, and the two main factors in their molding are undoubtedly the tongue and the lips. Physiologically, the natural exercise of the infant is suckling. In the bottle-fed child this process is either eliminated entirely or reduced to a minimum. I believe that a bottle-fed child, *per se,* lays the foundation for a high palate and all the evils associated with mouth breathing. True, hereditary tendencies and other factors may abort these evils, but the child who has been suckled through a rubber teat, other things being equal, has much more chance of ultimately coming under the care of the laryngologist than one whose mouth is formed by the natural process of suckling—working more or less for its daily milk.

Passing rapidly to the sixth-year molars, there is no doubt as to the occasional reflex disturbance caused between the fifth and sixth years by these teeth. In obscure cases of convulsions, after the possibilities of intestinal parasites and circumcision have been considered, it is well to look at the mouth to ascertain whether the real source of the reflex trouble is not there. At this stage, too, there is a considerable tendency to decay, and I have found that potassium sulphocyanid is a constant accompaniment of decayed teeth. It would seem but fair to conclude that the continual swallowing of cyanids, even in the small quantities of 0.075 parts per thousand, is not for the good of the child.

The complications accompanying the eruption of the wisdom teeth are too well known to emphasize especially, as here, fortunately, the subjective symptoms make the diagnosis so that he who runs may read. Brunto has well summed up the possible effects of bacterial infection, having for its origin the oral cavity:

1. "Carious teeth mean imperfect mastication; consequently increased and unnecessary work for the stomach, this in course of time leading to the various ills connected with impaired digestion. Such a mechanical relation I consider by no means the only, or even the most important, relation of dental disease to general health."

2. Dental disease as a cause of ill health in consequence of being a continued source of poisoning and septic infection, both local and general.

CONSTITUTIONAL EFFECTS OF TOOTH CAVITIES.

Without advocating a dogmatic view in regard to any of these explanations, it seems rational to allow that a cavity in a tooth fulfills many of the requisites of an ideal incubator, and that the swallowing of large quantities of bacteria must be detrimental to digestion. In pyorrhea alveolaris, a disease but little recognized by the medical world, we confront not only a series of abscesses such as the surgeon would not allow to exist in any other part of the body, but there is the perpetual swallowing of bacteria. This, together with the fact that the patient will sooner or later lose all the teeth affected, gives a trail of evils and discomfort which should command a more active recognition of this condition by the physician, active in the selection of a dentist who he knows is able to cope with the conditions. There is no more excuse for a physician referring a patient to a dentist of whose work he is uncertain than there would be for the haphazard selection of a surgeon for consultation. The patient in both cases is entitled to the best counsel that his physician knows of.

At this time, when the yearly outbreak of typhoid is confronting the physician, it will not be wrong, I think, to call his attention to the benefits of having a dentist thoroughly scale and clean the teeth during the progress of the disease. This can be done without putting extra strain on the patient, and the results gained by careful cleaning of the teeth, in the case of a milk diet, is wonderful.

The care of the mouth in children, especially in school children, has been threshed time and again and the merits of inspection and treatment agreed on. This point, however, should be recognized. The physician practically controls everything in respect to the health of school children, and only by a campaign to awaken the interest of the medical world in preventive dentistry can a foothold be obtained throughout the country which will enable the dentist to devote his best efforts toward saving the teeth of those children who would otherwise suffer from lack of dental care.

THE RELATION OF ORTHODONTIA.

The relation of orthodontia to rhinology and laryngology is of the greatest interest to those who are at present thinking along these lines, and I have no theory that has not been given before. Hilton in 1855 gave a rational explanation of the functions of the individual parts of the cranium. The main facts are plain. It really does not matter, so far as the rationale of technic is concerned, whether the deformities of the nose, especially the septum, are dependent on malformation of the palate and maxillary bone or vice versa. The final result is the same; the mouth breather is a mouth breather. The condition is associated with the farthest reaching evils with which a dentist has to deal. The malocclusion is there, and no removal of adenoids, however satisfactory, will ever properly space the teeth, and without proper spacing of teeth there is no development of a normal cranium. It may seem at present visionary, but I believe that the time is near at hand when no adenoid operation will be undertaken by the rhinologist abreast of the times without provision being made for the after-care of the malocclusion which is present in all cases of mouth breathing. The correction of the dental arches, the spreading of the maxillary bones, the establishment of correct relations between the mandible and the superior maxillary bone, must be carried on with the same regularity as the treatment for hare-lip.

One more condition which lies in the common ground must be spoken of, and that is the frequent and most distressing neuralgia. The effects and symptoms of neuralgia, especially of facial neuralgia, its treatment and prevention, have been worked over by some of the most brilliant surgeons, the work of Dr. Hartley in this matter being one of the classical contributions to American surgery, but there are innumerable cases which come into the hands of the dentist after the surgeon has tried every means of alleviating the pain. And it is well worth while to cover rapidly the etiology from the dentist's point of view. Impingement of the peridental membrane by tartar and subsequent infection, pulp stones or secondary deposits within the pulp and root canals, malposed non-erupted teeth, imperfect technic in bridge and crown work, all are causes of neuralgia. The diagnosis is sometimes obscure, and in such cases the Roentgen ray often aids, and almost ideal results are obtained by Roentgen ray stereograms, as done by Dr. Caldwell of New York. Here we have the third dimension preserved in the films, and the more exact locating of a foreign body or pus being useful. In cases of stubborn facial neuralgia the dentist always should be consulted, not that he can always help, but in a considerable number of cases he may throw some new light.

CONCLUSIONS.

To summarize, the points I have endeavored to make, and which I believe must be recognized before there is any undisputed common ground for the physician to work on: The dentist must appreciate the fact that the mouth is a part of the whole body, an important part, but only a part. He must think in terms of interchangeable scientific expressions of thought, so that his findings, observations and deductions are easily interpreted by the physician. He must keep pace with the best in medicine, for only those physicians who stand for what is best in medicine can and will appreciate what is best in dentistry. The mediocre man in either profession will of necessity stick to his own particular last, but if the dentist will record and read his daily findings correctly he will find that his experience must more and more elucidate some of these problems of medicine, his work will be of double interest to himself and he will open up fields hitherto undreamed of.

The physician, on his part, must recognize that the mouth as a seat of disease is often overlooked, and that the logical consultant in many cases is the dentist, who, by virtue of his constant clinical experience of the normal in the mouth and teeth, must acquire the knowledge that is necessary for the unraveling of symptoms pointing to the mouth as a seat of trouble. I recognize that it is unfortunate that all dentists are not physicians, but this is a misfortune for which the patients should not be made to suffer, as suffer they often do because of the lack of appreciation by the dentist of the fact that the local conditions he is coping with are but manifestations of a systemic trouble, or because the physician does not realize that the science of dentistry involves more than a mere stopping of holes or pulling of teeth.

Let the physician choose his consulting dentist with the same care that he does his consulting surgeon—with more care if possible—for all his patients will have to visit a dentist, while only a small proportion will need surgical intervention. Let him keep abreast to a small extent of dental literature, not necessarily the most technical, but the general literature. Let the dentist think and work in terms scientifically interchangeable with the physician; then, and then only, will the common ground need no defining.

DISCUSSION.

Dr. Francis A. Faught, Philadelphia, agreed that the specialties of medicine should include dentistry, but, he said, all the specialties of medicine should, in a way, be specialties of dentistry, because one can not get away from the diseases of the nervous system, the stomach and nose in relation to the teeth. He has been impressed with the failure of dentists, as a rule, to report findings and subsequent observation on cases. There is a lack of information and some statements are absolutely erroneous. Dr. Faught felt that because of the relation of dentistry to medicine one should have better training in diagnosis, especially in relation to the heart, and the giving of anesthetics. It is important that the condition of the heart and of the internal organs should be known, and that the giving of an anesthetic, where such a thing is contraindicated, should not be done by the dentist. The same may be said of the kidneys. The dentist should do this for his own protection if for nothing else. In regard to the question of dietetics and hygiene in the treatment of diseases of the mouth, not so much of caries as of inflammatory conditions, an adequate working knowledge of the excretions and secretions, particularly of the saliva and urine, becomes important.

Dr. H. C. Register, Philadelphia, said that in a number of cases the importance has been strongly impressed on him of the necessity of early diagnosis of many pathologic conditions of the mouth that opportunely come under the observation of the dentist or stomatologist and that otherwise would be lost sight of until a condition had been reached that would probably terminate in death. Dr. Register referred especially to carcinoma. He has diagnosed the presence of carcinoma very early, when it was yet a local condition, before metastasis was developed. While it was in a local condition its removal was favorable to a complete cure. In one case a fibrous tumor developed itself at the angle of the mandible. It had been removed by a general surgeon three times. The patient represented himself to Dr. Register, thinking that something in connection with the teeth might be the cause. Dr. Register found that the third molar was devitalized and in a putrescent state, and on opening into the pulp chamber he soon established that the tumor originated from that cause. In diagnosing these cases of fibrous tumors Dr. Register has received much assistance through the use of compressed air. After washing out the tracts germicidally, he applies sterilized air under pressure, and if the air follows the tracts one can soon ascertain whether they are associated with a devitalized condition of the teeth. On several occasions Dr. Register has shown that these fibrous tumors originate from devitalized teeth and succeeded in diagnosing them very quickly in this way. He operated in this case and the tumor gradually dwindled away and dried up by the correction of the toxic condition of the tooth and the surrounding tissues of the jaw. As to the mechanical side of dentistry, Dr. Register stated that he could not see that there is any difference between the mechanics of dentistry or stomatology and the mechanics of every specialty in medicine or general surgery. The general and special surgeon must use mechanical assistance. He uses it, not *per se*, but as a means to an end. In dentistry it is used for the same purpose. The application of mechanical devices used in surgery is unlimited. The very first example of mechanics used in surgery, he continued, was given by John Hunter, who, unfortunately, tore the Achilles tendon of one of his feet, and he was a lame man for quite a while. It was through an accident that Hunter brought about, by means of mechanics, one of the best things for the cure of club-foot known to-day. The cure of injuries of the spinal column could not be effected without the surgical mechanical treatment. And so, he said, it is in all departments of medicine. Mechanics are constantly used by the general surgeon and by specialists in other branches as well as in dentistry. The trouble with dentistry, he continued, is overregard for mechanics. It is not so much that dentists use mechanics as a means to an end, but they make it the end itself. That is one of the great mistakes they make. In Dr. Register's opinion the fields of dentistry and medicine are one, and the purpose of one so thoroughly includes the purpose of the other that he can not see how men who want to be broad in their ideas and who expect to do the best for their patients, can do otherwise than accept the doctrine that medicine alone is the only means by which the highest efforts of dentistry are to be accomplished.

Dr. James F. Power, Providence, R. I., believes that every practitioner of dentistry should possess a medical education, but not necessarily a degree in medicine. He should possess a thorough knowledge of that medicine which pertains to the intelligent practice of dentistry. The course of instruction necessary for the degree of medicine would broaden the mind of the individual, but not any more than would the courses required of the candidate for the bachelor of arts degree. The better a man's education may be, the greater is his power and ability to accomplish the transformation of energy. Dr. Power thought that Dr. Fossume fixed a standard of education, maintaining that if a patient is placed in the hands of a dentist of the type considered he would be entirely safe, and if the disease should travel into the realms of pathology with which the dentist is not familiar, he would, at least, be sufficiently familiar with the fundamental principles of general pathology to recognize conditions as they arose and call a consultant. Thus his relation to his patient would be perfectly honorable, and he would be justly considered a valuable member of his profession. Dr. Power believes that dentists are taken at their own estimate. They fix the standard of the profession. If they place a low estimate on dentistry the public and the medical profession will take them at that estimate. He regards proper preliminary education as of the greatest importance in that connection. There is no better way, he said, of teaching the public and the medical profession the importance of dentistry as a profession than by requiring that the education of the candidates for the dental degree be raised. Dr. Power feared that the mission of a college sometimes is misinterpreted. The mission of every professional school, he thought, consists in giving to a graduate the least possible amount of knowledge that can be possessed, in order that he may be allowed to practice with safety to the public. One lifetime is too short for a dental or a medical school even to pretend to familiarize a man with every form of disease he may be called on to treat in future years. The diploma represents the acquisition of the fundamentals on which the knowledge of dentistry is based. When dentists look at the matter in that light, when they will see things as they really are, the elevation of dentistry as a profession will commence, and dentists will be in a position to demand the recognition which they are now seeking. In conclusion Dr. Power referred to the mission of the profession itself. He believes that dentists should exercise the greatest care and practice along scientific lines. They should realize that they have reciprocal obligations to each other, and that the whole profession is affected by the words and actions of the individual. They should do everything they can to assist in its elevation. Professional ethics, social bearing and high moral culture will do most for dentistry, most for humanity, and impress the medical profession, the public, and all concerned with the facts that the dental profession deserves proper recognition.

DR. JAMES MCMANUS, Hartford, Conn., called attention to the fact that of the 35,000 dentists in the country, a large proportion of whom are college graduates, only a few are members of the Section on Stomatology. He does not believe that dental colleges are as poor some say they are. He believes that every dental college in the country graduates each year men who are the equal, in their line, of any medical graduates, and that, as a rule, the dental graduate is better fitted to go out and practice his profession than is the medical graduate. His fingers are educated, his opportunities in clinics are greater, and when it comes to the use of anesthetics he has a practical knowledge that the average young medical student does not have. What is the trouble? he asked. When the dental graduate goes out to practice he stops right there; he does not seem to study; he does not seem to take any interest in societies. They do not seem to take any interest in their profession; they do not seem to care to study. Nor do dentists buy books. Dr. McManus thought that the trouble with the dentists has been that when they got where they were legally allowed to practice, they joined this organization and that organization, and they spend their money for almost every cause except the cause of dentistry. Dentistry, as a majority of dentists practice it, is a calling. A few dentists are professional men, and some of these have the degree of M.D. Those who have not this degree, Dr. McManus believes, are as good professional men as are those who have it. The dental graduate, he said, is well educated, or at least he has the opportunity to get a good education, for most every dental college gives that, and it is his own fault if, after he leaves college, he does not become better educated.

DR. TRUMAN W. BROPHY, Chicago, thought that the reference made to the shortcomings of the schools of medicine, regarding their failure to teach many of the diseases and injuries of the oral cavity, is generally recognized, but he urged that the matter be taken up in the Section on Medicine, where it properly belongs. He felt that the trend of the papers and of the general discussion suggested that the word mechanics is an objectionable one, and that it should not be given the weight and consideration that it is receiving by dental colleges and dentists generally. It must be remembered, however, he said, that among the greatest men the world has produced have been those who attracted attention not only by their genius, but also by their digital skill. Men such as Michael Angelo and Thorwaldsen were mechanics, therefore dentists must not forget the achievements and the possibilities of the mechanical side of their profession. Dr. Brophy agreed with Dr. McManus that what is needed is men of education in dentistry. A man will stand for exactly what he is worth. If he is cultured, if he has education, if he has capacity, such qualities will be recognized, always. It does not make any difference what titles a man has; he will be recognized for what he knows and what he is able to do. As to dentists, they need not appeal to the medical profession for recognition.

DR. F. L. FOSSUME, New York City, emphasized the necessity of the dentist to fortify himself with a knowledge of pathology and histology, so that he can discuss all dental lesions in terms acceptable to medical men. Every man, he said, will get the recognition he deserves if he works, and if he pays attention to the opportunities that are offered of practicing dentistry on a high plane and according to a high standard. He believes that stomatology can stand alone and that the dental profession is insufficiently educated in pathology and histology. The cases that do not yield to treatment, those with lesions around the teeth and their sockets, are almost analogous to cases of gallstones which are treated therapeutically. Every physician, failing to secure results, will immediately proceed to examine the patient's urine, and thus arrive at a safe conclusion as to the etiologic causes of the disease and the reason for his failures. The ordinary dentist, practicing dentistry more or less mechanically and using only the fundamental principles of dentistry, is not doing justice to his patients when he fails to go a little deeper into the causes than merely to say, "This case is incurable." Dr. Fossume thought that if the Section on Stomatology could unite with some other section it would be a great education for dentists and a grand opportunity to put the entering wedge into the collateral profession and gain its respect and confidence. Physicians do not realize what dentistry of to-day is. Modern dentistry is as different from what it was in its fundamental principles as any of the other sciences are in their fundamental principles, which is due to scientific research work, done by men who have devoted their time and their money to research along these lines.

SUBPHRENIC ABSCESS AS A COMPLICATION OF APPENDICITIS.*

DANIEL N. EISENDRATH, A.B., M.D.
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HISTORICAL DATA.

The first accurate description of a subphrenic abscess was published by Bouchard[1] in 1862. In 1882, Leyden[2] reported several cases in which the diagnosis was made clinically. Maydl,[3] in 1894, collected 179 cases, which he divided into twelve groups, according to their cause. Among these were 23 following appendicitis. Since this time Weber,[4] Sachs[5] and Elsberg[6] have reported a number of cases. Elsberg was able to collect 73 cases of subphrenic abscess following appendicitis, which had been published up to 1901. I have been able to add 33 cases, including 5 of my own.

FREQUENCY.

Few statistics are available from which to draw deductions as to the relative frequency of this complication. Weber found it nine times in 350 cases, and Moschowitz[7] found 8 cases of subphrenic abscess among 2,000 cases of appendicitis occurring in Mt. Sinai Hospital.

ANATOMY AND PATHOLOGY.

The subphrenic region is divided into a right and left space by the falciform ligament of the liver. An abscess situated in the right space does not communicate with the left, unless the septum between the two is broken down. Each subphrenic space is again divided, incompletely, into an anterior and posterior space by the coronary ligament. A portion of the right lobe of the liver is not covered by peritoneum, owing to the separation of the two layers of the coronary ligament. This area is about the size of the width of the palm of the adult hand, but it plays no rôle in the pathology of subphrenic abscess. The right lobe of the liver lies in almost direct contact with the lower portion of the bony thorax, being separated from it by the diaphragm and the costophrenic sinus of the pleura.

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* Read before the Chicago Medical Society, Oct. 9, 1907.

1. Bull. de la Soc. Anatomique, 1862.
2. Ztschr. f. klin. Med., 1882.
3. Subphrenische Abscesse, Josef Safar, Wien, 1894.
4. Deutsche Ztschr. f. Chir., liv.
5. Arch. f. klin. Chir., l.
6. Ann. of Surgery, xxxiv.
7. Arch. f. klin. Chir., lxxxii.

Subphrenic abscesses may be located within the peritoneal cavity or in the retroperitoneal tissues. If intraperitoneal, the abscess may only occupy a small portion of either subphrenic space, either laterally or in front or behind. The abscess may be located high up under the dome of the diaphragm. It rarely fills the entire right subphrenic space, being usually limited by adhesions between the liver and the inferior space of the diaphragm.

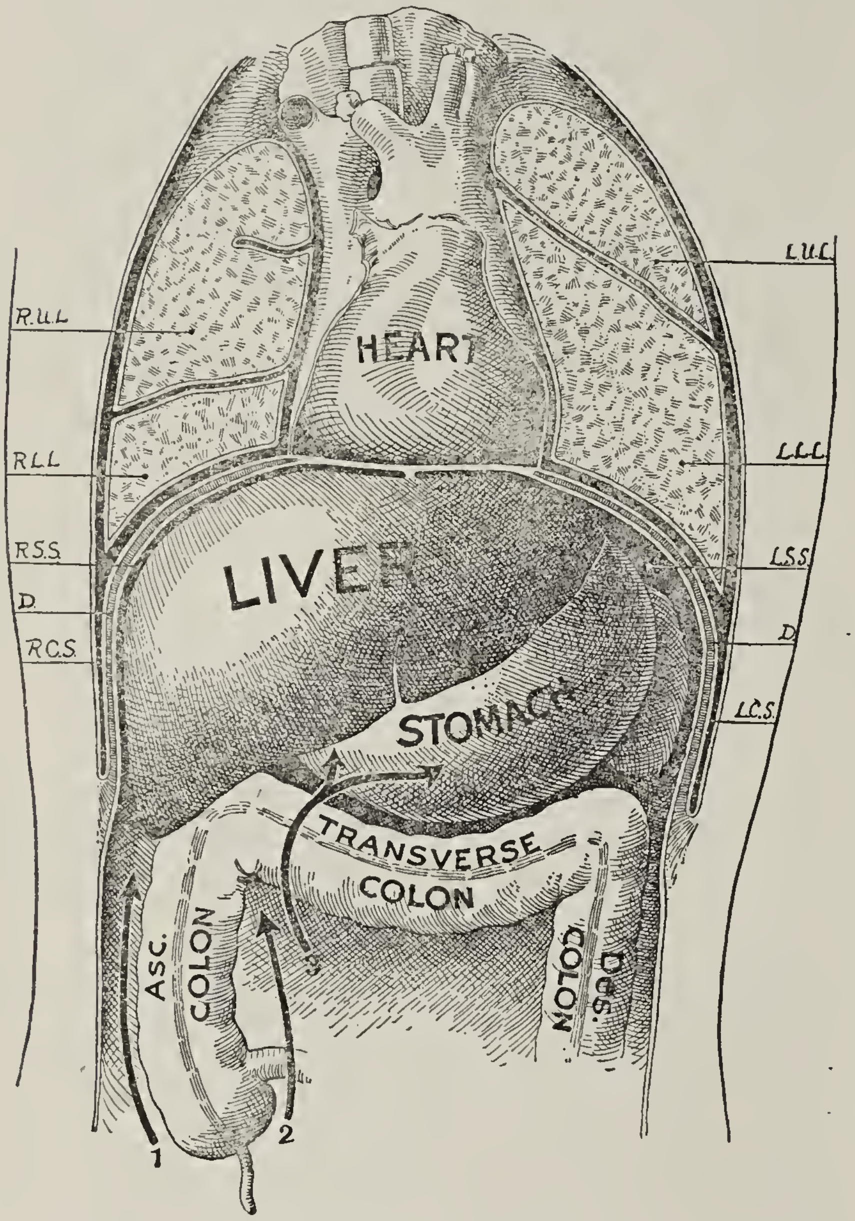

Fig. 1.—Modes of transmission of infection to right and left subphrenic spaces from appendix region. 1. Along outer side of colon. 2. Along inner side of colon. 3. Across transverse colon and stomach. The double arrow 3 shows that infection can either travel in front of the stomach and cause an abscess in the general peritoneal cavity between the spleen and liver, or the infection can pass through the foramen of Winslow into the lesser peritoneal cavity. R. U. L., right upper lobe of lungs. R. L. L., right lower lobe. R. S. S., right subphrenic space. D., diaphragm. R. C. S. right costophrenic sinus. L. U. L., left upper lobe of lungs. L. L. L., left lower lobe. L. S. S., left subphrenic space. L. C. S., left costophrenic sinus.

The intraperitoneal variety is far more common after appendicitis than the extraperitoneal. In the latter the infection travels upward behind the ascending colon in the retroperitoneal tissues. It can not extend very high upward, owing to the close attachment of the peritoneum to the inferior surface of the diaphragm. In the intraperitoneal variety (Fig. 1) infection either travels along the inner or outer side of the colon, or between its anterior aspect and the abdominal wall. In the 106 cases which I have been able to collect, the abscess was intraperitoneal in 50 per cent., and extraperitoneal in 25 per cent. In the remaining reports the location was not given or was doubtful.

A subphrenic abscess may follow an attack of appendicitis in which there has been no suppuration in or around the appendix. Such cases have been described by Weber, Krohne and Fink. Subphrenic abscess after appendicitis is usually situated in the right side, but 6 left-sided cases have been reported (Schlesinger, Reizenstein, Körte, Darling, and one of my own). Subphrenic abscess seldom occurs as the result of a general suppurative peritonitis. There are only seven such cases on record. It is often impossible to trace any purulent tract from the appendix to the subphrenic region. The position of the appendix bears a direct relation to the formation of the subphrenic abscess. In the majority of cases the appendix was retrocecal (Fig. 3). This is

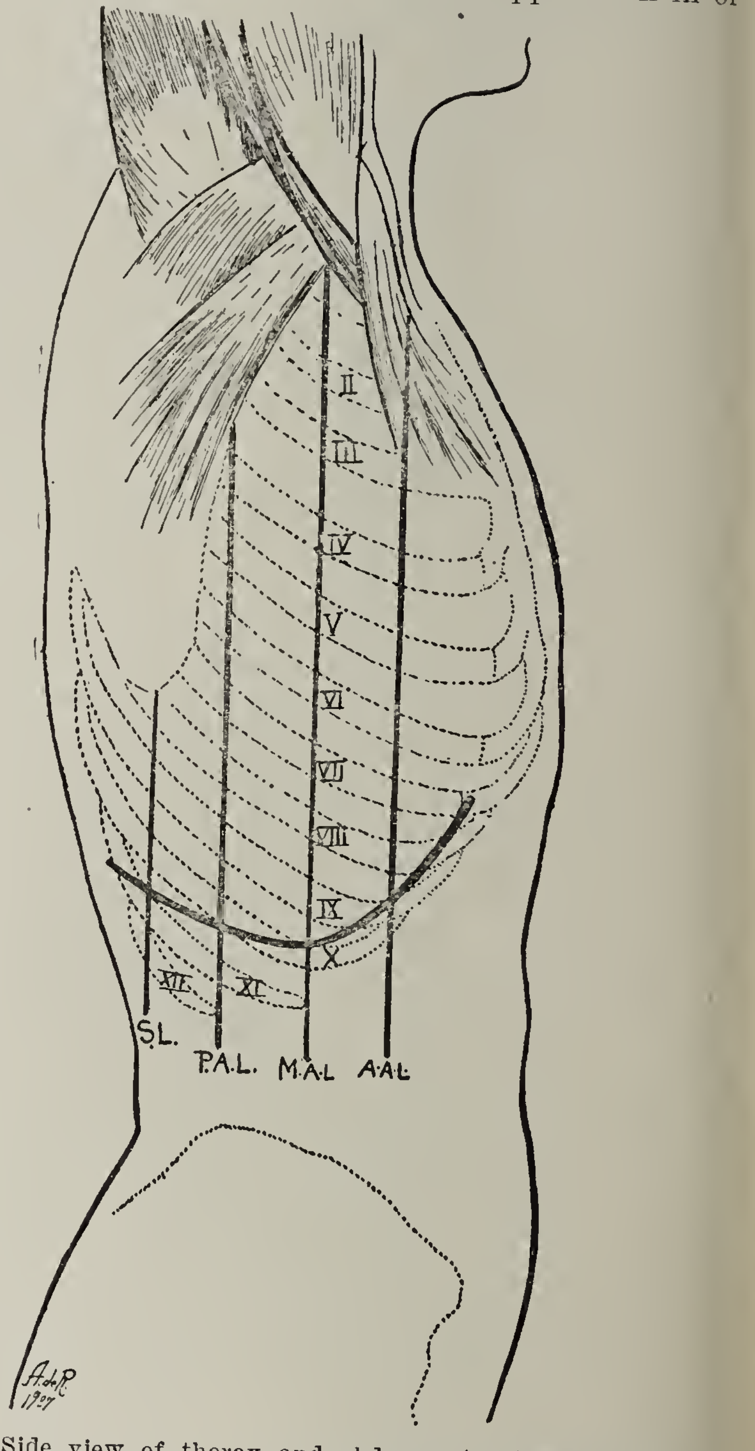

Fig. 2.—Side view of thorax and abdomen to show relation of pleural reflection to ribs and costal cartilages (see description in text). S. L., scapular line. P. A. L., posterior axillary line. M. A. L.. midaxillary line. A. A. L., anterior axillary line. The heavy black line represents the level of the reflection of the costal pleura on the diaphragm.

the second most frequent normal position of the appendix, according to Monks.

A persistence of the embryonal position of the appendix, due to non-rotation of the cecum, also favors the formation of a subphrenic abscess. The appendix is thus brought in close contact with the right lobe of the liver (Fig. 4). The proximity of the subphrenic spaces to the pleural cavities explains the frequency of pleural effusion as a complication. The pleuritic fluid is usually seropurulent, and may be encapsulated or not. Pericardial involvement is rare, although several cases have been reported in which death followed rupture of the abscess into the pericardium. Munro has called attention to the fact that subphrenic abscess may be the result of a liver abscess after appendicitis. Rupture of the subphrenic abscess into the lung has been reported in 19 cases. In the majority of cases subphrenic abscesses, after appendicitis, contain only pus. They thus differ from those following perforation of a gastric ulcer, in which the abscess cavity frequently contains both pus and gas.

The anatomic relations of the left subphrenic space are far more complicated than those of the right. The abscess either lies between the left lobe of the liver, stomach and spleen, or between the stomach and abdominal parietes, or in the lesser omental cavity (Fig. 5).

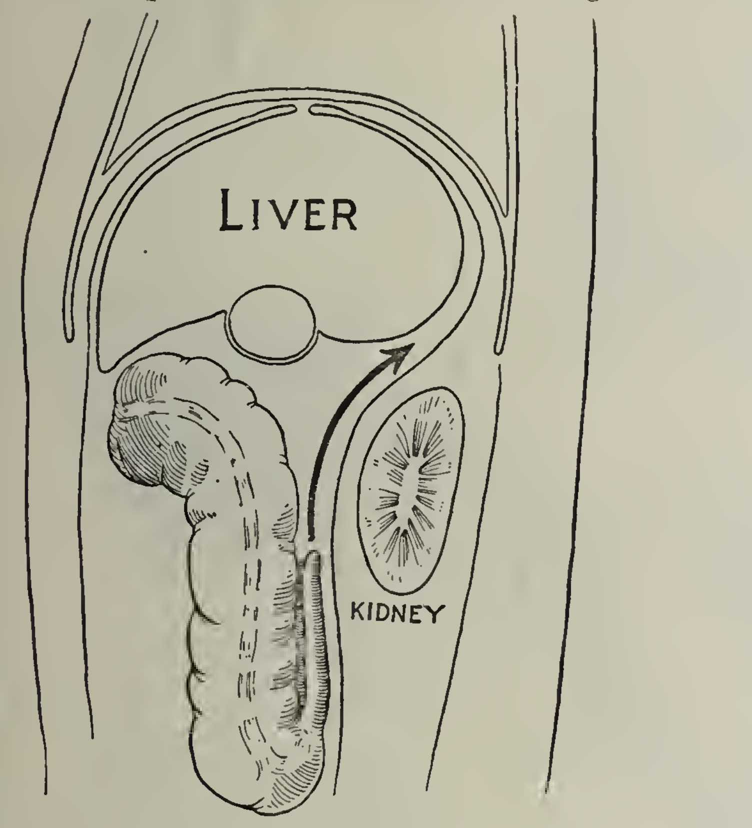

Fig. 3.—Route of infection from a retrocecal appendix to the right subphrenic space (sagittal section).

Before reviewing the symptoms and treatment of this complication of appendicitis, I desire to report the following cases:

Case 1.—Gangrenous appendicitis, with abscess formation; left-sided subphrenic abscess, diagnosed two weeks after operation; death from septicemia.

F. M., aged 11, was admitted to the Michael Reese Hospital with well-marked symptoms of appendicitis. A well walled-off intraperitoneal abscess cavity was opened, but no effort was made to remove the appendix. Condition quite critical. At the end of the first week the temperature was 106 F., pulse 130. The wound was reopened, but no cause for the septic condition was found. Examination of the thorax on the right side was negative. At the end of twenty-one days an area of dulness was found over the base of the left lower lobe posteriorly. An exploring needle was inserted and fetid pus obtained. The pleural cavity was opened under the impression that the complication was one of abscess of the lung. The left lower lobe was found adherent to the diaphragm. On being separated from the latter a needle was inserted through the diaphragm and very fetid pus was obtained. An abscess located between the left lobe of the liver and the spleen was drained, by the transpleural route. The septic symptoms improved for a short time, but recurred, and death took place about five weeks after the original operation.

The peculiarity of this case is the left-sided situation of the abscess. The only signs which caused a search for such a complication to be made were the persistence of high fever, rapid pulse and other signs of deep-seated infection, in spite of thorough drainage of the primary appendiceal abscess. The subphrenic infection was not the result of a generalized suppurative peritonitis, since such a condition never existed in this case. The infection probably followed between the adherent coils of intestine along the inner side of the colon to the left subphrenic space (Fig. 1). This case shows the necessity of a thorough physical examination in every case of suspected subphrenic abscess.

Case 2.—Right-sided subphrenic abscess; acute retrocecal appendicitis; death from subphrenic infection, five days after onset of illness.

H. G., aged 6; seen August 16, 1905; history of acute inflammatory affection of right side of abdomen for previous three days. Temperature, 103 F.; pulse, 152. Immediate operation. Appendix retrocecal, with tip extending almost to liver. Marked inflammatory changes, and covered with plastic exudate. The appendix was intraperitoneal. There was no perforation, nor evidence of abscess formation. Gauze drainage. Twenty-four hours after operation, pulse rose to 162, and respirations to 60. Twenty-four hours later, examination of wound negative; no tenderness on palpation over liver, and no area of dulness in lower part of chest. The temperature rose to 104 F., the pulse remaining about 160. Death occurred sixty hours after operation for removal of appendix, and five days after onset of attack. The autopsy, held three hours after death, showed that there was no free fluid in the peritoneal cavity, and no evidences of any peritonitis. On separating the right lobe of the liver from the abdominal wall a well-encapsulated abscess, containing eight ounces of pus, was found.

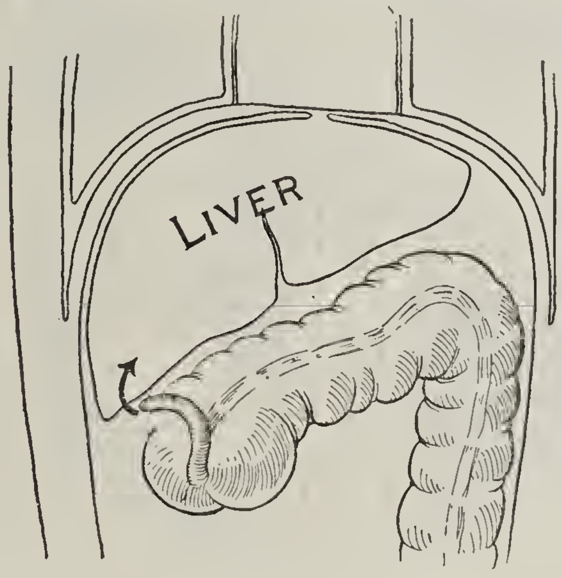

Fig. 4.—Mode of transmission of infection to the right subphrenic space from an appendix which is congenitally displaced either in front of or just below the right lobe of the liver.

The abscess was relatively small and could not be recognized by the ordinary physical signs. The persistence of the fever and rapid pulse should have served as an indication for a systematic exploration of the subphrenic region with the needle had the course been less rapid. The intraperitoneal position of the appendix behind the cecum, with its tip close to the liver, favored the localization of infection in the right subphrenic region. It would be better in such retrocecal appendiceal cases to have the patient placed in the Fowler position after operation, and some method of drainage should be provided for the retrocecal region, making a counter-opening in the loin. There was no abscess formation in the primary appendiceal lesion. The course was a very rapid one.

Case 3.—Right-sided subphrenic abscess, complicated by encapsulated diaphragmatic empyema. Recovery.

S. F., aged 30, male, was admitted to my service in Cook County Hospital, Sept. 29, 1905, with a diagnosis of empyema. The only history obtainable was that he had been operated on, one year previously, for appendicitis. A large scar in the right iliac region and the presence of a hernia rendered it possible to infer that an appendiceal abscess had been drained. Two weeks before admission to my service he was seized with a sharp epigastric pain; temperature on admission, 103 F. There was an area of dulness extending from the eighth rib downward on the right side of the chest in the scapular line, and from the fourth rib in the mammary line. Greatly diminished respiratory and voice sounds were heard over this area.

Exploratory puncture showed thick, fetid pus. The seventh rib was resected in the posterior axillary line; no pus found in the pleural cavity. The right lower lobe was adherent to the diaphragm, and on being separated a considerable quantity of fetid pus escaped. What was supposed to be an encapsulated diaphragmatic empyema was drained, the patient showing considerable improvement for a few days, but the septic symptoms recurred, and on October 14, two weeks after admission, the thoracic wound was inspected and a bulging upward of the diaphragm noted. Exploratory puncture showed the presence of a subphrenic abscess, which was drained at its lowest point by resecting the tenth rib in the anterior axillary line. Uneventful recovery.

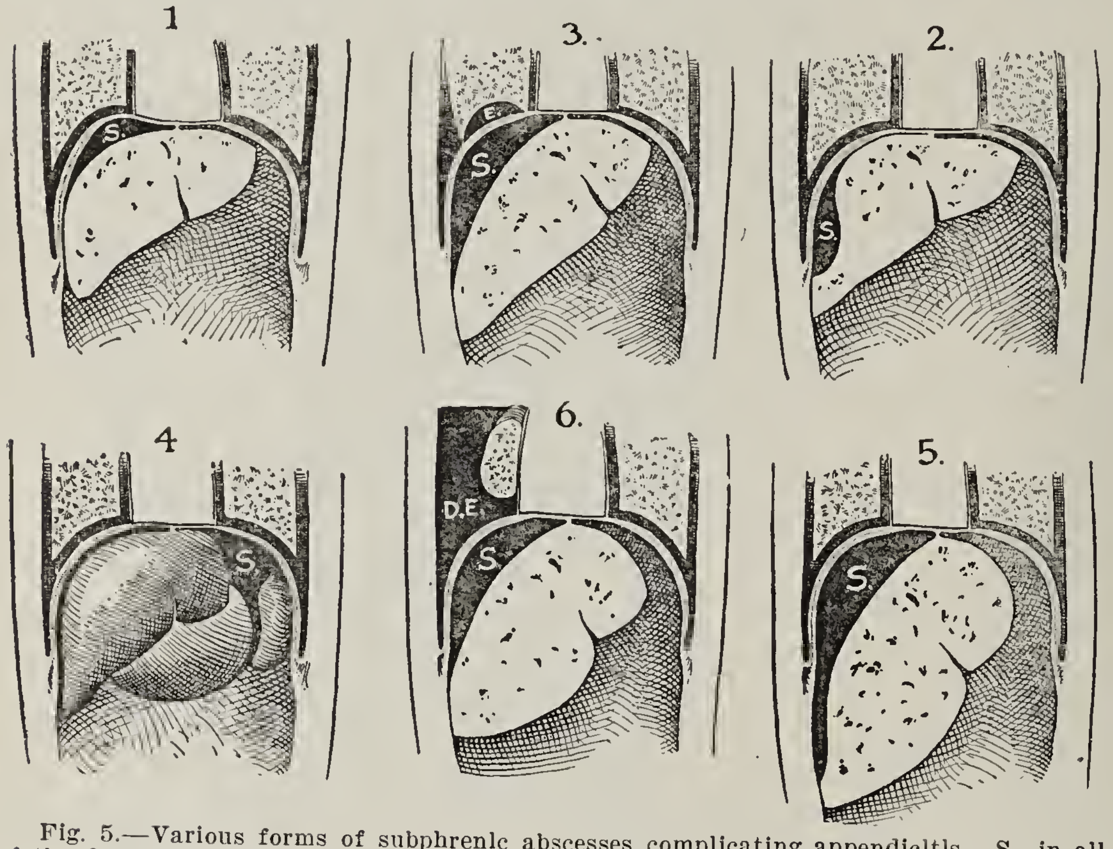

Fig. 5.—Various forms of subphrenic abscesses complicating appendicitis. S., in all of the figures, represents the abscess. E., in 3, represents empyema. D. E., in 6, diffuse empyema. 1. Abscess beneath dome of diaphragm. 2. Abscess low down in subphrenic space. 3. Combination of encapsulated diaphragmatic empyema and subphrenic abscess. 4. Left-sided subphrenic abscess. 5. Large abscess occupying entire right subphrenic space. 6. Combination of right subphrenic abscess and non-encapsulated empyema.

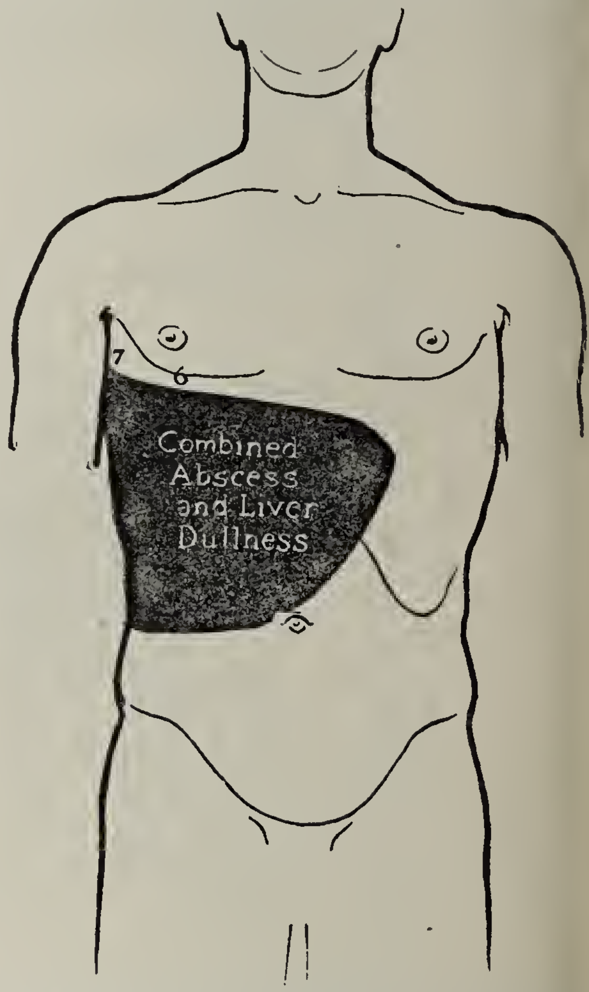

Fig. 6.—Area of combined liver and subphrenic abscess, dulness in a case of right sided abscess.

Case 4.—Retrocecal appendiceal abscess; subphrenic abscess under right dome of diaphragm; transpleural drainage; postoperative empyema; death from septicemia.

H. A., aged 18; entered my service at the Michael Reese Hospital on Feb. 11, 1906. He had been treated for the previous two weeks for appendicitis. The condition had improved after the first week, but recurrence of fever led his physician to send him to the hospital. On admission, there was rigidity in the right hypochondriac and lumbar regions, and some dulness over the same area. At operation, the ascending colon was found adherent to the abdominal wall along its entire length; a large abscess containing very fetid pus was discovered just in front of the right kidney; appendix was retrocecal but intraperitoneal; it was perforated at its middle; after being separated from the posterior aspect of the cecum it was removed. Temperature fell gradually to normal, but rose again five days after opening the appendiceal abscess. The wound was reopened, but no retention found. A counter opening was made in the ileocostal space, without any improvement. Examination of the thorax showed an area of dulness at the convex upper border from the seventh rib downwards, between the anterior axillary and scapular lines.

Exploratory puncture of this area showed the presence of fetid pus. The seventh rib was resected in the posterior axillary line, the needle having been left in place after the exploratory puncture. The needle was found to have entered an abscess containing about six ounces of pus, lying between the upper surface of the liver and the right dome of the diaphragm. It was impossible to suture the diaphragm to the chest wall. The pleural cavity was walled off with gauze, and a drain inserted into the subphrenic abscess across the costophrenic sinus. A very septic empyema developed, and the patient died six days later.

This case illustrates the difficulty of draining those abscesses which are located high up under the dome of the diaphragm. Several of Körte's patients died of a similar postoperative empyema.

Case 5.—Development of subphrenic abscess during non-operative treatment of appendicitis. Drainage of abscess while patient extremely septic. Death two weeks after operation.

C. F., aged 38, was seen one month after onset of appendicitis, which had been treated conservatively without operation. On admission the patient was very septic and emaciated with septic nephritis. Rigidity and tenderness over right hypochondriac and epigastric regions. Both right and left lobes of the liver were displaced downward, so that the lower border of the right lobe was below the level of the umbilicus. There was dulness from the sixth rib downward in the mammary line; from the seventh in the midaxillary line. Some edema over seventh and eighth ribs in the midaxillary line. Absence of respiratory sounds over area of dulness in the axilla. Exploratory puncture through the right seventh interspace in the midaxillary line showed chocolate-colored pus.

Under local anesthesia, incision was made along the line of the needle left in place. The seventh rib was resected, a distance of about two inches, in the midaxillary line, and immense quantities of pus were evacuated from an abscess lying between the posterior surface of the right lobe of the liver, the diaphragm and the upper pole of the kidney. A counter opening was made in the ileocostal space. The initial sepsis continued, and the patient died two weeks after operation.

SYMPTOMS.

The five cases just reported illustrate the varied clinical pictures which a subphrenic abscess produces. There are usually three modes of onset: (*a*) An acute form, in which the symptoms appear with the attack of appendicitis or a few days afterward. (*b*) A subacute form, in which signs of infection occur a few weeks after the beginning of the appendiceal attack. (*c*) A chronic form, in which the symptoms appear months after the appendiceal disease has been recognized or operated on. In Case 3 of my own series the subphrenic symptoms appeared one year after the removal of the appendix.

(*a*) *Acute Form.*—This variety may accompany or immediately follow an attack of appendicitis which occurs in an appendix arising from a normally placed cecum, or it may be the mode of periappendicular infection, which an abnormally placed appendix takes, as referred to previously. In this latter form the nonrotation of the cecum causes the appendix to lie close to the subphrenic region. Previous articles speak of this mode of onset being accompanied by severe pain in the hypochondrium, by nausea, vomiting and the signs of a severe infection. That pain and the other symptoms just described are not always very marked, is shown in Case 2 of my series.

The persistence of high temperature, with or without accompanying signs of severe septic infection, is the most characteristic symptom of the acute form.

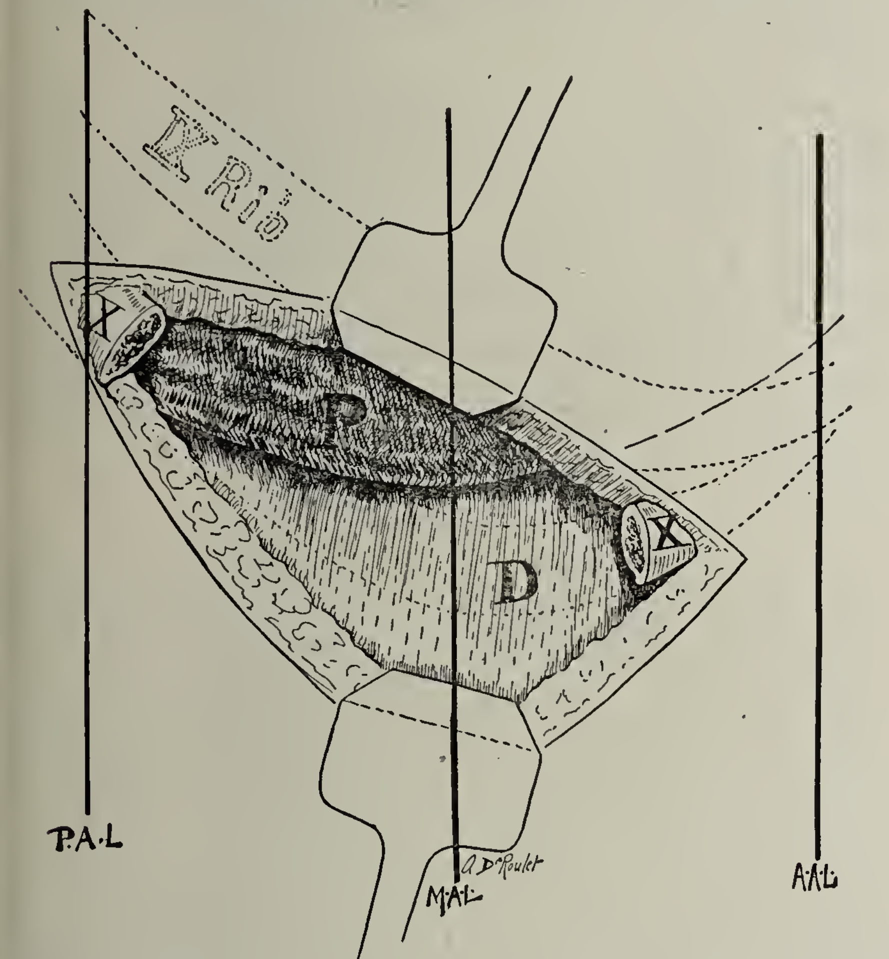

Fig. 7.—Relations of pleural reflection to diaphragm on right side of thorax after resection of tenth rib X, between posterior axillary line P. A. L. and anterior axillary line A. A. L. P., parietal pleura showing at its lower border the level of its reflection on the diaphragm D. M. A. L., midaxillary line.

Pain and tenderness in the right hypochondrium may or may not be present.

In some cases physical examination of the chest will be of the greatest aid. If the abscess contains pus only, an area of dulness, with a convex upper border, is found in or near the axillary line (Fig. 6). If the abscess contains gas, there will be an area of tympany above the dulness. It is impossible to differentiate areas of dulness due to pleuritic fluid from those due to a subphrenic abscess, if both are present. If the collection of pus beneath the diaphragm is small, and lies under the dome (Fig. 5), as in Case 3 of my series, or causes but little displacement of the liver, as in Case 2, physical examination is of but little value, and systematic exploratory puncture of the entire hepatic region would be the only means of making a diagnosis. Localized edema and tenderness of the skin of the lower thorax, or close to the costal arch, points to the presence of a subphrenic abscess usually of extraperitoneal location.

In some cases the displacement of the liver downward is very marked. Bulging along the costal margin or in the epigastrium is quite rare. In left-sided abscesses there is dulness at the lower portion of the chest, either in front or behind, or on the side. This dulness, if in front, often extends into the epigastrium, or even into the left hypochondriac region.

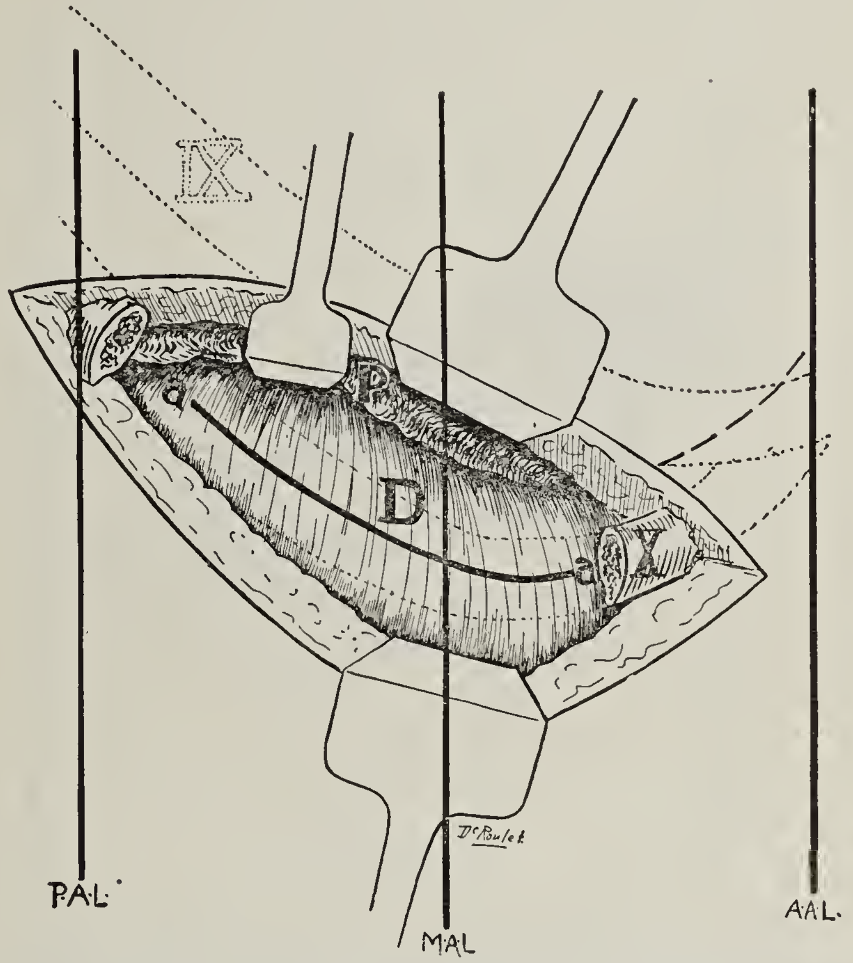

Fig. 8.—Same as Figure 7, but pleural reflection has been retracted upwards and diaphragm incised, thus opening the abscess cavity. The line aa indicates the line of incision.

Exploratory puncture is one of the most valuable means of diagnosis. If the pus is fetid, it is strongly indicative of the presence of a subphrenic abscess. If the needle penetrates quite deeply before pus is obtained, this should also lead to the suspicion of a subphrenic abscess.

If there are marked symptoms of sepsis following an attack of appendicitis, and the exploring needle reveals only a small amount of serous exudate, such a finding should lead one to consider the possible presence of an encapsulated pleuritic exudate over a subphrenic collection of pus. If a non-encapsulated empyema accompanies a subphrenic abscess, it is impossible to differentiate by exploratory puncture unless one first obtains ordinary non-fetid pus, and later, on deeper introduction of the needle, a fetid pus. One can distinguish the pus obtained from an abscess of the liver by the fact that it has no odor and is chocolate-colored.

(*b*) *Subacute Form.*—In this form the symptoms appear from eight to twenty-one days after the onset of an attack of appendicitis, or after the removal of the diseased appendix. A week or more after the attack or operation, the temperature rises again, accompanied by gradually increasing symptoms of septic intoxication. The fever is usually of the remittent type, and is accompanied by a corresponding rise in the pulse rate. The patient begins to lose in strength, and becomes greatly emaciated.

The local signs in this form do not differ from those described under the acute mode of onset. In a few cases, this recurrence of fever and of septic symptoms is accompanied by pain over the corresponding side of the chest, cough and dyspnea, but these latter symptoms are not at all constant. In the absence of any retention of pus in or around the seat of operation, this reappearance of fever, etc., should always lead one to search for the physical signs of a subphrenic abscess.

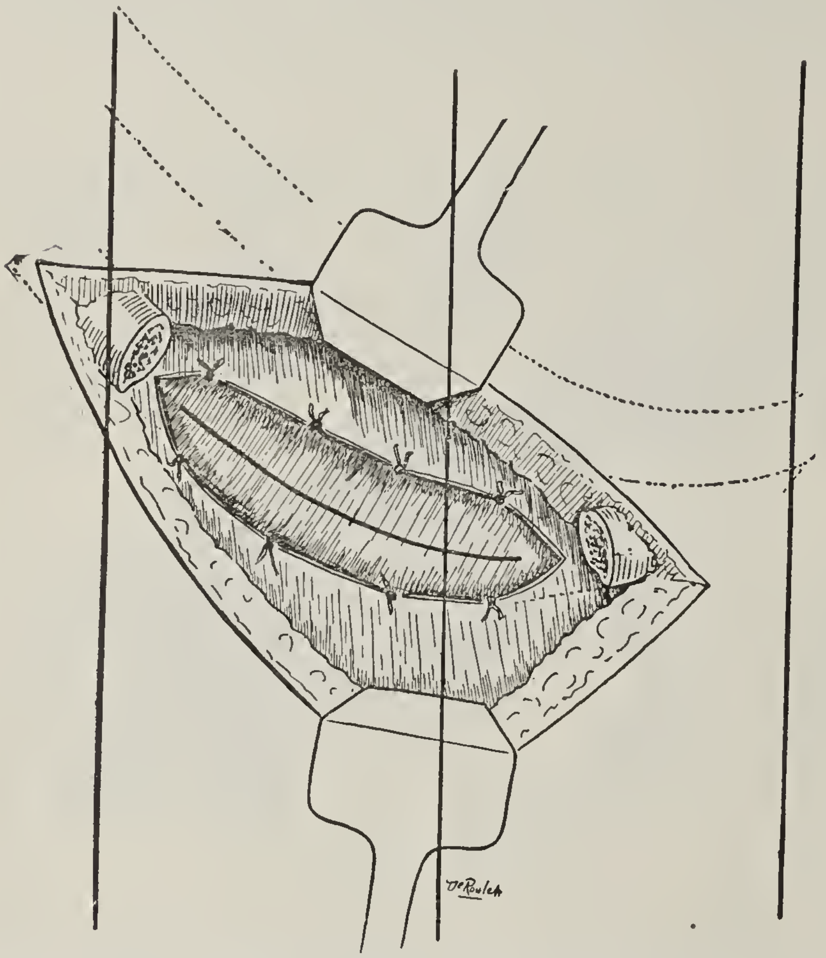

Fig. 9.—Method of operation in low transpleural drainage of subphrenic abscesses. After subperiosteal resection of that portion of the rib which lies over the abscess, the parietal and diaphragmatic layers of the pleura are sutured together.

Rupture into the lung has probably taken place if large quantites of pus have been expectorated suddenly in these cases.

(*c*) *Chronic Form.*—Case 3 of my own series best illustrates this mode of onset. For weeks to months after an attack of or operation for appendicitis there are indefinite symptoms. In some cases there is an occasional rise of temperature, accompanied by sweats and slight loss of weight and strength. In others, there are no symptoms until the patient is suffering from the symptoms of acute sepsis, due to an obscure deep-seated focus. In these cases the diagnosis can only be made from the local physical signs of dulness, etc., in the lower part of the chest, aided by exploratory puncture, taken in conjunction with the history of an attack of appendicitis, or of an operation for removal of a diseased appendix, or drainage of an appendiceal abscess.

DIAGNOSIS.

If a patient who gives the history of some inflammatory condition in the right lower quadrant of the abdomen, or who has been operated on for appendicitis, has a continued rise of temperature, accompanied by other symptoms of septic intoxication, one should always make a diligent search for a subphrenic abscess. The downward displacement of the liver, the presence of an area of dulness with a convex upper border, continuous with the dulness of the liver (Fig. 6), and the finding of fetid pus on exploratory puncture are very characteristic. If there is localized bulging or edema, the diagnosis is rendered quite easy. The principal condition to be differentiated is empyema. This is, at times, practically impossible. The history of a preceding pneumonia, followed by continued fever, and the local physical signs, is often of great aid in making a diagnosis of empyema. The upper level of the area of dulness is more apt to be horizontal in empyema instead of convex, as in a subphrenic abscess.

In many cases a differentiation is impossible, except from the history and the character of the pus. If the subphrenic abscess contains gas, and the three characteristic zones described under symptoms are present, the diagnosis is not difficult. If an empyema and subphrenic abscess coexist, differentiation is impossible. This is especially true of an encapsulated empyema, as in Case 3. This case also shows that persistence of fever after drainage of an empyema should lead to the suspicion of a subphrenic abscess. The *x*-ray is not sufficiently reliable to be useful as a means of diagnosis.

PROGNOSIS.

In general, the chances for a spontaneous evacuation of the abscess through the lung or externally are so slight that the prognosis is bad in non-operated cases. Even in those cases of subphrenic abscess in which an operation was done, the mortality has been much greater than it should be. This is due to the fact that the diagnosis has not been made in many cases until the patient is so septic that operation is of little avail.

Elsberg, in his article published in 1901, found that in 73 cases of subphrenic abscess after appendicitis, 11 of 51 patients operated on died, a mortality of 22 per cent. Of 22 patients not operated on, 18, or 82 per cent., died. The 107 cases which I have been able to collect since the publication of Elsberg's article include his 73 cases. In these 107 cases (all following appendicitis) the results were as follows:

	Patients.	Per cent.
Died with operation	23	21.5
Died without operation	19	17.7
Totals	42	39.2
	Patients.	Per cent.
Cured with operation	61	57
Cured without operation	4	3.8
Totals	65	60.8

These latter figures show that with the additional 34 cases which I have been able to collect (including my 5) since Elsberg's article, the mortality in 84 cases in which an operation was done was 25 per cent. It is impossible to state what the mortality is in non-operated cases, since the majority of these are either not recognized or are not published. That it is fully 80 to 85 per cent. must be concluded from the 19 cases which I have been able to collect. When we consider the almost moribund condition in which many of the patients are brought to the surgeon, 75 per cent. of recoveries in 84 operated cases is decidedly encouraging.

If the diagnosis is made at an earlier period of the disease the percentage of recoveries will be far greater than even 75 per cent. Such an early diagnosis can only be made if the physician or surgeon will bear in mind the relative frequency with which subphrenic abscess occurs as a complication of appendicitis.

TREATMENT.

There are five methods of draining a subphrenic abscess: (a) By an incision in the epigastrium; (b) by an incision along the costal arch; (c) by an incision in the lumbar region; (d) by the transpleural route; (e) by pushing the pleural reflection upward and opening the abscess cavity through an incision in the diaphragm without opening the pleural cavity. The first three methods are indicated when there is bulging in the epigastrium along the costal arch or in the lumbar region. A simple incision will suffice to evacuate the abscess. If, however, suppuration continues and septic symptoms reappear, it indicates either an accompanying empyema or insufficient drainage, or, finally, a persistence, as Bevan has shown, of the original focus. Such conditions require more extensive operations.

The ideal method of opening a subphrenic abscess, no matter what its origin may be, is by one of the last two methods, viz., resection of ribs over the area of suppuration with or without opening of the pleural cavity.

Before taking up the relative merits and indications of the transpleural and transthoracic but extrapleural routes, I desire to review briefly the anatomy of the pleura in so far as it is of interest in connection with subphrenic abscess. I have found by the dissection of a large number of formalinized cadavers that the majority of text-books on anatomy give the line of reflection of the diaphragmatic pleura at a higher level than is actually the case. Gray gives the lower limits of the pleura, i. e., the line of pleural reflection, as follows: On both sides the line of reflection meets the anterior axillary line at the junction of the eighth rib with its costal cartilage. It continues to descend until it reaches its lowest point at the tenth rib in the midaxillary line.

Cunningham was the first anatomist to call attention to the fact that the line of pleural reflection is lower than was formerly supposed. His observations were confirmed independently by Elsberg and by me. The diaphragmatic pleural reflection as now generally accepted is as follows:

In the mammary line, at the junction of the cartilaginous and bony portions of the eighth rib. Then passing downward (Fig. 2), it follows the lower border of the ninth rib from the anterior to the midaxillary lines, crossing the lower border of the tenth rib at the posterior axillary line, then passing slightly upward again to reach the side of the vertebral column at the level of the twelfth dorsal spine.

One can readily see the value of this knowledge when we recall that the attachment of the diaphragm to the chest wall is lower than the line of the pleural reflection. Elsberg, in his article on "Subphrenic Abscess After Appendicitis," published in 1901, described a method of operating which avoids opening the pleural cavity. He employed this technic in two cases. About two inches of the ninth and tenth ribs are resected in the usual manner, somewhere between the scapula and anterior axillary lines. The pleural reflection is seen in the wound and is pushed upward. An exploring needle is then inserted through the diaphragm and an incision made alongside of the needle, and drainage tubes inserted into the abscess.

In my own work, both on the human subject and on the cadaver, I found that the pleural reflection was so low that one could only resect the tenth rib between the anterior and posterior axillary lines without opening the costophrenic sinus of the pleural cavity. The diaphragm lies in the wound and can be incised readily after the pleural reflection has been pushed upward (Fig. 7). If the ninth rib is resected, the costophrenic sinus will certainly be opened unless the resection of the rib is carried out strictly between the anterior and posterior axillary lines and great care is taken in pushing back the periosteum of the ninth rib. This will be understood by referring to Figures 2, 7, 8 and 9.

If, as in one of my cases, the abscess cavity is situated high up under the diaphragm (Fig. 5), it can only be reached by the transpleural route.

The method described by Elsberg, which I have modified, is the ideal one. It avoids a possible pneumothorax and empyema. In two of Körte's cases and one case of my own the cause of death was postoperative empyema. In many cases it is impossible to open the abscesses by any other route than the transpleural.

In some cases the costophrenic sinus will be found entirely obliterated by adhesions between the costal and diaphragmatic pleuræ. The pleura can then be incised without opening the pleural cavity proper.

If it is necessary to open the pleural cavity several methods can be employed. If possible, the diaphragmatic pleura should be sutured to the costal pleura. If there is much bulging of the diaphragm it is best to aspirate some of the pus lying beneath it before suturing. If it is impossible to bring the diaphragm to the chest wall the general pleural cavity can either be walled off with gauze or a larger portion of the ninth and tenth ribs can be resected. The former (tamponnade) is very unsatisfactory on account of the danger of leakage. The second method, i. e., more extensive resection, has been recommended warmly by McDill,[8] who employed it in 100 cases of amebic liver abscess drained by the transpleural route. It had been previously employed by Körte, Lejars and others. After a four-inch partial resection of the ninth and tenth ribs in the midaxillary line an assistant presses the thoracic wall inward against the diaphragm, to which it is sutured, while an incision is made through the diaphragm into the subphrenic abscess.

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[8] THE JOURNAL A. M. A., Aug. 10, 1907.

Gelatin Treatment of Pulsating Exophthalmos from Aneurism.—Santos Fernandez reported in the *Revista de Med. y Cir.*, July, 1907, a case of pulsating exophthalmos from traumatic aneurism in which the patient was clinically cured by injections of 100 c.c. of a 1 or 2 per cent. solution of gelatin in a 2 per cent. solution of sodium chlorid. Fifteen injections were made in all between December and August, 1906, and the result was gradual subsidence of the exophthalmos and other symptoms of the aneurism. The case is illustrated, before, during and after treatment. He knows of no other case on record in which an aneurism of the ophthalmic artery was cured under gelatin treatment.

THE X-RAY AND HIGH FREQUENCY TREATMENT OF EXOPHTHALMIC GOITER.

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In December, 1903, I reported to the Academy of Medicine a case of exophthalmic goiter which had been treated and apparently cured by roentgenization. At that time only three months had elapsed since the suspension of treatment. This patient, however, has continued to remain in perfect health up to the present time, a period of four years.

At the present time I have five cases to report that were submitted to the Roentgen ray and high frequency treatment. In every case where regular and continued treatment was given a positive cure was effected. The fourth case was compelled to abandon treatment, but has continued to improve. In the fifth case favorable results were seen in the marked lowering of the pulse rate from 90 to 80, after the first treatment, and an improvement in the patient's ability to sleep. The queer nervous sensations which she experienced immediately following x-ray exposures she alleged to be the reason for discontinuing treatment. Of this, however, we entertain some doubts.

In the high frequency current we have a nerve sedative of undoubted value, an electrical energy that tends to restore the normal equilibrium of disturbed metabolism, and when delivered locally, especially from a metallic point, it is a powerful irritant, but under perfect control. All these properties, combined with roentgenization of the struma, were utilized in the treatment of these cases.

The sedative property of the high frequency current, its power to induce relaxation in conditions of nervous excitability has long been recognized. This action of the current is best manifested in asthma, and on repeated occasions we have seen severe paroxysms that subsided quickly and completely after a few minutes' application. The influence of the high frequency current on metabolism is shown, first, by the loss of weight which patients invariably undergo, especially after the first few treatments. In not one case among more than 100 cases submitted to this current have I failed to observe some early loss of weight. After a varying period, however, the appetite is stimulated, more food is consumed, and then an increase in weight is most certain to follow.

Again, this action is demonstrated by an increase in the volume of urine and its solids, the former being observed frequently and mentioned by the patients themselves.

Locally, the high frequency current undoubtedly stimulates the cellular activity of the thyroid gland, acting most probably through an increase of its blood supply. An erythema, persisting for several hours, is readily induced by effluviations over the thyroid gland.

The action of the x-rays in exophthalmic goiter presents some interesting phases. At all times we must recognize that the Roentgen ray possesses three different therapeutic properties; viz., stimulating, irritating and tissue destroying. In exophthalmic goiter we only employ its stimulating action. In these cases we have to consider the influence of the rays on the goiter, on the exophthalmus, on the tachycardia, and on the general nervous system.

STRUMA.

All x-ray therapists recognize its peculiar selective influence on glandular tissues. When the hypertrophied thyroid gland of Graves' disease is brought under the influence of the ray, the following phenomena are invariably observed: At first there is a gradual contraction of the organ until a reaction occurs, at which time the gland becomes harder, more elastic, more or less sensitive and swollen. The enlargement is at times most marked, and it is apt to exceed the dimensions of the gland prior to treatment. To inform the patient beforehand of this fact will not only prevent a possible alarm on his part, but will also strengthen his confidence in the treatment. Immediately following this reaction a more rapid diminution in size occurs, and from then on there are numerous minor reactions during the course of the treatment, each one followed in turn by contraction. After the complete subsidence of the organ, the remnant is harder to touch, appears to be rich in connective tissue, and resembles in character the connective tissue remains obtained after successful roentgenization of tuberculous glands. In Case 5 a reaction occurred during the first exposure to the rays and immediately afterward a marked contraction was evident, the gland measuring one inch less in circumference. We have noticed in these cases that the distressing and sometimes painful sensations about the neck were entirely relieved after each exposure.

Regarding the influence of the rays on the exophthalmus, although having no bearing on their curative influence, interesting changes occurred in two of the cases. In Case 1 for ten years prior to the treatment the patient complained of weak eyes and was dependent on glasses for near vision. After her recovery she gave up the use of glasses altogether. In Case 3 the patient had used glasses for eleven years before treatment, and after her recovery she discarded them as her vision became very acute.

TACHYCARDIA.

Observations on the influence of the rays on the heart we have found to be of great interest, especially so in exophthalmic goiter, for here the sedative influence of the rays is most striking. We have frequently noted a slowing of the pulse rate of from 10 to 50 beats per minute after exposures of from 5 to 10 minutes. During the exposure the disturbance of rhythm is evidenced by the intermittent character of the pulse. About one minute after the exposure, intermittence gradually becomes less frequent, and the pulse is retarded gradually, up to 5 or 10 minutes later, when a maximum retardation is effected. On frequent occasions, after a maximum diminution of the pulse rate has been obtained, further application of the rays, no matter how brief, will cause the pulse to intermit again and become slightly accelerated. These same changes have been seen in cases other than those of exophthalmic goiter, notably so in alcoholic, neurotic and chronic weak hearts.

The question arises as to the manner in which these changes are effected. The fact that similar results can be obtained in cases where there is no involvement of the thyroid gland would make it appear that the retarding of the heart's action was not due to any direct influence of the rays on that gland. It does not appear, however, from numerous observations we have made, that these effects are the result of any direct action of the rays on the heart itself, for the same results were obtained when the heart was protected by lead shields while exposures were being made to other parts of the body.

The following are a few illustrations: 1. Face exposed; heart senile and irritable; time of exposure four minutes; pulse before exposure, 90; immediately after, 86; five minutes after, 81. 2. Face exposed; heart neurotic; time of exposure, five minutes; pulse before exposure, 90; one minute after, 86; ten minutes after, 84. 3. Abdomen exposed; heart chronic, weak; time of exposure, four minutes; pulse before, 98; one minute after, 90; ten minutes after, 80. 4. Neck exposed; heart asthmatic; time of exposure, three minutes; pulse before, 106; one minute after, 90; ten minutes after 80. 5. Face and neck exposed; heart senile and irritable; time of exposure, four minutes; pulse before, 100; immediately after 95 and intermittent; five minutes after, 90 and regular.

In one case the exposure was made over the lower extremities, the pulse remaining the same before and after the exposure.

The high frequency current delivered through a glass electrode to any part of the body has somewhat similar though considerably milder effect. We have also obtained much the same result when the current, passing through the x-ray tube, was reversed; for example: Neck and chest exposed; time of exposure, three minutes; pulse rate before, 90; immediately after, 80; then five minutes' application of the high frequency current was made by effluviation over the spine, when the pulse was raised to 96, showing a subsequent stimulation.

The conclusion which can be drawn from these observations is that the heart is affected indirectly by a stimulation of the vagus. Owing to the proximity of the pneumogastric nerve to the thyroid gland, it would seem impossible to draw any deductions as to the influence of the struma on the tachycardia by confining roentgenization to the thyroid gland. On the other hand, valuable data might be obtained with reference to the influence of the tachycardia on the struma by roentgenizing the cardiac area. In Case 5, where the pulse rate was 200, and there was a great nervous disturbance, exposures were always followed by relaxation. On the other hand, in cases where the tachycardia was less marked, a nervous reaction frequently followed treatment. We believe, therefore, that the best results can be obtained when every exposure is so adjusted that the maximum retardation of cardiac reaction is secured, and when obtained further treatment should be suspended until the following visit. This necessitates frequent observations as to the character of the pulse at every treatment.

NERVOUS SYSTEM.

As regards the influence of the rays on the nervous system: Here, again, the pulse furnishes a valuable index. As in a majority of cases mental relaxation and a strong tendency to sleep follows treatment, with or without a nervous reaction, it is very probable that this property is, in great measure, responsible for the beneficial results obtained in the x-ray treatment of exophthalmic goiter. In one case, where the patient suffered from insomnia for a period of five months prior to the beginning of treatment, a remarkable improvement occurred in all the symptoms soon after the first treatment, which immediately resulted in her being able to sleep uninterruptedly for more than eleven hours. The same results followed each exposure to the rays throughout the whole course of treatment.

In those cases where nervous reaction followed, accompanied by restlessness, mental excitement and peculiar sensations in the head lasting for an hour or so, such reactions were likewise followed by relaxation and a desire to sleep. In fact, in all cases the treatment was followed sooner or later by an increased ability to sleep. The same property of the rays has been noticed in numerous cases other than those of exophthalmic goiter. As a rule, patients in a recumbent position sleep throughout the entire exposure, and a majority of the patients treated in a sitting posture speak of this peculiar influence of the x-rays.

The sleep-producing influence of the x-rays was so pronounced in the case of one patient who had marked neurasthenic tendencies, that she would fall into a profound slumber the instant the rays were excited, necessitating frequent interruptions for fear her head would fall against the tube. When the rays were turned off she would awake with equal suddenness, remaining, however, in a protracted somnolent condition which persisted for several days. How great a rôle psychic influences play in these phenomena is a question that naturally would arise.

There are certain features of the x-ray exposures, viz., the quiet attitude that must be maintained on the part of the patient, the fixation of the eyes on the lighted tube, and the monotonous noise of the interrupted current, that would indicate mental suggestion. On the other hand, the following facts would tend to negative this supposition: It is observed in individuals not naturally open to mental suggestion. The opposite effect, namely, nervous excitement, has been observed in a few cases. The somnolent condition, at times, is prolonged for a greater period than would usually follow other means of suggestion. Lastly, there are certain physical indications, which we will not consider at present because they need further investigation, that the body remains charged with peculiar high frequency currents that coincide, more or less, with the nerve impressions following x-ray exposures. In not one of the following cases were any unpleasant or injurious effects observed:

CASE 1.—Mrs. H., aged 46, examined June 10, 1903. Since the sudden and rather tragic death of her husband, one year ago, she has complained of nervousness and general debility. She lost over 40 pounds in weight, and was not able to undergo any slight physical exertion without fatigue. Mentally she was despondent, hypochondriacal, and was absolutely convinced that she was suffering from some fatal malignant disease. Her appetite was impaired and she had not had a night's restful sleep since the shock. She also had a feeling of impending death, and was afraid to venture on the streets. Dr. Richards of Boston and Dr. Billings of Chicago, had diagnosed her case as one of incipient exophthalmic goiter.

There was exophthalmus. The obtrusion of the eyeballs was marked, though not extreme. No heart murmurs; cardiac impulse exaggerated; pulse, regular, 115; thyroid glands moderately enlarged, giving a horse-shoe shaped projection. The hypertrophy was most marked in the right lobe. The isthmus was thickened, and there was some involvement of the pyramidal lobe. Surface moderately nodulated. Visible pulsation and palpable systolic expansion. The skin was thin, smooth and in the palms of the hands moist. Moderate pigmentation resembling somewhat that of Addison's disease. Fine tremor of tongue and hands. Numerous local tender spots over the spine. All muscles, especially those of the arms and legs, flabby and emaciated. Fat loose and dependent.

Treatment.—X-ray exposures, medium tube, ten minutes. Distance, beginning at 15 inches, diminishing one inch at each subsequent sitting to 10 inches. High frequency effluve, consisting of one-half inch sparks applied up and down the spine for ten minutes, and over the goiter for two minutes. Also a mild sedative high frequency current, administered through the eyes by direct contact, for two minutes, one minute to each eye. Treatments were given three times a week, for four weeks. During this time the following observations were made: Exophthalmus not much changed, possibly less protuberant at the end of treatment. The most interesting feature was the action of the rays on the heart. During the exposure the pulse became irregular, intermitting from two to three beats per minute, then suddenly, about one minute after the exposure, there was a marked change in rhythm, the pulse rate being lowered from 10 to 20 beats per minute. Before the first treatment the pulse was 115; one minute after, 110; five minutes after, 100, and ten minutes after, 90. Before second treatment, pulse 110; one minute after, 105; five minutes after, 100; ten minutes after, 90. Pulse rate about the same until the sixth treatment. Before the sixth treatment, pulse rate, 95; five minutes after, 85. After this there was a gradual diminution in the pulse rate up to the last treatment. Before last treatment the pulse was 86; five minutes after, 80.

After the fourth treatment there was a marked increase in the size of the goiter. The gland was sensitive to touch, harder and more elastic. A few days following this reaction the gland began to undergo a gradual shrinking, but at least three other reactions occurred, though much milder in character, before the suspension of treatment, July 12, when the gland was no longer perceptible, but by palpation a slight hypertrophy was evident. From the first treatment patient began to lose in weight: the maximum loss was six pounds, reached at the beginning of the sixth treatment. From that time on the weight remained about the same, fluctuating from a pound or more, coincidently with the periods of reactions in the goiter, until the ninth treatment, when she began to gain from 1½ to 2 pounds between treatments. At the end of the course of treatment she had regained her former weight. From the first there was a gradual loss of flabby adipose tissue, but a corresponding gain in firmness and strength in the muscular system.

A few hours following the first treatment there was a nervous reaction, characterized by increase in restlessness and mental excitability, accompanied by giddiness and peculiar sensations in the head. This reaction continued for two hours or more, after which there was a marked nervous relaxation and a strong tendency to sleep. Much milder reactions followed subsequent treatment, gradually diminishing in intensity until they were scarcely noticeable. From the very beginning there was an improvement in the appetite, mental condition, and her ability to sleep.

On July 13 the patient started for a two months' camping-out in the woods of Maine. I saw her on her return, September 15. She appeared to be in the best of health, had gained 15 pounds, had a good appetite, was sleeping better than she had for years, pulse was normal, and she was in a happy frame of mind. On examination no trace of the exophthalmic goiter, excepting a moderate widening of the palpebral fissures, was found. Patient has been seen yearly up to the present time, and has had no recurrence.

Case 2.—Mrs. K., aged 36; seen April 2, 1907. For a year or more she had been very nervous and irritable; for the past six months her restlessness and mental irritability had become so marked that she was thoroughly alarmed. The most peculiar feature of her mental condition was that she was suspicious of everybody, including acquaintances and every member of her family. She frequently became very much excited about the most trivial things, while all the time conscious of the unreasonableness of her conduct. She lost considerable flesh and strength and was no longer able to attend to her usual household duties, no matter how small, without undergoing extreme fatigue. She dated her trouble from the time when she was called on to take charge of a neighbor having an epileptic paroxysm.

The facies was anxious. The eyes were conspicuously protuberant. v. Graefe and Stellwag signs were present, as was also a systolic murmur over the base; impulse of heart exaggerated. Pulse, 110, regular; some increase in tension. Throbbing of the carotids and the abdominal aorta well marked. Skin, cold and clammy. Fine tremor of tongue and hand. Exaggerated reflexes. Thyroid gland, moderately and uniformly enlarged; pulsating.

Treatment.—Same as in Case I. The following observations were made during the treatment:

Eyes, gradually but slowly became less protuberant. Thyroid, after the third treatment was markedly swollen, hard and elastic, after which there was a gradual diminution in size up to the time of the last treatment. Pulse, before first *x*-ray exposure was 110; one minute later, 100; ten minutes later, 90. April 6, pulse before exposure 96, after 90. May 4, mild reaction; pulse before exposure, 80; after, 78. Weight, 122 before first treatment. She gradually lost weight up to the time of reaction, when her weight was 121½ pounds, after which she lost three pounds; then followed a gradual increase in weight until the last treatment, May 24, when she recovered her former weight. She steadily gained in muscular tone and strength from the first treatment.

About one hour after the first treatment she experienced a peculiar nervous reaction which lasted about two hours. It was accompanied by increased excitability, restlessness and queer and indescribable feelings about the head. After this reaction she was seized with an unconquerable desire for sleep. She had eleven hours of very sound and restful sleep, after which there was a most marked improvement in all her nervous symptoms. At the last treatment, May 24, she felt so well that she wished to abandon treatment; her general health was better than it had been for years, and she felt able to do all of her general housework. Exophthalmus still evident, though much improved. Goiter, not visibly perceptible, though still slightly enlarged. Pulse, 78. Improvement in tremors and reflexes. Patient was seen again October 13, and showed a continued improvement.

Case 3.—Miss W., aged 36; seen May 15, 1907. This patient was a chronic hypochondriac, with a tendency to melancholia. She had undergone numerous surgical operations, including an appendectomy, ovariotomy and nephrorrhaphy. She had no mental symptoms peculiar to exophthalmic goiter. She complained mostly of insomnia. Eyes were slightly protuberant. Thyroid, moderately hypertrophied; heart negative; pulse 90, soft, regular and not increased in tension. Fine tremor of tongue and hands. Skin, cold, clammy and showing yellowish brown pigmentation.

Treatment.—Same as in Case 1. This patient had but three treatments, when she decided that they were not giving good results, and she was not seen again.

Features of this Case.—Pulse before first *x*-ray exposure, 90; one minute after 86, five minutes after 80. Almost immediately after the first treatment she experienced a very peculiar nervous reaction which frightened her very much. She gradually recovered from this condition and had a restful sleep. Nervous reactions followed the second and third treatments, and it was on account of these she decided that the treatment was not suited to her case.

Diagnosis.—Doubtful.

Case 4.—Miss A., aged 53; seen May 4, 1907. Had gradually lost flesh and strength, and had suffered from general nervous disturbances for the past six years. One year later she gave up her position as teacher and from that time she has grown gradually worse until she was unable to go about. Appetite good, sleep irregular. She complained chiefly of weakness in the lower extremities, felt unable to walk more than a few steps, and frequently collapsed. For the past two months she had had numerous and copious mucous dejections. She attributed all her troubles to a severe mental shock.

Eyes were protuberant; Stellwag and v. Graefe signs present. Thyroid, moderately and uniformly enlarged. Throbbing carotids and abdominal aorta, the latter very marked. Exaggerated cardiac impulse; no murmurs. Pulse, 120, regular, and slight increase in tension. Marked tremor of tongue and hands, and a general tremor as well. Skin, dark yellowish pigmentation. Extremities cold and clammy. General emaciation. Muscles of calves very flabby.

Diagnosis.—Exophthalmic goiter and nervous colitis.

Treatment.—Same as in Case 1, but in addition *x*-ray exposures were given to abdomen. Had three treatments a week for four weeks. Pulse before first treatment 120, after 95; before second treatment 115, after 90; before third treatment 115, after 90; before fourth treatment 95, after 85; before fifth treatment 95, after 90; before sixth treatment 95, after 85; before seventh treatment 88, after 84; before eighth treatment 92, after 80; before ninth treatment 90, after 80; before tenth treatment 92, after 78; before eleventh treatment 85, after 80;

before twelfth treatment 85, after 78. Weight before first treatment, 136 pounds; weight after fourth treatment, 130 pounds. After this the patient gradually began to gain in weight up to the last treatment, when her weight was 133 pounds. Patient had a mild reaction after each treatment, most marked after the first, and gradually diminishing in intensity up to the last. At the end of treatment, patient had improved in all her symptoms. Moderate exophthalmus and struma remained. Circumstances compelled her to abandon treatment and to return to her home. September 15 patient stated that she had continued to improve and was enjoying very good health.

Case 5.—Mrs. F., aged 50; was seen Oct. 5, 1905. Referred to me by Dr. J. E. Kelly. Patient's illness began last January, when she first complained of physical exhaustion, until April, when she was unable to sit up more than ten minutes. Her appetite remained good, but she was unable to sleep more than an hour or so at a time. From her former weight, 135, she lost continually up to May 1, when her weight was 98 pounds. On that date she had a complete collapse and was confined to bed for three weeks continuously, and most of the time during the three subsequent weeks. During the period of recumbency she suffered greatly with nausea and vomiting, although her appetite remained unimpaired and at times ravenous. Was not able to retain any medicine, and only a small quantity of aliment. During the period of confinement to bed she was not able to get more than one-half hour periods of sleep. She was delirious and had hallucinations and delusions. During the attacks of delirium she had to be held down by force. She was very suspicious, distrusting every movement of her family or attendants. When she was able to go about, she could only walk on the level, being unable to raise her limbs more than a few inches, making it necessary to lift her on and off cars. On several occasions she fell on the streets and had to be assisted home. Swelling of the neck and prominence of the eyes were not noticed until a short time before her collapse, although she had experienced a fulness and tenderness of the neck some months previously.

Patient was highly excited and could not be induced to sit quietly a moment. Acted like a maniac. Eyes markedly protuberant; Stellwag and v. Graefe signs present. Thyroid, hypertrophied to a high degree. No heart murmurs; exaggerated impulse. Pulse, very rapid, 200; regular, no increase of tension. Marked tremors; unable to write. General emaciation. Muscles of calves flabby and atrophied. Skin, grayish pallor, with areas of erythema.

Treatment.—Same as in Case 1, but owing to extreme restlessness and unmanageableness, treatment was given unsystematically, and with constant interruptions. She received three treatments a week for four weeks, then twice a week till the middle of December. The principal features of this case are as follows:

Immediately after the first treatment she thoroughly relaxed, and was seized with an irresistible desire to sleep. She fell asleep on the train going home, and immediately on reaching home slept soundly for eleven hours and a half. On the following day she slept all morning. This condition followed all subsequent treatments for over a month. Her pulse dropped 50 beats during the first treatment. From then on her pulse declined steadily, with sudden drops after each treatment. Thyroid decreased one inch in circumference after the first treatment. About the third treatment there was a reaction, marked by increased swelling, after which there was a gradual diminution, excepting during several minor reactions following treatments. The exophthalmus improved constantly, but more slowly. Mental and general condition improved continually from the first treatment. Gradual increase in weight.

Examination at Last Treatment.—Eyes still moderately protuberant. Thyroid greatly reduced, though still quite perceptible. Pulse, 90. Other symptoms greatly improved. She continued to improve after abandoning treatment. October, 1906, eyes moderately conspicuous. Thyroid, readily palpable but not visibly enlarged. Pulse, 80; weight, 131 pounds. All muscles strong. Muscles of calves especially large and firm. Says she feels strong and is able to do a hard day's work. Another peculiar feature of this case was that before her illness she had a soprano voice, reaching to high C, and after treatment her voice changed to a deep contralto, reaching as low as F flat. October 25, 1907, patient still remains in the best of health.

120 East Thirty-fourth Street.

LOCAL ARTERIOSCLEROSIS.*

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The conception of arteriosclerosis as a general disease, characterized by thickened or beaded radials, hypertension, and by a special tendency to terminal changes referred to kidneys, heart or brain, should be supplemented by a knowledge of its local manifestations. These are quite independent of general vessel degeneration, often wanting in subjective symptoms, usually free from arterial hypertonus.

Isolated examples of purely local disease have occasionally been reported, but until recently extensive observations on the subject have been meager. Brooks[1] published 1,000 consecutive autopsies, noting among these 400 cases of arterial disease, in 270 of which the coronary arteries were sufficiently sclerosed to affect nutrition of the heart muscle. In this group he found only 154 cases susceptible of diagnosis by examination of the superficial arteries. On the other hand, definitely hardened radials presented in 8 of his 400 cases, without disease of the aorta, large trunks or viscera; 368 cases exhibited serious affection of the visceral trunks, rarely associated with disease of the peripheral vessels.

Romberg[2] collected examinations of 1,477 non-selected cases dying of promiscuous diseases, with especial reference to involvement of the superficial arteries. In men over 30 the brachials are found involved twice as frequently as the temporals or carotids, while in women this ratio obtains only after 50, severe manual labor among men apparently being the predominant reason for this singular difference.

Thayer and Brush,[3] in their studies of patients dead of typhoid fevers, impress us with the frequency in these cases of disease confined to the aorta and coronaries. Among 52 autopsies, sclerotic changes were observed in the aortas of 30, fresh lesions in 21, while among 62 examinations of typhoid coronaries "19 had definite sclerotic changes, and in 4 more yellow opacities of the intima were observed."

Futcher[4] notes nutritional changes in the pancreas associated with local sclerosis of the pancreatic arteries as present in certain cases of diabetes.

Much interest attaches to local atheroma and calcification in the very young, so rare is the general disease in this class.

Hodgson,[5] in 1815, says his friend Young "possesses a temporal artery which he removed from an infant 18 months old, in which the coats of the vessel were covered with a complete tube of calcareous matter."

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* Read before the Medical Society of the District of Columbia, Jan. 30, 1907.

1. Am. Jour. Med. Sc., 1906, cxxxi, 778; New York Med. Jour., Oct. 27, 1906, 825.
2. Handb. d. prakt. Med., i, 775; Verhandl. d. Cong. f. innere Med., 1904, 60.
3. The Journal A. M. A., 1904, xliii, 726.
4. Osler's Mod. Med., i, 757.
5. Treatise on Dis. of Arteries, 1815, 23.

Montard-Martin[6] reports a child, without kidney involvement or luetic infection, dying of smallpox. Autopsy revealed plaques at the aortic orifice and in the aorta, and the aortic valves covered with calcific incrustations. Andral found calcific plaques in the aorta of a girl of 8 years. Brooks observed coronary sclerosis in a boy of 15 years.

Henning[7] reports congenital changes in the aorta and heart valves of a fetus whose mother had, during pregnancy, an attack of acute rheumatic polyarthritis.

In the etiology of local and general arteriosclerosis syphilis and alcohol appear to be somewhat less frequent than is commonly assumed.

Remlinger[8] in 281 cases, mostly localized, found luetic infections in but one instance. In Brooks' series of 368 cases he regards syphilis as a possible cause in 38, alcohol in 149. In his 270 coronary sclerotics alcohol as a factor obtained 107 times.

Richard Cabot[9] performed autopsies on 233 chronic alcoholics of the worst kind, finding sclerosis in any form or location in but 6 per cent. The more frequent causes of this disease, when localized in the renal, pancreatic, gastric and hepatic vessels, is over-alimentation, and this factor, along with mental strain and anxiety, is productive of local degeneration in cerebral arteries.

Thayer[10] conceives the rôle of the acute infections as productive of focal degenerations, an important factor in the later development of local or general arteriosclerosis.

Among 150 cases in the very young which I have gathered from the literature (chiefly of localized disease), rarely is congenital syphilis mentioned as a cause. In the young, however, acute infections are responsible for a large proportion of cases. This opinion is fortified by examination of the records of the series of 150 autopsies from earlier literature, already mentioned; by the reports of a series of 24 cases under 20 years, lately published by Simnitzky;[11] by the youthful members in the aneurismal series of Parker,[12] Jacobi[13] and Keen,[14] and by the work of Thayer and Brush indicating the effect of typhoid on the blood vessels at all ages. Especially is one impressed by the latest and most instructive paper of Wiesel,[15] who made section on 300 cases in the very young dying of acute infections, finding mesarteritis or endarteritis in the aorta or in some part of the arterial tree. His observations are on microscopic changes occurring at the height of acute disease. In his 20 detailed records of changes in diphtheria, microscopic nests of necrosis in the media were found in all; in 2 the intima was affected and macroscopic changes were visible. Ages ranged from 6 months to 14 years. The longest period of illness was seventeen days. Lesions were localized in aorta and peripheral arteries in 9; aorta and pulmonary arteries in 2; aorta and hypogastric in 1; peripheral arteries solely in 3; aorta, peripheral and cerebral vessels in 1; aorta, peripheral and kidney vessels in 1; peripheral arteries pancreas and kidneys in 2.

The relation of arterial tension to localized arteriosclerosis is an important and practical consideration. Janeway[16] has pointed out that "without involvement of the splanchnics increased blood pressure is not the rule" in general arteriosclerosis.

Oliver[17] says "there may be extensive thickening of the arteries, brachial, radial, temporal, and yet the blood pressure not exceed normal limits."

Kaigi Sawada[18] saw 8 patients between 14 and 26 years of age, without heart or kidney signs, with hypoplasia of the blood vessels and normal pressure. In Brooks 270 cases of coronary disease only 35 showed high blood pressure, and these were associated with cardiac hypertrophy. Thus, without special localization of disease in heart, kidneys or splanchnic area, hypertension is not the recognized expectation.

Hare[19] has shown that hypertension exists independently of sclerosis, though its persistence must be regarded as a precursor to that condition. Thus, advanced general sclerosis, without special localization, with fair adjustment of all organs to their work, not infrequently passes onward in its development without striking pressure changes; on the other hand, many cases not diagnosticated as cardiovascular are suffering from a dangerous condition of the coronaries or other special vessels, although quite free from suggestive symptoms. In a large majority of the coronary cases angina pectoris is wanting, and true anginas are not infrequently mistaken for the pseudo variety or for intercostal neuralgia. In 270 cases of coronary disease Brooks detected sclerosis of the peripheral trunks, antemortem and postmortem, 116 times.

Spasm of diseased coronaries induces angina pectoris; of the temporals, certain neuralgias. A gentleman of 60, now under observation for ten years, has had periodic attacks of intense temporal headaches, supervening mental overwork. During the past year remedies for relief of arterial spasm have been entirely efficient.

A woman of 50, suffering from daily headaches, uncontrolled by usual remedies, came under my care one year ago. Systolic pressure 180, and ophthalmic examination by Dr. Wilmer revealed vasomotor spasm of arterioles. Reduction of pressure by hydrotherapy and iodids, combined occasionally with nitrites, have relieved the spasm of locally diseased vessels and symptoms have been absent for many months.

Janet considers many cases of neurasthenia in the middle-aged as expressions of local or general arterial disease.

A man of 45, who had conducted large enterprises, was suddenly prostrated five years since, and came under my care at Palm Beach. History and physical examination were negative, radials and tension normal. Gradual recovery followed rest, but during the past year he has suffered two seizures of cerebral apoplexy, a demonstration of locally diseased vessels. In Reynaud's disease the extreme intermittent pain is dependent on spasms of locally stiffened vessels and has been termed "angina pectoris" of the foot.

Collins[20] proves that sclerosis of blood vessels of the brain is "to be found on autopsical examination of individuals who during life showed no evidence of the disorder in the skeletal blood vessels . . . as a sole pathologic lesion."

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[6] Bull. Soc. anat. de Paris, 1875, xii, 175.

[7] Jahrb. f. Kinderheilk., xxx.

[8] Zur Statistik d. Arteriosclerose, 1905.

[9] The Journal A. M. A., 1904, xliii.

[10] Am. Jour. Med. Sc., March, 1904; New York State Jour. Med., 1903, iii, 21.

[11] Ztsch. f. Heilk., 1903, xxiv, 4: Abth. f. path. Anat., p. 177.

[12] Tr. Med.-Chir. Soc., Lond., 1857, lxvii, p. 51.

[13] Arch. Pediat., 1890, vii, 161.

[14] Med. News, 1887, li, 725.

[15] Ztschr. f. Heilk., 1906, xxvii, 262.

[16] Clin. Study of Blood Pressure, 1904, p. 43.

[17] Blood and Blood Pressure, 1901, p. 261.

[18] Deutsche med. Wchnschr., 1904, xxx, 425.

[19] Ther. Gaz., Dec. 15, 1905, p. 810.

[20] New York Med. Jour., 1906, p. 1167.

Pickett[21] reports an example in a man of 65 regarding which he says: "It is remarkable that no sign of the presence of arteriosclerosis could be detected in palpable systemic arteries or in the heart."

The following practical deductions may be drawn from the present study:

1. Arteriosclerosis is frequently, in its inception, a local disease dependent on acute or chronic infections. Its final lesion is controlled by the extent of primary vessel injury and the success or failure of natural reparative processes.
2. Arterial hypertonus exists in some instances independently of arteriosclerosis, and may or may not produce, or be associated with causes which produce cardiac vascular phenomena.
3. Arteriosclerosis exists independently of arterial hypertonus as both a general and a local disease, and the absence of hypertension must not be regarded as security from dangers arising from arterial degeneration.

1808 Massachusetts Avenue.

PERINEPHRITIC ABSCESS FOLLOWING PARTURITION.*

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The etiologic relation of puerperal sepsis to perinephritic abscess has long been known, but the occurrence in my practice of three cases due to this cause, within two years, and the fact that the symptoms and course of the disease in each instance were quite similar, prompted me to report these cases.

Case 1.—Mrs. G., aged 32, white, was admitted to the hospital Oct. 27, 1904. Family history was of no significance, except that her mother had had consumption. There was no other history of tuberculosis, and no history of cancer. The patient's health was very good until four months before she came under my charge, when she had been delivered of a healthy baby. The confinement was uneventful, and her recovery apparently satisfactory. She had borne three children previously, and there was no history of sepsis or difficult labor in any of these births.

About six weeks after her last confinement she began to complain of pain in her right hip, radiating down the thigh. It was severe and continuous, and interfered with walking. After this her back and right side became painful, and she noted a mass in her right flank, which was quite tender.

At the time of admission to the hospital the patient was much emaciated and slightly cachectic. The mass was easily palpated, was hard, immovable and somewhat nodular. It occupied the right flank, extending down almost to the region of the appendix. The right thigh and leg were flexed. Urinary examination showed no pus or albumin in the urine. Her temperature on the first two days after admission varied between 100 and 102; pulse from 120 to 134. On October 31 a point of fluctuation appeared just beneath the skin over the right lumbar region, and was opened under cocain anesthesia, considerable pus being evacuated. The patient was in a critical condition, and nothing else could be done at this time. After building her up as much as possible she was operated on, under ether, November 17, when a long incision was made in the loin and a quantity of pus found. From this time on the patient improved rapidly, and she was discharged December 12, with practically normal temperature, and pulse varying between 70 and 90.

Case 2.—Mrs. F., aged 35, white, admitted June 20, 1905. Family history of no significance. Patient had borne several children, the last one three months before she came under my care. There was no mechanical difficulty about this labor, which seems to have been followed, however, by a mild degree of sepsis. Pain in the right hip appeared a few days after confinement. The general health of the patient began to fail; there was fever, loss of appetite and marked constipation. The patient was quite fat, even when admitted. Swelling could not be detected by inspection, but a fixed mass in the right flank could be made out readily by palpation. It was hard and regular in outline. Her temperature during the first few days varied from 100 to 102½; pulse from 88 to 100. Urinary examination showed a few pus cells with much granular débris, otherwise the urine was normal.

Consent for an operation was not granted until June 22, when an incision was made in the right lumbar region, under ether, and a quantity of pus evacuated. A large tube and two strips of gauze were inserted for drainage. The patient's temperature declined gradually, but did not run constantly normal until July 14, after which time it never rose above 99. On August 1, she was discharged, with the wound in good condition, and very little secretion from the sinus. Her temperature was normal and pulse 82.

Case 3.—Mrs. T., aged 24, white, admitted to the hospital March 17, 1906. Previous history of no significance, except that she had always been rather delicate. Three months before admission she was confined, this being her first pregnancy, and was in labor about eighteen hours. She was attended by a midwife, who sent for a physician just before the child was born. No instruments were used, and, except a slight tear in the perineum, which the doctor sewed up, the confinement was uncomplicated.

About four or five weeks after delivery the patient, who had been apparently well until this time, began to suffer from pains along the middle of the crest of the right ilium. This gradually grew worse, and in a few days some swelling in the right flank was noticed. Pain was constant and boring in character, but never sharp. She had lost much weight. Constipation was marked, and appetite poor.

On admission to the hospital a large fluctuating tumor could be made out on the right side above the crest of the ilium. The patient was in bad physical condition, her pulse running from 116 to 128 and of poor quality, with temperature about 101, so she was operated on under cocain anesthesia immediately after admission. More than a pint of pus was evacuated. She began to improve at once, her temperature never going above 99½ after the second day. On April 12, 1906, she was discharged, her temperature running normal and pulse from 80 to 88. There was a sinus present, but the rest of the wound had healed, and the drainage was very slight.

These three patients were referred from the country districts. Two had been attended in confinement by a midwife, the physician being called only when perinephritis had set in. One patient, Mrs. F., gave a history of slight puerperal infection. In the other two instances there was no particular difficulty in delivery, and recovery appears to have been uncomplicated by sepsis. One of these patients was up and feeling well a week after delivery, and in this case and in that of Mrs. G. there was a distinct interval of apparently perfect health between the delivery and the first symptoms of perinephritis.

In all three instances a vaginal examination, made when I first saw the patients, showed no evidence of inflammation in or about the uterus, tubes or ovaries. It is most probable that sepsis had been introduced during parturition or during convalescence, and the germs were carried by the lymphatics to the tissues around the kidney, just as tubercular glands in the neck are infected by germs brought by the lymphatics from an abrasion in the mouth or throat. The muscular exertion during confinement probably produced some slight injury to the tissues around the kidney, and in this way lowered their resistance to bacteria.

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[21] Proc. Philadelphia Co. Med. Soc., 1905-6, xxvi, 368.

* Read before the Southern Surgical and Gynecological Association, New Orleans, Dec. 17, 1907.

An interesting fact about these cases is that all three abscesses were on the right side. The only explanation that I can offer is that the right kidney and perinephritic tissues are somewhat lower than the kidney and tissues on the left side; consequently the right perinephritic tissue is more liable to injury from the pressure of the uterus during the muscular exertion incident to parturition. The left kidney, which is higher up, partly escapes the bearing down pressure of the pregnant womb.

The fatty capsule of the kidney is surrounded by a special layer of fascia, the so-called renal fascia, which separates the fatty capsule from the true retroperitoneal tissue. This fascia is defective below, at the lower pole of the kidney, allowing the fat in the fatty capsule to become continuous with the retroperitoneal fat at this point. The vessels of the fatty capsule anastomose freely with the venous plexus around the ureter. Stahr[1] published a paper, in 1899, showing that the kidney and its fatty capsule, contrary to the generally accepted opinion, possess systems of abundant lymphatic capillaries. These lymphatics in the fatty capsule necessarily communicate freely with the retroperitoneal lymphatics at the lower pole of the kidney where the renal fascia, which encloses the rest of the fatty capsule, is defective.

It is not difficult to understand, then, how bacteria taken up by the puerperal uterus may be carried by the lymph vessels through this defect in the renal fascia and deposited in the fatty capsule where a point of least resistance has already been made by the trauma of recent parturition.

The symptoms and diagnosis of perinephritic abscess are exceedingly important, because the symptoms are often vague and difficult of interpretation in the early stages of this disease, and because the successful termination of these cases, as shown by statistics of Henry Morris, Küster, Bowditch, Rosenberger and others, depends largely on the promptness with which the disease is recognized and operation undertaken. Gibney has pointed out the symptoms by which the early stages of perinephritis may be recognized even before pus has formed.

When, after an injury or violent muscular exercise, as in parturition, there is tenderness on pressure over the kidney, and the patient on sitting or standing inclines to the tender side, the possibility of perinephritis is at once suggested.

According to Gibney, in the early stages of this disease, the spine is unnaturally stiff and curved in an antero-posterior direction. The curvature is not angular, and there may be some deviation from the affected side. There is stiffness in walking, and the body is inclined to the inflamed side to such an extent that sometimes the ribs and the crest of the ilium are in contact. When the patient sits she is likely to rest on the opposite tuberosity of the ischium with the body bent to the affected side and the thigh and the leg somewhat flexed. While standing the body will be bent on the thigh of the affected side. If an attempt is made to stand erect the body is thrown over toward the tender side, and the opposite thigh and leg are flexed. It is difficult to stoop. When the patient lies on the back, it is impossible to extend the thigh. In severe cases every movement of the trunk is painful. Flexion of the thigh gives no pain, but an attempt at complete extension will be impossible and will cause much discomfort. Abduction and adduction are usually not interfered with to any marked extent.

When pain in the knee is complained of, together with lameness and muscular rigidity, the diagnosis is often confounded with hip-joint disease. In perinephritis there is no atrophy of the muscles of the thigh, the leg on the affected side is not shortened, and there is no swelling or tenderness on pressure about the trochanter or neck of the femur. Passive motions of the hip-joint cause no pain. The temperature in perinephritis, even in the early stages, frequently reaches 103 degrees or higher.

As the disease progresses, other symptoms are marked. The high temperature continues, and sweating, coated tongue, loss of appetite, nausea and other constitutional indications of sepsis make their appearance. Constipation is always a prominent symptom and is partly due to the patient's dread of pain on muscular effort. In chronic cases, or those progressing slowly, the elevation of temperature may be slight. In weakly individuals the symptoms are often quite atypical, and may be masked until the abscess forces itself on the attention of the surgeon by its increase in size. Even in these cases, however, lameness is present at an early stage.

Pain on pressure is an early and continuous symptom; the pain is often deep seated and paroxysmal, though, as a rule, it is present to some extent constantly. The distribution of the pain is usually wide, this being due to the irritation of the nerves of the lumbar plexus, which is in immediate proximity to the perinephritic abscess. In two of my cases pain in the hip was a prominent symptom; in the third case it was referred along the iliac crest. Pain may be referred to the knee joint, as in hip-joint disease, or to the external genitals, as in kidney colic, or around the abdomen, as in the case of appendicitis. Pain is always increased on pressure over the loins.

As the disease develops, fulness in the outline of the tender flank is noticed. Some muscular spasm also appears. The swelling in the region of the kidney is at first hard. In one of my cases it was somewhat nodular from excessive exudate and simulated very closely a malignant tumor. The fulness in the flank can be observed in outline by comparing the two sides under a good light. Sometimes pressure of the mass on the iliac veins causes swelling of the foot and ankle. If the pus is not evacuated at this stage it frequently burrows to the surface, and the skin becomes edematous and waxy in appearance, and later on it may become red. The abscess may, however, burrow into the pelvis below, or upward into the lung or pleura, or it may rupture anteriorly into the bowel or peritoneal cavity. Fluctuation is not often detected, even in the late stages.

The urine in cases of perinephritic abscess following parturition is not often affected, unless the abscess ruptures into the kidney, which is rare.

The character of the pus may be quite different in different cases; frequently the odor is of a fecal character, without any direct communication with the bowel.

The treatment of these cases consists in evacuating and draining the pus by a lumbar incision, similar to that employed in the operation of nephrotomy. This should be done as soon as the diagnosis is made, as the mortality of this affection is greatly increased by delay in operating.

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[1] v. Bergmann's Surgery, vol. v, page 334.

Clinical Notes

EPIDEMIC OF GLANDULAR FEVER.

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LOGANSPORT, IND.

Beginning the latter part of November, 1904, and continuing until March, 1905, there prevailed among the patients and employés at the Northern Indiana Hospital for Insane an extraordinary epidemic of glandular fever (synonyms: acute cervical adenitis, Drüsenfieber; fievre ganglionnaire). This epidemic was extraordinary, not only because of the large number of people affected (150), but also because of the age of the victims. All authorities agree that this is essentially a disease of infancy and childhood, but all of the 150 cases treated in this hospital occurred in adults.

This disease was first described by E. Pfeiffer, in 1889, although cases had been noted and incompletely studied some years before.

J. Park West, of Bellaire, Ohio, reported an epidemic of 96 cases, all occurring in children, and J. R. Clemens[1] reports 16 cases occurring in a boys' orphan asylum, and there have appeared, from time to time, reports of small epidemics affecting only children.

The literature on this subject is scarce, although Boggs, in Osler's latest work, devotes three pages to it, and Hare also gives one page to its consideration. Holt, in his work on pediatrics, does not mention the disease, but Graetzer and Sheffield devote a part of one page, based on Park West's account, considering it a disease of childhood only, adults being affected rarely, if ever.

In the cases observed here the ages ranged from 18 to 80; both sexes were affected about equally, and the occupation and mode of living seemed to have no influence, as those who spent almost their entire time indoors and those whose occupation kept them in the open air, those who led sedentary lives and those who did physical labor were alike attacked.

The portal of entry of the specific etiologic factor, which is as yet unknown, is generally conceded to be the mouth and pharynx, although Boggs states that "Van Starek emphasizes the importance of the constipation and gastrointestinal symptoms, and considers that the disease is an autointoxication primary in the intestinal tract." This latter view does not coincide with the conclusions reached here, as gastrointestinal symptoms of sufficient severity to attract particular attention were the exception and not the rule.

There was great diversity in the mode of onset and severity. In some cases the disease came on insidiously, with a slight elevation of temperature, anorexia and general ill feeling and slowly increasing swelling of the submaxillary and cervical lymphatic nodes, making movements of the head difficult and painful.

In this class of cases the glands did not become larger than a hickory nut, the temperature did not reach higher than 100 F., and, although there was usually some headache and general malaise, yet many who had this mild form of the disease were not at any time incapacitated for duty. On the other hand, the severer types were announced by a rigor and a rapidly rising temperature to 103 degrees or higher, intense "splitting" headache, pharyngitis and muscular soreness, and pain in the back and legs. Often the cervical lymphatics would swell to the size of a guinea egg in the course of twenty-four hours, and movements involving the muscles of the neck would be exceedingly painful if not impossible. In some cases in which the swelling was not great, the glands remained discrete, but in others they became glued together and the entire side of the neck would present a great swollen mass with no individual glands palpable. In the majority of cases, the disease was unilateral, but in many instances both sides were involved, the left side first, the right side becoming involved during defervescence of the left or after complete recovery.

Differentiation from mumps, the only disease with which it is likely to become confused, is always easy, as the parotid glands are not involved.

Suppuration, mastoiditis, middle-ear disease and nephritis, all mentioned by the authorities as frequent complications in children, were not present in any of the cases; in fact, there were no complications, the disease running its course in from ten days to two weeks and subsiding by lysis, leaving no trace of its presence, except in a very few instances, when the swelling persisted for three or four weeks.

Treatment was symptomatic. Antipyretics, laxatives and local applications of iodized carbolic acid (N. F.) was the usual course. No drug employed had any apparent influence on the course of the disease.

CONCLUSIONS.

1. Glandular fever may and does affect adults, and is not a disease of childhood only.
2. Sex, age and occupation have no influence.
3. In adults complications and sequelæ are rare.
4. The prognosis is favorable.

MICROPHTHALMUS

WITH EXTENSIVE COLOBOMATA AND OTHER CONGENITAL DEFECTS IN BOTH EYES.*

WALTER L. PYLE, A.M., M.D.
PHILADELPHIA.

The explanation of such abnormalities as the following is undoubtedly to be found in interference with complete closure of the fetal ocular cleft, located at the lower side of the secondary ocular vesicle, and designed for admission of the mesoderm. There is no agreement of opinion as to the cause of the interference with the normal closure of this cleft. By some it is attributed to abnormal persistence of the mesodermic tissue; by others, to fetal inflammation in the region of the cleft. The influence of heredity has also been noted. Lang and Collins prefer to ascribe the defect in chorioidal coloboma to an abnormal adhesion of the retina to the mesoblast. When this occurs before the retinal fissure closes, the coloboma is devoid of retinal elements; but when it occurs later, the retina is present and there is no scotoma corresponding to the colobomatous area.

In some cases of microphthalmus, and of spurious anophthalmus, there is found an attached cyst, usually recognized through the lower lid. This cyst is filled with a serous fluid and often contains true retinal elements. In this connection it is worthy of mention that cases of true anophthalmus are exceedingly rare. In most so-called cases a misplaced rudimentary eyeball may be found, even as far back as the apex of the orbit, and only discoverable by careful dissection.

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[1] Brit. Jour. of Children's Dis., London, December, 1907.

* Read at a meeting of the Section on Ophthalmology, College of Physicians of Philadelphia, Jan. 16, 1908.

Personal History.—The patient is a frail looking young man of 25 years, with extreme congenital torticollis, the head being bent to the left. He states that his health has always been fairly good, and that he has seldom had occasion to consult a physician. His father, aged 73, and his mother, aged 64, are still living and in good health. He has two older brothers and two older sisters living and in good health. None have married. One sister died of tuberculosis about ten years ago, at the age of 27; and there is a vague history of several cases of tuberculosis in the family—maternal grandmother and uncle, and paternal grandfather. There is no family history of serious or striking ocular affection or abnormality.

The patient's education is fair for a farmer boy, and although he did not attend school on account of his deficient eyesight, he pursued his boyhood studies at home and can read and write fluently. He has always lived on one of his father's farms in New Jersey. Despite his ocular defect, he says that for the past fifteen years he has driven alone all over his neighboring country, and although he is not able to see clearly the occupants of strange passing vehicles, he can recognize persons with whose driving outfit he is familiar. He also says that he has no great difficulty in walking or driving after dark. He reads the daily newspapers, and keeps fairly well posted in the current affairs and happenings of the day. This reading is done with difficulty, and only under advantageous illumination and distinct print.

He sought my aid for the purpose of securing reading lenses, saying that on several previous occasions, many years ago, he had consulted oculists who had "refused to give him glasses." For one so afflicted he is of a particularly happy disposition, and although his countenance is dull and apathetic he is fairly bright in his conversation; but, of course, far below the average mental development of an American youth of his age.

Ocular Appearance.—Both eyes are affected with nystagmus of varying degrees, making ophthalmoscopic and retinoscopic examination most difficult and unsatisfactory. The right eye is extremely small, the corneal diameter measuring but 8 mm. There is a partial coloboma of the iris. The pupil is vertically oval and displaced downward. Fetal remnants are seen in the lower median portion of the pupillary opening. The movements of the eyeball are irregular and greatly limited in the upward rotation and almost lost in external rotation beyond the median line. Ophthalmoscopic examination shows extensive affection of the chorioid and retina, with pigmentary changes throughout the whole fundus. There is a medium-sized inferior coloboma of the chorioid and optic-nerve sheath. Vision equals 20/80, not improved by lenses.

The left eye is considerably larger, the diameter of the cornea measuring 10 mm. There is complete coloboma of the iris downward in the median line, giving the appearance of the so-called "keyhole" pupil. Fetal remnants are plainly visible in the inferior periphery of the coloboma. Ophthalmoscopic examination shows an extensive inferior coloboma of the chorioid and optic-nerve sheath, simulating an enormous posterior staphyloma. The refraction is highly myopic, some portions of the irregular fundus-plane measuring as much as 20 D. Vision equals 4/200, and can not be improved with concave lenses beyond 10/200. The ocular movements are irregular and much restricted, and the power of external rotation beyond the median line is practically lost. Both pupils are responsive to light stimulus and dilate slightly under homatropin and cocain.

The interesting feature of the case is the remarkable preservation of useful vision in a microphthalmic eye with a corneal diameter of only 8 mm. The average corneal diameter is about 11.6 mm., although I recently prescribed convex cylindrical lenses for a patient with normal visual acuity, whose corneal diameters were 13½ mm. and 13¾ mm., respectively.

1806 Chestnut Street.

Effect of Weather on Bowel Conditions.—A. K. Bond, Baltimore (*Maryland Med. Jour.*), thinks that weather changes cause bowel congestion, fermentation, blood pollution, artery spasm, kidney irritation, nerve poisoning, in this order.

SARCOMA OF MEDIASTINUM INVADING THYROID.

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KALAMAZOO, MICH.

This is such an unusual case from the pathologic and clinical standpoint that it seems well worth while to report it:

C. E., male, aged 37, seen Aug. 1, 1907.

History.—Family history was negative, except that the mother had a goiter at the age of 45. Patient stated he had had only the diseases incident to childhood. The present illness dates from April 1, 1907, when he was working in a shop where there was considerable gas and smoke. He developed an irritating cough, but did not expectorate. He also noticed a difference in his breathing, necessitating a little effort to keep his lungs filled. By the middle of May the cough and breathing had become worse. A month later the cough was quite troublesome; he was slightly hoarse and expectorated some mucus. July 15 he quit work and went north, hoping to get rid of the cough.

At this time he noticed a swelling in the right supraclavicular region and a small nodule near the posterior border of the sternocleidomastoid muscle. The voice became quite hoarse and the breathing very difficult on the least exertion. There was considerable loss in weight in the last five months. The right side of his head and face felt at times as though paralyzed.

Examination.—The patient was of large stature, weighing about 170 pounds (usual weight 200). He was emaciated, but not cachectic. In the right supraclavicular fossa was a tumor, causing the sternocleidomastoid to bulge and displacing the trachea and larynx far to the left till nearly in line with the angle of the jaw. The mass was as large as a fist, hard and immovable. Pressure on it to the left closed the trachea and shut off his breathing—no movement up or down. It appeared to involve the thyroid. Above this and at the posterior border of the sternocleidomastoid was a smaller bunch about as large as a walnut. This was freely movable. The veins of the left side of the neck were prominent and pulsating. Sputum was thick and tenacious.

Examination of throat and larynx negative; chest negative, except a slight dulness in the left infraclavicular region; abdomen and extremities negative.

Diagnosis.—Tumor involving thyroid, probably malignant, and a possibility of extension to the mediastinal and cervical lymph nodes. The diagnosis was confirmed by Dr. C. E. Boys. As the man was *in extremis,* he requested the removal of the tumor, if possible. He was advised as to the probable hopelessness of such a procedure, but insisted in his demand, and August 15 the operation was performed.

Operation.—Ether anesthesia. An incision was made extending from the middle of the anterior border of sternocleidomastoid downward and to the left, ending at the center of the trachea over the thyroid isthmus. This incision exposed the right thyroid, together with the tumor mass which seemed to grow from the lower border of the gland. The mass was wedged in the angle between the trachea and sternal end of the clavicle, firmly adherent to the former, necessitating careful dissection. The gland was ligated at the isthmus, and the right half was removed with the tumor. The right carotid was found crowded far outward from its normal position. The small nodule higher in the neck was removed, and the wound was closed, with gauze drainage in lower angle.

Postoperative History.—The patient recovered quickly from the operation, the wound healing by primary union, and left the hospital in twelve days. The breathing, however, was improved only temporarily. The mass that caused the greatest pressure had been removed, but the mass from below quickly pushed its way up, a little posterior to the position occupied by the tumor removed. Swallowing became difficult, breathing stertorous, while the head and face symptoms on the right side became worse. The second day after the operation the expectoration increased in quantity and consisted largely of large masses of tenacious, currant-jelly colored material. This ontinued until death. The patient was unable to resume work. ept. 23, 1907, the patient returned to the hospital in a very eak condition, unable to breathe, except when in an upright osition. Death occurred September 25.

Autopsy.—On opening the chest, a large tumor, occupying he entire mediastinum, presented itself. This tumor was dherent to all the neighboring organs, except the left lung, ne lobe having grown fast to the sternum, another to the ericardium, another to the right lung, while the lower masses nvolved the large vessels and nerves. The lungs were found ompletely collapsed—absolutely flat. Large tumor masses ad pushed up beneath either clavicle. No metastases were ound outside the mediastinum and neck. There was a hernia f the transverse colon into the lesser peritoneal cavity, while he bowel was constricted at several places. There was congesion of the spleen and liver. No involvement of the blood essels, heart, bronchi or esophagus was evident.

Microscopic Examination.—Portions of the tumor proper, of he thyroid gland and of the right lung, which was attached to he tumor, were sent to Dr. A. S. Warthin, of Ann Arbor, for xamination. He submits the following report:

The growth is a round-cell sarcoma, the majority of the cells eing of the large round-cell type. If the term lymphosarcoma s applied to it, it should be called lymphosarcoma of the arge round-celled type. There is no evidence of any leukemic ondition in the blood vessels, and unless the process was ocalized in the lymph nodes as a primary condition, the tumor hould be classed with the simple sarcomata. The thyroid is inaded, and there is a subpleural metastasis invading the lung issue. If the lymph nodes were the seat of the tumor process, he condition would fall into the group of aleukemic, largeelled lymphosarcoma.

The length of time elapsing between the first sympom and the time of death is worthy of note. However, he growth may have started two or three months previus without giving rise to any symptoms. It is also bvious that at the time of the operation the mediasinum was filled with the growth (though nothing could e detected by the finger in the operative area), as nly forty-one days elapsed between the time of operaion and death, when the right side of the neck was gain filled with a large mass, stamping it as one of the nost malignant and rapidly growing varieties of tumors.

The appearance of the currant-jelly sputum, which is onsidered characteristic of cancer invading the lung, nay have been hastened by the traumatism caused by he operation, there being nothing characteristic in the putum up to this time.

As to the origin of the growth, it appears to me to ave started in the glands of the mediastinum, gradully extending upward until it reached the thyroid, as he growth seemed to invade both sides of the gland rom the lower border upward, and at about the same ime, the gland near the isthmus being normal in strucure. If the growth had originated in the thyroid it vould have extended further above the clavicle, and at much earlier date. In the three cases of cancer of the hyroid reported by Halstead[1] it is a notable fact that he enlargement was practically all above the clavicle. n this case the main growth was deep in the mediasinum, although the large bronchial glands at the bifuration of the trachea were free and very dark in color.

As to its taking its origin in the thymus, the probbility seems somewhat remote, as at the age of this nan there is usually not a vestige of that gland left.

While the preponderance of evidence seems to be in avor of the mediastinum as the point of origin, there s a probability of its originating in the thyroid. The reatest constriction of the trachea occurred just below he thyroid cartilage, yet autopsy showed that there was plenty of space for air to enter the lungs, also that the lungs were in a condition of complete collapse. On the evening of the day that death occurred the patient became unconscious at 9 o'clock, but dissolution did not take place until 11:30 p. m., probably from paralysis of the vagi.

The interesting and remarkable things about the case are the size of the tumor and the rapidity with which it proved fatal—five months and twenty-five days from the time the first symptoms were noticed.

918 Washington Avenue.

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[1] Surgery, Gynecology and Obstetrics, November, 1907.

TEACHING OF PHYSICAL DIAGNOSIS.

JOHN RITTER, M.D.
CHICAGO.

In The Journal, Feb. 15, 1908, page 501, appears an article which advocates a change in the teaching of physical diagnosis; and there is an urgent need for a revision. As instructor in physical diagnosis I can not refrain from taking some exceptions to the statements made by the author. Admitting that some modifications may be desirable in terminology, in a clear elucidation and interpretation of signs, and that unless a better system can be offered the present methods of teaching of physical diagnosis will remain in force, at least for the present, let us see if the author's points are all well supported by facts. He alludes to old legends in text-books. Every student is taught and every physician knows full well that a text-book picture of a pulmonary or any other disease is a compound one, and that in its application it must not be taken too literally. The text-book description is given only as a guide for orientation, for if the text-book pictures were wholly applicable in every case the knowledge necessary for medical practice could be acquired in a very short time simply by memorizing the symptoms manifested in a disease. It is to be supposed that the pathologic conditions, signs and symptoms, subjective and objective, say in tuberculosis, are about the same as they were long before the time of Laennec, and in all probability will continue to be so long after our time; hence the physical findings will remain the same.

Eliminating all from the author's writing which bears no relation either to physical diagnosis or its teaching or to a revision of the same, let us look at the methods now in vogue for the exploration of the chest in pulmonary disease and see if anything as efficient has been or can be offered in the use of descriptive terms equally as good as those now in use. The word "tonality" is no improvement over the old and long used word "quality." "Tonality" may sound more musical than "quality," but the percussion note is not strictly a musical note. Again, the Latin word "tempo" is not a bit better than the English word "time"; it is not any more descriptive or explanatory. Next, as to "râles," the author wishes to eliminate the term "râles" as modified by "sonorous," "sibilant," "mucous," etc. No teacher in physical diagnosis has ever taught that transudations and secretions and their accompanying râles are in themselves the pathologic conditions, but that they are results of such conditions. Râles are adventitious sounds only, simply confirmatory signs of some abnormality. The descriptive terms "sibilant," "sonorous," "fine," or "coarse" "râles" will not so soon be erased from medical histories. Other words may be substituted, but the significance will be the same. How else can we explain to the medical student the importance and significance of these sounds, their interpretation—sounds heard, say, in asthma and bronchitis—unless we have some appropriate terms, which, when once comprehended, are as distinct and reliable to the mind as are the words "piano," "flute" or other arbitrary word?

Again, the author says that râles are of no value in arriving at a clean-cut diagnosis. Is it not a fact that many a diagnostician has clinched his diagnosis in pulmonary tuberculosis when over a local, circumscribed area about the size of a silver dime he gets a few râles when consolidation is too limited to give a high-pitched note? The author says, further, that there is no such thing as pitch in percussion other than applied to the chest wall. Does he mean to convey the impression that percussion is practiced only by the physician? How about the carpenter percussing a house wall? Years ago, long before the physician ever thought of practicing percussion over the chest, a resonant area, the carpenter had applied percussion over the resonant house wall. Have you ever noticed the carpenter when he tries to drive a nail into a wall? He begins percussing with a hammer over that part of the wall which overlies the lath and plastering, and percusses either to the right or to the left until he reaches a scantling over which the pitch is raised—an airless area—where he drives the nail. Numerous instances can be cited, both in the arts and in science, where percussion is practiced elsewhere than on the chest wall.

The author does not place much dependence on either inspection or palpation. Many instances can be shown whereby a good diagnostician has based his findings positively on either inspection or palpation. Inspection, as well as palpation, is not practiced sufficiently by physicians to make them proficient. Auscultation invariably clinches the diagnosis; all other physical findings must be in harmony with it. To auscultation is accorded the highest place in the methods of physical diagnosis, and not to percussion, as the author says. The difficulty with many practitioners is the too early use of the stethoscope—not waiting to use it only as a confirmatory means.

Every progressive physician is open to conviction, always ready to adopt any reliable method which may simplify the diagnosis of disease, but methods must be better than those which we have been taught and have tried for years to improve on. Examination of the chest with positive findings is not always easy, no matter what method or system is pursued, as any clinician of experience will acknowledge, notwithstanding the author's so-called simplified and easy method.

COLLAPSE AFTER USE OF DIPHTHERIA ANTITOXIN.

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The cases of collapse after the use of diphtheria antitoxin recently reported in The Journal reminded me of a similar case, though fortunately not so serious.

Miss ——, age 25, complained on March 20, 1906, of slight soreness of the throat, examination of which was negative. Temperature, pulse and respiration were normal. March 21 there were general malaise, backache, tonsils large and reddened, with two or three crypts filled with yellow exudate, the picture of acute follicular tonsillitis; nevertheless a culture was taken. Temperature range was from 101 1/5° to 103; pulse 108 to 118.

March 22 there was dysphagia, rather severe, and an u mistakable membrane, though small in amount and limit to the tonsils. The culture was reported positive for Kleb Loeffler bacillus. Temperature, 100; pulse, 96, and of goo quality. At 11 a. m., 5,000 units of antitoxin were admi istered, followed in about twenty minutes by the complaint burning and itching of the skin of the chest, which presented marked erythema.

Thirty minutes after the injection the patient tried to lif herself onto a bed pan and immediately collapsed. She was ex tremely cyanotic; had marked dyspnea with slight dilatatio of pupils, and froth issued from the mouth. There was tota loss of consciousness for a few minutes. No radial pulse wa palpable for four hours. She rallied under nitroglycerin strychnin and salt solution, given subcutaneously and pe rectum. At 6 p. m. she was removed to a hospital.

A marked edema of eyelids was noticed and a small amoun of urine was obtained per catheter, which boiled solid and contained numerous coarse granular and blood casts. Three mor injections of antitoxin were made, one at 7 p. m., of 3,00 units, one at midnight of 4,000 units, and one of 5,000 units early in the morning of March 23.

The urine increased in amount, the pulse presented a better quality, and the patient made an uneventful recovery, with no vestige of cardiac or renal involvement at the time of her discharge from the hospital.

Questions which naturally arise are: (1) If the collapse was due to a diphtheritic cardiac paralysis, it occurred much earlier than usual. (2) If caused by the antitoxin why did improvement follow its persistent and continued employment with increasing dosage?

REMOVAL OF A PIN FROM LUNG BY UPPER BRONCHOSCOPY.

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CHICAGO.

Although bronchoscopy is still a new operation, so many cases have been reported that little value can be attached to a single case, except as it furnishes some point of interest not heretofore brought out.

Earlier reports on this operation led us to believe that it was not attended by danger. A knowledge that the reporters were cognizant of deaths closely following the operation, and personal talks with other operators, as well as my own experience, have convinced me that there have been a considerable number of unfortunate cases, in some of which the immediate cause of death could not be detected. It is important that all operators should understand the difficulties they are likely to meet with in order the better to overcome them.

The principal difficulties are: Trouble in introducing the tube; poor illumination; difficulty in following the lumen of the air passages with the bronchoscope; respiratory contraction of the bronchi, or even of the trachea in infants; excessive secretions, and the perplexity in searching through a pulmonary cavity because of its flaccid and irregular walls, or because of the presence of pus, blood or granulation tissue. If the objects are small, the bronchoscope may pass beyond them, or they may be hidden completely by a collapsed or spasmodically closed bronchial tube.

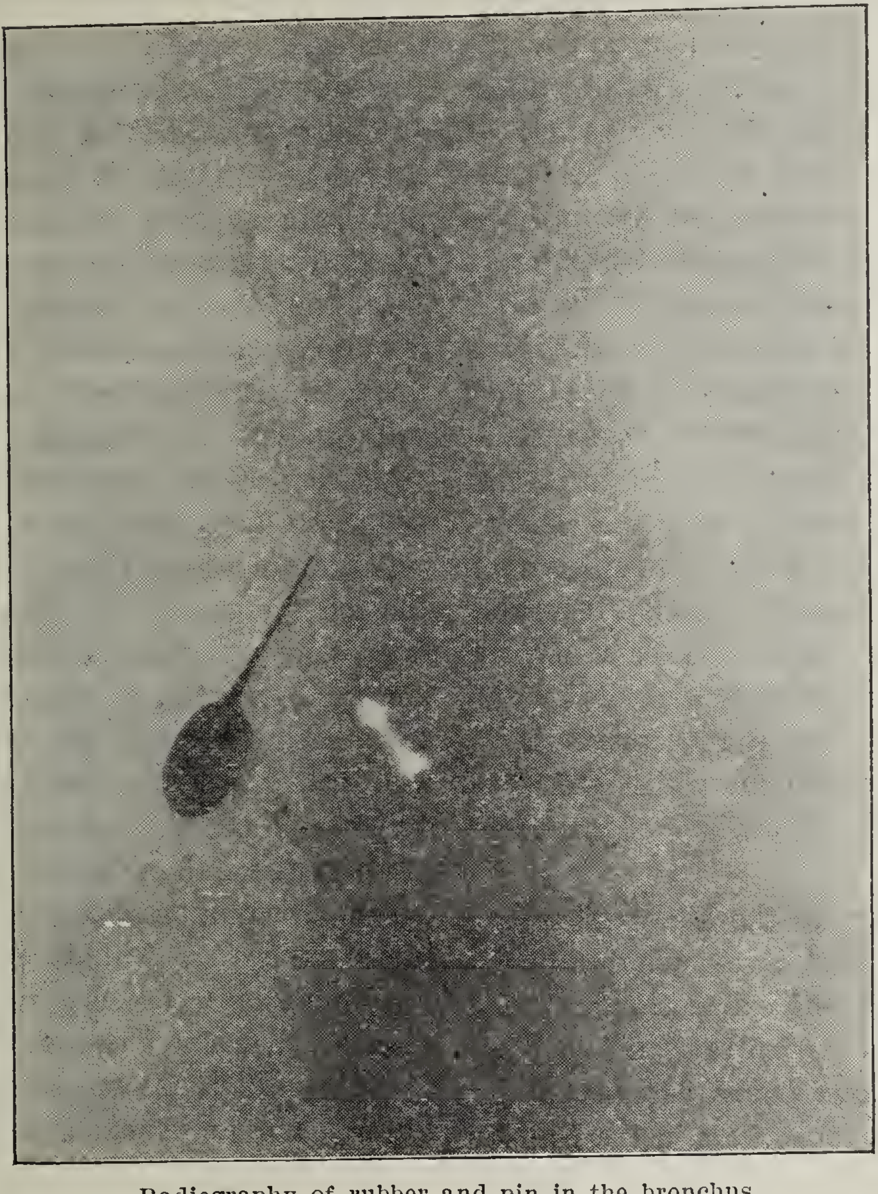
In passing the bronchoscope, my introducing instruments have reduced the time required to get the tube through the glottis to only two or three minutes. Unless these instruments are employed, the tongue should be drawn far out while passing the bronchoscope, care being taken that the point of the forceps does not tear out through the tip. The extracting instruments must have the proper length and form for the particular case.

The head must be held rigidly in the desired position. For illumination, the Kerstein, Killian light, or the small internal lamp may be used. The length of the tube should be determined by measuring the distance with the patient's head bent far backward. To this distance 3 or 4 cm. should be added. Killian's extension tubes may obviate this difficulty, but in some cases they do not work as well as the single tubes. The caliber is usually determined by trial, as the smallest tubes (designed for infants) may be needed in a child 8 or 10 years of age.

In the following case the impaction of the foreign body, with the pin sticking into the bronchial wall, and the collapse of the bronchus above the larger part of it, presented great difficulties, and rendered relief other than by bronchoscopic methods practically impossible.

The patient, T. E., a lad aged 10, was sent to me by Dr. H. B. Hill of Logansport, Ind., three days after he had aspirated from a blow gun a cylindrical rubber eraser from a lead pencil. This was 1.2 cm. long by 7 mm. in diameter, and through the longitudinal axis extended a common pin 3 cm. in length. It had been drawn in through the glottis with the large end down. A radiograph, sent in with the patient, showed the foreign body in the trachea; but physical examination of the chest revealed feeble respiration over the right lung, and on fluoroscopic examination I could see a faint shadow of the rubber, in the bronchus, back of the right border of the heart. Another radiograph confirmed this finding.

The patient's general condition was good, there was very little cough and no physical signs of pneumonia. The temperature was 99 F. He had expectorated a little blood, and had had some pain from the pricking of the pin. Under general anesthesia I removed the foreign body with Killian's bronchoscope and forceps. The bronchoscope was introduced by means of my bent obturator, spiral steel tube, and long hollow director; but a movement of the patient caused it to slip out of the larynx into the esophagus. It was withdrawn, washed and then sterilized in alcohol, and again readily reintroduced into the trachea. I had to use the smallest sized tube, only 7 mm. in diameter, which we ordinarily use for children 2 or 3 years of age. I employed the Killian light attached to the handle of the bronchoscope.



Radiography of rubber and pin in the bronchus.

After a short time I brought the rubber into view, but could not see the pin, although it could be felt with the metal aspirating tube. I suspected that the point was sticking into the bronchial wall outside of the end of the bronchoscope. With my corkscrew-like pin-finder, I soon found that this was the case. I therefore withdrew the bronchoscope about 2.5 cm., and having worked the pin-finder gently around the pin, I succeeded in extricating the point and bringing the pin into the central portion of the lumen of the bronchus. I then pushed the bronchoscope down again and removed the pin-finder. I turned on the light and searched carefully for the pin, but could not see it, although the rubber about it near its head was clearly visible. I then laid aside the Killian light and introduced a minute lamp on a slender carrier to the lower end of the bronchoscope, which at once showed the pin projecting about 2 cm. into the tube. This confirmed the importance of always having two sources of illumination at hand. We can sometimes see with one what is invisible with the other, and not infrequently one gives out during the operation.

At this juncture both the Killian and the small light failed, but as I had just seen the location of the pin, and had previously marked my forceps to indicate the proper distance, I soon succeeded in grasping the pin and drawing out the foreign body and bronchoscope, the former being too large to pass through the tube. The operation was finished in fifteen minutes after introduction of the bronchoscope. The patient was placed in a warm room, where the air was kept moist for forty-eight hours, and made a quick recovery.

I have several times received severe electric shocks while doing bronchoscopy from the Kerstein light on my forehead, and lighter shocks from the carrier of the small light, and I have appreciated some danger in similar shocks to the patient. To prevent these I now wear rubber gloves and rubber overshoes, and place my stool on a rubber sheet. To guard the patient there are rubber castors on the table, but I think we have all overlooked the possibility of the electric charge passing from the instruments through the patient and the assistants.

In this case, although I saw sparks pass from my lamp carrier to the bronchoscope, the patient apparently was not injured by the electricity; but the question arises whether some of the hitherto inexplicable deaths may not have been due to galvanization of the vagus nerves. Danger from galvanization of the vagus by instruments introduced for electrolysis of esophageal strictures is well known to laryngologists. In bronchoscopy the metal tube is quite as close to these nerves as the electrodes would be in the operation just referred to, and in unexpected ways the current may be passed through them.

The special points to be remembered in connection with this case are: (1) The importance of marking the forceps by wrapping a bit of adhesive plaster about them to indicate the distance to which they should be introduced in order to reach the lower end of the bronchoscope. (2) The necessity for two sources of illumination. (3) The importance of resterilizing instruments that may have passed into the esophagus. (4) The value of the pin-finder for bringing pins or needles into the lumen of the bronchoscope. (5) The importance of preventing the electric current from passing through the operator or patient.

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SATURDAY, MARCH 7, 1908.

EXHAUSTION OF SOILS.

One of the earliest theories advanced to explain the phenomenon of acquired immunity to disease was that of "soil exhaustion," which assumed that the infectious agent might withdraw from the body of its host substances needed for its growth, and by exhaustion of the supply of these substances terminate the existing infection and prevent new infection by the same variety of organisms. A phenomenon related to this idea is exhibited by bacteria grown on artificial culture media—after a short time the growth decreases and eventually the organisms die out, and reinoculation of the same tube with fresh cultures of the same variety of organisms is impossible, although organisms of some other variety may grow freely for a time on the "exhausted" medium. Now we know that in the case of infection, in the infected animal the immunity does not depend on exhaustion of the soil, but on the development of substances by the host which are specifically injurious to the invading bacterium; while the cessation of growth of bacteria in artificial cultures depends on the action of substances produced by the bacteria themselves, of the nature of toxic excretions which are more or less specifically injurious to the variety of organism that has produced them.

On account of their relation to the above historical facts concerning immunity, recent developments in connection with the questions of soil exhaustion and the effects of rotation of crops in agriculture, which have resulted from the investigations being carried on by Dr. Oswald Schreiner[1] and his co-workers in the Bureau of Soils of the United States Department of Agriculture, become of interest to physicians who are following the development of the biologic sciences, while to the agricultural chemist they are of vital importance.

For many years the well-known fact that soils become unproductive for a given sort of vegetation that has been grown on them for several seasons, has been commonly attributed to exhaustion of the soil by these plants, which were supposed to have taken out certain constituents necessary for their growth, while enough of the other constituents is left to permit of growth of other sorts of plants. In this way the natural change in the character of the vegetation of any given locality, as well as the necessity of rotation of crops for successful agriculture, has been explained—just as the immunity to infectious diseases was thought by some to depend on the exhaustion of the human soil by the vegetable parasite causing the disease. To be sure, earlier agriculturalists and scientists had suggested the possibility that the inhibition of growth following successive cultivations of the same crop might be due to the presence in the soil of toxic excretions of the plants, which might have a selective toxicity for the plant that produced them, while not toxic, and perhaps even suitable for food, for plants of another variety (de Candolle, 1832), but this theory was given up and practically lost sight of, largely because of the influence of Liebig's teaching that exhaustion of mineral constituents of the soils was responsible for the infertility of soils when used for repeated crops of the same kind.

The experiments of the government scientists have brought de Candolle's theory again into favor, however, and seem to have demonstrated beyond question that plants do excrete into the soil on which they are growing organic substances that are toxic, and this toxicity is more or less specific for the variety of plants that produces it. Exhaustion of the mineral constituents of the soil can not be responsible for failure resulting from repetition of the same crop, for chemical analysis does not show any depletion of the inorganic constituents sufficient to account for this effect, and replacement of the ashes taken up by the crops that have "exhausted" a soil do not restore the fertility. On the other hand, it has been possible to demonstrate that non-fertile soils of this kind actually do contain toxic substances which are formed as a result of the growth of the plants, and which are more toxic for the variety of plants that produce them than for other varieties of plants. For example, wheat seedlings will grow better in distilled water than they will in extracts of soil rendered unproductive by repeated growths of wheat on it, although such a soil extract contains an abundance of nutritive material which is, of course, lacking in the distilled water. The toxic substances, at least in some cases, are readily destroyed by heating, by filtration through absorptive substances, such as carbon black, and also by many different chemical substances, especially those that have oxidizing powers. Apparently fertilizers act in such cases not only as food for plants, but also as detoxicating agents, for many fertilizers are found to have the power to destroy the toxicity of extracts of unproductive soils. Rotation of crops could hardly account for a return of inorganic elements to an unproductive soil, but it does explain destruction of organic plant poisons produced by one plant which are not poisonous to succeeding crops; furthermore, when land is allowed to lie fallow much organic toxic material will be oxidized or washed out, while thorough aëration of the soil through ploughing and other methods of agriculture favors destructive oxidation of the poisonous substances.

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[1] The work on this subject is discussed in the Bulletins Nos. 28, 36, 40 and 47 of the Bureau of Soils; also in Farmers' Bulletin No. 257 of the Department of Agriculture.

Of particular significance to the pathologist and bacteriologist is the fact that attempts to isolate this toxic substance have met with success, and crystalline organic substances have been in quantity and purity sufficient to permit of their analysis and identification. The isolation of specific toxic products of bacterial growth has long been an aim of the bacteriologist, but to the present time the toxins remain classed among "substances of unknown composition." It is remarkable that the toxic products of the more highly organized vegetable organisms, whether the alkaloids or the autotoxic excretions of plant roots, are so much simpler than the toxic products of the structurally simple vegetable parasites.

STATE CARE OF CHILDREN IN AUSTRALIA.

We have had occasion[1] to commend the enlightened government of New South Wales for its wise care for the public welfare, as shown in its admirable and admirably administered child-labor laws, and subsequently[2] for a further evidence of the same statesmanship, displayed in its fearless and thorough exposure of the nostrum pestilence by means of a royal commission. Once again we have to render our tribute of admiration to the recent report of Dr. Mackellar, president of the State Children Relief Board, to the minister of public instruction.[3]

From this report we learn that the scope of the board "includes the administration of the whole of the State Children's Relief Act, which controls the boarding out of the children whose support is a charge on the state, and the sections of the Infant Protection Act which relate particularly to the supervision of the privately maintained institutions for the reception and care of children under 7 years of age;" also "with the work affecting the care of children in the administration of the Children's Protection Act, and portions of the Neglected Children and Juvenile Offenders Act, and in the conduct of investigations to ensure the regular attendance of children at school."

The children taken care of as state wards are (1) those whose parents are dead or wholly incapacitated; (2) children of widows and deserted wives; (3) children neglected by their parents, or whose homes are amid surroundings of ill repute or vice; (4) children who come within the scope of the Neglected Children and Juvenile Offenders Act. These are disposed of in the following ways: In the case of the first three classes, (1) by boarding out with selected foster parents; (2) (in Class 2) by boarding out with the mothers, who, being thus in receipt of an allowance from the state, come under its supervision, as in the case of foster parents; (3) by maintenance at state cottage homes for invalid children, and at the depot for state children where they are primarily received or while being transferred from one guardian to another. The supplies for the children in the cottage homes and at the depot are obtained from the Cottage Home Farm operated by the department, the work of which is largely performed by older children of Class 4, sent there on committal by the juvenile offenders court. At this institution bolts and bars are dispensed with, the children being placed on their honor, and so successful has this principle been that notwithstanding that opportunities to abscond are present everywhere, in the field, going to and from school, in the dormitory, etc., only 5 out of 81 have attempted to abscond, 4 of these abscondings taking place in the first four days of residence. Some of the juvenile offenders also are sent to the depot for state children, but as that is being used for the reception of other children an effort is being made to separate these establishments.

Each of these classes of children is made the subject of a separate report. All are inspected by a staff of paid officials, their environment, health, clothing, proper care, diet and upbringing being carefully inquired into. Supplementary to this official inspection the children are also visited by ladies resident in the different localities, who act in an honorary capacity, being authorized to examine and report on the clothing, sleeping accommodation, food, etc., of the children. The proportion of boarded-out children to the population of the state is 4.56 per 1,000. The expressions of opinion by the honorary lady visitors concerning the boarding out system with foster parents and mothers are unanimous in testifying to the success of the method. In nearly all instances the children are found to be well cared for, healthy and, above all, happy and contented. The system is considered far preferable to housing them in barracks or institutions kept by the state. The public-school teachers also bear equally emphatic testimony to the excellent results of this boarding-out system, and it is stated by many of them that these state children compare favorably in intelligence, character and training with other children. It not infrequently happens that the foster parents become so attached to the children that they formally adopt them. The number of children allotted to one household is limited to three, save in the case of brothers and sisters, when, with a view of preserving the integrity of family life, an effort is made not to separate them. A home is now, furthermore, being constructed for the scientific education of children of feeble mind, whereby these unfortunates may receive individual instruction. This has been recently largely aided by the munificence of a private citizen, whose grant of land adjoining the home affords ample recreation room and an opportunity for expansion, as necessity shall require, by the erection of additional buildings.

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[1] THE JOURNAL, Dec. 10, 1904.

[2] THE JOURNAL, Sept. 26, 1907.

[3] State Children Relief Board; report of the president, the Hon. C. K. Mackellar, M.B., C.M., M.L.C., for the year ending April 5, 1907, Sydney, 1907.

From about 12 years of age the state children are apprenticed to various occupations, receiving from their masters entire support, pocket money, and wages on a scale increasing in proportion to their age and usefulness. The pocket money is given to them personally every week, but the wages are placed to their account in the postoffice savings bank, from which they are paid, with interest, one-third on completion of their apprenticeship and the balance on attaining the age of 21.

The report as a whole draws a most gratifying picture of the success attained by a public-spirited community in caring for those of its future citizens who can look to no other source for proper care and attention during the period of development.

VARIATIONS IN THE MORPHOLOGY AND STAINING REACTIONS OF THE TUBERCLE BACILLUS.

It has often been noted that in certain tuberculous lesions in men and animals no bacilli can be demonstrated after the most painstaking search. This, too, in spite of the fact that inoculation experiments prove the tissue to be infected with living tubercle bacilli. This phenomenon is frequently observed also in pus obtained from cold abscesses and in the sputum of consumptives.

Hans Much,[1] concluding that there must be present in such conditions a form of organism which does not possess the supposedly characteristic staining property, utilized various other stains in his search for the bacillus. By means of a modified Gram stain he has been able to demonstrate two varieties, or rather forms, of the tubercle bacillus which are not acid-fast. These forms he has conclusively identified both by inoculation and cultural studies and has shown that one form may develop into, or generate, the others. One of these forms, which is Gram positive but not acid-fast, resembles the familiar type morphologically. The other consists of minute granules, somewhat variable in size, which may occur singly, in irregular groups, or connected—forming little rods. They are usually associated with the Gram positive rod form, which seems to be the intermediate generation between the granules and the acid-fast group. It is supposed that the proportion of fat present in the bacilli determines whether or not they will prove acid-fast.

The nature of the granules is a matter of some doubt. von Behring,[2] who has reviewed and confirmed Much's work, is of the opinion that they are probably degeneration forms and makes the interesting statement that he has noted similar granules in the subcutaneous nodules of leprosy. Much suggests the possibility of the granules representing a developmental stage of the organism. Michaelides,[3] who repeated Much's work, also describes a form of the tubercle bacillus which is negative to both Gram and Ziehl-Neelsen, but may be demonstrated by the Löffler-Giemsa stain. The earlier work of Much was conducted largely with the bovine type of the organism, but in a later paper,[4] he showed that the human variety also presents these atypical forms, and Treuholtz[5] has come to the same conclusion. This discovery seems to explain satisfactorily the apparent discrepancy between the results of direct examination and inoculation in certain cases.

THE PHYSICIAN'S AUTOMOBILE.

Our Automobile Number of two years ago evidently gave satisfaction, for we have been repeatedly importuned to take up the subject again in a similar manner. This week we devote considerable space to the subject of the automobile as a conveyance for physicians.

Although not strictly medical, the problem is one that is very closely related to the practice of medicine. One will not have to read many of the articles to realize this. Those who have not yet owned a machine but are thinking of buying one may be bewildered at the variety of views expressed on the different points discussed. But by "sifting the evidence" one will be able to draw pretty reliable conclusions, or at least to get information and suggestions that will be valuable. Above all, one will realize, too, that what will suit one may not suit another and that different conditions require different machines to meet them.

A physician who wants luxury, speed and display, and who is willing to pay for them, will have no difficulty in finding plenty of automobiles that will be entirely satisfactory in every way, for the automobile has nearly reached perfection when cost is not considered. This comment applies also to machines of moderate price, say from $1,800 to $2,500. But the great majority are not looking for luxury, and lack the willingness or the ability to pay the price mentioned. They want a practical, dependable conveyance to take the place of a good horse and buggy, and they demand that the initial cost and the upkeep in the long run shall not cost much more than for the horse-drawn vehicle. Such a car must be simple in construction, compact, moderately light, durable—made to last four to five years with ordinary care—and its initial cost must be from $500 to $800. It must have reserve power in low speed to do what can be done with a good horse and buggy—climb any hill and go through the mud or sand to be found in traversing ordinary country roads. High speed is not necessary. While the ideal car, one that will meet every one of these requirements, may not yet be on the market, many of our contributors show that there are some that come very near reaching this ideal; and the number of such cars is increasing.

The reaction has begun. Many manufacturers are realizing that it is the few who are looking for the large, luxurious and fast machines, and the many who need the practical kind we have indicated; for such a machine is not only desired by 50,000 doctors but also by the business man, the inspector, the contractor, the small tradesman—in short, by the great majority of those who to-day are using a one or two-horse buggy or carriage, and who can not afford either the initial cost or the maintenance of the high-priced machines. This is a fact that many manufacturers are realizing, the demand they are trying to fill.

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[1] Beiträge zur Klinik der Tuberkulose, viii, part 1.
[2] Tuberkulosis, vi, No. 9.
[3] Beiträge zur Klinik der Tuberkulose, viii, part 1.
[4] Beiträge zur Klinik der Tuberkulose, viii, part 4.
[5] Medical Record, Jan. 11, 1908

There is no doubt that the automobile as a practical machine has come to stay; that even in its present development it is far superior and more economical for a physician than any other mode of conveyance, especially if the saving of time is taken into account. It has its drawbacks, of course, but these are usually individual to the man who runs it. We are repeatedly told that no one should run a car who has not some natural mechanical ability. Undoubtedly this is an advantage, but only to the extent that such an individual can learn more quickly than one who is not so gifted. The natural mathematician is able to solve problems in mathematics easily, while another can do so only by hard study. One must realize that to enjoy a car one must master its mechanism, and the difficulty in doing this is more imaginary than real, even with one who has no taste for mechanics. This lesson crops out in at least half of the communications which we print this week.

In short, the general opinion of our contributors seems to be that the automobile is a practical conveyance for physicians; that to run it with satisfaction one must learn its mechanism; that the more experience one has and the better one understands its anatomy and physiology the more pleasure and profit one will derive from an automobile. The novice is the one who has the most trouble.

THE EMANCIPATION OF MEDICINAL THERAPY.

The notable articles by Henius and by His, full abstracts of which appear in this issue of THE JOURNAL,[1] merit careful consideration not only by physicians, but also by druggists and by drug manufacturers. These articles give a vivid and instructive picture of the conditions that in Germany have led to persistent efforts to secure adequate control of the intolerable and harmful commercial exploitation of new drugs and of proprietaries of all kinds. It is quite evident that work like that undertaken by the Council on Pharmacy and Chemistry of the American Medical Association is just as necessary in Germany to-day as it is in our own country. No doubt this is true also in regard to practically all other countries. His covers the ground well when he says that there are houses which strive to make money out of old familiar drugs by new combinations and a catchy name, or by substituting a cheaper, less reliable drug for some old standby. Between such firms and the actual nostrum makers the dividing lines are very vague, so that it is hard for an expert and impossible for the general practitioner to sift the grain from the chaff, particularly as he is flooded with misleading literature. The agreement between the Council on Pharmacy and Chemistry and the Berlin Pharmaceutical Institute to exchange information and conclusions marks a distinct advance in the supervision and control of the commercial claims for pharmaceutical preparations and new remedies—international cooperation is now established. We take this opportunity to point out that the movement to free the medicinal therapeutic activities of the physician from a crude and disgraceful commercial domination has passed the initial stage. It has now reached the irresistible force and the definite scope of a developmental evolution which proceeds along distinct lines with growing strength and ever-widening effects. While in many respects the movement might better be likened to a revolution, we prefer to speak of it as an evolution, because it is leading gradually to radical yet permanent changes. This movement took definite form in the repeated and conclusive demonstration that many manufacturers deliberately and persistently foisted on physicians and the public preparations that neither in their composition nor in their effects fulfilled the claims put forward by their makers. The evolution thus started away from this intolerable condition moves on toward the end that the production and sale of remedial agents may be placed under absolutely reliable and scientific control. That two men approaching the subject from entirely different standpoints should reach the same conclusion is in itself a strong argument in favor of the action recommended by them. When men of the standing of Henius and His interest themselves in this subject sufficiently to call the attention of the profession to the great need for action, it means that the time has arrived when some definite and tangible results may confidently be expected.

THE NAMES OF THE AUTOMOBILES.

For reasons that will be at once appreciated, it has been thought best not to give the names of the various automobiles referred to in this issue of THE JOURNAL, but to designate them by numbers. For the benefit of those interested, a folder has been prepared giving these numbers and the corresponding names. A copy will be sent to any one who requests it and encloses a self-addressed stamped envelope.

PHYSICIANS AND THE SPEED LAWS.

One of the questions to be discussed in regard to the automobile is whether or not a physician should ever be exempt from the ordinary speed restrictions. A New York paper offers the opinion that the need of such exemption is obvious, and if mail wagons have such permission and the right of way it will be equally just to give it to physicians. The only reason that it should not be given would be possibility of the privilege being abused. A physician has no more right to drive recklessly through the streets than has any other man, and the speed mania with which automobilists are said to be possessed might be aggravated in some persons by the knowledge that in special circumstances they were exempt from the restrictions imposed on the general public. It is suggested that physicians be provided with a special license, serving as a temporary passport through the streets, so that in case of apparently reckless driving the license number could be recorded and a subsequent satisfactory explanation demanded. All the requirements of the case would thus be fairly met. There are occasions in a physician's practice, as we all know, when speed and promptness are imperative, and yet might be forbidden by law under ordinary conditions. If a physician can show imperative reasons for speed—and he will be able to do this but seldom—let him be exempt from the usual speed regulations for that time and for that time only—under other conditions let him, like any other citizen, be amenable to the law.

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[1] Pages 807 and 809.

EXPOSURE OF FRAUDS AND THE LIBEL LAWS.

As an aftermath of the *Lancet* libel case, a writer in a pharmaceutical journal,[1] in commenting on the law of libel, expresses the opinion that the law in its present form is valuable chiefly to the swindler and sophisticator. The psychic effect of skillfully worded advertising—hypnotism by advertisement, as he aptly terms it—is responsible for much of the misconception that exists in the public mind as to the true value of "patent medicines." The only cure for this evil is education of the public, and yet with the libel law as it now exists an educative campaign is well-nigh impossible. An attempt to expose even the most palpable fraud is fraught with vexation and expense to the exposer. The more subtle forms, to which class the majority of "patent medicines" belong, are so bolstered up with the testimony of paid "experts" that most judges and all juries can be confused sufficiently to render them incapable of giving an impartial verdict. The difficulty of obtaining documentary proof of even self-evident frauds is very great, and many times in fighting the nostrum evil it has been possible to do no more than hint at the fraudulent methods employed. As a rule, the greater the rogue the quicker he is to take advantage of the libel law, and a suit won by such an individual is a marketable commodity of which he is not slow to take advantage. Hence the need of caution and circumspection in exposing any kind of fraud, and especially any connected with the "patent" and proprietary medicine business, if we wish to further, rather than to injure, the cause we espouse.

Medical News

ALABAMA.

Demopolis to Have a Hospital.—The physicians of Demopolis are planning the erection of a hospital, an institution greatly needed in that locality.

Epidemic Diseases.—Measles is reported to be epidemic in Crenshaw County and in Jonesboro.——Several cases of smallpox are reported near Haw Ridge, Ozark and Daleville.

Society Organized.—The physicians of Avondale on February 21 organized the Avondale Medical Society and elected Dr. Henry L. Martin, president; Dr. Emory A. Morris, vice-president, and Dr. Julius B. Cooper, secretary-treasurer.

Personal.—Dr. James I. Odom, Ensley, was thrown from his buggy in a runaway accident February 10, and seriously injured.——The house of Dr. J. N. Stathum, physician at Swansea Mines, was burned February 1, with a loss of $5,000.——Dr. Edward H. Sholl, Birmingham, has been elected chairman, and Dr. Frank A. Lupton, Birmingham, secretary, of the committee of health of Jefferson County.——Dr. Harry T. Lay, Montgomery, has been elected physician of Montgomery County, vice Dr. Charles T. Pollard.

CALIFORNIA.

Insufficient Evidence.—Wilhelmina Wegener, San Francisco, accused of having performed a criminal operation which caused the death of Edna Needham, January 1, was acquitted February 19 on account of insufficient evidence.

Illegal Practitioners Fined.—T. Kurahara, a Japanese, charged with the illegal practice of medicine at San José, is said to have pleaded guilty and to have been fined $100, February 11.——N. Hadjii, Los Angeles, who was recently arrested for selling "patent medicines," is said to have pleaded guilty and to have been fined $40.——A Hindoo mind reader of Los Angeles is said to have been fined $100 February 3 for practicing medicine without a license.

Deaths and Diseases.—During January 2,920 deaths were reported in the state, equivalent to an annual death rate of 17.1 per 1,000. Of these 486, or 16.7 per cent., were from pneumonia and other forms of respiratory diseases; 446, or 15.3 per cent., from tuberculosis, and 397, or 13.6 per cent., from diseases of the circulatory system. The leading epidemic diseases during the month were diphtheria, which caused 48 deaths; typhoid fever, 37; influenza, 27, and scarlet fever and whooping cough, each 10.

Personal.—Owing to press of business, Dr. Norman Bridge, Los Angeles, has resigned from the Esperanza Sanatorium, Altadena.——Dr. Julian L. Waller, San Francisco, has started for Vienna.——Dr. Charles C. Miller, Boulder Creek, has been critically ill with ptomain poisoning.——Dr. D. C. Strong, San Bernardino, who was recently operated on for appendicitis, is gaining rapidly, and was brought to his home February 21.——Dr. Charles A. Dukes, a member of the board of health of Oakland, was arrested February 11 for violating the speed law while making a professional call, but judgment was suspended.——Dr. Burt B. Lamkin, Fresno, has been appointed to fill the vacancy in the board of health caused by the resignation of Dr. Philip N. Russell.——Dr. David W. Edelman, Los Angeles, has been elected chairman of the civil service board.

Society Meetings.—At the annual meeting of the Ventura County Medical Society Dr. Charles Teubner, Saticoy, was re-elected president; Dr. George N. Stockwell, Ventura, vice-president, and Dr. John C. Bynum, Ventura, secretary.——At the annual meeting of the Alameda County Medical Society Dr. Ernest M. Keyes, Alameda, was elected president; Dr. Lemuel P. Adams, Oakland, vice-president; Dr. Mark L. Emerson, Oakland, secretary, and Dr. Charles A. Dukes, Oakland, treasurer.——At the annual meeting of the Humboldt County Medical Society, held at Sequoia Tavern, January 21, Dr. Henry S. Delamere, Ferndale, was elected president; Dr. Curtis O. Falk, Eureka, vice-president; Dr. John N. Chain, Eureka, treasurer, and Dr. John H. Mallery, Eureka, secretary (re-elected).——The Mendocino County Medical Society has elected Dr. Edward W. King, Talmage, president.

Hospital News—The new San José Hospital is nearing completion. It has been erected on the site of the old building, which was destroyed during the earthquake, and consists of a main building, with three wings; the south wing is to be given up to medical cases and the north wing is to be devoted to surgical cases. The center wing contains three large dining rooms, a kitchen and quarters for attendants. In the main section are the reception rooms, offices, a small operating room, etc.——By the gift of Mrs. Whitelaw Reid, a maternity ward is being added to the Red Cross Guild Hospital, San Mateo.——The Japanese Hospital Association, San José, has been incorporated with a capital stock of $10,000, to "own, manage, conduct and carry on a hospital for the care of Japanese patients, and to own, conduct and carry on a general hospital business."——The Del Norte Hospital Association has been incorporated with a capital stock of $35,000, to erect a hospital in Crescent City.——Mrs. and Miss Fowler, widow and daughter of the late Eldridge M. Fowler, have given $40,000 to the Pasadena Hospital, to be used for the erection of an additional wing, to be known as the Eldridge M. Fowler memorial wing.

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[1] Pharm. Jour., London, Jan. 25, 1908, 116.

COLORADO.

Illegal Practitioners.—J. C. Harter, Pueblo, a practitioner of mechanotherapy, charged with practicing medicine without a license, is said to have been found not guilty by a jury in the District Court, February 20.

Hospital News.—The entire amount ($50,000) necessary for the erection of the first building of the new Deaconess Hospital, Colorado Springs, has been pledged, and work will begin as soon as plans are accepted.

Medical Society Incorporated.—The Medical Society of the City and County of Denver has been incorporated in order to give the organization a standing before the law, and to enable it to establish a library and erect a building for its own use.

Communicable Diseases.—The city physician of Leadville reports that Leadville is now free from scarlet fever.——The schools of Wray have been closed and public meetings prohibited on account of the prevalence of diphtheria.——The public school of Sopris has been closed on account of the presence of diphtheria.

Personal.—Dr. Thomas D. Palmer, Cañon City, has been appointed local surgeon to the Denver & Rio Grande Railroad, vice Dr. Thomas H. Craven, deceased.——A stay of execution until February 1 was granted Dec. 24, 1907, in the suit of Dr. John S. Espey against Dr. Alfred Freudenthal, Trinidad, for damages, on account of alleged violation of contract, and on February 10 the Supreme Court granted Dr. Freudenthal a supersedeas.

CONNECTICUT.

Bequests.—By the will of the late Mary E. Ives, New Haven, $5,000 is devised to the New Haven Hospital, and $5,000 to the Grace Hospital, for free beds, the bed in the latter hospital to be named after the testator.

Hospital for Rockville.—William H. Prescott has turned over to the trustees the sum of $50,000, to be known as the William Henry Prescott fund for the erection of a city hospital. In addition the Prescott family will contribute a site for the institution.

Association Meeting.—At the one hundred and fifth annual meeting of the New Haven Medical Association the following officers were elected: Dr. Edward M. McCabe, president; Drs. Arthur N. Alling and H. Merriman Steele, vice-presidents; Dr. E. Reed Whittemore, secretary; and Dr. Robert E. Peck, treasurer.

Personal.—At a meeting of the medical board of St. Joseph's Hospital, Willimantic, Dr. Clarence E. Simonds was elected a member of the staff and placed in charge of the department of electrical science and therapeutics.——Dr. William H. Carmalt, New Haven, was the guest of honor at a complimentary banquet given by his medical friends, March 5.

Infectious Diseases.—During January there were reported in the state 2 cases of smallpox in one town; 276, or more, cases of measles in 39 towns; 205 cases of scarlet fever in 45 towns; 4 cases of cerebrospinal fever in 4 towns; 137 cases of diphtheria in 32 towns; 9 cases of whooping cough in 5 towns; 39 cases of typhoid fever in 34 towns, and 75 cases of tuberculosis in 20 towns.

January Mortality.—During January 1,534 deaths were reported in the state, equivalent to an annual death rate per 1,000 of 18.1. Of these deaths 282, or 18 per cent., were of children under 5 years of age. Chief among death causes were: Pneumonia, 242; diseases of the nervous system, 152; consumption, 144; influenza, 135; heart diseases, 131; accidents and violence, 67; bronchitis, 49; diphtheria, 17; typhoid fever, 15; scarlet fever, 5; erysipelas and cerebrospinal fever, each 4; measles, 3, and whooping cough, 1. The deaths from infectious diseases were 527, or 21.3 per cent. of the total mortality.

DISTRICT OF COLUMBIA.

Gift for Hospital.—A Washington business man, whose name is withheld, has offered to build an addition to the Georgetown University Hospital, to cost about $25,000.

Smallpox.—There are now 23 cases of smallpox in the Washington Isolation Hospital, and 48 additional individuals are under observation at the quarantine station.——Since January 1, 54 cases of smallpox have developed.

Personal.—Dr. George F. Simpson, in charge of the health inspection service of the District Health Department, has resigned, the reason assigned being inadequacy of pay.——Dr. R. C. Hefflebower has left the Emergency Hospital and will practice in Washington.

Election.—At the annual meeting of the Medico-Chirurgical Society of the District of Columbia the following officers were elected: Dr. George W. Cabaniss, president; Dr. Creed W. Childs, vice-president; Dr. John W. Mitchell, recording secretary; Dr. James C. Dowling, corresponding secretary; Dr. Charles H. Marshall, treasurer, and Dr. John H. Johnson, librarian.

Reversal of Judgment.—Edward Leon Thompson, known as "Dr. Leon," who was sentenced last June to serve two years in the penitentiary for the performance of a criminal operation, was awarded a new trial by the District Court of Appeals, February 6, the court contending that the trial judge erred in requiring the United States attorney to compel the defendant, when taking the stand in his own behalf, to state that he had been previously convicted by a jury in connection with a similar operation.

Mortality and Morbidity.—Dr. William C. Woodward, health officer of the District of Columbia, in his annual report states that 3,642 deaths occurred during the year, or 26 more than for 1906; the small increase in the mortality was more than offset by the increase in the population, which resulted in the death rate decreasing from 19.35 to 19.25 per 1,000. The mortality from pulmonary tuberculosis decreased from 781 to 750, while deaths from pneumonia were increased from 503 to 537. The deaths from typhoid fever during 1907 were 114, or 48 less than for 1906. During the year there was a diminution in the deaths from diphtheria and scarlet fever. During 1906 there were 420 cases of diphtheria, while in the following year there were 411 cases recorded. In the former year there were 36 deaths from the disease and in the latter 30. The cases of scarlet fever for 1906 were 281, and in 1907, 168; in the former year 8 deaths occurred, and in the latter only 2.

GEORGIA.

New Hospital.—Drs. Robert M. and William P. B. Harben, Rome, have purchased a three-story brick residence in that city for $6,000, and will convert it into a hospital.

To Combine Schools.—The *Medical Consensus* of Atlanta announces in its current issue that an effort is being made to consolidate the medical schools of Georgia, and to merge them into branches of the State University.

Medical Staff Elected.—At the annual meeting of the Medical Board of Macon Hospital Association, January 29, Drs. Max Jackson, William J. Little, James H. Shorter, Henry P. Derry, Jesse E. Wright, Maury M. Stapler, Charles C. Herrold, John A. Selden, Samuel B. Palmer, H. H. Johnston, Johnson M. Moore, Herbert Respess and Fred L. Webb were added to the staff of the hospital.

ILLINOIS.

Communicable Diseases.—Dr. Elvin F. Baker, Jacksonville, inspector of the State Board of Health, has passed on the epidemic disease, which is said to have been puzzling the practitioners of Lacon, and pronounces it smallpox.——Two new cases of smallpox have developed at Bartonville.——As a result of scarlet fever at Chenoa, all public meetings have been forbidden and schools and churches have been closed.

Suburban Health League Meets.—At a meeting of the Suburban Health League, held in Indiana Harbor, Ind., March 2, plans were devised to stop the spread of contagious diseases. Physicians throughout the Calumet region will act in unison in reporting such cases to the league. The following officers were elected: President, Dr. William R. Parkes, Evanston; vice-president, Dr. Albert F. Storke, Oak Park; secretary-treasurer, Dr. Heman Spalding, Chicago; and executive committee, Drs. William A. Evans, Chicago; Samuel C. McCracken, Winnetka; Aaron J. Lauer, Whiting, Ind.; Clarence W. Geyer, Aurora, and Albert F. Storke, Oak Park.

Personal.—On February 19, Dr. John Randolph Webster, Monmouth, celebrated the fiftieth anniversary of his entrance into medical practice, with a dinner at his home. On behalf of the physicians of Monmouth, Dr. Cynthia A. Skinner presented Dr. Webster with a silver loving cup, and the physicians of Chicago, represented by Dr. David W. Graham, gave Dr. Webster a handsome gold-headed cane, suitably inscribed.——Dr. August H. Arp, Moline, who was recently laid up with a fractured leg, met with another accident, February 20, that will confine him to his home for some time. In stepping out of his buggy he slipped and again injured the leg which had been fractured.

Chicago.

Personal.—Dr. John B. Murphy leaves for San Antonio, Texas, this week.——Dr. Charles W. Behm, chief of the disinfecting bureau of the Health Department, is said to be seriously ill at the Mercy Hospital.

Personal Injury Suits.—The district council and city attorney have brought to light what they consider a conspiracy to defraud the city by bringing personal injury suits. They state that of six physicians in the Maxwell Street district, one has testified 23 times in such suits and has been interested in 17 other suits; another has testified 11 times, and has been interested in 11 similar suits; a third has testified 8 times and is interested in 10 other suits; a fourth has testified 13 times and has been interested in 11 suits; a fifth has testified 12 times and has been interested in 11 suits; a sixth has testified 16 times and is interested in 8 suits—a record which they think speaks for itself.

Hospital Notes.—The stockholders of the Lake View Hospital have decided to dissolve the corporation, and a new corporation will be organized.——A new ward for the exclusive care of children was opened at the Chicago Baptist Hospital, February 22.——The following is announced as the reorganized staff of St. Joseph's Hospital: Chief of staff and surgical department, Dr. John B. Murphy; associate chief, Dr. C. Hugh McKenna; consulting staff, Drs. Charles Adams, George W. Reynolds, George F. Parsons, Ludwig H. Abele, Vaclav H. Podstata and Charles J. Whalen; attending surgeons, Drs. John B. Murphy, Carl Wagner, C. Hugh McKenna and William N. Senn; associate surgeons, Drs. John P. Grimes, W. J. Swift, Arthur M. Butzow and Henry Wagner; chief of medical department, Dr. Robert B. Preble; attending physicians, Drs. Plumer M. Woodworth, John W. O'Neill, Arthur A. Small, Thomas J. O'Malley and Julien E. Hequembourg; chief of gynecologic department, Dr. J. Clarence Webster; attending gynecologist, Dr. William M. Thompson; associate gynecologists, Drs. William B. Fehring and Philip S. Doane; obstetrician, Dr. Frank W. Lynch; oculist, Drs. George W. Mahoney; associate oculist, Dr. P. J. H. Farrell; nose and throat, Drs. Jacques Hollinger and G. Paull Marquis; neurologists, Drs. Daniel R. Brower and Hugh T. Patrick; associate neurologist, Dr. Daniel R. Brower, Jr.; pediatrician, Dr. Phillip S. Chancillor, and pathologist, Dr. David J. Davis.

KANSAS.

Smallpox.—A number of smallpox cases were reported recently in Kansas City. Diligent quarantine is being enforced, and all precautions are being taken by the board of health to check the progress of the disease.——The schools of Medicine Lodge have been closed on account of the prevalence of smallpox.——Influenza is reported to be epidemic at Paola.

Personal.—Dr. C. B. Stemen, Kansas City, formerly of Fort Wayne, Ind., has been appointed local surgeon for the Missouri Pacific Railroad.——Dr. A. J. Lind, Kansas City, is recovering from a severe attack of diphtheria, during which it was necessary to administer more than 100,000 units of antitoxin.——Dr. Harry T. Salisbury, Burlington, has been appointed physician of Coffey County, vice Dr. Verbinia McMullen, resigned.——Dr. Harley J. Stacey, Leavenworth, is reported to be seriously ill with septicemia.——Dr. Levi Horner, Wichita, has been appointed physician of Sedgwick County.

Society Meetings.—At the annual meeting of the Northeast Kansas Medical Society, held in Kansas City, February 13, Dr. Clarence C. Goddard, Leavenworth, was elected president; Dr. C. B. Stemen, Kansas City, vice-president, and Drs. Harry L. Chambers, Lecompton, secretary. The next meeting of the society will be held in Atchison in October.——At a recent meeting of the Crawford County Medical Society, held in Pittsburg, Dr. Herman H. Bogle was elected president; Dr. Charles Chapin, Frontenae, vice-president; Dr. Amelia A. Dickinson, Pittsburg, secretary-treasurer, and Dr. Hugh B. Caffey, Pittsburg, delegate to the state society.

KENTUCKY.

Library Donated.—The medical library of the late Dr. Peter Gunlerman, Louisville, has been donated to the Jefferson County Medical Library.

Loses Suit.—Moses Webster, Louisville, lost his suit against the State Board of Health, in which he sought by mandamus to force the board to issue him a license to practice medicine without an examination.

Tuberculosis Hospital.—The committee on charitable institutions of the legislature has endorsed the bill appropriating $75,000 for the erection of a tuberculosis hospital and $30,000 annually for its maintenance.

Communicable Diseases.—Somerset is reported to have epidemics of measles, mumps, scarlet fever and whooping cough.——Thus far 3 deaths have occurred from cerebrospinal meningitis at Berea College, and no further cases have been reported.——Influenza is reported to be epidemic at Fulton, Glasgow, Frankfort and Adairville.——Measles in severe form is reported to be prevalent near Glasgow and in Newport.——There are six cases of smallpox at Frankfort.

Board Wants Larger Appropriation.—The biennial report of the State Board of Health, submitted by the secretary, Dr. J. N. McCormack, Bowling Green, February 19, deprecates the absence of a system of vital statistics, but states that reports from information voluntarily furnished by physicians throughout the state show that during the average year there are in the state 11,979 cases of tuberculosis, with 6,438 deaths; 22,512 cases of typhoid fever, with 1,683 deaths; 16,317 cases of diarrheal diseases, and 1,835 deaths; 5,181 cases of diphtheria, with 1,068 deaths; and 22,283 cases of scarlet fever, with 933 deaths; a total of 79,532 cases of preventable diseases, with 12,116 deaths.

Personal.—Drs. Julian T. McClymonds, Joseph A. Stucky, Charles W. Norris and John W. Scott have been named as the board of trustees of the Good Samaritan Hospital, Lexington, and Dr. Josephine Hunt has been elected a member of the staff.——Dr. W. Guy Eckman has been elected jail physician of Covington.——Dr. Charles H. Brothers has been reelected a member of the Paducah Board of Health.——Dr. Frank Boyd, Paducah, was appointed by the governor, on February 24, surgeon general of the Kentucky State Guard, with the rank of colonel.——Dr. N. N. Hillor has succeeded Dr. E. R. Earle as house physician of the Illinois Central Hospital, Paducah.——Dr. Ernest Bradley, Lexington, has been elected city bacteriologist.

Society Meetings.—At the annual meeting of the Bourbon County Medical Society, held in Paris recently, the following officers were elected: President, Dr. Frank M. Faries, Paris; vice-presidents, Drs. J. Stuart Wallingford and John T. Brown, Paris; secretary-treasurer, Dr. Charles G. Daugherty, Paris; assistant secretary-treasurer, Dr. Frank L. Lapsley, Paris, and censors, Drs. William Kenney, Paris; E. A. Cram, Centerville, and John O. Gilkey, Paris.——At the annual meeting of the McCracken County Medical Society, held January 2 at Paducah, the following officers were elected: President, Dr. Frank V. Kimbrough, Maxon Mills; vice-president, Dr. Louis E. Young, Paducah; secretary, Dr. James T. Reddick; treasurer, Dr. Ezias R. Earle, Paducah; delegate to the Kentucky State Medical Association, Dr. Henry G. Reynolds, Paducah, and censor, Dr. Randolph C. Gore, Lone Oak.——At the annual meeting of the Carroll County Medical Society, held at Carrollton, January 16, the following officers were elected: Dr. J. B. Darbro, Eagle, president; Dr. W. B. Messink, Worthville, vice-president, and Dr. Frank M. Gaines, Carrollton, secretary-treasurer; and Dr. P. Vernon Ellis, Ghent, delegate to the state society.——At the annual meeting of the Barren County Medical Society, Dr. James M. Taylor, Glasgow, was elected president, and Dr. Roscoe S. Plumlee, Glasgow, secretary.——Dr. Samuel M. Stedman, Versailles, was elected president and Dr. John W. Crenshaw, Versailles, secretary of the Woodford County Medical Society, at its annual meeting held January 10.——At the annual meeting of the Warren County Medical Society, held January 16, the following officers were elected: President, Dr. Thomas W. Stone, Bowling Green; vice-president, Dr. Edward J. Keen, Woodburn; secretary-treasurer, Dr. Lillian H. South, Bowling Green; delegate to the State Society, Dr. Eldon N. Hall, Woodburn, and censor, Dr. Walter H. McCraeken, Bowling Green.——The Kentucky Midland Society, at its forty-eighth annual meeting, held in Midway, January 10, elected the following officers: President, Dr. Nevil M. Garrett, Frankfort; vice-president, Dr. Josephus Martin, Cynthiana, and secretary-treasurer, Dr. George P. Sprague, Lexington. Georgetown was chosen as the next place of meeting.——At the annual meeting of the Falls City Medical Association, an organization of colored physicians of Louisville, January 14, the following officers were elected: President, Dr. Ellis D. Whedbee; vice-president, Dr. Richard W. Oliver; secretary, Dr. A. C. McIntyre; treasurer, Dr. H. B. Beck, and corresponding secretary, Dr. J. A. C. Lattimore.

MARYLAND.

Ask Appropriation for Hospital.—A delegation of physicians and others appealed to the joint committee of finance and ways and means of the legislature, February 26, for an annual appropriation of $8,000 for two years for the Cambridge Hospital, and also a further appropriation of $4,000 to pay off a mortgage on the institution.

Scores Hospital Trustees.—The Washington County Medical Society, at its monthly meeting in Hagerstown, February 13, is said to have adopted resolutions criticising the management of the Washington County Hospital on its failure to put into effect the recommendations made a year ago by the society. Unless the matters complained of are remedied by May 1 the physicians threaten to withdraw all gratuitous services to the hospital.

Plea for Public-Health Institution.—A delegation of 200 members of the Medico-Chirurgical Faculty of Maryland was given a public hearing February 12 by the legislature at Annapolis, to urge the passage of the bill asking for an appropriation of $100,000 for the erection of a pubnc-health institution and medical library building in Baltimore. Speeches were made in favor of the bill by Drs. Charles O'Donovan, president of the faculty; William H. Welch of Johns Hopkins Medical School; Edward N. Brush, superintendent of Sheppard and Enoch Pratt Hospital, Towson, and Dr. Clotworthy Birnie, Taneytown, formerly a member of the legislature.

Baltimore.

Personal.—The governor has appointed Dr. St. Clair Spruill a member of the Board of State Aid and Charities.——Dr. Alexander D. McConachie has been appointed surgeon general of Maryland.——Dr. Randolph Winslow has returned from a prolonged trip to the Pacific Coast.——Dr. Newdigate M. Owensby was operated on February 29 for appendicitis.

Alumni Meeting.—At the meeting of the General Alumni Association of the University of Maryland, February 27, Dr. B. Merrill Hopkinson was elected president, and Dr. Eugene F. Cordell was re-elected secretary-treasurer. Among the honorary vice-presidents were: Drs. Randolph Winslow, John C. Hemmeter, R. Tunstall Taylor, Wilmer Brinton, Hiram Woods, and Charles O'Donovan.——At the commemoration day exercises of Johns Hopkins University, held February 22, a portrait of Henry Newell Martin, formerly professor of biology, was presented to the university by his old students. The presentation speech was made by Dr. William H. Howell, dean of the medical school. Speeches were also made by Drs. Harvey W. Cushing and J. Whitridge Williams; the latter was also elected president of the alumni association.

Modern School Life.—Dr. H. Warren Buckler delivered one of a series of public lectures, given under the auspices of the committee on public education of the Medical and Chirurgical Faculty of Maryland, on "Modern School Life and Its Effects on Health." He said children should not enter school under 8 years of age; that of the 118 schools in Baltimore, not more than 20 were of modern type; in one school 50 per cent. of the children were defective, and in one room 15 out of 38 had adenoids or enlarged tonsils, and that many of the children were filthy or in an offensive condition. This according to the reports of the medical inspectors had caused 5,488 cases of infectious diseases during last year. He advocated shorter hours, more frequent recesses and greater variety of study. He opposed competition and examinations, and approves of the effort of the superintendent to found ungraded classes.

MICHIGAN.

Hospital Notes.—Plans were perfected at a public meeting February 6 for a suitable building, thoroughly equipped for a general hospital, for Munising.

Gift of Medical Works.—Peter White, Marquette, has made a gift of $1,000 to the library of the University of Michigan, Ann Arbor, for the purpose of purchasing rare medical books.

Personal.—Dr. John C. Dodds, Detroit, was attacked and assaulted by an insane woman in his office, February 21.——Dr. Irwin H. Neff, Pontiac, has been appointed superintendent of the Massachusetts State Hospital, Foxboro.——Dr. William De V. Lyman, Grand Rapids, has been appointed assistant surgeon of the Michigan National Guard, with the rank of first lieutenant, and assigned to duty with the Second Infantry.——Dr. Harris B. Osborne, Kalamazoo, who has been seriously ill, is reported to be steadily improving.

Epidemic Diseases.—Influenza is reported to be epidemic in and around Marshall.——Smallpox is prevalent in and around Monroe Center.——The smallpox epidemic at Marengo is now reported to be under control.——Several cases of smallpox have recently occurred in Bertrand Township, Berrien County.——The schools of Mesick have been closed temporarily on account of the prevalence of smallpox.——Smallpox is reported to have been epidemic at Cottrellville for two months. A quarantine has been established and the public schools have been ordered closed.

Antituberculosis Society.—The physicians of Detroit and vicinity met at Detroit, February 21, and organized the Michigan Society for the Study and Prevention of Tuberculosis, to be affiliated with the national organization. Drs. Charles G. Jennings and Guy F. Kiefer, Detroit; Frank W. Shumway, Lansing, and Drs. George Dock and Victor C. Vaughan, Ann Arbor, were appointed a committee to choose thirty persons throughout the state to serve as directors. Dr. Jennings acted as chairman of the meeting.——An antituberculosis society has been organized at Marshall, of which Dr. Starr K. Church, city health officer, has been elected president.——A local branch of the Michigan Association for the Prevention and Cure of Tuberculosis has been organized at Muskegon, with Dr. Frank W. Garber as president.

MINNESOTA.

Personal.—Dr. Louis Dunn, Minneapolis, was assaulted in his office by an insane patient, January 31.——Dr. John V. Johnson, health officer of Eveleth, has resigned, and Dr. Edward M. Gans is acting as locum tenens.

Society Meeting.—At the annual meeting of the McLeod County Medical Society, held at Hutchinson recently, Dr. Charles W. Tinker, Stewart, was elected president; Dr. John B. Clement, Lester Prairie, vice-president, and Dr. David L. Axilrod, Hutchinson, secretary-treasurer.

Hospital Notes.—A new hospital is to be built in Minneapolis by the United Church, to cost $200,000; of this sum $50,000 has already been collected.——The State Hospital for the Insane and St. Mary's Hospital, Rochester, are about to build additional wards.——The contract has been awarded for the contagious hospital building at Fergus Falls State Hospital, to cost $9,089.——The contract for the tuberculosis hospital building at the St. Peter's State Hospital has been awarded for $54,300.

Epidemic Diseases.—The diphtheria epidemic at Biwabik has been declared officially to be at an end.——The Douglas and Kenwood schools, Minneapolis, were closed indefinitely, February 6, on account of the prevalence of scarlet fever.——Scarlet fever is reported to be prevalent north of Wabasha.——An epidemic of smallpox is reported west of Royalton.——During January, 17 cases of smallpox were reported in St. Cloud.——Six cases of smallpox were discovered in one house in Duluth, February 18.——A case of smallpox has occurred among the nurses in Minneapolis City Hospital.——Measles is so prevalent at Barnesville that it is believed some of the lower grades of the public schools will have to be closed.

MISSISSIPPI.

Smallpox and Influenza.—The health officer of Lamar County announces that the smallpox infection which has been prevalent for some time in the county is almost conquered.——Jackson, Canton, Kosciusko, Utica and Stringer report epidemic influenza.

State Board Election.—At a meeting for organization of the State Board of Health in Jackson, February 13, Dr. Edward C. Coleman, Kosciusko, was elected president; Dr. Samuel H. McLean, Jackson, secretary, and Drs. Samuel H. McLean, Jackson, Daniel J. Williams, Ellisville, and Banks A. Shepherd, Lexington, executive committee.

Not Guilty.—In the case of Dr. J. W. Kirby, charged with the killing of James G. Money, Jr., the jury returned a verdict of not guilty, February 12.——Dr. J. S. Walker, Greenville, president of the Merchants and Planters' Bank of that place, indicted on six charges for receiving money while the institution was insolvent, was found not guilty, February 6.

Personal.—It is understood that the governor will appoint Dr. Sydney Johnson, superintendent of the Vicksburg Charity Hospital, vice Dr. B. B. Martin.——Dr. H. J. Small, Winona, while making a professional call February 4, fell from a high railroad trestle and broke several ribs.——Dr. Lewis W. Crigler, physician at the State Agricultural and Mechanical College, Starksville, has resigned.

State Board Appeals to Legislature.—The Mississippi State Board of Health has made an appeal to the members of the legislature for an appropriation of $10,000 a year instead of $2,000; that the number of members of the board be reduced to ten, and the method of appointment changed; that a law be enacted requiring physicians to report births, deaths, etc., and that a high medical standard be provided for medical men.

MISSOURI.

New Laboratory Opened.—The St. Louis Medical Review Laboratory Bureau has been organized. The laboratory is prepared to make tests of urine, blood, sputa, milk, gastric contents, feces, etc. Owen C. Farley is manager; Dr. Warren P. Elmer is in charge of the clinical department, and Dr. R. L. Thompson of the pathologic department.

Medical History Club.—The St. Louis Medical History Club, organized a little more than a year ago, is already exerting a powerful influence on the profession. As a whole the medical profession of the city has developed an interest in local and general medical history and realizes that improvements are being made in the city from day to day, and that valuable data must be preserved for the good of the profession.

Antituberculosis Society.—The St. Louis Society for the Relief and Prevention of Tuberculosis is carrying on an extreme campaign of education and relief. A series of lectures to school children and adults has been in progress in the crowded sections of the city for several months, practical exhibits are attracting crowds to show windows in the business section of the city and the benefits of the work are beginning to be apparent.

Social Meetings of Medical Society.—The St. Louis Medical Society of Missouri has so arranged its program as to make the fifth Saturday afternoon of every month having five Saturdays, a special or social meeting. On February 29 the members were guests of the president, Dr. Herman Tuholske, at whose invitation Dr. Chas. C. Guthrie of the Washington University Medical School read a paper on "Some Practical Aspects of the Physiology of Circulation," bringing out the possibility of re-establishment of heart action after a period of suspension otherwise permanent. Illustrative demonstrations were made by Professor Guthrie and members of his class. After the close of the scientific talks refreshments were served by the ladies of the society and the wives of the members.

NEBRASKA.

To Build Tuberculosis Ward.—The commissioners of Douglas County have let the contract for a tuberculosis ward at the county hospital, to cost $41,085.

Senn Resolutions.—At its last meeting the Hall County Medical Society adopted resolutions of sorrow and regret at the untimely death of Dr. Nicholas Senn.

Personal.—Dr. George M. Mills has been appointed city physician of Kearney.——Dr. William H. Slattery, city physician of Lincoln, slipped and fell on a slippery sidewalk, February 7, sustaining a severe sprain of the ankle.

Hospital Notes.—A building permit has been granted for the new Immanuel Hospital, Omaha, to cost $25,000.——The 34 patients at the Emergency Hospital, Omaha, have signed a statement declaring false the statements recently made assailing the conduct of the hospital. They unqualifiedly commend the hospital and its management.——The Clarkson Memorial Hospital Association announces that the women of the association have already paid in $2,000 of the $13,060 pledged by them for the hospital fund.

Communicable Diseases.—The Board of Education of Omaha has instructed principals and teachers to refuse admission to schools of any children who have not been vaccinated within seven years.——Two new cases of smallpox were reported to the authorities at Lincoln, February 10; one of the patients was a student in the medical school.——At North Bend, 36 cases of smallpox were reported, and a strict quarantine has been established.——During January, 152 cases of smallpox were reported in Omaha; and 75 cases during the first 23 days of February.

Annual Death Report of the State.—The State Board of Health in its annual report gives the number of deaths for 1907 as 97,037. Of these, 7,459 were American born and 2,278 foreign born; 5,331 male and 4,406 female; 9,610 white and 127 colored. Chief among death causes were: Infantile diseases, 2,266; heart diseases, 748; tuberculosis, 579; pneumonia, 570; senile debility, 569; accidents, 501; cancer, 442; nephritis, 299; cerebral hemorrhage, 291; paresis, 222; typhoid fever, 154; suicide, 111; diphtheria, 110; measles, 49; scarlet fever and whooping cough, each 24, and erysipelas, 21.

Medical Society Meetings.—At the annual meeting of the Lancaster County Medical Society, Dr. Herbert H. Waite was elected president; Dr. Frank F. Malone, vice-president, and Dr. J. Stanley Welch, secretary-treasurer, all of Lincoln.——At the annual meeting of the Elkhorn Valley Medical Association, held in Norfolk, January 14, the following officers were elected: President, Dr. William H. H. Hagey, Norfolk; vice-presidents, Drs. Archibald L. Muirhead, Omaha, and A. B. Tashjean, Norfolk; secretary, Dr. William R. Peters, Stanton; and treasurer, Dr. Walter H. Pilger, Norfolk.——Dr. Alexander S. von Mansfelde, Ashland, has been elected chairman, and Dr. Charles O. Giese, Holdrege, treasurer, of the Nebraska Association for the Study and Prevention of Tuberculosis.

NEW YORK.

Typhoid Fever.—Typhoid fever is reported to be prevalent in Peekskill, where 117 cases have been reported, with 9 deaths.

Hospital Enlarged.—The new service wing of the Nassau Hospital was opened February 22, and the opening exercises were made a society function for the friends of the hospital and the physicians of Nassau and Suffolk counties.

To Relieve Congestion of Insane.—Dr. Albert W. Ferris, president of the state lunacy commission, has made a trip to Albany to confer with the governor in regard to the overcrowding of the Manhattan State Hospital, Ward's Island, and it is expected that definite plans for the relief of the congestion will soon be announced.

Proceedings Discontinued.—The charges instituted against J. C. Von Spiegel, Rome, charged with practicing medicine without a license, with practicing under one name while registered under another, and with using the so-called "Hindoo healer" treatment, were withdrawn by the Medical Society of Oneida County, under the agreement of the accused to discontinue the practice of medicine and the method of treatment complained of in the county. Similar action is said to have been taken against Von Spiegel's partner, S. M. Ismail, a so-called "Hindoo healer."

New York City.

Smallpox.—Three cases of smallpox are reported from Masbeth, Queens Borough, and the patients have been removed to the Kingston Avenue Hospital for Contagious Diseases.

Harvey Lecture.—The eighth lecture in the Harvey course by Prof. Ross G. Harrison, Yale University, at the New York Academy of Medicine, Saturday, March 7, at 8:30 p. m., is on "Embryonic Transplantation and the Development of the Nervous System."

Death Rate Drops.—The death rate for the week ended February 22 dropped to 17.45 per 1,000, as compared with the rate 20.34 for the corresponding week of last year. The deaths from heart disease were only 157, as against 175 for last year. The mortality from pneumonia was 276, and for the corresponding week of last year 297.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended February 22, 388 cases of tuberculosis, with 201 deaths; 371 cases of diphtheria, with 45 deaths; 1,252 cases of measles, with 26 deaths; 797 cases of scarlet fever, with 39 deaths; 33 cases of typhoid fever, with 4 deaths; 9 cases of whooping cough, with 1 death; 10 cases of cerebrospinal meningitis, with 9 deaths, and 133 cases of varicella, a total of 2,993 cases and 325 deaths.

Lectures at Skin and Cancer Hospital.—The New York Skin and Cancer Hospital announces that lectures, free to the medical profession, will be given in the out-patient hall of the institution on Wednesday afternoons at 4:15 by Dr. L. Duncan Bulkley on "Pathology, in Its Practical Bearings on the Treatment of Certain Diseases of the Skin," March 4, and also clinical lectures on diseases of the skin until April 15, and Dr. William Seaman Bainbridge on "Treatment of Unremovable Cancer," with exhibition of cases, April 22.

Personal.—The house of Dr. Edwin T. Randall, Brooklyn, was robbed of jewelry and silverware valued at $1,500, February 20.——The suit of Spiro Coundres against Dr. Andrew R. Robinson for $10,000 damages for alleged injuries received by the *x*-ray was decided in favor of Dr. Robinson, February 21. ——Dr. James M. Hill, surgeon-in-charge of the emergency hospital at the Pennsylvania tunnel, Long Island City, was attacked by a negro workman February 21, and stabbed in the left hand.

Anti-Noise Society Meets.—The Society for the Suppression of Unnecessary Noises has just held its first annual meeting. There are representatives on the directorate from 59 hospitals containing 18,018 beds. The work planned is to have the hospital streets and the harbor patrolled by special policemen. The board of education has endorsed the movement for the organization of a children's hospital branch, which proposes to pledge the children to make as little noise as possible in the neighborhood of hospitals. Samuel L. Clemens has agreed to be the president of this branch. Where notices have been posted near hospitals the noise has notably decreased.

Fellowship in Pathology.—The Mount Sinai Hospital announces the establishment of the George Blumenthal, Jr., Fellowship in Pathology with a stipend of $500 a year. All graduates in medicine are eligible; the term is for one year, and the fellowship can not be held more than twice by the same individual. The object of the fellowship is to further the development of the scientific department of Mount Sinai Hospital, and to aid those anxious to obtain a laboratory training. The work of the fellowship is to be carried on in the hospital or elsewhere, under the direction of the pathologist. All applications should be addressed to Dr. Frederick S. Mandelbaum, the pathologist of Mount Sinai Hospital, prior to March 15.

NORTH CAROLINA.

Hospital Notes.—Plans for the new Watts Hospital given to Durham by the late George W. Watts have been approved, and the contract will probably be let early this month. The cost of the building will be from $150,000 to $250,000.——The work of remodeling the interior of the Billingsby Hospital, Statesville, has been completed and the institution is open to receive patients.

Prescriptions for Liquor.—At the February meeting of the Wake County Medical Society, held in Raleigh, resolutions were adopted setting forth that at a recent election Raleigh adopted the principle of prohibiting the sale of liquor and formally announcing that the society pledged itself as an organization to promote by all means in its power, the honest execution of the prohibition law.

State Society Meeting.—The fifty-fifth annual session of the Medical Society of the State of North Carolina is to be held in Winston-Salem, June 16 to 18. The date was to have been earlier, but has recently been changed to enable applicants coming before the State Board of Medical Examiners ample time to make application and also to accommodate the number of physicians of the state who desire to attend the meeting of the American Medical Association in Chicago.

Personal.—Drs. Henry H. Briggs and Martin L. Stevens, Asheville, have returned from Florida.——Dr. George G. Thomas, Wilmington, president of the State Board of Health and chief surgeon of the Atlantic Coast Line Railway, has accepted the invitation to deliver the annual address before the medical department of the State University, Chapel Hill.——Dr. Needham B. Herring, Wilson, is spending the winter in the Bermudas.——Dr. James M. Templeton, Cary, who has been seriously ill with septicemia, has left the Rex Hospital, Raleigh, and returned to his home.

Disease Prevalence.—The State Board of Health reports that in January pneumonia was prevalent in 65 counties of the state; whooping cough in 27 counties; measles in 17 counties; influenza in 15 counties; diphtheria in 25 counties; typhoid fever in 39 counties, and smallpox in 16 counties. The typhoid fever in the state is of mild type; pneumonia is moderate in severity, and smallpox has a mortality of less than 2 per cent. Influenza is reported to be epidemic in Salisbury and Spencer. Smallpox is reported to be epidemic in Iredell, Wilkes and Yadkin counties. Schools have been closed in several townships, and general vaccination has been ordered.

OHIO.

Smallpox.—Smallpox is reported to be epidemic in the village of Somerville, and the board of education has ordered all school children to be vaccinated.

Home for Tuberculosis Patients.—It has been agreed to erect three frame buildings, to cost in all $15,000, two to be used as dormitories, and the third as a commissary for the tuberculosis patients of Franklin County.

To Avoid Free Advertising.—At a meeting of the Auglaize County Medical Society, February 21, resolutions were adopted forbidding any member to allow the use of his name in the lay press in connection with a case, under pain of expulsion.

Personal.—Dr. John H. Tressel, Alliance, for 32 years local surgeon for the Pennsylvania System, has decided to retire. ——Drs. Homer Prowett, Ernest R. Brooks and Oliver Bigelow have been named as members of the Cleveland City Hospital staff, to assume their duties July 1.——Dr. Mark D. Stevenson, Akron, is ill with typhoid fever.

Society Meetings.—The annual election of Stark County Medical Society resulted as follows: President, Dr. James C. Temple, Alliance; corresponding secretary, Dr. Frank W. Gavin, Canton, and secretary-treasurer, Dr. George F. Zininger, Canton.——At the annual meeting of the Canton Medical Society Dr. J. Frank Kahler was elected president; Dr. J. Eugene Shorb, corresponding secretary; Dr. Frank W. Gavin, secretary-treasurer, and Drs. C. E. Fraunfelter, George F. Zinninger and William H. Weaver, censors.——At the annual meeting of the Second Councilor District Medical Society, held in Piqua, February 20, Dr. John S. Beck, Dayton, was elected president; Dr. Asa C. Messenger, Xenia, secretary; and Dr. Warren B. Coleman, Troy, treasurer.——At the tenth annual session of the Union Medical Association (Sixth Councilor District Medical Society), held in Ashland, the following officers were elected: Dr. Wilson M. McClellan, Ashland, president; Dr. John H. Seiler, Akron, secretary, and Dr. Harold H. Jacobs, Akron, treasurer.

PENNSYLVANIA.

Personal.—Dr. Stanley A. E. Brallier has been reappointed city physician of Conemaugh.——Dr. Thomas G. Simonton has been appointed physician and placed in charge of the Pittsburg jail, vice Dr. Archibald DeV. Chessrown, deceased.——Dr. Elmer E. Neff, Altoona, superintendent of the Blair County Insane Hospital, has gone to the Pacific Coast, on account of ill health.——Dr. Alfred H. Read has been elected president of the Norristown Board of Health.

Contagious Diseases.—Because of an epidemic of measles the public schools at Souderton were closed February 24 for one week.——Scarlet fever, measles and diphtheria have caused the closure of the schools of New Jerusalem, and several farm houses in Olney township have been quarantined because of the prevalence of scarlet fever.——The epidemic of measles which developed in Pittsburg during December is gradually decreasing. While 1,500 cases of the disease have been reported since February 1, there has been a decrease of about one-third the number of cases in the past week. A number of the public schools are still closed, but the health authorities are of the opinion that the disease is now held within normal bounds.

Philadelphia.

Disease Closes School.—Dr. Alexander C. Abbott, chief of the bureau of health, caused one of the public schools to be closed for a day and the building thoroughly disinfected because several of the pupils who attended had been stricken with diphtheria.

Personal.—Dr. T. Hewson Bradford, medical director of the Philadelphia Life Insurance Company, announces that he has retired from general practice, and that hereafter he will devote his attention to medico-insurance.——Dr. S. Weir Mitchell celebrated his seventy-eighth anniversary, February 15.——Dr. Hiram R. Loux has been appointed associate professor of genitourinary diseases in Jefferson Medical College.

Hospital Notes.—The new buildings of the Frankford Hospital were formally opened and dedicated, February 25. Among the speakers at the dedication exercises were Drs. B. Frank Walters and Samuel Bolton of the hospital staff.——The new building of the Garretson Hospital was dedicated March 2. The new institution contains medical and surgical wards for both men and women and a modern operating room. A new ambulance was presented by the Board of Lady Managers.

Tuberculosis Dispensary.—Rapid growth is shown in the work of the free tuberculosis dispensary of the State Department of Health of South Seventeenth Street. Since it was opened on January 7, there have been 247 applicants, and 203 persons have been under treatment. Dr. Alfred Stengel is the director of the dispensary and Dr. Albert Francine was his assistant. Four other physicians have been added to the staff: Drs. George W. Norris, R. S. Lavenson, E. L. Eliason and E. L. Turner.

Donations and Bequests.—Mrs. Anne Weightman Walker has given $50,000 to the College of Physicians of Philadelphia, as a memorial to her father, the late William Weightman.——In disposing of an estate valued at $8,000, the will of the late Patrick McDevitt provides that this sum be held in trust for the widow, and that on her death the principal is to be divided equally between eight institutions, including in the list St. Mary's, St. Agnes' and St. Joseph's hospitals.——The will of the late F. A. Getze makes contingent bequests of $5,000 to each of the following institutions: Children's Hospital, Children's Seaside Home of Atlantic City, N. J., and the Philadelphia Home for Incurables.

Health Report.—The total number of deaths for the week ended February 29 was 562, a decrease of 28 from the number reported in the previous week, and a decrease of 63 from those reported in the corresponding week of 1907. The principal causes of death were: Typhoid fever, 27; measles, 6; scarlet fever, 5; diphtheria, 13; influenza, 7; consumption, 77; cancer, 18; meningitis, 4; apoplexy, 16; paralysis, 6; heart disease, 56; diseases of the arteries, 8; acute respiratory diseases, 86; hernia, 4; enteritis, 17; cirrhosis of the liver, 6; Bright's disease, 45; premature birth, 10; congenital debility, 8; old age, 6; suicide, 4; accidents, 9; injuries at birth, 3, and marasmus, 3. There were 244 cases of contagious diseases reported, with 45 deaths, as compared with 341 cases and 47 deaths, reported in the preceding week.

Elections.—The following officers have been chosen by the Wills Hospital Ophthalmic Society to serve during 1908: Chairman, Dr. Samuel D. Risley; vice-chairman, Dr. William Campbell Posey, and secretary, Dr. Burton Chance.——The officers of the Philadelphia Academy of Surgery for 1908 are: President, Dr. William J. Taylor; vice-presidents, Drs. Robert G. Le Conte and Gwelym G. Davis; secretary, Dr. John H. Gibbon; treasurer, Dr. James P. Hutchinson; recorder, Dr. John H. Jopson, and council, Drs. W. Joseph Hearn, Thomas R. Neilson and the president and secretary.——New officers for 1908 were elected as follows by the West Philadelphia Physicians' Business Association, at the February meeting: President, Dr. Christian B. Longenecker; vice-presidents, Drs. William S. Newcomet and Sherman F. Gilpin; secretary, Dr. George C. Shammo; corresponding secretary, Dr. Paxson B. Thatcher, and treasurer, Dr. Evan J. Hackney.

VIRGINIA.

Tuberculosis Notes.—The tuberculosis exhibit of the Indiana State Board of Health has been loaned to the Richmond health department, and has been on exhibition in the city hall, where it has attracted much attention, and favorable comment.

License Tax Will Probably Stand.—The bill introduced in the legislature relieving the physicians of the state license tax has met with so much opposition and so many serious drawbacks, that it stands little chance of passage at this session of the legislature.

Registration of Deaths.—The bill providing for the registration of deaths in the state has been withdrawn by its introducer, Senator Gravatt, on account of the opposition of the undertakers of the state, whose organization was apparently far better than that of the advocates of the bill.

Personal.—Dr. W. Levi Old, Norfolk, has been appointed chief surgeon of the Virginia Railway, with headquarters at Norfolk.——Dr. J. Harvey Laird, chairman of the board of health, and health officer of Lexington, has resigned.——Dr. Job G. Holland, Holland, has been seriously ill on account of the accidental ingestion of 7½ grains of bichlorid of mercury.——Drs. Julian M. Robinson and Edward H. Miller, Jr., Danville, have opened a free dispensary for the poor of that city.

Smallpox.—On February 11 the Circuit Court of Caroline County was adjourned on account of smallpox in the county, and the public schools in the affected districts were also ordered closed for thirty days.——The supervisors of Henrico County have decided to enforce compulsory vaccination on account of the prevalence of smallpox at Barton Heights, a suburb of Richmond.——The health board of Stafford County has extended the smallpox quarantine from February 17 to March 2.——Fifty cases of smallpox are reported in the northern part of King George County.

State Board of Health Bill.—A bill has been introduced in the state legislature providing for the reorganization of the State Board of Health, and for an increased appropriation for its support. The board is increased in number from seven to twelve, and the position of health commissioner and executive officer of the board is created. The health commissioner is to receive a salary of $3,500, and in addition may appoint an assistant commissioner at a salary of $2,500; a bacteriologist at a salary of $2,500, and a clerk at a salary of $1,200. The bill has already passed the house committee on finances. The present appropriation for the State Board of Health is only $4,000 a year, while the new bill carries an appropriation of $40,000.

GENERAL.

Fourth Congress of French-Speaking Physicians of North America.—The *Bulletin Médical de Quebec* announces that preparations are well under way for the fourth congress of French-speaking physicians of America, to convene at Quebec during the second week of August. The city is to celebrate this summer the three hundredth anniversary of the founding of Quebec by Champlain, so that the occasion will be a gala one in every respect. The president of the congress, Dr. A. Simard, and the secretary, Dr. A. Paquet, cordially invite all French-speaking physicians throughout North America to cooperate with them to make the congress a success, a worthy successor to its three predecessors. The last was held at Trois-Rivières in 1906.

FOREIGN.

Bust of Purkinje Unveiled.—The Physiologic Institute at Breslau recently unveiled with due ceremony a marble bust of Purkinje, called the founder of experimental physiology in Germany.

Lassar's Collection of Casts.—The famous collection of more than 2,000 dermatologic casts, owned by the late Professor Lassar, has been presented by his widow to the city of Hamburg, his native town. The collection is to be installed in the St. George Hospital.

Memorial Endowment to Dr. W. Erb, Jr.—Professor Erb of Heidelberg has presented the university with 100,000 marks, about $25,000, as an endowment in memory of his son who died a year ago at Strasburg. The income of the endowment is to be applied to aid needy students and assistants and to promote scientific research among the students.

Zurich Supplies Free Denistry to the School Children.—We are informed that the city of Zurich has decided to organize a dental clinic for free examination and treatment of the teeth of the public school children. It is to be in charge of a registered dentist, on a salary of from $1,000 to $1,400. A similar dental clinic has been established at Charlottenburg, Germany.

Advertising of Proprietaries in Russia.—We learn from our foreign exchanges that the ministry of the interior in Russia has appointed an official to supervise the advertisements of remedies in the lay press. A decree has also been issued recently forbidding advertising in any form to physicians and dentists. Nothing can be published but the name, degree, address and specialty.

Duckworth Lectures at Paris.—Sir Dyce Duckworth of London delivered by invitation of the University of Paris a lecture at the Paris Medical School, February 18. He spoke in French on "The Diatheses; the Personal Factor in Diseases." An occasional interchange of lecturers is one of the principal features of the recent efforts to promote closer relations between the universities of Paris and London.

Anthropometric and Anthropologic Census in Denmark.—Work has already begun on a careful scientific census of all the inhabitants of Denmark. It is in charge of H. Laub, surgeon general; H. Westergaard, the statistician, and S. Hansen, the well-known anthropologist. Data are already being collected in certain small isolated districts, all the adults being registered with anthropometric and anthropologic descriptions.

The "Electric Belt" in Italy.—Galli writes to the *Policlinico* of January 12, to relate the injury done by the lack of proper treatment in a case of diabetes and one of renal sclerosis with asthma, the victims having paid out $30 and $50 respectively for an "electric belt" which was advertised as a cure for such diseases. Valuable time and opportunity were wasted while the men were trying to get their money's worth out of the belts.

Nicholas Senn's Travel Notes from South America.—The current issues of the *Cronica Medica* of Lima, Peru, contain a translation in full of the late Dr. Senn's "Travel Notes from South America" which are appearing in The Journal. Our Lima exchange comments that the notable series shows that "the illustrious surgeon was a remarkable writer as well as an impartial and just observer." The translation is entitled "La Profesion medica en Sud-America."

New Laryngology and Rhinology Journal.—A number of prominent laryngologists and rhinologists of Europe and America are collaborators on the new *Zeitschrift für Laryngologie, Rhinologie und ihre Grenzgebiete*, to be published by Dr. F. Blumenfeld, Taunusstrasse 4, Wiesbaden. It is to be issued every two months. The annual subscription will be 24 marks—about $6, and no copies will be sold separately.

Prescription Stamp for Benevolent Purposes.—One of the Austrian provinces has introduced the innovation of allowing the medical profession to supply the druggists with stamps which are sold to the purchaser when a prescription is dispensed. The stamp is bought by the purchaser and affixed to the prescription, and the proceeds are to be applied to the fund for relief of widows and orphans of physicians. There is no compulsion in regard to buying the stamp.

Educational Circular for Mothers.—The German ministry of the interior has had a thousand copies of Dr. Hackl's booklet, "For Mother and Child," printed and distributed to the various communities to teach the advantages of breast feeding and the drawbacks and dangers of artificial feeding. The local authorities are instructed to have the public informed in regard to the booklet and where it can be obtained free. It is published by G. Steinicke, Lindwurmstrasse 5, Munich, Germany, for 30 pfennige, about 7 cents.

Music in the Hospitals.—A concert is given at the Berlin Charité every Saturday between 5 and 6 p. m. for the benefit of the patients, a woman's club providing skilled musicians for the purpose. The great organ in the main hall of the model obstetric-gynecologic institute at St. Petersburg, in charge of D. Ott, is played every day for an hour by a well-known organist, as part of the therapeutic system of the institution. Some of the insane asylums at St. Petersburg have also been in the habit for some time of presenting theatrical plays occasionally, with good results on the patients, it is claimed.

Acquittal of Physician for Mistake in Prescribing.—The Journal mentioned last year the fine of $40 imposed on a physician for inadvertently writing 1.5 gm. instead of 0.015 gm. in prescribing a solution of mercury bichlorid for rectal injection for a child with helminths. The druggist noticed the strong concentration, but the mother tranquilized him by saying that the physician was to administer the enema himself, which he did. The child died in a few days, and the local court imposed a fine. On appeal, the court decided that the physician's mistake had not caused appreciable bodily injury, and the fine was revoked.

Excavation of Famous Baths in Greece.—It is announced from Greece that the buildings of the baths at Aedepsos in Eubœa have been discovered and excavated. The baths were very famous in antiquity, but no traces of the buildings could be discovered owing not only to the natural accumulations of soil above them, but to the incrusting action of the minerals in the springs. The discovery was accidental and the buildings were soon laid bare. The main building is round, with a waiting room decorated with pillars and statues. The second story evidently served as a reservoir for the water with tubes to convey it to the room below. The absence of any sink or depression in the floor suggests that the baths must have been taken in portable wooden tubs. Another building evidently served for public baths, and was arranged accordingly, also decorated with statues. The *Allg. med. Ct.-Ztg.* states that the springs of Aedepsos have been flowing until recent times as in antiquity, but the local authorities recently tried to increase the flow with a dynamite charge, the result being the complete disappearance of the springs.

Smallpox in Japan.—Dr. Ransom, of the United States Public Health and Marine-Hospital Service, reports that the smallpox situation in Kobe has grown steadily worse. In addition to the natives, a number of foreigners are suffering with the disease and it is spread all over the city. General vaccination is being practiced, and house-to-house inspection is being carried on by the police in the poorer parts of the city, as it is found that people of this class are inclined to conceal their sick. There is no difficulty, on account of the nature of the buildings, in conveying patients from one house to another to avoid detection, and this is frequently done. Even when secreted patients are found it is said to be difficult to punish the offenders, as they plead ignorance of the nature of the disease. Disinfection is practiced after the removal of patients suffering with smallpox, a solution of crude carbolic acid, about 2.5 per cent. being used to wash the walls, floors, etc. Certain of the textiles are also removed to be steamed. The removal of the patient and his effects is done as carefully as the existing circumstances will permit. In Osaka smallpox is steadily increasing, the average of new cases being between 12 and 15 daily, with a death rate of between 35 and 40 per cent. Smallpox is also present in Nagasaki.

Memorial to Founder of Sanatorium Treatment of Tuberculosis.—Breslau will be the scene of the unveiling of an imposing memorial to H. Brehmer, March 8. The careers of Finsen and Brehmer show that the world is ready to heed the words of any one who has a really important idea to proclaim. Each, although poor and obscure, realized his ideal, Finsen in the Light Institute at Copenhagen, and Brehmer in the pioneer sanatorium for tuberculosis in Germany. Brehmer came of tuberculous ancestry, and during his medical course made a special study of tuberculosis. His graduation thesis, 1853, was entitled "Consumption Is Curable," and he preached then the cure of tuberculosis by hygiene, fresh air and rest. This thesis was followed by a pamphlet, "The Laws and Curability of Chronic Pulmonary Tuberculosis," and a series of works on this subject. Alexander von Humboldt and Schönlein were impressed by his views and by their influence the authorities were persuaded to allow Brehmer a concession to start an attempt at a sanatorium such as he advocated. He selected a sheltered valley in Silesia, Göbersdorf, about 1,800 feet above the sea, and Flügge of Hanover ventured to send him the first tuberculous patients. This was in 1854, and the fine results attained soon spread his fame. He died in 1889. The memorial was erected by subscriptions mainly from former sanatorium patients.

Honor Unius, Decus Omnium. The Koch Banquet.—An imposing banquet was tendered to Robert Koch, February 11, by the profession in Berlin, on his return from a successful scientific mission, the second time that he has been thus honored. A portrait medallion was presented to him, the first of a series of medallions of prominent living German physicians. Koch spoke of the great progress that has been made in prevention of epidemics by the discovery of their causal germs. "Prophylaxis now proceeds on the assumption that every person who shelters the causal germs is a source of danger for the healthy persons in his environment, and that he must be kept in conditions which will obviate this danger; either by isolating him or by severing the connections by which the causal germs find their way from the sick to the well, or by destroying the causal germs in the man himself by medication. The key to modern prophylaxis is therefore an exact diagnosis in every case. These principles have been successfully applied again and again to stay the course of epidemics of cholera, typhoid and malaria, and sleeping sickness can be combated along the same lines after a means of certain diagnosis has been discovered." He added that all this progress has been the well-directed application to the particular case of what has been learned by previous experience—none of it is a mere chance discovery. This applies particularly to the scientific importance of the results of the recent sleeping sickness commission, entirely aside from the direct benefit that may accrue to the countries concerned. He continued: "I would like to go a step farther. I am confident that the time is coming when these same principles will be applied to the eradication of the greatest scourges of our race, tuberculosis and syphilis. I shall scarcely live to see it, but this day is certainly coming." The Germans heartily endorse Virchow's saying that every scientific achievement in the profession not only enhances the prestige of the profession in the eyes of the laity, but also in its own eyes. *Honor unius, decus omnium.*

LONDON LETTER.

(From Our Regular Correspondent.)

London, Feb. 22, 1908.

The Crusade Against Tuberculosis.

It is proposed to erect a sanatorium in connection with the Children's Home and Orphanage. It is stated that 25 per cent. of the children admitted to the home have tuberculous inheritance, yet that 20 per cent. pass out of the institution competent and healthy citizens. Out of the 25 per cent. susceptible to tuberculosis admitted to the home only 10 per cent. are definitely tuberculous and require treatment in a sanatorium.

Hospital for Mental Diseases in London.

Dr. Henry Maudsley has offered to the London County Council $150,000 toward a hospital for mental diseases. This noted alienist said that as a physician who has been engaged in the study and treatment of mental disorders for more than half a century he has been deeply impressed with the necessity for a hospital, the main object of which would be: 1, The early treatment of patients with acute mental disorder, with a view, so far as possible, to prevent the necessity of sending them to the county asylums; 2, to promote exact scientific research into the causes and pathology of insanity, with the hope that much may yet be done for its prevention and successful treatment; and, 3, to serve as an educational institution in which medical students might obtain good clinical instruction.

The Bill to Protect Children.

Efforts are being made to preserve and guard child life and to improve the physique of the rising generation. It is now recognized that urban life—the life that two-thirds of the inhabitants of Great Britain now lead—is inimical to infant life and to the healthy up-bringing of a child. Existence in crowded cities tends to race deterioration, and consequently in order to avoid this happening, urban life must be made far more healthy in every respect than it now is. In the present session of parliament, the first bill to be introduced is one dealing wholly with children, and the enforcement of its many clauses should have the result of bettering their condition, physically, mentally and morally. Smoking by young persons is dealt with in the bill, and the sale of cigarettes or of cigarette papers is prohibited to persons under 16 years of age, and it is made a punishable offense for such children to be found smoking in the streets. Another important section of the bill is that relating to the protection of infant life. Inspection of children put out to rear will be far more stringent than formerly, and it is proposed to legalize the state inspection of all charitable institutions and homes for destitute children.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Ether and Chloroform Anesthesia.

An editorial in the *Medical Record*, Jan. 18, 1908, comments on the danger of the medical profession believing that anesthesia from either of these drugs is absolutely harmless. The ideal anesthetic has not yet been discovered or produced. Ether and choloroform for all operations requiring any length of time seem to be the safest anesthetics yet offered. However, the investigations of B. Mueller (*Archiv. f. klin. Chir.*, 1905, and *Deutsche med. Wochschr.*, Nov. 8, 1907) seem to show that there is more or less irritation, and perhaps fatty degeneration of the internal organs of the body, especially the kidneys, after anesthesia from ether or chloroform. The more prolonged the anesthesia, the more serious the consequences, and repeated anesthesias may leave a permanent trace, or perhaps lesion, from their action. The disturbances occurring immediately after the patient comes out of the anesthetic must not be considered the only disturbances the anesthetic can cause. The urine should be repeatedly examined for several months after the prolonged use of either chloroform or ether as an anesthetic.

In the *Medical Record* of the same date occurs a paper by Dr. Reyburn, Washington, D. C., on the "Prevention of Death During Chloroform or Ether Anesthesia." Dr. Reyburn has had a vast personal experience with anesthetics, both in the Civil War and in private practice, and his recommendations for the prevention of serious symptoms during anesthesia and of the treatment of symptoms that may occur are very valuable.

He believes that the smaller the amount of ether and chloroform administered, the less the danger, and toward this end as rapid an operation as is possible is of extreme importance. To further the first object he believes in the drop-by-drop method for administration of both ether and chloroform.

It would be well for every surgeon to remember the second recommendation. Surgeons forget the secondary results of prolonged ether and chloroform narcosis as above described, and hence are often very deliberate in their preparation for and completion of an operation. In hospitals a patient is often completely anesthetized not only moments, but long series of minutes before even being conveyed to the operating room or operating table. Such prolonged anesthesia is inexcusable.

Reyburn does not believe in hypodermic medication even with strychnin, atropin or a suprarenal preparation, believing that before such a substance can be absorbed in cardiac failure the patient is dead. He believes that one of the causes of sudden failure of the heart and respiration is that the pressure of the blood in the superior vena cava is too great for the auricles to contract against. Consequently, he thinks that the best treatment for such sudden heart failure and failure of respiration is to invert the patient, holding up the feet and legs, with the head down, in the prone position. The next method of greatest importance is artificial respiration, and for this object he would have the patient in the same prone position. He would also have a faradic battery ready at hand for instant use.

Cardiac and respiratory stimulants may be valuable in failing heart and respiration to prevent such a dire occurrence, but such failure having occurred, there is no question that reliance on drugs, even administered intravenously, is useless, and that physical methods as Reyburn describes are the only therapeutic measures successful.

Gastric Neuroses.

Dr. W. F. Cheney of San Francisco, in the *American Journal of the Medical Sciences*, January, 1908, defines a gastric neurosis as a purely functional disorder of the stomach without discoverable organic change. They are so-called nervous dyspepsias, which are characterized by varying kinds of discomfort during the process of digestion. There are various causes of this functional indigestion, but neurasthenia is the most frequent. The most frequent reflex disturbances of the stomach come from the heart, the genital organs and the eye. Although Dr. Cheney does not emphasize it, reflexes from the eye due to optic defects are a very frequent cause of gastric disturbances, and no patient with unexplained or inexcusable periodic gastric upsets should be treated for that condition without first having eyestrain ruled out.

Cheney finds the most frequent age for nervous dyspepsia to occur is between 30 and 40, although no age is exempt. Out of 375 patients with this trouble he found 235 males and 140 females, this rather surprisingly showing that gastric neuroses are more frequent among men.

He finds that the character of the food has a good deal to do with the cause of the indigestion, and subdivides the analysis of the food into its quality, its preparation, its mastication, and the conditions under which it is taken. These causes would hardly seem to be neuroses, but straight instances of improper feeding with resulting indigestion.

Cheney emphasizes the necessity for a very careful diagnosis before the indigestion is decided to be due to a neurosis, and the careful examination of the stomach contents after a test meal not only to eliminate organic disease, but to decide what particular line of treatment is needed, or what is functionally wrong with the stomach digestion.

The prognosis depends on the correct decision that the dyspepsia is due to a neurosis only and whether or not the patient's manner of eating and manner of life can be changed, and whether or not the neurotic or reflex cause can be removed. He subdivides the treatment under the following headings: 1, The underlying neurasthenia; 2, the way food is taken; 3, the quality and quantity of the food; 4, drugs.

1. This means a return to "the simple life;" less stress, less strain, less hurry. Excesses of all kinds should be prohibited, whether of study, business, society, household duties or sexual. If such changes in the habits of an individual can not be effected, a cure will not take place. Of course, systematic rest, change of climate, change of scene, travel, outdoor exercise should any or all be advocated, if possible, especially if the condition has become chronic.

2. The way food is taken is of great importance. The meals should be eaten slowly, without interruptions, and at regular

times, and generally in regular amounts. The food should be thoroughly chewed, not only to break up the fibers, but to insalivate it thoroughly.

3. Overeating of richly proteid and strongly nutritious food is certainly an Americanism, and perhaps is almost universal. On the other hand, the indiscriminate, without medical advice, change to undereating or the omission of breakfast or luncheon, is a mistake. The periodic activity of the machinery of our systems, a habit of years, can not be radically changed in a short space of time without causing more disturbances than those for which the change was made. A careful analysis of the food that a patient eats and the hours that he eats it will quickly indicate the changes that are needed. It may be tobacco, alcohol, tea, coffee, hot bread, pastry, condiments, richly seasoned food, too much fried foods, too much meat, too much cereal, often oatmeal, often milk, and may even be too much water with the meals that is the cause of the indigestion. Whether hyperacidity, subacidity or imperfect gastric motility is at the bottom of the dyspepsia can be determined by analysis of the test meal. If there is hyperacidity, Cheney would not allow food too often or of such kinds as stimulate secretion. "Three meals a day are sufficient, and best a mixed diet, as fats, cream, butter; well-done meats of all kinds; milk and cocoa; vegetables, like boiled potatoes, cabbage, spinach, turnips and carrots; sugars and sweets." He would exclude from the diet "spiced, salty and sour articles of food, coffee, alcoholic and carbonated drinks, ordinary breadstuffs and rare meats."

If the condition is found to be due to subacidity of the stomach, he advises "small quantities of food, taken at short intervals, and such foods as meats that are cooked rare; breadstuffs, crackers, zwieback and toast; condiments, spices, and salt foods; alcohol in moderation, and carbonated waters; and animal broths and meat extracts." He would exclude from the diet "fats, sweets, and coarse vegetables."

If there is imperfect motility of the stomach as shown by retention of food long after the stomach should be empty, the amount of food taken at each meal should be small, and especially should there be a restriction of fluids. "The food must be finely divided—meat in a minced or scraped condition; vegetables in the form of purées; cereals in gruels; and crackers, crisp bread, and toast must be thoroughly ground by the teeth. All the coarse foods which leave a bulky residue, as beans, corn and spinach, must be avoided."

4. Drugs must generally be used in the cure of a neurosis of the stomach. To check a hypersecretion of the stomach or a hyperacidity Cheney would give belladonna, as:

℞.	gm.		
Extracti belladonnæ foliorum	|30	or	gr. v
Sacchari lactis	1|		gr. xv

M. et fac pilulas No. 20.

Sig.: A pill three times a day, a half-hour before each meal.

To neutralize excessive acidity, bicarbonate of soda is valuable, but he would advise the following:

℞.	gm.		
Cerii oxalatis	8		ʒii
Bismuthi subnitratis	15	or	℥ss
Magnesiæ	30		℥i

M. et fac pulverem 1.

Sig.: A teaspoonful, with water, one or two hours after meals, or at the time when the symptoms of excessive acidity appear.

Where there is subacidity, he advises a bitter tonic, and finds the tincture of nux vomica the best, as:

℞.	c.c.		
Tincturæ nucis vomicæ................	25|	or	fl℥i

Sig.: Fifteen drops, in water, three times a day, before meals. Or:

℞.	gm.		
Tincturæ gentianæ compositæ...........	100|	or	fl℥iii

Sig.: A teaspoonful, in water, three times a day, before meals.

Any other simple bitter would serve the purpose of gastric stimulation as well as the above.

To supply deficient hydrochloric acid he, of course, advises:

℞.	c.c.		
Acidi hydrochlorici diluti...............	25|	or	fl℥i

Sig.: Ten drops, in water, three times a day, after meals.

Or:

℞.	c.c.		
Acidi hydrochlorici diluti...............	10|	or	flʒiii
Aquæ ....ad	100|		ad fl℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

When the motility of the stomach is impaired (which condition, however, is often combined with secretory disturbances) he finds strychnin the most reliable drug, given either before or after meals:

℞.		
Tabletas strychninæ sulphatis, āā.......	|	gr. 1/30

No. 25.

Sig.: A tablet, three times a day, after meals.

When there is a hyperesthesia of the stomach in which the symptoms of dyspepsia persist in spite of the negative findings by analysis of the gastric contents, he uses sodium bromid and valerian as follows:

℞.	gm. or c.c.		
Sodii bromidi	20|		ʒv
Tincturæ valerianæ ammoniatæ.........	40|	or	fl℥iss
Elixiris aromatici ....ad	100|		ad fl℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

Cheney recommends more of the bromid than the above prescription calls for—from "20 to 30 grains three times a day after meals." This dose seems large to continue, as he states, "for several weeks or a month."

Cheney does not think that in gastric neuroses repeated washing out of the stomach is necessary or advisable. He thinks intragastric galvanization and faradization uncalled for, and hydrotherapeutic measures directed toward the gastric region he has not found of value.

Pharmacology

PUBLISHING THE FORMULA.

The Pas-Avena "Formula" and How It Evades the Food and Drugs Act.

As a headliner to the advertisement of Pas-Avena, a widely heralded "nerve sedative and hypnotic" put on the market by the Pas-Avena Chemical Company, New York City, appears the statement:

"FORMULA HAS ALWAYS BEEN ON EVERY BOTTLE."

This has a twofold object: It aims to give the impression that the preparation is non-secret and it is calculated to inspire confidence in the—apparently—scientific nature of the product. As a matter of fact it should do neither. The preparation is essentially secret in its composition because of the presence in the "formula" of an unknown quantity; its claim to scientific consideration is farcical when one realizes that the "formula" is changed, without notice, at the whim of the manufacturers.

On the bottles, some time ago, the following "formula" was given:

Each teaspoonful contains:

Passiflora	20 minims.
Avena sativa.................................	10 minims.
Somnalgesine ($C_{30}H_{28}N_5O_3$).....................	2 grains.

[A circular gives the ingredients in the same proportions, but gives the chemical formula of Somnalgesine as $C_{80}H_{30}N_5O_3$.]

OATS AND PASSION FLOWERS.

The first two ingredients are plants in whose therapeutic value but little confidence is placed; especially is this true of avena sativa, which is better known under the common, if less impressive name, oats. The National Dispensatory merely details its botanical history and household uses while Lyons ("Plant Names," p. 63) remarks that its therapeutic value is probably mythical. But in spite of these known facts, the promoters of this nostrum make extravagant claims as to its therapeutic value, calling it "invaluable" and asserting that it "insures" perfect results.

SOMNALGESINE—WHAT IS IT?

Somnalgesine, the third constituent of Pas Avena, is a secret preparation, the chemical formula ($C_{30}H_{28}N_5O_3$) of which the manufacturers were kind enough to add. But, to a chemist, such a formula is absurd and impossible, and is published either because of the manufacturer's ignorance of fundamental chemical laws, or with deliberate intent to deceive the profession. A little later it was changed to $C_{30}H_{36}N_5O_3$, differing by eight hydrogen atoms from the original formula, yet the substance bore the same name as before. Probably the manufacturers realized that the formula was impossible and tried to build up one which would appear more plausible.

THE INFLUENCE OF THE FOOD AND DRUGS ACT.

When the Food and Drugs Act appeared, with its not unreasonable demand that the labels on foods and drugs should tell the truth, or at least cease to mislead, the Pas-Avena Co. seems to have been frightened into printing labels conveying more information regarding the contents of the bottle. At present, therefore, the label reads:

Alcohol .... 8.37 per cent. by volume.
Anilipyrine ....16.00 grains per fluid ounce.
Guaranteed under the Food and Drugs Act of June 30, 1906.

Substituting the word "Anilipyrine" for "Somnalgesine" gives little additional information. Chemists may recognize "Anilipyrine" as a name given to a mixture said to be formed by the fusion of two molecules of antipyrin and one molecule of acetanilid; but to physicians the word "Anilipyrine" carries with it as much mystery as does "Somnalgesine," and so the label continues to be as non-informing as ever.

Because of the appearance on the same label of the guarantee under the Food and Drugs Act, many former doubters will take the preparation on faith with no further concern or thought, and here, again, attention is called to the methods of the Pas-Avena Chemical Co. By publishing the guarantee under the pure food laws the company presumes to disperse all doubt and criticism, assuming that the majority of physicians will be satisfied with the guarantee as it stands. Inasmuch as the preparation contains acetanilid and antipyrin, however, the manufacturers are disregarding that part of the Food and Drugs Act of June 30, 1906, which requires the name of the parent substance (in this case acetanilid and antipyrin) to accompany in parentheses, the trade name (Anilipyrine).

The laws are so well defined that physicians appear to be satisfied to do nothing further, firmly believing that they are safe from the defrauding methods of unscrupulous manufacturers.

SOMNOS.

Composition and "Working Formula."

Stamford, Conn.

To the Editor:—Kindly give me the analysis of somnos. I should like to know how much chloral hydrate it represents, or if, as stated on the bottle, it contains no free chloral, about how much of that drug would be represented in an ounce of the preparation?

J. Howard Staub, M.D.

Greenville, Ohio.

To the Editor:—Will you give me the exact working formula for Mulford's somnos; how to get the color, etc.?

B. F. Metcalf, M.D.

Answer.—According to the analysis made for the Council on Pharmacy and Chemistry (see The Journal, Sept. 1, 1906, 695; Sept. 15, 1906, 863, 872; Sept. 29, 1906, 1033), the chlora strength of somnos was equivalent to a 5 per cent. solution of hydrated chloral, or about 24 grains per fluid ounce. It was found to contain about 10 per cent. of alcohol. The label on a recent trade package of somnos states that it contains 25 grains of chloral glycerolate (which is equivalent to 23 grains of chloral hydrate) per fluid ounce, and alcohol, 2 per cent. Its alcoholic strength, therefore, appears to have been changed. It is, of course, impossible to give an exact "working formula" for such a preparation. Exact duplication of mixtures such as somnos, especially as regards their color and flavor, is exceedingly difficult and not worth the effort, since the identical taste or color is unessential, unless it is intended to make the patient think he is taking the identical medicine, which would certainly be unwise. For a mixture containing the same amount of chloral as somnos, we suggest the prescribing of chloral hydrate in cinnamon or some other aromatic water, or in some syrup, such as syrup of wild cherry, using chloral hydrate, 24 grains, glycerin, 1 fluidram, and the water or syrup, enough to make one fluid ounce.

Mistura Ferri Acida.

Sloan, Iowa.

To the Editor:—The following formula is given by Stelwagon for the Mistura Ferri Acida:

℞.

	gm. or c.c.		
Magnesii sulphatis	32-48		℥i-iss
Ferri sulphatis	26	or	gr. iv
Acidi sulphurici dil..................	4		ʒi
Aquæ menthæ piperitæ..............	120		fl℥iv

Sig.: A tablespoonful in a tumblerful of water about twenty minutes before breakfast.

Croker gives the same formula ("Diseases of the Skin," third edition, page 1435), except that he uses infusion of quassia for the peppermint water and calls it "Startin's Mixture." Van Harlingen ("Diseases of Skin," fourth edition, page 95), modifies it by adding one dram of sodium chlorid to the mixture.

In cases of gastrointestinal fermentation with constipation in which I desire to use magnesium sulphate, but the above mixture is contraindicated on account of the dilute sulphuric acid, I have substituted for the dram of acid which the old mixture contains, three drams of sodium salicylate.

The prescription then reads:

℞.

	gm.		
Ferri sulphatis	26		gr. iv
Sodii salicylatis	15	or	ʒiii
Magnesii sulphatis	30		℥i
Aquæ menthæ	120		℥iv

M. Sig.: A teaspoonful in a glass of water after meals.

The mixture is of a beautiful deep red color on account of the formation of the iron salicylate, and the taste of magnesium sulphate is nicely disguised. In appearance, taste and therapeutic value it forms a mixture that will compare favorably with any of the elixirs that are placed on the market by manufacturing pharmacists.

E. D. Frear, M.D.

Comment.—The name given to this mixture is inappropriate, since it does not indicate the ingredient on which its therapeutic activity depends. The amount of iron contained in a dose is very small, amounting, according to Stelwagon's directions, to ½ grain (0.03) a day. Dr. Frear gives a somewhat smaller quantity. The addition of sodium salicylate serves the purpose of imparting a red color, but it can not be expected to exert any power as an intestinal antiseptic because it is so rapidly absorbed. This modification may be of service when sodium salicylate is indicated for its constitutional effect.

What Is Iodofan?

Within the last two or three years there has been placed on the German market a preparation known as iodofan. It is manufactured by the *Chemisches Institut*, Dr. A. Horowitz, Berlin. As it is quite possible that in time the preparation will be offered to physicians in this country, the following is appropriate:

Iodofan, according to the statements published by the manufacturers, is a chemical compound containing 47.75 per cent.

of iodin. The article was analyzed by F. Zernik of the Pharmaceutical Institute of the University of Berlin, and was found to contain less than 5 per cent. of iodin. This report by Zernik appeared in the *Apothcker Zeitung*, Feb. 2, 1907.

As is usual in such cases, the manufacturers denied the correctness of this analysis and attacked Zernik, who again took up the matter. Two samples were taken, one being bought in the open market and the other obtained, through a physician, direct from the manufacturers. These were analyzed in duplicate by Lucius, who also is connected with the University of Berlin, as well as by Zernik. The results of these analyses agreed very closely and verified the original analysis published. In other words, it was again demonstrated that there is not one-tenth as much iodin in the preparation as the manufacturers claim. Zernik's second report was published in the *Medicinische Klinik*, Nov. 24, 1907.

It is of interest to note that while the work heretofore done at the University of Berlin has appeared only in pharmaceutical and chemical publications, it can now be found in medical journals. This is certainly encouraging, as it shows that the German medical journals are now accepting such contributions for publication even at the risk of losing advertising patronage.

Burnham's Soluble Iodin.

ALAMEDA, CAL., Feb. 21, 1908.

To the Editor:—Can you enlighten me regarding the preparation sold as "Burnham's Soluble Iodin?" If all the claims made for it are true it certainly has a distinct advantage over the tincture of iodin of the United States Pharmacopeia. But are these claims all true, and what is it? Any information will be hailed with joy. A. A. STAFFORD, M.D.

ANSWER.—The claims made are not true; far from it. The preparation is being examined in the laboratory of the American Medical Association, however, and the report is nearly ready for publication.

Correspondence

Vasotomy or Castration for Perverts and Defectives?

DAVENPORT, IOWA, Feb. 7, 1908.

To the Editor:—In his reply to my communication of January 18, criticising his unqualified recommendation of vasotomy for sterilization, Dr. Belfield says that I condemn "the lawful, intelligent and beneficial use of sterilization." In so asserting, he quite disregards my direct statement to the contrary. My objection is not to sterilization, but to this especial measure of bringing it about; and more particularly to the unqualified recommendation of vasotomy by so influential a member of the profession.

In institutions, and carefully safeguarded, as it is by the Indiana law, this method of sterilization may be well enough for those who are to stay shut up; but for such as may, sooner or later, through legal process, be turned loose again, to infect and debauch at their pleasure, it is a half measure which seems to me extremely unwise even when restricted to wards of the state. If not castrated, sexual perverts and other dangerous defectives should be held permanently.

In the address to which my communication referred, we are told of men, presumably not in institutions, who, within the doctor's "personal knowledge," took this means (vasotomy) "rather than criminal abortion" to prevent transmission of their hereditary taints to offspring; and we are left fairly to infer, I think, that this convenient substitute was supplied by the doctor without legal investigation or sanction. The natural inference from his address as reported, I say, is that such surgery would be right for the general profession; and it is but a short step to vasotomy as a preventive of conception, for whatever reason desired, that is, as a means of race suicide not confined to defectives.

In a recent letter to me, Dr. H. C. Sharp, of the Indiana Reformatory, author of an interesting monograph on "The Sterilization of Defectives," while strongly favoring vasectomy for degenerates in institutions, expresses his fear of a "real danger," viz., that of those outside, "many may resort to it purely for the purpose of affording immunity," "preventing a family." Dr. Sharp, in referring to the Indiana law—which, by the way, does not specify the means of sterilization to be employed—says very truly, that "this is a long step in the right direction." He may be justified also, perhaps, in having no fear that "sterilization by vasectomy will add to the spread of venereal diseases." I have only claimed that their spread would not be decreased thereby. He seems further to approve of this measure not only for those under restraint, but for such defectives outside of institution walls as will submit to it. To this I can not agree, because, first, of the impossibility of its proper limitation, as indicated above, and, second, because of the encouragement it would afford to all forms of consenting vice, thus incidentally, I believe, increasing the spread of the venereal infections and also the number of divorces for cause.

Let the state provide for properly safeguarded sterilization, where needed, for its own defense; but let it be by no half measure. C. H. PRESTON.

Poisoning by Eggs.

NEWPORT, R. I., Feb. 13, 1908.

To the Editor:—As I have been unable to find any record of a similar case in the literature the following report of poisoning by eggs may be of interest:

My son, aged 2 years and 8 months, is a strong child, in perfect health except for a slight tendency to eczema. He took about half a teaspoonful of the top of the froth of an egg which had been beaten up with some sugar and orange juice. Within a minute and a half he began to vomit and sneeze violently. His face was congested, lips bluish, pupils small, conjunctivæ congested, pulse of good quality but rapid. He complained of itching, especially in the hands and wrists. After swallowing a quantity of water he promptly rejected it, and after taking more rejected that, which, however, washed his stomach out. He then fell into a comatose state with stertorous breathing, puffing out of his cheeks, and remained in that condition for three-quarters of an hour, after which his breathing became more nearly normal. He awoke in an hour and a half, but was not his usual self and was still evidently suffering from poisoning. He had diarrhea during the evening and night, but was practically all right though shaky the next morning.

The same thing happened when he was a year old, when I personally administered some coddled egg; he had hardly swallowed it before he vomited. He then had the worst case of general urticaria which I have ever seen. His face was puffed up and he could hardly see. All his symptoms then were worse than in the present case. Lead lotion was the only thing which did him any good. One year ago he took a little home-made cake—a piece about half the size of the nail of one's little finger—and he had the same symptoms, though not in the same degree.

I may add that the child is of a nervous temperament and has a gouty and rheumatic ancestry. Such a case of susceptibility to eggs has never been known in either my wife's family or my own, but my wife's sister has an idiosyncrasy for strawberries. A. J. ANDERSON, M.D.

An Obstetric Anomaly.

PHILADELPHIA, Feb. 25, 1908.

To the Editor:—In THE JOURNAL, Feb. 8, 1908, there appears a report among the Clinical Notes entitled "An Obstetric Anomaly," which describes an extra fontanelle situated in the sagittal suture between the anterior and posterior fontanelles. As the writer states that he has found no mention of the condition in the literature, it may interest him to know that the condition is described in Williams' "Obstetrics," with an illustration (pages 152-153, second edition). The anomaly was first noticed by Arnold Lea (Transactions London Obstetrical Society, 1898, xl, pages 263-270), and was called by him the "sagittal fontanelle." ALICE WELD TALLANT.

Miscellany

SEEKS LICENSE BY FRAUD.

Illinois State Board Secretary Exposes Fictitious Documents.

We have received from Dr. James A. Egan, secretary of the Illinois State Board of Health, copies of correspondence and papers in the case of G. B. B. Larkeque, who gives his present address as Coney Island, N. Y. The Illinois board received an application for a license to practice medicine in Illinois from "Dr." Larkeque, who based his application on a license issued by the Maine State Board of Registration. He further stated that he had attended three full courses of lectures at the Homeopathic Medical College of Missouri during 1889, 1890 and 1891, and that he had taken his fourth year of medical work at the Cleveland University of Medicine and Surgery and was graduated from that institution as a doctor of medicine on March 25, 1893.

Not finding the name of G. B. B. Larkeque in the list of graduates of the Cleveland University of Medicine and Surgery, Dr. Egan wrote to the Cleveland Homeopathic Medical College, the successor of the Cleveland University of Medicine and Surgery, and received a reply from the registrar stating that Garrett B. B. Larkeque graduated from the Cleveland University of Medicine and Surgery in March, 1893. To this letter Dr. Egan replied, calling the attention of the registrar to the fact that the Cleveland University of Medicine and Surgery did not come into existence under that name until 1894, and that the name of G. B. B. Larkeque was not given on any list of graduates of the school in question, and asking for an explanation of these contradictory statements. After waiting three weeks without receiving a reply, Dr. Egan wrote again and, receiving no reply by January 20, he addressed the dean of the Cleveland Homeopathic Medical College asking for the facts. On January 31 he received a letter stating that his (Dr. Egan's) letter had been referred to Dr. Kimmel, secretary of the board of trustees, and that after a careful investigation Dr. Kimmel would give him all the facts in the case. Dr. Egan's endorsement on this letter reads: "Nothing received from Dr. Kimmel to date, 2/25/08."

A letter sent to the registrar of the Homeopathic Medical College of Missouri elicited an immediate reply to the effect that no one by the name of Garrett B. B. Larkeque had ever matriculated from that institution, at least since 1883. A letter was then sent to the applicant requesting an explanation of these facts. He replied, enclosing the following certificate:

Chartered 1857. *Re-chartered 1897.*

The Homeopathic Medical College of Missouri.
Cor. Jefferson Ave. and Howard St.

St. Louis, Aug. 12, 1892.

Dean, Cleveland University of Medicine and Surgery.

Gentlemen:—This is to certify that Mr. G. B. B. Larkeque has attended THREE FULL COURSES of Lectures at the HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI, Sessions 1889-'90, 1890-'91, 1891-'92, and is thereby entitled to enter your SENIOR class, all other requirements being met by him.

Respectfully,
L. C. McElwee, Registrar.

To this certificate Dr. Egan has appended the following note:

> This certificate, like others presented by Larkeque, is fraudulent. It is addressed under date of Aug. 12, 1892, to the dean of a medical college which was not in existence in 1892 or 1893, one which was not organized until 1894. It is dated Aug. 12, 1892, on a letterhead which must have been printed subsequent to 1897, as will be seen by the note on the upper right-hand corner.

A letter of inquiry sent to the secretaries of all the state boards brought a reply from the secretary of the Ohio State Board of Medical Examiners, stating that Garrett B. B. Larkeque had been registered October, 1898, on a diploma issued by the Cleveland University of Medicine and Surgery, March 25, 1893, and that "Dr." Larkeque had stated in his application for registration in Ohio that he had attended the Indiana Medical College from September, 1879, to March, 1882. (This institution became extinct Feb. 28, 1878, and was succeeded by the Medical College of Indiana. Examination of the annual announcements of this institution for the years named does not show the name of Garrett B. B. Larkeque among the matriculants.)

The secretary of the State Board of Medical Examiners of California reported that Garrett B. B. Larkeque had been licensed in that state on a diploma from the University of Medicine and Surgery of Cleveland, Ohio, for June 5, 1901. The difference in the name and the date in this case will be readily noted.

A letter from Dr. Egan addressed to Mr. Garrett B. B. Larkeque under date of Feb. 24, 1908, setting forth the facts in detail concluded as follows:

> It is the opinion of the Illinois State Board of Health that you obtained by fraudulent means the diploma which you presented to this board and that you are endeavoring to obtain a license from the Illinois State Board of Health by the same means. In this opinion I heartily concur. It gives me great pleasure to decline your appplication.

These facts are certainly interesting. A diploma is presented to a board of medical examiners, apparently issued by a medical college located in the state over which this particular board has jurisdiction. The diploma is dated a year previous to the time when this particular medical college came into existence, yet a license is issued to the applicant. Later, application for license is made to the secretary of a board in a far distant state, this time under a diploma made out in the name of a college which went out of existence three years before the date on which it is claimed the diploma was issued. Again a license is issued to the applicant. In the first application the applicant states that he took the first three years of his medical course at a medical college which had not been in existence for three years. In his Illinois application he claims that he attended a certain medical college for three years, while the registrar of the college in question says no such man ever matriculated.

Dr. Egan is to be commended for his painstaking and thorough work in exposing this evidently fraudulent effort to obtain a license to practice medicine in Illinois. For the protection of the public health, facts regarding such cases should be carefully investigated by the various state board secretaries and given as wide publicity as possible.

The Individual Communion Cup in Plague Times.—Alfred Martin publishes a historical contribution to this subject in the *Med. Klinik*, Dec. 15, 1907, from which it appears that the prevalence of the plague in the fourteenth century caused the common communion cup to be temporarily disused. He states that individual cups were introduced at various places, the cathedral at Saalfeld still having one of the cups on exhibition from that early date. He cites authorities to show that the danger of infection and scandal was the reason why the Roman Catholic Church withdrew the communion cup entirely from the laity (1414-1418). He also describes the open-air communion services held in plague times by protestant clergy at which the wine was presented to each communicant, but each brought his individual cup or spoon for the purpose. One special instance is cited, at Chiavenna, 1564. The records of the protestant church at Bopfingen in Würtemberg show that the inventory for 1703 contained "one small gold-plated cup for the sick; one tin cup for infected persons." In 1806, mention is made of "one tin cup for communicants with venereal disease and the itch;" in 1809, "one tin cup for venereal communicants." The tin vessels appear in the inventory as late as 1832. The question of individual cups was much discussed between 1782 and 1789, but after John Hunter's statement that the danger of communication of syphilis by this means was purely imaginary, the agitation subsided.

The Physician's Automobile

(*Concluded from page 834.*)

The Journal regrets the necessity of omitting some automobile communications that were received late and of abbreviating others, because of lack of space. The following matter was crowded out of the automobile department, which occupies pages 811 to 834, and which went to press before these columns.

ELECTRIC AUTOMOBILES.

A. R. BAKER, M.D.
CLEVELAND, OHIO.

My experience is limited to three years' use of an electric victoria (204*). I have used it every day, summer and winter. During the summer I have gone daily to my summer residence, which is twelve miles from my office; about four miles of that distance is over country roads not always in good condition. I averaged between thirty-five and forty miles daily in the summer, and fifteen and twenty-five miles in the winter. With the exception of one time when run down by a street car, there have never been twenty-four hours consecutively when I have not had the use of it.

Cost of Maintenance.

The first cost was $1,350. The whole cost of its upkeep for each year, including washing, charging, storing, repairs, fees, insurance, etc. (including a robe which was stolen), was charged to the automobile account and is as follows:

The first year, $375, an average of $31 a month; the second year, $475, an average of $49 a month; the third year, $723, an average of $60 a month. The average for the three years was $44 monthly. It is now in good repair, runs further longer and smoother than ever before, and I can see no reason why it should not last another three years at no greater expense than in the past; the batteries will be good for another year, at least.

Almost all of the expense has been for tires. They have been a constant source of annoyance as well as expense. The cost, the economy in time, the comfort and safety, and other things have been very much in favor of the automobile. If I had installed a charging plant of my own, and done the washing and minor repairs myself, the monthly expense would probably have been less than half, but I preferred to pay a little more and be relieved of all care and responsibility, and, of course, have paid accordingly. In my opinion the horse is cheaper if you care for it yourself, but the electric machine is cheaper than to keep a horse and man to care for and drive it.

The Electric Auto the Best.

Generally speaking, an electric machine is preferable to a horse or a gasoline machine for the specialist or general practitioner in the city, or even in the country and village practices, where the roads are fairly good and the trips not too long. It is clean, always ready, safe, and will go as fast as the city ordinance will allow.

ACCIDENTS AND INJURIES TO THE AUTOMOBILE.

EDGAR CALVIN SEIBERT,† M.D.
ORANGE, N. J.

Physicians will be interested to learn of a book, recently written, entitled "Accidents and Injuries to the Automobile," and published in three volumes (subscription only), by Blowout, Skidmore & Co., Walkbac, N. G. This work consists of monographs carefully written by eminent authorities and specialists, each through large experience a master in his own special branch. There is no other work of its kind in existence, and a glance at the contents will show its value both as a text-book and as a reference book to anyone possessing or about to possess an automobile.

A brief summary of the subjects presented may be of interest to all owners of motor cars, whether or not they feel inclined to purchase the complete edition of this monumental work.

Chapter I. Fractures and Dislocations.

Classified as Simple, Compound, Transverse, Line Fractures and Comminuted Fractures.

Etiology.—Usually caused by external violence, but may also be spontaneous.

Symptomatology.—Crepitus, false point of motion, heat (internal and external, of which the thermometer is not always a reliable indicator) and loss of function.

Clinical Varieties.—1. Fracture of crank-shaft, (a) simple, (b) compound.

2. Fracture of driving shaft, usually oblique by torsion.
3. Fracture of the connecting rod, results in total disability and permanent injury to surrounding parts.
4. Fracture of rear axle, prognosis bad; incurable.
5. Line fracture of the cylinder, due to sudden variations in temperature, especially extreme cold; prognosis grave.

Treatment.—Splints, wiring and plaster casts are useless. Complete rest and immobilization from four to six weeks are necessary. The process of complete repair may require from ten to twelve weeks.

Dislocations.—1. Dislocation of the sliding gear, a painful and serious accident usually accompanied by stripping of the teeth. (N. B.—All automobile teeth are primary; there are no secondary teeth!)

2 Dislocation of the switch plug; a very common form, most always found in the vest pocket.

Chapter II. Circulatory Disturbances.

Valvular diseases.—(1) Stenosis of the inlet valve. (2) Insufficiency of the exhaust valve. (3) General valvular incompetency.

Symptoms.—Intermittent and dicrotic pulsation, abnormal impulse and dislocation of the apex beat.

Arteriosclerosis of the radiator, causing feeble circulation and general congestion. Symptoms arising are dyspnea, asthma and Chain-Spokes respiration.

Chapter III. Respiratory Diseases.

1. Dry pleurisy of the cylinder, causing accelerated and labored breathing. Friction rub and dry râles on auscultation. Treatment is by oily mixtures. (Rule is, half as much oil on engine as there is on your clothes.)
2. Agglutination of the piston rings.
3. Pleurisy with effusion. Character of effusion is usually watery and chiefly affects the carbureter. Symptoms: Spasmodic, croupy cough, irregular arrhythmic breathing, lengthened inspiration, sudden and explosive expiration. In bad cases apnea and complete respiratory failure. Treatment: Draw off water; in severe cases drain gasoline tank. Paracentesis not available as therapeutic measure.
4. Laryngitis of the signal horn; husky voice, distressed enunciation, in aggravated cases aphonia. Treatment consists of local applications to vocal chords.

Chapter IV. Nervous Diseases.

1. Hysteria of the spark coil.
2. Neurasthenia of the commutator.
3. Atrophic degeneration of the storage battery. (R. D. reaction of degeneration.)
4. Transverse myelitis of the secondary wire.
5. Locomotor ataxia of the spark plugs. Pathognomonic symptoms are limping, halting, unsteady gait, inability to ascend grades, loss of control of voluntary motion. (*Et verus incessu patuit morbus.*)
6. Paralysis and atrophy of dry cells (Dana's law: Dry cells once destroyed never develop again).
7. General motor atrophy. Formula: AnCC + CaCC = CaOC —DcR.

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* For key to names of automobiles, see editorial explanation, p. 773.

† The author of this book review, who has had some experience with automobiles (153), advises the physician to become acquainted with automobile mechanism if he would be enabled to choose a car that will be satisfactory as well as to keep it running economically.

Chapter V. Diseases of Organs of Generation.

1. Stenosis and perforation of gas tubes.
2. Impotence of the generator.
3. Tubal rupture due to cheesy degeneration of the outer casing.
4. Perforation of inner tube caused by pointed foreign bodies.
5. Psychic effects of possessing but one inner tube or none at all!
6. Premature delivery of spark.
7. Enuresis of the gasoline tank.

Chapter VI. General Diseases.

1. Karyokinesis of the carburetor, due mostly to faulty mixture. Proper mixture: 5 gal. gasoline in tank, 4 oz. spiritus frumenti per os q. 3 hrs. makes auto run fine and is a good general stimulant.
2. Ankylosis of the steering knuckle.
3. Addison's disease of the differential.
4. Rachitis of the rear axle.
5. Osteomalacia of the radius rods.
6. Impaction and obstruction due to sudden transverse presentations.
7. Resections and amputations of the tonneau.
8. Shaft drive versus Ehrlich's side chain theory.
9. Immunity and accident insurance.

Chapter VII. Occupation Neuroses.

Motor-spine; crank-wrist; diplopia; gogglyopia; tachymania; inspectorophobia; and that general run-down condition that comes from automobiles.

Vocabulary and Glossary (mostly Greek derivatives) attached and absolutely indispensable to a proper understanding of the diseases of the automobile.

All motor ailments stand in need
Of some repairs to right them:
And these repairs need new repairs,
And so ad infinitum.

For copies of the book and for specimen pages send your name and check to the publishers, Blowout, Skidmore & Co., 23 Krankhard place, Walkbac, N. G.

DIARY OF A BUSY DOCTOR.

C. H. BRYAN, M.D.
CHICAGO.

Dr. Smith was sitting by his fire one night about 11 o'clock. The frosty wind outside was whistling around the corners and driving the snow into drifts and sifting it under doors. The doctor was telling his faithful wife about how much time he could have saved in the past twenty years if he had been able to use an automobile during that time. He was telling her how from now on he expected to get more enjoyment from life because he could save half his time on the road.

"Just think, Mary, I went 20 miles to see Farmer Jones and back again almost in two hours. Doesn't that seem impossible? Now, I will be able to get home to a warm meal occasionally and make up some of the sleep I have lost during the past twenty years."

Just then the bell rang. "Do not go out to-night, my dear," said his wife; "besides you know you have a cold." A man was at his door who had just come 25 miles on horseback. His face showed the effects of his battle with the storm. His fur overcoat and cap, well pulled up over his ears, were white from the drifting snow. "For God's sake, Doctor, go to my wife at once. I doubt if she will live until you get there."

Five minutes later the doctor emerged from the house in fur coat and with his gripsack in his hand. His faithful automobile was now his only thought. "How easily I can make this trip," he thought, "and how much quicker I can get to her than I could with my team, and how much greater the chances will be that I can save the life of this dear woman." Imagine his horror on going to the barn and seeing his automobile with one tire flat. He calls his wife to hold the lamp, while he goes at it furiously to fix the puncture. One hour later, with his fingers stiff from the cold, and his wife shivering from head to foot, he has the tire in order. Now he will be on the road in a few minutes, but stay; the starting crank will not turn; the water pump is frozen. After another hour he has built a fire in the kitchen stove and heated water and thawed out his pump.

Now he will soon be going. The motor runs beautifully and as evenly as a clock. Out into the sharp, snow-driving wind he points it and takes the road at a furious speed. It is now 1 o'clock and he feels sure he will be there in an hour. In a little while, however, he realizes that all is not well. The engine is pounding, fuming and steaming. A little investigation shows him that his radiator is frozen up. Just what to do he does not know. However, a happy idea strikes him and he goes to a house by the roadside. After being almost bitten by the dog and nearly breaking down the farmer's door, he finally has him awake. After due explanation, the farmer, in order to save a life, will accommodate the suffering doctor and builds a fire in the kitchen stove and heats water to thaw out the radiator.

Two o'clock and this is done, the doctor now on the road again and going at a furious speed. Ten miles are behind him in less than thirty minutes. Once more to his horror his motor is pounding and hot. What can be the cause of this? He stops his machine and alights just in time to see the last bit of water leak out of a crack in his radiator. Another farm house must be invaded. This time he obtains a bucket of water to fill his radiator and some rags to stop the leak.

Three o'clock and he is going again, fast and furious, with the snow getting deeper and deeper. Ten miles more and he is almost there. The motor is now furiously hot again and beginning to pound. Once more he must have water. Thoughtfully he has brought along the bucket. A nearby creek will supply the water. After breaking the ice and going through it almost to his knees and soaking his feet, he once more gets a bucketful of water and cools his thirsty engine. At 4 o'clock he arrives and finds that a nearby physician has saved the life of his patient. As daylight breaks he reaches home again with another tire flat and his radiator leaking badly.

"Mary, I think that if the water cooling and tire trouble could be eliminated from my automobile, and the wheels made high enough to get through the snow drifts, my automobile would be a good thing." His faithful wife tells him that she has read about an automobile made in the manner he describes. She says that she thinks it is called a "buggy-automobile."

A record in Dr. Smith's diary will now show that he has a buggy-automobile and can go almost anywhere under any conditions and at any time of year.

I had almost a duplicate of the above troubles until I purchased a high-wheeled, air-cooled, solid-tired automobile (152) four years ago. Since then I have run it and am still running it with the greatest of success.

SIX AUTOS AND NOT SATISFIED.

A. D. HARD, M.D.
MARSHALL, MINN.

To guard against the impression that I am a fresh enthusiast, like a boy with a new toy, I will state that I have been using automobiles in country practice continuously for the past ten years. In the spring of 1902 I ordered the first automobile (114), used by a physician in country practice west of the Mississippi River, and began using it on the prairie roads of southeast South Dakota.

Since then I have owned a gasoline runabout (115) of one cylinder, continually requiring repairs; a large two-seated car (115), an improvement in a few ways, but with many faults; a two-cycle runabout (116), a great disappointment, and a small buckboard runabout (148). This last car carried me over hills and through mud where the big machines could not go.

In 1907 I purchased a late model of a two-cylinder 14 horse-power runabout (149), which I am now using. It has many faults and does not near come up to the extravagant claims of the makers, but does my work the best of any machine that I have so far used. It kicks back unmercifully in starting the motor, and I am writing this article with my left hand, as my good right arm is in splints with both bones broken from its vicious kick.

The other automobile (200) with which I have had experience embodied features which, if well worked out, would give the doctor the best horseless carriage for country work that has so far been devised, but it is not reliable nor complete.

Features of the Ideal Car.

There is no automobile on the market that will meet the physician's requirements. Such a machine can be made as soon as the demand calls for its production. There should be no tire troubles on the road. Sixty-five per cent. of all roadside delays are due to failures of pneumatic tires. Solid rubber tires will obviate almost all of these. The automobile as now constructed is calculated for pneumatic tires, and simply substituting solid tires for pneumatic tires will not be entirely satisfactory. If the spring suspension could be designed with solid tires in view, the tire troubles would vanish completely. The average clearance in the middle of the road under the rear axle of the standard automobiles is nine inches. This is absolutely impractical for physician's use. A mile stone on a road crossing, with a rut of moderate depth, will strike the rear axle and destroy the machine beyond ordinary repair. Constant worry and extreme care are required in the use of the present type of automobile to avoid such results.

Discussion of the Motor.

There should be plenty of reserve power to use in such emergencies as deep sand, heavy mud, steep hills and rough roads. I am speaking of gasoline explosive motors particularly, as these must be looked to exclusively to do the doctor's work. A single-cylinder motor can not be satisfactory for inherent reasons. A single-cylinder "four-cycle" engine gives one power impulse with two complete revolutions of the flywheel. In order to get evenness of power application, as far as possible, the flywheel is made very heavy, and the efficiency of the motor decreases with the speed at which it is run. In order to get strong traction to overcome hills or bad roads, the indirect drive through multiple gear-wheels, involving fierce wearing action, must be used. A steady efficient power application at moderate speed of motor can only be obtained by using an extra number of cylinders so that the power impulses shall be closer together. But with each extra cylinder added, the extra complications of operating and keeping in repair are added. In my opinion, two cylinders opposed, so as to give one impulse with each revolution of the flywheel, affords a practical motor, avoiding the extremes either way.

Extremes of weight should be avoided. If too light, the resistance to emergency strains is lacking, rendering dangerous accidents probable. If too heavy, the machine will be clumsy and will lack propelling power. A two-cylinder, two-seated runabout automobile, with protecting top, should not weigh over 1,200 pounds. The usefulness of an automobile to a physician depends on its ability to travel all kinds of roads. The wheels can be made so that they will afford traction in mud as deep as the axles will clear. Skidding is largely due to the present style of differentiating the rear or drive wheels so that they will travel at different speeds in turning corners. The differential is not absolutely essential and will soon be eliminated from the up-to-date cars.

TOO MUCH IS DEMANDED OF THE AUTOMOBILE.

C. E. ROGERS, M.D.

MONTEVIDEO, MINN.

SOME men have an idea that, in order to be practical, an automobile should plow through snowdrifts and mud, no matter how deep; should serve as a runabout and touring car; climb any hill, no matter how steep; swim lakes, run fast, and never cause the driver trouble. Not only all of the above requirements are demanded, but they want a car that costs only a song. A physician should have a little judgment and display a little sense; but, as a rule, outside of their professional pursuits, neither qualification is especially prominent in them.

The Essential Points in a Doctor's Car.

On good roads and in competent hands an automobile is a marvelous mechanism. A runabout, 10 to 15-horse power, engine in front, shaft drive, pneumatic tires, etc., is the type of car for the doctor. Carrying space should be good, gasoline the fuel, engine multiple and water-cooled. Wood alcohol (2), glycerin (1), water (1), is a good cooling fluid and stands low temperature well (20 degrees below, standing; 30 below, running). The two-cylinder engine is less troublesome than the four, and is just as reliable.

The Physician Should Have an Auto.

On good roads much time is saved, and any physician (at all mechanical) can not afford to be without a car. We have good roads (automobile roads) in every state of the Union, at least one-half of the time. My advice, after over 75,000 miles of experience in three cars (127), is for every physician to own one and use it when he can. My present car (176) has, I believe, no superior for endurance. In these eight and one-half years I have covered about 15,000 miles at an expense for repairs of less than $25.

THE TIME SAVED BY USING AN AUTO IS A BIG ITEM.

A. C. KIMBERLIN, M.D.

INDIANAPOLIS.

I AM more positive than when your first auto number was issued that, from an economic standpoint, autos are much cheaper than horses, to say nothing of their saving of time, which is a big item to a busy practitioner.

The story so frequently heard, of the expense of maintaining and operating an automobile practically always means that such a person has a cheap car (which is a great mistake to buy), is a very poor or careless driver, and is being gouged by the garage, if he should be so unfortunate as to have to keep his car in one. I am convinced that a four-cylinder motor is the best for many reasons.

For three years past I have driven a closed coupé on my machine (241), and find it more than a success in both winter and summer. In winter it affords absolute protection, and in the summer, with the windows all down, I find it much cooler than the ordinary top.

THE ELECTRIC IS EXCELLENT IN THE CITY.

MYRON METZENBAUM, M.D.

CLEVELAND, OHIO.

FOR most city physicians the electric (243) is the preferable auto. It is safe in the hands of the child and the aged; it starts quietly, runs smoothly, responds easily, stops quickly; it will not strain, but rest, the nerves. With ordinary care the electric will not skid in rainy, sleety or snowy days, when gasoline cars are but seldom seen. The life of an electric machine is longer than that of the best handmade carriage, since it is not subjected to the bump which a carriage undergoes, nor to the continuous throbbing of machinery which a gasoline car (168) endures. The replacing of worn-out parts and reassembling of a gasoline car will require as many days as the same process on an electric will require in hours. At the end of the third or fourth season, the electric machine will not have depreciated over 50 per cent., while the gasoline car will have but little value left.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

TREATMENT OF CONTRACTED TENDONS OF THE ARM.

Buckeye, Ky., Jan. 16, 1908.

To the Editor:—What would be the best treatment of the following lesion? The patient has suffered for four or five years from contracted tendons of the biceps and brachialis anticus of the right arm, which consequently forms almost a right angle as it hangs. The symptoms of the disease from which the contracture resulted were those of chronic rheumatism. The knee joints were at first involved, but the patient now walks fairly well. There is little pain or tenderness about the joint itself, which seems to be all right except that only partial use of it is possible. The muscles, both anteriorly and posteriorly, are somewhat atrophied from lack of use. The patient (female) is well-nourished, slightly nervous, and possibly somewhat inclined to hysteria. She has had much treatment from regular practitioners and others without avail.

G. M. Henderson, M.D.

Answer.—Were the right angle position of the elbow due simply to a shortening of the biceps and the brachialis anticus muscles, and did these muscles still retain the power of voluntary contraction, the answer to the above question would be simple, for the biceps tendon could be easily lengthened by splitting it and the brachialis anticus could be divided. But such is undoubtedly not the case. The ligaments about the joint are certainly shortened, even if the joint surfaces themselves are not permanently changed, so that if both the muscles mentioned were divided the joint would still retain its right angle position. Where a joint has been flexed in that manner for a period of four or five years all the soft parts on the flexor side are shortened. Granting that the joint surfaces are intact and that the flexed position is due to shortening of the soft parts, the forearm may be forcibly extended somewhat under gas anesthesia, and fixed for a time by a plaster cast until the reaction subsides and the parts become accustomed to their new position, then repeat the process gaining a little more and so on until complete extension is obtained; or apply a screw extension splint, turning the screw a little daily, until extension is reached. Should it be found that the muscles are interfering greatly with progress and they do not yield, a subcutaneous tenotomy may be done. The functional activity of the muscles should be encouraged by massage, electricity, and above all by voluntary action.

EFFECT OF BULLET WOUND AT SHORT RANGE.

Soldier, Idaho, Jan. 30, 1908.

To the Editor:—I would like your opinion in regard to the effect of a 30-30 or similar caliber high-power rifle loaded with a soft-nose or explosive bullet, when fired from a close range (say 30 or 40 feet) and striking the victim below the occipital protuberance. I shall be called to testify in a case of murder in which I found that the entire vault of the cranium from below the occipital protuberance to just above the ears and extending forward to just above the eyes had been blown off: the brain was torn loose down to the medulla and one-half or one side of the brain was entirely detached. I am of the opinion that the wound was caused by a rifle of the above description, both from the great destruction of the skull and from the appearance of the brain.

A. Ayer Higgs.

Answer.—When a small caliber, soft-nose bullet fired from a modern rifle at close range strikes the skull the most extensive destruction results. When the distance is within 50 meters and the bullet strikes squarely, the skull is fractured into many pieces which are actually blown asunder, carrying the scalp with them, and the brain is reduced to a mere pulp. When the distance is between 50 and 100 meters, the effect on the bones and brain is about the same, but the scalp usually remains, holding the fractured bone in place. In one case reported by von Bergmann, the skull was fractured in 190 fragments. When the bullet strikes tangentially the effect may vary somewhat according to the angle of incidence and the point of impact, but the destruction is always great. An injury such as is described above could be produced by a bullet from a modern rifle at close range, but it is probable that the bullet did not strike the skull squarely, nor pass through the cranial cavity, at least not through the brain. There is an excellent article on the effects of soft nose bullets by Bruns in the *Beitrage für klinische Chirurgie*, xxi, p. 825. Consult also: Bergmann's "Surgery," vol. iv, first (original) edition; August Schachner, "The Surgical Aspects of the Modern Small Bore Projectiles," *Annals of Surgery*, xxxi, p. 75; Foxworthy, "Modern Bullet Wounds," *Annals of Surgery*, xl, p. 834.

MAGNESIUM SULPHATE TREATMENT OF TETANUS.

Crockett, Texas, Feb. 18, 1908.

To the Editor:—Please give me information regarding the literature and status of Meltzer's treatment of tetanus by magnesium sulphate.

W. S. Lipscomb.

Answer.—The treatment of tetanus by intraspinal injections of magnesium sulphate has been applied with success in a number of cases. Eight cases have been reported. The treatment appears to be one worthy of further investigation. Reference may be made to the following literature dealing with this subject and with the allied one of anesthesia by intraspinal injections of magnesium sulphate:

Meltzer and Auer: *Amer. Jour. Physiol.*, 1905, xiv, 386; 1905-6, xv, 387; 1906, xvi, 233; 1906, xvii, 313.

Meltzer, S. J.: *Med. Record*, Dec. 16, 1905, abstracted in The Journal, Dec. 30, 1905, p. 2031.

Meltzer and Auer: Effects of Intraspinal Injections of Magnesium Salts on Tetanus. *Jour. Exp. Med.*, December, 1906; abstracted in The Journal, Feb. 2, 1907, p. 454.

Meltzer, S. J., and Lucas, D. R.: Physiologic and Pharmacologic Studies of Magnesium Salts. *Jour. Exp. Med.*, May 25, 1907; abstracted in The Journal, June 22, 1907, p. 2163.

Haubold, H. A., and Meltzer, S. J.: Spinal Anesthesia by Magnesium Sulphate. The Journal, Mar. 3, 1906, p. 647.

Logan, S.: Case of Tetanus Treated by the Intraspinal Injection of Twenty-five per cent. Solution of Magnesium Sulphate. *New Orleans Med. and Surg. Jour.*, May, 1906.

Id.: Treatment of Tetanus by Intraspinal Injections of Magnesium Sulphate for the Control of the Convulsions. The Journal, May 19, 1906, p. 1502.

Blake: *Surg., Gyn. and Obst.*, May, 1906; abstracted in The Journal, June 16, 1906, p. 1886.

Id.: *Annals of Surgery*, September, 1906.

Id.: Abstract of paper read at American Surgical Association in Society Proceedings, The Journal, July 14, 1906, p. 146.

Franke: *Ztschr. f. innere Med.*, 1907, xxviii, 345.

Robinson, G. C.: Treatment of Tetanus by Intraspinal Injections of Magnesium Sulphate, The Journal, Aug. 10, 1907, p. 493.

Greeley, H.: Magnesium Sulphate Successful in Two Cases of Tetanus. The Journal, Sept. 14, 1907, p. 940.

REMOVAL OF SUPERFLUOUS HAIR.

Granbury, Texas, Feb. 20, 1908.

To the Editor:—Can you recommend an application that will destroy superfluous hair? I have a young woman patient who is very much worried over the rapid growth of hair on her chin, and she is anxious to get rid of it. I have destroyed a few hairs by electrolysis, but this method is too slow. Please give me the ideal treatment to use in such cases so as not to leave any detrimental after effects.

W. S. W.

Answer.—There is no application that will destroy superfluous hair. The hairs can be temporarily removed by depilatories of which the following is a good example.

℞.

	gm.		
Fresh barium sulphid	8	or:	ʒii
Zinc oxid.			
Starch, āā	12		ʒiii

At the time of using, mix with a sufficient quantity of water to make a paste. Apply the paste thickly to the surface; leave for a few minutes until irritation begins; then remove with water or oil.

The paste destroys the hairs with little irritation if it is not allowed to remain on too long. Apply a dusting powder afterward. Of course this simply destroys the hairs as they project from the surface of the skin, and, as after shaving, the hairs become coarser, it is necessary to repeat the process about once a week. The hairs can be bleached until they have no color by using peroxid of hydrogen and ammonia water. This makes them less conspicuous, but does not remove them.

The only radical way of destroying hairs is by electrolysis. This is a satisfactory method if the hairs are rather coarse and not too numerous; for an abundant fine down it is very slow and tedious. In many cases the hairs can be destroyed by *x*-rays. There is no satisfactory and simple way of treating hypertrichosis.

COLOSTOMY FOR THE RELIEF OF COLITIS.

Winfield, Kans., Feb. 17, 1908.

To the Editor:—Can you give me any information concerning the number of cases in which colostomy has been performed for the relief of colitis, or can you tell me where I can obtain it?

H. L. Snyder.

Answer.—We are unable to give a complete list of all the cases in which colostomy has been performed for the relief of colitis, but in the following articles a number of cases are reported in detail and references are given to many more cases; the present status of the subject is also discussed:

Pauchet and Prieur: Colites Chroniques, *Arch. prov. de Chir.*, 1905, No. 11.

White: Sixty Cases of Membranous Colitis, *Lancet*, Oct. 28, 1905.

Summers: The Surgical Treatment of Chronic Muco-Membranous and Ulcerative Colitis. *Annals of Surgery*, July, 1905.

Meyer: Appendicostomy and Cecostomy in the Treatment of Chronic Colitis, *Med. News*, Aug. 26, 1905.

Curl: The Relative Value of Cecostomy and Appendicostomy in Treatment of Amebic Dysentery by Irrigation of the Colon, *Annals of Surgery*, April, 1906.

SUPPLEMENTARY BOOKS ON PATHOLOGY.

BALTIMORE, Feb. 21, 1908.

To the Editor:—Will you kindly state through your department of "Queries and Minor Notes" for the benefit of a student of medicine, what books on pathology you would recommend, both as reading supplementary to the study course, and for the entire study course in that branch? "STUDENT."

ANSWER.—It would be exceedingly difficult to answer this question satisfactorily without knowing first of all the preliminary requirements of the student in question and the character of the institution at which he proposes to take his medical course. There is a goodly list of books from which to choose, and it would probably be best to consult directly with an experienced teacher of pathology in a good medical school. As a supplementary reading we would recommend first of all Wells' "Chemical Pathology," to which the student should make continual reference in order to become familiar with the chemical aspects of the subjects which he is studying from a somewhat different standpoint, namely, the morphologic and etiologic.

WHEN MAY THE GONORRHEIC MARRY?

————, MASS., Feb. 28, 1908.

To the Editor:—1. What is the latest and best method of examining a man who eight years previously had gonorrhea, has since been free from all the usual evidences of the disease and now desires to contract a marriage with a pure woman? What must I do before I can say to him: "Marry, you will not infect your wife; you are well." Although there has not been any manifestation of the trouble for eight years, is it possible for some of the germs to be still lying latent? 2. What disease of the mouth is this: Canker sores which disappear on touching with silver nitrate, only to reappear later, but if the patient smokes they will not come back for a year or more. The patient desires to give up the use of tobacco, but does not, for as soon as he does, the canker spots reappear on the tongue and inside the cheeks. Please suggest treatment. There never has been any syphilitic history or manifestations. Trouble first appeared in 1902.

————————, M.D.

ANSWER.—1. The dictum, "a gonorrheic must not marry before the last remnant of the discharge has disappeared," can not be accepted in practice. A large number of men who have had gonorrhea are never entirely free from the relics of their disease, as their urine contains filaments. A physician's order forbidding all such to marry would certainly not be obeyed. Undoubtedly, many such men marry and never infect their wives, yet, on the other hand, infection has been conveyed by men in whom the most careful examination failed to show gonococci. The latter occurrence, however, is rare. Concerning the question of marriage, the following rules may be adopted: Any abnormal secretion, whether shown as a urethral discharge or as filaments in the urine, must be repeatedly examined at long intervals for gonococci. If filaments are present the urine is centrifugalized and the precipitate stained. If all examinations are negative, the urethra is irritated by natural or artificial means, preferably by irritant injections of silver nitrate solution. If the increased secretion thus produced shows no gonococci, marriage may then be permitted. Possibly this course may result in an occasional mistake, but in the present state of our knowledge we possess no other criteria of infectiousness. The composition of the secretion is of no special consequence, it being immaterial whether it consists chiefly of pus-cells with a little epithelium, or whether it be made up entirely of pus-cells. Epithelium alone shows that the process is distinctly desquamative and pus-cells denote the existence of catarrh. The principal question to be determined is whether gonococci are present. Cases in which gonococci are lurking are characterized by variation in the quantity of discharge, whereas in those free from gonococci the discharge is fairly constant in quantity and may resist every therapeutic measure. Such cases must remain under observation a long time so that the patient may be frequently examined. If the secretion obtained by stripping the urethra, massaging the prostate and probing with the bougie à boule, has been found free from gonococci after repeated examinations, and if they do not appear after the urethra has been subjected to different forms of irritation, then we may discharge the patient and give our consent to his marriage. 2. The condition described in this query is truly a unique one, but the meager data presented do not justify the hazarding of an opinion.

The Public Service

Army Changes.

Memorandum of Changes of stations and duties of medical officers, U. S. Army, week ending Feb. 29, 1908:

Munson, E. L., surgeon, leave of absence extended 20 days.

Purnell, H. S., asst.-surgeon, ordered to accompany 1st Battalion, 4th Infantry, from Fort Mackenzie, Wyo., to San Francisco, and then return to his proper station.

Nelson, Kent., asst.-surgeon, ordered to proceed to Fort Thomas, Ky., for duty, to accompany the 4th Infantry from that post to San Francisco.

The following are detailed as members of the boards of officers, to meet at posts designated, on April 14, 1908, or as soon thereafter as practicable, to examine such applicants for commission in volunteer forces as may be authorized to appear before them.

DeShon, G. D., surgeon, and Lewis, W. F., asst.-surgeon, Ft. Logan H. Roots, Ark.

Ewing, C. B., surgeon, and Baker, F. C., asst.-surgeon, Ft. Oglethorpe, Ga.

Keefer, F. R., surgeon, and Huntington, P. W., asst.-surgeon, Ft. Rosecrans, Cal.

Kirkpatrick, T. J., asst.-surgeon, and Moucrief, W. H., asst.-surgeon, Ft. McPherson, Ga.

Harvey, P. F., asst.-surgeon-gen., and Munson, E. L., surgeon, Ft. Sheridan, Ill.

Ashburu, P. M., and Grissinger, J. W., asst.-surgeons, Ft. Banks, Mass.

Davis, W. B., deputy surgeon-gen., and Hansell, H. S., asst.-surgeon, Ft. Crook, Neb.

Ford, J. H., and Purnell, H. S., asst.-surgeons, Ft. Mackenzie, Wyo.

Kendall, W. P., surgeon, and Whaley, A. M., asst.-surgeon, Ft. Sam Houston, Tex.

Banister, J. M., deputy surgeon general, and Freeman, P. L., asst.-surgeon, Ft. Riley, Kan.

Talbott, E. M., asst.-surgeon, granted ten days' leave of absence.

Cowper, H. W., asst.-surgeon, resignation of his commission as an officer of the Army accepted to take effect March 18, 1908, and granted leave of absence to and including above date.

Morris, E. R., surgeon, left Fort Thomas, Ky., with troops en route to San Francisco.

Kellogg, P. S., contract surgeon, ordered from Longbeach, Cal., to San Francisco, and thence to Philippine service.

Holmes, T. G., contract surgeon, relieved from further duty at Fort Sill, Okla., granted an extension of one month to his present leave of absence, and at its expiration to accompany the 7th Infantry from Fort Wayne, Mich., to Philippine service.

Graves, L. K., contract surgeon, granted leave of absence for four months in the United States.

Slater, E. F., contract surgeon, granted leave of absence for one month.

de Niedman, W. F., contract surgeon, when services are no longer needed at Benicia Barracks, Cal., ordered to duty at Benicia Arsenal, Cal.

Drake, P. G., contract surgeon, relieved from duty at Fort Jay, N. Y., and ordered to Fort Hancock, N. J., for duty.

Dunbar, L. R., contract surgeon, relieved from duty at Fort Terry, N. Y., for duty at Fort Totten, N. Y.

O'Day, S. F., contract surgeon, relieved from duty at Fort Totten, N. Y., and ordered to Fort Jay, N. Y., for duty.

Tignor, E. P., dental surgeon, relieved from duty at Frankford Arsenal, Pa., and ordered to Fort DuPont, Del., for duty.

Millikin, J. D., dental surgeon, ordered from Fort Sheridan, Ill., to Fort Wayne, Mich., for duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Feb. 29, 1908:

Allen, A. H., asst.-surgeon, Lajas, province of Santa Clara, will stand relieved from duty in Cuba on arrival at Lajas of P. A. Surgeon R. E. Riggs, and will comply with orders from the Navy Department.

Riggs, R. E., P. A. surgeon, Camp Columbia, province of Havana, will proceed to Lajas, Cuba, for duty.

Munson, F. M., P. A. surgeon, ordered to the *Barry*.

Strite, C. E., asst.-surgeon, detached from the *Barry* and ordered home.

Means, V. C. B., surgeon, retired from active service Feb. 22, 1908, under the provisions of Section 1453, Revised Statutes.

Brown, E. W., asst.-surgeon, ordered to the Naval Medical School, Washington, D. C.

Clifford, A. B., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the Naval Hospital, New Fort Lyon, Colo., March 12.

Stanley, A. C., Moran, C. L., asst.-surgeons, appointed assistant surgeons from Feb. 10, 1908.

Downey, J. O. asst.-surgeon, unexpired portion of leave revoked; ordered to the *Relief*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 26, 1908:

Roberts, Norman, asst.-surgeon, granted leave of absence for 3 days from Feb. 24, 1908, under Paragraph 191, Service Regulations.

Roberts, Norman, asst.-surgeon granted leave of absence for 23 days from Feb. 27, 1908.

Delgado, J. N., acting asst.-surgeon, granted 2 days' leave of absence on account of sickness from Feb. 7, 1908.

Hallet, E. B., acting asst.-surgeon, granted leave of absence for 30 days, on account of sickness from Jan. 8, 1908, and 7 days' leave of absence from Feb. 7, 1908.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for 7 days, from Feb. 11, 1908, under Paragraph 210, Service Regulations.

Simonson, G. T., acting asst.-surgeon, granted leave of absence for one day, Feb. 21, 1908.

Walker, T. D., acting asst.-surgeon, granted leave of absence for two days from Feb. 25, 1908.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 28, 1908:

SMALLPOX—UNITED STATES.

California: San Francisco, Feb. 1-8, 3 cases.
Illinois: Springfield, Feb. 6-13, 6 cases.
Iowa: Ottumwa, Feb. 8-15, 1 case.
Kansas: Kansas City, Feb. 8-15, 11 cases; Topeka, Feb. 1-8, 2 cases.
Michigan: Saginaw, Feb. 1-8, 6 cases.
Ohio: Cincinnati, Feb. 7-14, 26 cases, 1 death; Warren, Feb. 8-15, 1 case.
Oregon: Portland, Feb. 1-8, 2 cases.
South Dakota: Sioux Falls, Jan. 25-Feb. 1, 1 case.
Tennessee: Nashville, Feb. 8-15, 6 cases.
Texas: San Antonio, Feb. 1-8, 8 cases, 1 death.
Washington: Spokane, Feb. 1-8, 13 cases.

SMALLPOX—FOREIGN.

Cape Colony: East London, Jan. 4-11, 2 cases, 1 death.
Japan: Kobe, Jan. 11-18, 783 cases, 163 deaths; Nagasaki, Jan. 1-23, 3 cases; Yokohama, Jan. 18-25, 40 cases, 13 deaths.
Java: Batavia, Dec. 21-Jan. 18, 9 cases.
Mexico: Aguas Calientes, Jan. 26-Feb. 2, 4 deaths; Mexico City, Jan. 4-11, 2 deaths.
Netherlands: Rotterdam, Jan. 18-25, 1 case.
Portugal: Lisbon, Jan. 18-25, 2 cases, Feb. 1-8, 1 case.
Russia: Batoum, Dec. 13-Jan. 13, 23 cases; Libau, Jan. 18-Feb. 1, 2 cases; Moscow, Jan. 4-18, 57 cases, 17 deaths; Odessa, Jan. 11-18, 2 cases, 2 deaths; Riga, Jan. 11-Feb. 1, 19 cases.
Spain: Denia, Jan. 11-25, 11 cases; Valencia, Jan. 12-Feb. 2, 56 cases, 5 deaths.
Straits Settlements: Singapore, Dec. 8-Jan. 4, 19 deaths.
Venezuela: Caracas, Jan. 4-11, present; La Guaira, Jan. 4-Feb. 1, present.

YELLOW FEVER.

Barbados: Bridgetown, vicinity of, Jan. 29, 1 case, 1 death.
Cuba: Habana, Feb. 20-22, 2 cases; Santiago, Feb. 20, 1 case.

CHOLERA.

India: Madras, Jan. 4-10, 8 deaths; Rangoon, Jan. 4-11, 7 deaths.

PLAGUE.

Australia: Brisbane, Jan. 3, 1 case, 1 death; Cairns, Nov. 23-30, 1 case, 1 death; Sydney, Dec. 28-Jan. 4, 2 cases.
Chile: Valparaiso, Jan. 4, 1 case.
China: Hongkong, Dec. 21-28, 1 case, 1 death.
Egypt: Assiout Province, Jan. 16-22, 15 cases, 7 deaths; Garbieh Province, Jan. 19-22, 2 cases; Minieh Province, Jan. 12-22, 15 cases, 5 deaths.
India: General, Dec. 22-28, 3,725 cases, 5, 741 deaths; Dec. 28-Jan. 4, 4,402 cases, 2,618 deaths.
Peru: Callao, Jan. 11-18, 4 cases, 1 death; Catacaos, 7 cases, 4 deaths; Chosika, 1 case; Eten, 9 cases, 3 deaths; Ferrenafe, 1 case; Lima, 5 cases, 3 deaths; Paita, 10 cases, 9 deaths; Piura, 2 cases; San Geronimo, 4 cases; Trujillo, 29 cases, 9 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

PROFIT-SHARING METHODS.

A Further Comment on the Questionable Procedure.

Evidently the profit-sharing method of promoting the sale of nostrums discussed in The Journal has been adopted by a number of manufacturers. The *Journal of the Michigan State Medical Society* for January contains an editorial headed, "How Some Nostrums are Exploited," which says in part:

> The very latest that has come to our attention is a scheme that, with its attractiveness and simple plan, rivals the astuteness of the crossroads barker. A large eastern importing firm is eager to increase its sale of remedies—a very laudable ambition. The agent tells you that the laity "cry for" these products, but the firm abhors the suggestions of public advertisement to increase the sale. They have spent fortunes annually in honest medical advertising and could continue with profit. But why should they give these sums of money yearly to medical periodicals when the profession might as well divide the plum? Their plan is this: The company has placed on sale a large block of preferred stock. (How enticing this word stock is to the struggling practitioner!) Only a limited number of shares is procurable by each physician at par value. He pays 10 per cent. down on the subscription and 10 per cent. monthly until all is paid for. Meanwhile, he is assured of a 2 per cent. quarterly dividend, with an annual common dividend amounting to 10 per cent.
>
> What are his duties as a subscriber and shareholder? None, absolutely none!
>
> He is assured that it is perfectly ethical—no question about it. The names of prominent physicians are mentioned and his skepticism vanishes as his eagerness to enjoy the income on a safe investment grows.
>
> At this moment (if the agent does not press his scheme too quickly) he is inclined to ask himself a few questions. Who will buy the products of this concern? Will he prescribe them for his patients if he never has before, or in preference to remedies that he is sure of? Has he the right to become the agent or the advertising medium of a business corporation in his practice of medicine? Would his action pass a "council of ethics?"
>
> At that moment, too, he wonders if these prominent physicians really bought stock in such a concern? If they did, were their motives ethical?
>
> There can be but one standpoint for a physician to take on such a proposition: to brand it as absolutely unprofessional. The man who trifles with the welfare of his patient for the purpose of selling the products of a company in which his money is invested, is on a lower plane than the practitioner who takes a rake-off from the prescriptions he sends to his druggist. He is a masquerading buzzard, and there is no scorn nor condemnation severe enough to put him on the rack with those charlatans who make their livelihood on secret nostrums.

From other information received, we assume that the company referred to is Eisner & Mendelsohn. A letter received from a prominent member of the Association living in Detroit says:

"The proposition made to me by Eisner & Mendelsohn's representative was substantially as follows: Stock in the company was to be issued to be sold only to physicians. The amount and price I do not remember, but according to the agent's statements, at the present rate of sale it would net between 12 and 20 per cent. Purchase of the stock was not to imply any obligation to prescribe the company's goods. [Of course not!] The head of the firm was represented as a highly ethical, more or less philanthropic gentleman who wanted to give the physicians a chance to make a little money. [This is certainly pure philanthropy.] To any statement that it would be a highly improper thing for a physician to subscribe, the agent replied that a number of men of high reputation had done so, and mentioned a number of names, among them an ex-president of the American Medical Association and a well-known surgeon, both living in Chicago, as well as a prominent physician of Cleveland. The agent gave the amount of the alleged subscription in each case. I questioned him about some of my personal friends, but none of them seemed to be on his list." [Very much like "patent-medicine" testimonials. The wonderful cases of recovery are always located in some distant part of the country.]

A letter received from another Michigan physician says:

"Some time in November I received a letter from Eisner & Mendelsohn stating that their agent would call on me in the near future to present a proposition they were offering to the profession alone. About three weeks later a young man by the name of Brown from Chicago called on me and placed before me a proposition to purchase stock in the Eisner & Mendelsohn Company. He said that the firm did not do any general advertising, but desired that the profession should receive a share in the profits of the company by becoming holders of the preferred stock. They claimed to be capitalized for $1,000,000, held as common stock. Preferred stock was to be sold up to 100 shares to each physician. They guaranteed an annual dividend of 8 per cent., payable quarterly. This young man assured me that the plan was perfectly ethical, and flatteringly said that only prominent members of the profession would be offered this opportunity. Of course, he added parenthetically, shareholders would naturally prescribe the products of the company, samples of which he was pleased to leave with me. He told me the most prominent physicians in Chicago were shareholders, and mentioned the names of ————, ————, and ————."

That this canvass for subscriptions has not been limited to Michigan is shown by letters received from other parts of the country. The following comes from a Philadelphia physician:

"About Jan. 21, 1908, an agent representing himself as sent out by the Eisner & Mendelsohn Company for the purpose of interesting physicians, called on me. He offered for sale stock guaranteed to pay 8 per cent., which he said he wished to dispose of in lots of from $100 to $1,000, no physician being allowed more than the latter figure. He further guaranteed that if the investment did not prove satisfactory he would resell it at par, free of any expense to the holder. He refused to say who had sent him to me or who had bought stock. On February 5, the local agent, whom I knew personally, called to see me, and I promptly asked him for an explanation of his firm's methods. He replied that the firm had secured the formal approval of the American Medical Association at its last meeting at Atlantic City, and that the member of the firm who represented the company at Atlantic City and who had obtained the approval of the Association was now in Philadelphia, ready to detail the minutest particulars of the American Medical Association's action to those who might prove incredulous or who might wish an interview."

The methods used by Eisner & Mendelsohn certainly present some improvements over those of the Girard Company, previously discussed. The latter firm only attempted to make the individual physician a drummer for its products. Eisner & Mendelsohn or their agents evidently wish to use the American Medical Association to promote the sale of their stock. This plan has at least the charm of novelty. Doubtless physicians who have been canvassed, and especially those (if there are any) who have succumbed to the temptation to purchase stock bearing 8 per cent. and endorsed by the American Medical Association, would be glad to know whether such representations were made on the authority of the company or were the product of the agent's sublime nerve and poetic imagination. It seems needless to deny such statements. There is just as much truth in them as there is in the rumor that the Antikamnia Company has endorsed the work of the Council on Pharmacy and Chemistry. As to the claims made by the agents that certain well-known men have subscribed for the stock, we have investigated these cases and find that such statements are without foundation.

Entirely aside from the ethical or professional point of view and considering the proposition solely from the standpoint of an investment, we suggest to our readers that, before purchasing stock of the Eisner & Mendelsohn Company, the business record and financial success of the firm during recent years be carefully investigated.

Massachusetts Optometry Bill.

Dr. John C. Bossidy, an oculist of Boston, has been devoting considerable time to the study of the claims and qualifications of the "optometrists," so-called, who are endeavoring to secure the passage of a bill in the Massachusetts legislature, which will establish an examining board for the regulation and the practice of "optometry." In the *Boston Medical and Surgical Journal*, January 16, Dr. Bossidy discusses the subject, "The 'Optometrist,' Does He Preach and Practice Medicine?" After quoting at length from the circulars of opticians and optical colleges, he concludes that the kind of practice authorized in the bill in question is really limited medical practice, the right to exercise which would be obtained without complying with the requirements as laid down by the state.

In the same journal, February 13, Dr. Bossidy takes up "The 'Optometrist' and His 'Colleges'" and selects the following quotations from a mass of literature and a large number of circulars as truly representative of "get-educated-quick institutions and get-a-diploma-quick methods":

Lake Forest (Ill.) Correspondence Optical School:

> "This is a correspondence course and is taught by mail by an optical college, incorporated according to the Illinois state laws, endowed with the powers to confer the degree of Oph.D. (Doctor of Ophthalmology) on its graduates. The time required to complete the course is one week. We guarantee to make all students thoroughly competent. The entire fees, including examination, instruction, graduation and diploma are $15."

Detroit Optical College:

> "By these (the college's) methods of object teaching an intelligent person may become sufficiently familiar with the eye, its defects of vision and their accurate correction by properly adjusted glasses, in a few weeks to be skillful in all the requirements of the art."

Dr. Bossidy says: "Accompanying the catalogue is a letter to me extolling a correspondence course for $25, giving a diploma 16x21 inches in size, 'which contains nothing to indicate that you have taken a correspondence course.'" In order to bring instruction within the reach of all and probably to provide for that constant object of compassion on the part of medical legislators, namely, "the self-supporting student," a circular received later from the same college says:

> "In response to a number of applicants we make a special club offer for forty pupils. We have enrolled forty-seven pupils in this club and are furnishing them our $12.50 correspondence course in optics for $7.50."

Later on they offered the correspondence course at $2 down and $1 a week for six weeks, or for $6 cash in advance. A diploma, of course, was given with each one of these courses.

The Chicago Ophthalmological College and Laboratory offered a diploma at the end of a four weeks' course. The Los Angeles School of Ophthalmology and Optometry announced:

> "In from four to six weeks a student can secure a certificate of competency after acquiring a thorough and lasting knowledge of the anatomy of the eye and its appendages, an ability to recognize diseased conditions, a perfect working knowledge of all the different forms of defective vision and muscular imbalance, a knowledge of different forms of lenses and kinds of instruments for examining the eye and detecting defective vision, etc."

Dr. Bossidy says: "A personal letter to the writer guarantees to make him qualified to pass optometry boards, as state examinations are only a matter of form, according to the letter."

Rowley Ophthalmological College, St. Louis, Mo., announced:

> "The cause of 85 per cent. of all human ills is permanently removed by following our teachings. Tuition, $25 for a short term. Students are guaranteed satisfaction."

South Bend (Ind.) College of Optics: Dr. Bossidy says that he has received five circulars regarding the correspondence course of this institution and that the price has been reduced gradually from $25 to $7.50. This is to include the title Opt.D. (Doctor of Optics).

> "Over ninety special subjects are taught for the above named sum, so that the seeker for knowledge or a diploma can acquire them at an average outlay of about 8c per subject."

The Manhattan (N. Y.) School of Optics says:

> "With the passing of recent laws whereby Optometry is recognized as a profession, a new and highly profitable occupation is opened to the retail pharmacist, jeweler, optician, etc."

It seems perfectly evident that the agitation for the passage of the ridiculous laws establishing so-called boards of examiners in "optometry" has been inspired by the proprietors of these "optical institutes," in order to stimulate the work of issuing diplomas and giving courses of from two to four weeks for from $10 to $25. The fitting of glasses for the ordinary case of presbyopia or for a simple error of refraction has been carried on by jewelers and other business men for years past as a side line without any particular detriment to the public. The object of the promoters of this unnecessary and pernicious legislation is to impress on the minds of the people the belief that an "optometrist" is a practitioner of a superior grade, especially qualified to treat diseases of the eye and that, for the sake of protecting the public no one should be allowed to fit glasses until he has been licensed by a state board. Such claim is, of course, ridiculous. If the case is of such a serious nature that the ordinary village optician can not handle it properly, relief is not to be expected from the "graduate" of some widely advertised "ophthalmological college," who has secured a diploma by paying $25 for a "correspondence course." But, as Dr. Bossidy says: "Ridicule their claims if you will, yet the fact remains that their organized and persistent effort, coupled with the apathy of the medical profession, has caused a so-called optometry law to be enacted and placed on the statute books of Indiana, California, Tennessee, Nebraska, Idaho, Utah, Montana, Minnesota, Oregon, North Dakota, Arizona and New Mexico."

It is time that attention be called to the attempt which is being made to foist unnecessary and dangerous legislation on the public in various states. These optometry bills should be vigorously opposed or counteracted by introducing amendments to the medical practice act of the state, giving the State Board of Medical Examiners power to examine and license any persons really competent to do such work.

An Osteopathic Amendment.

The *Post-Graduate Monthly*, published in New York City, makes the following editorial comment regarding an amendment to the New York medical practice act, introduced at the present session of the legislature:

> Col. D. C. Robinson of Elmira, a member of the Assembly, has introduced, by request, a remarkable bill into the legislature, which by changing one word in the text of the medical unification law of last year, completely breaks down the safeguards of admission to the practice of osteopathy of only those who are even educated to be osteopaths, much less to be physicians and surgeons. The *New York Tribune* states that this measure is believed to be an effort on the part of some of the "bone setters," who say that their means of livelihood is being taken away by last year's law, to get a license to practice.

Examination of a copy of this bill shows that the only change proposed is the substitution of the word *"or"* in place of *"and"* in the following sentence:

> It is further provided that any person who shall be actively engaged in the practice of osteopathy in the City of New York, under date of the passage of this act, *and* who shall present to the Board of Regents satisfactory evidence that he is a graduate in good standing of a regularly conducted school of osteopathy in the United States, etc.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month.

Second Weekly Meeting.

Secondary Anemia.

Etiology: (a) Hemorrhage. Many causes. Rate and amount of hemorrhage. Age and sex. Recovery, elements restored. (b) Inanition. Lack of quantity or quality of food. Local causes. Elements reduced. (c) Excessive albuminous discharges. Chronic nephritis, prolonged suppuration, lactation, etc. (d) Toxic agents. Organic or inorganic poisons. Metallic poisons, course, elements involved. Acute and chronic infections. Pyrexia.

Microscopic Changes: Red corpuscles, oligocythemia, changes in shape and color, staining reactions, nucleated cells. Reduction and distribution of hemoglobin. Changes in white cells, increase and reduction. Reduction in blood plasma.

Chlorosis.

Etiology: Age and sex. Heredity. Unhygienic surroundings. Copremia. Emotions.

Symptoms: Onset, complexion, respiratory and circulatory disturbances, digestive disorders.

Microscopic Changes: Oligocythemia moderate, oligochronemia marked. Size, shape and irregularities of red cells. Leucocytes.

Pernicious Anemia.

Pathologic Anatomy: Skin and subcutaneous fat. Heart, blood vessels and hemorrhages. Liver, spleen, lymph glands. General fatty degeneration, deposits of iron pigment. Changes in bone marrow.

Symptoms: Insidious onset, general symptoms, respiratory and circulatory disturbances, gastrointestinal symptoms.

Blood Examination: Marked oligocythemia, color index, macrocytes, microcytes, poikilocytes, normoblasts, megaloblasts.

Leucopenia. Changes in white cells. Blood plates.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Connecticut State Board of Medical Examiners, City Hall, New Haven, March 10. Secretary, Dr. Charles A. Tuttle, 196 York St., New Haven.

Connecticut Homeopathic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

Connecticut Eclectic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. T. S. Hodge, 16 Main St., Torrington.

Iowa State Board of Medical Examiners, Capitol Building, Des Moines, March 10-12. Secretary, Dr. Louis A. Thomas, Des Moines.

Massachusetts Board of Registration in Medicine, Room 15, State House, Boston, March 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

Maine Board of Registration of Medicine, State House, Augusta, March 17-18. (Note change of place from Portland.) Secretary, Dr. William J. Maybury, Saco.

Medical Colleges Raise Entrance Requirements.

Two more medical colleges, the Starling Ohio Medical College, Columbus, Ohio, and the College of Medicine of the University of Southern California, Los Angeles, have taken definite action in regard to the requirement of a year in a college of liberal arts devoted to physics, chemistry, biology and modern languages preliminary to the study of medicine in addition to a four-year high-school education, this requirement to begin on or before Jan. 1, 1910. There now are 54 colleges which, by Jan. 1, 1910, will be requiring one or more years of preliminary work in addition to a four-year high school education. There is every reason to believe that all the better colleges will soon adopt this requirement.

North Carolina June Report.

Dr. G. T. Sikes, secretary of the North Carolina Board of Medical Examiners, reports the written examination held at Morehead City, June 5, 1907. The number of subjects examined was 13; total number of questions asked, 90; percentage required to pass, 80. The total number of candidates examined was 133, of whom 112 passed and 21 failed. The college and year of graduation for one candidate who failed was not obtained. One reciprocal license was issued at this examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
George Washington University........(1905) 89;	(1906)	86.2, 91.9
University of Arkansas...........................	(1897)	86.9
Howard University	(1906)	82.3
Atlanta College of P. and S........................	(197)	82, 86.3
Medical School of Maine............................	(1887)	84.3
University of Maryland (1885) 82.5; (1905) 90.7; (1906) 86.8, 87.4, 88.3, 89.1, 93; (1907) 91.7.		
College of P. and S., Baltimore.... (1905) 86.9; (1907) 80.3, 82.7, 88.5.		
Woman's Med. Coll. of Baltimore................	(1907)	92.1
Johns Hopkins Med. School..........(1905) 90;	(1906)	90.9, 94.7
Baltimore Med. Coll.............................	(1893)	91.4
University Med. Coll., Kansas City..............	(1904)	80
College of P. and S., New York..................	(1907)	86.5
Leonard Med. School (1905) 82.5, 86.3, 90.1; (1907) 80,		
North Carolina Med. Coll. (1905) 82; (1907) 80.9, 80.1, 82.3, 85.5, 85.5, 85.7, 87, 89.3, 91.4, 92.5, 93, 89.7. 82.3, 82.1, 82.1, 82.4, 84.3, 88.5, 89.4.		
University of North Carolina (1902) 95; (1906) 80.1, 85.8; (1907) 85.5, 87, 87.5, 87.9, 88.5, 90.4, 91.1.		
Eclectic Med. Inst., Cincinnati..................	(1891)	88.9
Univ. of Pennsylvania (1897) 92.8; (1906) 87.5, 90.2, 91.4, 96.		
Jefferson Med. Coll. (1904) 89.2; (1907) 87, 87, 87.5, 87.4, 88.5, 91.3, 93.6, 94.5, 95.5.		
Medico-Chirurgical Coll.., Philadelphia. (1904) 81;	(1906)	80.8
Western Pennsylvania Med. Coll..................	(1900)	87.1
Med. Coll. of South Car.. (1900) 82.4; (1906) 90;	(1907)	80.7
Vanderbilt University	(1905)	88.9
University of Tennessee. (1900) 81.7; (1903) 82.7;	(1907)	84.7
Chattanooga Med. Coll............. (1900) 80.9;	(1907)	80.1
Tennessee Medical College........................	(1906)	91.9
Meharry Med. Coll.................................	(1905)	83.9
University of Nashville...........................	(1907)	84.5
University of the South...........................	(1905)	86.5
University of Virginia. (1904) 83.4; (1906) 92.4;	(1907)	90.7
Med. Coll. of Virginia. (1904) 83.4; (1906)shrdlucmfwypcmfwypc		
Med. Coll. of Virginia.... (1904) 86; (1906) 84.7;	(1907)	81
University Coll. of Med., Richmond (1897) 81.2; (1907 82.4, 84.5, 85.3, 85.1, 86.5, 87.5, 88, 89.1, 91.4, 91.4 91.6.		

FAILED.

College.	Year Grad.	Per Cent.
Hospital Coll. of Med., Louisville	(1904)	54.3
University of Kentucky	(1904)	77.4
University of Maryland	(1904) 71.1; (1907)	78.9
Maryland Med. Coll	(1907)	77.5
Baltimore Med. Coll	(1907)	78
North Carolina Medical College (1907) 77.1, 78.4; (1907) 74.4, 74.9.		
Leonard Med. School	(1905)	75.4
University of North Carolina	(1907)	76.4
University of Tennessee (1895) 78.9; (1901) 75.5; (1905) 77.1; (1907) 78.5.		
University of the South	(1903)	78.5
Tennessee Med. Coll	(1902)	68.7
University Coll. of Med., Richmond	(1907)	76
Medical College of Virginia	(1905)	76.7

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
University Med. Coll., New York City	(1893)	New York

Kentucky December Report.

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the examination at Louisville, Dec. 17-18, 1907. The percentage required to pass, 70, and not less than 60 in any one branch; 16 passed and 10 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Howard University, Washington	(1907)	70
Hospital Coll. of Med., Louisville	(1907)	70, 71, 79, 82, 90
Louisville Med. Coll	(1907)	73, 74, 74, 94
University of Louisville	(1907)	78
Miami Med. College	(1907)	78
Medical Coll. of Ohio	(1907)	89
Meharry Med. Coll	(1907)	70, 75
University of Tennessee	(1907)	70

FAILED.

College.	Year. Grad.	Per Cent.
Louisville National Med. Coll	(1907)	67
Hospital Coll. of Med., Louisville	(1907)	59, 61
University of Louisville	(1889) 80;* (1907)	58
Kentucky School of Medicine	(1907)	68
Barnes Med. Coll	(1904)	68
Medical Coll. of Ohio	(1907)	64
University of Tennessee	(1907)	43, 69

* Failed to make required percentage in bacteriology.

The following questions were asked:

ANATOMY.

1. Describe the cervical plexus, or the fifth and ninth cranial nerves. 2. Describe the popliteal or brachial artery in detail. 3. Describe the humerus and the dorsal vertebræ. 4. Describe the gall bladder and its ducts. 5. If the wound of entrance of a bullet is just under the right nipple, and the wound of exit about two inches to the left of the first lumbar vertebra, what structures would be penetrated? 6. Give the histology of the stomach. 7. Describe in detail the embryology of the femur. 8. Describe the iris or the lesser peritoneum. 9. Give the blood and lymph supply of the uterus and adnexa. 10. Describe the elbow joint or the hip joint in detail.

CHEMISTRY.

1. When nitric acid unites with potassium hydroxid, what results? Give formula. 2. What is hydrogen and what are its properties? Describe some method of preparing it. Give formula. 3. Give the properties of water. 4. (*a*) Name the halogens. Describe one of them, giving (*b*) its physical products, (*c*) symbol, (*d*) atomic weight, and (*e*) specific gravity. 5. What are the tests for sulphuric acid? 6. How is ferric hydrate prepared? For what is it an antidote? 7. Describe in detail how you would detect albumin in urine. 8. How would you detect the bile pigments? Tell exactly. 9. What is the equivalent of a gram in apothecaries weight? 10. Tell how to estimate the quantity of sugar in urine.

PHYSIOLOGY.

1. Give in detail the physiology of respiration. Tell exactly what takes place in the inspired air in the lungs. 2. What is the chemical composition of blood serum? Describe the different varieties of blood corpuscles, and tell how many of each are found in a c.c. of normal blood. 3. Discuss inflammation. 4. Give the changes which occur in carbohydrates and fats in the alimentary canal, and state where each occurs. 5. Tell what you know of the anatomy and physiology of the thyroid gland. 6. Describe the sympathetic nervous system. 7. What are the functions of the pneumogastric nerve? 8. What are the functions of the skin? 9. Describe mastication. What are the muscles of mastication? 10. What occurs during a cardiac cycle?

HYGIENE AND MEDICAL JURISPRUDENCE.

1. Given a case of tuberculosis in a large family in the country, how would you manage the case to protect itself and other members of the family? 2. How would you prevent the spread of smallpox? 3. How is yellow fever conveyed? If you had a patient in your practice with this disease, how would you prevent its spread? 4. How should a case of typhoid fever be managed to prevent its spread? 5. How would you prevent the spread of diphtheria? 6. Under what conditions would you testify that a man is not capable of making a will? 7. In what mental condition is a murderer not responsible for his act? 8. Discuss the term "railway spine." 9. What is an hypothetical question? 10. How would you advise a patron to establish a sanitary dairy? Give details as to management of stables, help, cows and milk.

PATHOLOGY.

1. Give the pathology of the different stages of pneumonia. 2. Differentiate in a general way between benign and malignant growths. Describe in detail sarcoma. 3. Discuss the pathology of typhoid fever. 4. Give the pathology of diphtheria. 5. On what pathologic changes and chemical findings, postmortem, would you give carbolic acid poisoning as the cause of death? 6. In a carcinoma of the uterus, describe the lymphatic involvement in detail. 7. Give the pathology of osteomyelitis. 8. Describe the repair following fracture of a long bone. 9. Give the pathology of the different forms of goiter. 10. Discuss the pathology of gallstone disease.

OBSTETRICS AND GYNECOLOGY.

1. Give the probable and certain signs of multiple pregnancies. 2. How would you diagnose the death of the fetus? 3. How is the date of confinement calculated? 4. Name and describe nine signs of pregnancy which may be determined by touch. 5. How would you diagnose and manage a shoulder presentation? 6. What are the indications for podalic version and how is it performed? 7. (*a*) What conditions are necessary to the use of forceps? (*b*) How would you introduce the blades? 8. When is an operation for retroversion of the uterus indicated? 9. How would you diagnose ectopic gestation, (*a*) before rupture, (*b*) after rupture? 10. How would you diagnose relaxation of the vaginal outlet, and what indications would call for its repair?

OPHTHALMOLOGY, OTOLOGY AND MENTAL AND NERVOUS DISEASES.

1. Give the varieties and pathology of conjunctivitis. 2. How would you remove a foreign body from the cornea above and beneath the surface? 3. In the management of an obstetric case in which you suspected the mother of having gonorrhea, what steps would you take to prevent ophthalmia neonatorum in the baby? Give the etiology, treatment and pathology of this disease. 4. Locate and describe the Eustachian tube. What relation does an hypertrophied adenoid or tonsils bear to it, and how may deafness be caused by such hypertrophy? 5. What symptoms would lead you to suspect locomotor ataxia in its early stages? Give the pathology of an advanced case, both in the cord and elsewhere. 6. Describe incipient and advanced paresis. 7. Differentiate between tetanus, strychnin poisoning and hysteria. 8. Define and describe (*a*) presbyopia, (*b*) myopia, (*c*) cataract, (*d*) vitreous humor, and (*e*) ophthalmoscope. 9. Give diagnosis, pathology and symptoms of exophthalmic goiter. 10. Give causes and diagnosis of cretinism.

SURGERY.

1. Give the pathologic anatomy and diagnosis of Colles' fracture. Differentiate between this and sprain of the wrist. 2. Give the indications for the removal of the prostate gland. 3. Differentiate between fracture of the head of the femur and dislocation of the hip joint. 4. What symptoms would demand operation in appendicitis? 5. How would you diagnose a strangulated inguinal hernia? 6. What are the symptoms and pathologic anatomy of mastoiditis? 7. Differentiate betwen epithelioma and lupus. 8. What symptoms would indicate a rupture of the middle meningeal artery following a head injury, and by what superficial landmarks would you locate it? 9. When is an amputation of the breast indicated? 10. Differentiate betwen eczema, dermatitis and syphilis.

BACTERIOLOGY.

1. Tell what is known of the bacteriology of syphilis. 2. Tell all you know about the history, form, growth and pathogenesis of the bacillus of diphtheria. 3. What is tetanus antitoxin? How is it prepared? How does it act? 4. Describe and differentiate the bacillus of influenza. 5. Tell how to differentiate the gonococcus. 6. Discuss immunity. 7. How would you detect the tubercle bacillus? Describe it 8. Describe the malarial parasites and tell how to find the. 9. What are the organisms or ordinary suppuration? 10. Define (*a*) flagella, (*b*) anaërobic, (*c*) hanging-drop, (*d*) macroscopic, and (*e*) toxins.

PHYSICAL DIAGNOSIS.

1. Give the differential diagnosis of smallpox. 2. Give the differential diagnosis of cirrhosis of the liver. 3. Tell how you would obtain and analyze the contents of the stomach, and what you would find in a case of carcinoma of the stomach. 4. Differentiate gall-bladder disease, appendicitis and stone in the right kidney. 5. Discuss fever from the standpoint of diagnosis. 6. What findings would you make from an examination of the feces in the different diseases of the bowels? 7. How would you examine sputum? What is the value of such an examination? 8. Describe the different heart murmurs and tell where each can best be heard. 9. How would you make a diagnosis of syphilis? 10. Differentiate between a sprained ankle and Pott's fracture.

Marriages

Paul R. Badger, M.D., to Miss Stella Fink, both of Kankakee, Ill., February 20.

Grover C. Coakley, M.D., to Miss Dora M. Nelson, both of Creston, Iowa, February 11.

Carl Norfleet, M.D., to Miss Lena Viletha Girdler, both of Somerset, Ky., February 26.

W. H. Goodson, M.D., Richmond, Mo., to Miss Louella Dimmitt Hoffman of Sedalia, Mo., February 15.

William Minor Dabney, M.D., Baltimore, to Miss Rosalie Bayley Diffenderffer, at Baltimore, February 15.

Joseph L. Edsall, M.D., to Miss Maud E. Lenhart, both of Bradley, S. D., at Watertown, S. D., February 21.

Rolland Frederick Hastreiter, M.D., to Miss Elsie S. Eidermiller, both of Los Angeles, Cal., January 1.

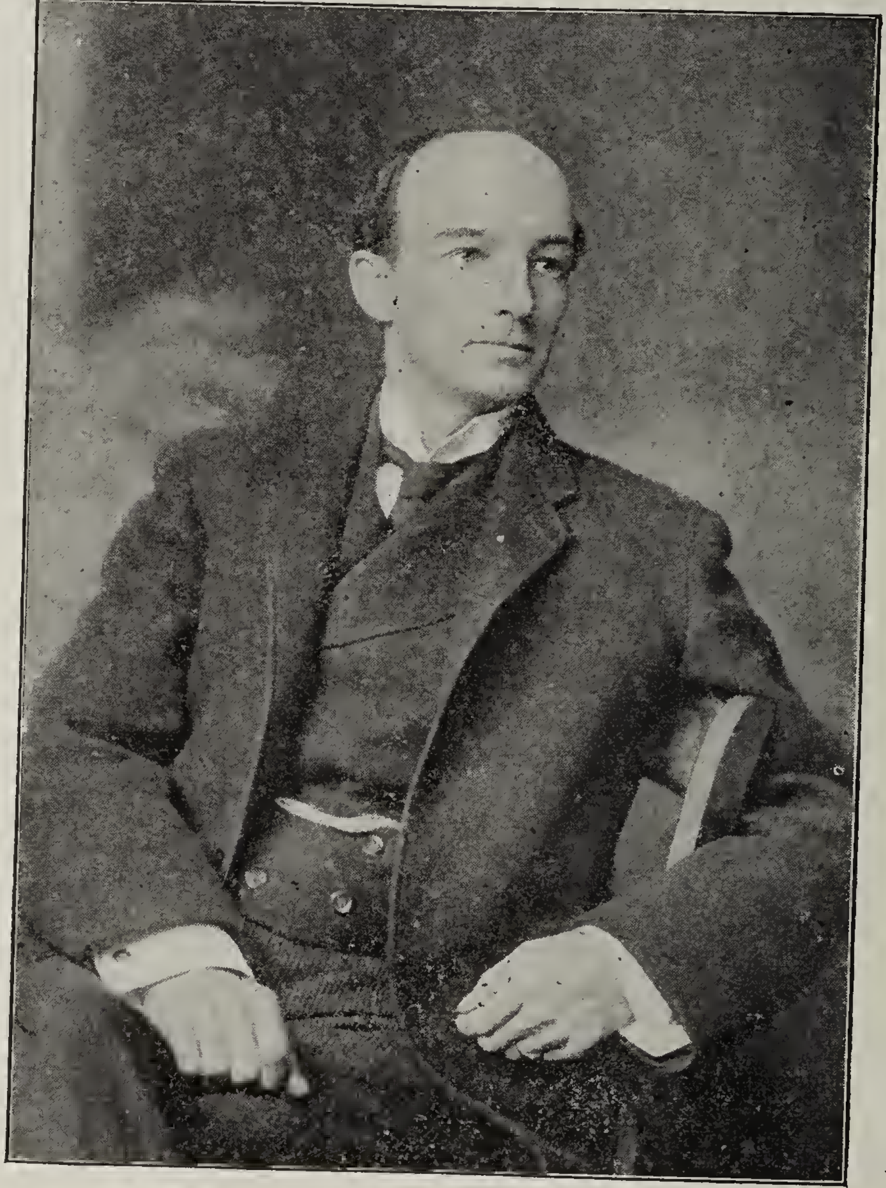
Milton Berlin McDowell, M.D., of Merriam, Neb., to Miss Pearl Peacock of Hay Springs, Neb., February 12.

Robert Dixon Varner, M.D., Kokomo, Ind., to Mrs. Roxie Belle Stewart, at St. Joseph, Mich., Nov. 11, 1907.

E. C. Ferguson, M.D., Wildwood, La., to Miss Pattie E. Hughes of Eagleville, Tenn., at Natchez, Miss., February 19.

Deaths

Richard Douglas, M.D. Medical Department, University of Nashville, Tenn., 1881; Jefferson Medical College, Philadelphia, 1882; one of the South's most distinguished surgeons and a man of national prominence, died February 19, at his home in Nashville, his native city, aged 47. After graduation he returned to the city of his birth and entered into the active practice of his chosen life-work. He was early recognized as a man of unusual force and determination and soon became a leader in the profession. Gynecology and abdominal surgery attracted him, and his energies were from the beginning directed along these special lines. He went abroad to prosecute his studies, and after visiting the continental hospitals went to London, where he became the private student of Mr. Granville Bantock. When he returned to Nashville he organized a private class for instruction in gynecology and abdominal surgery, drawing his pupils from the two medical colleges and the profession in general. He was called to the chair of gynecology in the medical departments of the University of Nashville and Vanderbilt University, which at that time were represented by a single faculty. In 1895, when a severance of the two schools occurred, he became professor of gynecology and abdominal surgery and secretary of the faculty of the medical department of Vanderbilt University. He was an able teacher, and combined a fulness of learning with a zeal and remarkable power of imparting instruction which quickly gained for him reputation and enthusiastic admiration.



Richard Douglas, M.D.

While not a voluminous contributor to current medical literature, Dr. Douglas was the author of a number of valuable papers on ectopic gestation, surgical diseases of the spleen, retroperitoneal growths and peritonitis. His last important paper was on "Tubercular Peritonitis," read by invitation before the National Society for the Study and Prevention of Tuberculosis in 1906. His work on "Surgical Diseases of the Abdomen," published in 1904, is an authoritative and exhaustive treatise having special reference to the diagnosis of intra-abdominal lesions.

Dr. Douglas was a member of the Nashville Academy of Medicine, British Gynecological Society, of the American Medical Association, ex-president of the Southern Surgical and Gynecological Association, ex-vice-president of the American Association of Obstetricians and Gynecologists, and ex-president of the Tri-State Medical Society of Alabama, Georgia and Tennessee. He was also one of the five American delegates to the International Medical Congress in Madrid, in 1903.

Though continuing in active practice, Dr. Douglas' health had not been good for a number of years. The development of albuminuric retinitis in October, 1907, was the signal that his life's work was nearing its end. Realizing the full significance of the symptom, he at once gave up professional duties, and in the seclusion of his own home awaited with unflinching courage the inevitable end.

Isaac Ridgeway Trimble, M.D. University of Maryland, School of Medicine, Baltimore, 1884; a member of the American Medical Association and of the Medical Journal Club, Baltimore; professor of anatomy and clinical surgery in the College of Physicians and Surgeons, Baltimore, since 1879; surgeon to the City Hospital and St. Joseph's Hospital; chief surgeon to the Baltimore & Ohio Railroad and United Railways Company of Baltimore; chief surgeon to the First Brigade, Maryland National Guard; at one time professor of anator and dean of the Woman's Medical College; one of the leadi surgeons of the city; died in St. Joseph's Hospital, Februa 23, from septicemia, due to an operation wound, after an i ness of thirteen days, aged 47.

George Silas West, M.D. University of Pennsylvania, D partment of Medicine, Philadelphia, 1897; a member of t West Virginia State Medical Society; vice-president of t Eastern Panhandle Medical Society, and a member of t Berkeley County Medical Society; a prominent practition of Gerrardstown, W. Va.; died from pneumonia, February 2 after a very short illness, at a farmhouse at the foot North Mountain, where he had made a professional cal aged 41.

Myron Brundage, M.D. Rush Medical College, Chicago, 1901 of Shelley, Idaho; a member of the American Medical Associa tion; house surgeon of the Wyoming General Hospital, Roc Springs, from December, 1902, to November, 1903; formerl secretary-treasurer of the Eastern Idaho District Medical So ciety; died while visitin friends at Nora Springs, Iowa Sept. 17, 1907, from valvula heart disease, after an illnes of one year, aged 35.

Robert Hill Dee, M.D. University of Buffalo (N. Y.) Medical Department, 1852; physician to the Six Nations Indians Ontario, for 35 years; and fo more than 20 years corone of Brant County, Ont.; a member of the medical societies of the State of New York and County of Cayuga; died from cerebral hemorrhage, at his home in Brockport, N. Y., January 26, after an illness of a few days, aged 78.

Charles A. Brady, M.D. Ecole de Médecine et de Chirurgie, Montreal, 1890; physician for four years and coroner for two terms of Cascade County, Mont.; health officer of Great Falls for two years; one of the best-known practitioners of northern Montana; died at the Columbus Hospital in that city, February 14, after a prolonged illness, aged 44.

Harry R. Nettleton, M.D. University of Buffalo (N. Y.) Medical Department, 1873; a member of the medical societies of the State of New York and County of Monroe; for more than a quarter of a century a practitioner of Rochester, N. Y.; died at his home in that city, February 21, from cerebral hemorrhage, after a brief illness, aged 59.

Robert Luedeking, M.D. University of Strasbourg, Germany, 1876; a member of the Missouri State Medical Association and the St. Louis Medical Society of Missouri; dean of the Washington University, Medical Department, and professor of diseases of children in that institution; died February 29, aged 54. On March 8 the St. Louis Medical Society will hold a special meeting in memory of Dr. Luedeking.

Francis M. Owens, M.D. College of Physicians and Surgeons, Medical Department, Kansas City University, Kansas City, Kan., 1896; a member of the Kansas State Medical Society, a charter member and president in 1907 of the Sumner County Medical Society; died at his home February 17, from pneumonia, after an illness of eleven days, aged 48.

Archibald De Volney Chessrown, M.D. Jefferson Medical College, Philadelphia, 1870; a member of the American Medical Association; a member of the staff of Passavant Hospital, Pittsburg, and physician to the Allegheny County jail for 20 years; one of the leading practitioners of the city; died at his home February 20, from pneumonia, after an illness of ten days, aged 63.

William Hodgson, M.D. Medical College of Virginia, Richmond, 1867; a member of the Medical Society of Virginia and Roanoke County Medical Society; a Confederate veteran; for several years a member of the city council of Roanoke, Va.; died at his home, February 15, from cerebral hemorrhage, after a short illness, aged 60.

J. Hampton Porter, M.D. University of Georgetown, Medical Department, Washington, D. C., 1860; of Washington, D. C.; who was appointed acting assistant surgeon in the United States Navy, Oct. 16, 1861, and resigned Jan. 25, 1862; died suddenly at the home of his sister in Wardensville, W. Va., February 5, aged 72.

Samuel Shrewsbury Craik, M.D. Kentucky School of Medicine, Louisville, 1855; who never practiced his profession but engaged in farming near Louisville until 1898, when he retired; died February 10 at the Church Home and Infirmary, Louisville, from paralysis, after an illness of nearly a year, aged 74.

Julius E. Barbour, M.D. Cleveland (Ohio) University of Medicine and Surgery, 1878; a veteran of the Civil War; some-time coroner of Elkhart County, village physician and a member of the school board; died at his home in Bristol, Ind., February 17, from pneumonia, after an illness of three days, aged 61.

Austin D. Mann, M.D. Starling Medical College, Columbus, Ohio, 1848; acting assistant surgeon in the Army during the Civil War, and one of the oldest practitioners of Linden Heights, Ohio; died at the home of his son in Linden, February 18, from pneumonia, after a short illness, aged 82.

Maurice M. Dodge, M.D. Hahnemann Medical College and Hospital of Chicago, 1872; a veteran of the Civil War, in which he is said to have served as surgeon of the Fourth Wisconsin Volunteer Infantry; died from cerebral hemorrhage, at his home in Tacoma, Wash., February 22, aged 66.

Charles Otis Goodwin, M.D. Boston University School of Medicine, 1877; of Worcester, Mass.; who disappeared from his home December 27, was found frozen under the ice in Lake Quinsigamond, Worcester, February 17, aged 59. It is presumed that Dr. Goodwin committed suicide.

George Ernest Ehinger, M.D. Cleveland Medical College, Medical Department of Western Reserve College, Cleveland, 1853; for more than 40 years a practitioner of Keokuk, Iowa, and a botanist of marked ability; died at the home of his son in West Chester, Pa., February 13, aged 79.

George Washington Miller (Certificate, Kan.); a pioneer practitioner of Kansas, and twice a member of the pension examining board; a veteran of the Civil War; died at the home of his son in Topeka, February 5, from senile debility, after an illness of six weeks, aged 80.

William T. Coblin, M.D. Miami Medical College, Cincinnati, 1871; a member of the Kentucky State Medical Association, and once president of the Henry County Medical Society; died at his home in Campbellsburg, Ky., Dec. 13, 1907, from paresis, after an illness of one month.

Ely Kosciusko Boxeman, M.D. University of Louisville (Ky.) Medical Department, 1874; for many years a member of the Georgia State Medical Association; died at the home of his niece in Forsyth, Ga., January 28, from bronchitis, after an illness of one week, aged 75.

William T. Ingram, M.D. University of Louisville (Ky.) Medical Department, 1856; a member of the Illinois State and Jackson County medical societies; a veteran of the Civil War; died at his home in Murphysboro, February 20, from heart disease, aged 77.

Robert M. Pfeiffer, M.D. Hospital College of Medicine, Medical Department, Central University of Kentucky, Louisville, 1884; of Louisville; died February 16, from cardiac asthma, while driving to Louisville from his home at Callahan's Station, aged 49.

John Henry C. F. Fisher, M.D. Trinity Medical College, Toronto, 1888; a member of the Ontario Medical Association and Toronto Medical Society; died at his home in Toronto, February 15, from pneumonia, after an illness of two days, aged 58.

John Wesley Zell, M.D. Pennsylvania Medical College, Gettysburg, 1856; a member of the medical societies of the State of Pennsylvania and Lancaster County; died at his home in Fairmount, February 15, after an illness of several months, aged 80.

Frank Bartow Moore, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1887; a member of the State Medical Association of Texas and Anderson County Medical Society; died suddenly at his home in Palestine, February 16.

Joseph A. Lightner, M.D. Leonard School of Medicine. Medical Department of Shaw University, Raleigh, N. C., 1898; a highly respected colored practitioner of Portsmouth, Va.; died recently while on his way to Florida for his health, aged 35.

Barton Stone Crawford, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1867; of Kahoka, Mo.; in 1904 recorder of Clark County; died at the home of his son in St. Joseph, Mo., February 14, from pneumonia, aged 62.

George A. Robinson, M.D. University of Iowa, College of Medicine, Iowa City, 1881; of Sayville, Long Island, N. Y.; for one term a member of the state legislature; died at St. Augustine, Fla., February 22, aged 57.

Charles W. Jamison, M.D. University of Wooster, Medical Department, Cleveland, Ohio, 1874; of Akron, Ohio; died in the Akron City Hospital, February 18, after an illness of one week, from cardiac dropsy, aged 62.

Leonard W. Carpenter, M.D. Western Reserve University Medical College, Cleveland, Ohio, 1881; a veteran of the Civil War; died suddenly at his home in Seattle, Wash., February 18, from acute gastritis, aged 73.

William C. Reeves, M.D. Rush Medical College, Chicago, 1885; for five years surgeon to the Burlington System at Omaha; died at his home in Ivesdale, Ill., February 12, after an illness of two weeks, aged 43.

Edward Walker, M.D. Eclectic Medical Institute, Cincinnati, 1849; formerly county clerk of Carroll County, Ind., and for three terms mayor of Delphi, and member of the school board; died at his home in that city, February 17, aged 78.

John Henry Heinsling, M.D. University of Pennsylvania, Medical Department, Philadelphia, 1860; died at his home in Millersburg, Pa., January 25, after an illness of several months, aged 73.

William P. Richards, M.D. University of Louisville (Ky.) Medical Department, 1875; for several years postmaster of Union City, Tenn.; died at his home, February 14, from influenza, aged 63.

John J. Griffiths, M.D. College of Physicians and Surgeons in the City of New York, 1883; formerly an interne in Roosevelt Hospital; died at his home in New York City, January 31, aged 48.

Jacob G. Haller, M.D. Medical College of Virginia, Richmond, 1872; formerly of Rocheport, Mo.; died at his home in Kansas City, Mo., February 3, after an operation for cholelithiasis, aged 61.

Frank H. Titus, M.D. Medical College of the Pacific, San Francisco, 1876; major and surgeon, U. S. V., in the Philippine Islands, and later contract surgeon, U. S. Army; died recently.

Harvey Miller, M.D. College of Physicians and Surgeons, Baltimore, 1904; of Shinnston, W. Va.; died at Cook Hospital, Fairmont, W. Va., February 10, from typhoid fever, aged 29.

Joseph Dupuy Eggleston, M.D. Jefferson Medical College, Philadelphia, 1851; died at his home near Hampden Sydney, Va., after a protracted illness, February 11, aged 76.

James C. Lewis, M.D. Kentucky School of Medicine, Louisville, 1875; died at his home in Tip-Top, Ky., February 13, from pneumonia, after a short illness, aged 62.

John B. Moody (Years of Practice, Ohio, 1896); a practitioner of medicine for 72 years; died at his home in Harlem Springs, Ohio, February 7, aged 97.

Matilda Jamison Lyons, M.D. Homeopathic College, University of Michigan, Ann Arbor, 1887; of Cadiz, Ohio; died in Canton, Ohio, February 15, aged 61.

William Garrett, M.D. Starling Medical College, Columbus, Ohio, 1887; died at his home in Bolivar, Ohio, from tuberculosis, Oct. 24, 1907, aged 49.

Woods Sterrett, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1877; of Lock's Mills, Milroy, Pa., died at his home February 19, aged 55.

Robert B. Dandridge, M.D. Medical College of Virginia, Richmond, 1860; died at his home near Horsepasture, Va., February 9, from heart disease, aged 69.

W. H. H. Willett, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1865; died at his home in Harrison, Ohio, February 9, aged 64.

Edward O. Mann, M.D. Long Island College Hospital, Brooklyn, N. Y., 1871; an alienist of repute; died at his home in Hubbardston, Mass., in January.

Joseph N. Leitensdorfer, M.D. Missouri Medical College, St. Louis, 1871; died suddenly at his home in Milo, Mo., February 9, from heart disease, aged 60.

Onesimus Michaud, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1873; of Clifton, Ill.; died at L'Erable, Ill., February 13.

Joseph Wade de B. La Pierre, M.D. Ecole de Médecine, Paris, France, 1857; formerly of Minneapolis; died recently in Mattewan, Mich.

William Cavins (Years of Practice, Ill.), 1877; died at his home in Raritan, Ill., February 5, from pneumonia, aged 71.

Death Abroad.

C. von Voit, M.D., until recently professor of physiology and director of the Physiologic Institute at Munich, died January 31, of miliary tuberculosis, aged 77. He had been connected with the university for forty-five years, and has always been one of the leaders in physiologic research and teaching. With Pettenkofer and Buhl, he founded the *Ztschr. f. Biologie* in 1865, which has contained most of his works on metabolism and nutrition.

Book Notice

The Pancreas, Its Surgery and Pathology. By A. W. Mayo Robson, D.Sc. (Leeds), F.R.C.S. (Eng.) London, and P. J. Cammidge, M.B., (Lond.), D.P.H. (Camb.), London. Illustrated. Cloth. Pp. 546. Price, $5.00. Philadelphia and London: W. B. Saunders Company, 1907.

The present monograph by Robson and Cammidge is the successor of a previous volume by Robson and Moynihan on the same subject. The association of a surgeon whose experience in the treatment of diseases of the pancreas is as large as that of Robson with an expert physiologic chemist has resulted in a volume which is destined to take first rank in treatises on this subject. As stated in the preface, there seems to be an impression in the minds of nearly all members of the profession that diseases of the pancreas, excepting some of the grosser lesions, are unrecognizable during life, but a careful perusal of the chapter on "General Symptomatology and Diagnosis" should leave no doubt as to the presence or absence of pancreatic trouble in any particular case, and in the larger majority allow of a definite opinion as to the nature of the lesion.

As the authors state, one of the most important practical results that has followed from modern observations on the pancreas is the recognition of the very close similarity of the symptoms of cancer and chronic pancreatitis in the head of the gland. Of great value throughout the book is the bibliography at the end of each chapter. The publishers have greatly aided the authors in supplying an excellent quality of paper and very clear print.

The chapter on "Comparative Anatomy" is one of the most thorough which have ever appeared on this subject. Very few typographical errors occur in the book. On page 81 Lydia De Wit is referred to alternately as he and she. In the chapter on histology the subject of the islands of Langerhans is discussed in a most exhaustive manner. The reviewer is heartily in accord with the statement on page 127 that postmortem records can not be relied on for precise information as to the relative frequency of diseases of the pancreas. It is difficult to judge in the postmortem room on account of the rapid changes that take place in the organ at or after death in some 50 per cent. of cases as the result of a process of autodigestion. Quite novel and interesting is the reference to a condition known as pancreatic infantilism, in which the organ is unable to keep pace, as the result of either congenital atrophy or of syphilitic fibrosis, with the metabolic needs of the body.

The chapter on "Chemical Pathology" gives the results of some of the most extensive original work which has been performed in connection with diseases of the pancreas. An interesting observation on page 225 is that the presence of biliary secretion is not sufficient to insure a return of the normal color of the feces when the pancreatic juice is still absent. The conclusion in regard to the so-called Cammidge pancreatic reaction is that the authors obtained a positive reaction in 75 and a negative in 125 cases of pancreatic disease.

The chapter on "Symptoms and Diagnosis" will prove to be of the greatest value both to internist and surgeon. The subject of pancreatic diseases is still a borderline one. The report of cases of acute pancreatitis and of abscess of the pancreas on pages 401 and 409 respectively, show the progress which has been made in the surgery of this organ. Two of four cases of acute pancreatitis recovered, and five of six cases of abscess. The clinical cases which are used to illustrate the different phases of pancreatic disease are very helpful. The description of the details of exposure of the head of the pancreas and common bile duct will be of great aid to surgeons. Robson is a warm advocate of the use of calcium chlorid as a prophylactic against hemorrhage.

Taken altogether, the present volume may be considered to be the most thorough treatise on this subject which has appeared in any language up to the present time.

Society Proceedings

COMING MEETINGS.

Association of American Medical Colleges, Cleveland, March 16-17.
Medical Society of the Missouri Valley, Lincoln, Neb., March 19-20.

PHILADELPHIA BRANCH AMERICAN PHARMACEUTICAL ASSOCIATION.

Regular Meeting, held Feb. 4, 1908.

The President, Dr. Joseph P. Remington, in the Chair.

The Relation of Medical Practice Acts to Contagious and Infectious Diseases.

Dr. Henry Beates, Jr., stated as a fundamental principle for governing the practice of medicine by physicians and counter prescribing for pharmacists, the economic doctrine that wherever individual rights and the rights of the community at large, or a majority thereof, conflict, the individual rights must yield. He called attention to the present statutory regulation of the practice of medicine and the development of the present condition, and stated that the legality of counter prescribing by pharmacists, depended on whether or not it amounted to a practicing of medicine, assuming as a definition of "practicing medicine" "the treatment of disease." Pharmacists who prescribe over the counter for the treatment of contagious and infectious diseases, without being licentiates, are guilty of misdemeanors. He directed particular attention to the dangerous practice of the pharmacists prescribing injections or bougies for the treatment of gonorrhea, which, unless he is perfectly familiar with the urethra and its functions, and makes a proper examination thereof, is apt to become deeper-seated, and in the case of females may extend to the offspring, producing blindness or other conditions. In conclusion, he emphasized the fact that no one has a right to assume the responsibilities of treating disease, unless he is qualified as the statutes of the state demand.

Gonorrhea.

Dr. A. A. Uhle claimed that the transmission of gonorrhea is due largely to the fact that young people are not properly educated in regard to the procreative processes and the genital organs, receiving much of their information in this regard from older companions and quack literature. He stated that in large cities 8 per cent. of the adult male population have at some time suffered from the disease, and that 45 per cent. of the females suffering from the condition are infected through their husbands. There are 10,000 people in the United States and 30,000 in Germany blind from gonorrheal ophthalmia. Gonorrheal vulvovaginitis is one of the most prevalent phases of the disease among young girls in hospitals, and is one of the most difficult to eradicate. During the year 1903, out of 67,643 men in the United States Army, 9,167 were at some time in the hospital suffering from some form of venereal disease, resulting in a financial loss to the taxpayers of $400,000. He called attention to the prevalent idea that gonorrhea is most frequently transmitted by the prostitute, which is not borne out by observations in hospital and private practice.

No disease is more carelessly treated. Very often the physician accepts the patient's diagnosis, without examination, as well as his statements in reference to the discharge. This is frequently responsible for the transmission to the wife or the unsuspecting victim. Among the poorer classes, it is not thought necessary to seek medical advice; the people merely go to the druggist, who, not realizing the dangerous consequences involved, prescribes for the patient, and he, on the cessation of the discharge, considers himself cured, indulges in sexual relations, with the consequence that the disease is transferred. In dispensary practice patients very often seek advice for gonorrhea, when they are suffering from phimosis, chancroid, etc. In only about 10 per cent. of the cases is the disease confined to the anterior urethra, in the remainder the posterior urethra, epididymis and prostate are involved. Among the other consequences of gonorrhea were mentioned stricture, gonorrheal arthritis, gonorrheal endocarditis, pleuritis, peritonitis and septicemia, gonorrheal iritis and gonorrheal neuritis. Primary infection in the female usually occurs in the urethra or cervix, and later extends to the uterus and Fallopian tubes. Seventy-five per cent. of female pelvic conditions have their onset in gonorrheal infection. He emphasized the fact that notwithstanding the idea prevalent among the laity that the disease is a mild condition, it is one of the most serious of diseases, and its treatment should never be undertaken by a druggist. He should refer the patient to a competent physician.

The Infection of the Innocent with Gonorrhea.

Dr. E. E. Montgomery said that if gonorrhea could be confined to the vicious and vile, it might be considered a beneficent agent, inasmuch as it would tend to limit procreation and the consequent production of an undesirable class of citizens. Unfortunately, however, the gonococcus is no respecter of persons and displays a terrible avidity for virgin soil. The want of education is a prominent factor in its wide distribution. The parents leave the boy to obtain his knowledge of his sexual faculties from his companions and from servants, and the consequence is he is early introduced to evil practices which weaken his will and give him distorted views of life. The daughter has less information given her. With her, ignorance is regarded as the equivalent of innocency. Her environment is her protection. Under such circumstances, is it surprising that there should be lapses from what is regarded the correct standard. From the woman purity and chastity are demanded, while the man of her choice, or those who are supposed to have her best interests at heart, may be as foul as the most veritable outcast. She comes to the marriage bed with high aspirations, and holy dreams, and awakes to find it a bed of horror. The young husband, supposed to have been cured of a previous gonorrhea, finds that the stimulation of the marriage bed has renewed the attack with all its pristine vigor, and he is not infrequently ungenerous enough to accuse his wife's want of chastity as the cause of his trouble. With her, an infection develops from which she may never recover. How frequently are we told by the woman that she has never been sick until her marriage, and that she has never known a well day subsequently.

The urethra, vulva and cervical canal are the points of early infection, and unless arrested, the disease may travel upward, involving the bladder, ureters and the pelvis of the kidney on the one hand, the vagina, cavity of the uterus, Fallopian tubes, ovaries and the peritoneum on the other. Whichever channel the micro-organism may choose, there is nothing but unending misery for the victim. If the genital tract is involved, she is handicapped by inflammatory changes, which cause pain in the performance of all her sexual functions. Menstruation is painful, before and during the flow. The fixation of inflamed ovaries renders coition painful, causing her to loathe her companion and presents a consequent cause for dissolution of the marriage tie. The condition renders her likely to be sterile. Should she become pregnant, the fecundated ovum may lodge in the inflamed tube and endanger her life from extrauterine pregnancy. Should the fecundated ovum fortunately reach the uterus, that organ, by the inflammation, is unfitted to nurture and retain it to maturity, and consequently abortion is a frequent sequel. Should abortion fail to occur, the infection is likely to produce localized spots of inflammation in the placenta, and the offspring must suffer in its nutrition, and whatever years are granted it are likely to be attended with suffering.

With such an array of possible suffering, can any druggist afford to burden his soul with the possibility of being *particeps criminis* in its production through improper treatment?

Gonorrheal Iritis and Its Relation to Blindness.

Dr. George E. de Schweinitz stated that neither physicians nor pharmacists should lose the opportunity of instructing the patient in the necessity for care in order to prevent infection. He dealt particularly with the transmission of the disease to the eye, considering: 1. Infection of the eyes of the afflicted persons by means of the fingers or soiled linen. In adults the eye conditions are usually traceable to direct infection, and unless relieved promptly will produce ulcers which may, or may not, destroy the sight. Thirty per cent. of the blind eyes in adults are due to gonorrheal infection. The infection of the newborn is usually due to the infection of the mother prior to the birth of the child, and usually manifests itself within forty-eight hours after birth. Statistics in the various countries show that more than 32 per cent of blindness is due to this cause. 2. Infection of others by the use of common utensils. 3. Infection in the form of metastasis. The lesions referred to were: 1. Gonorrheal conjunctivitis in adults, children and newborn babies. 2. The various types of metastatic conjunctivitis. 3. Gonorrheal infection of the optic nerve, or gonorrheal iritis. He referred to the fact that the man, after the cessation of the discharge, too often thinks himself cured, and as a consequence marries and transfers the disease to his wife, who gives birth to a child, which is infected from birth, and unless promptly and properly treated, goes through life either blind, or with infected eyes. He urged the necessity for always considering the possibility of gonorrheal infection in infants with sore eyes, and proper examination and careful treatment.

The More Remote Complications of Gonorrhea in the Male.

Dr. Thomas R. Neilson mentioned among the sequelæ chronic disease of the urethra, particularly of the posterior urethra, chronic disease of the prostate gland, the sexual vesicles, frequently followed by neurosis, even to the extent of suicidal hypochondriasis. Latent gonorrhea is a deceptive and very dangerous condition, and may be lighted up into an acute condition by indulgence in alcohol, exposure to cold, excessive exercise, etc., from which may result an autoinfection of the patient, or an infection of others. Gonorrheal arthritis and gonorrheal rheumatism are extremely obstinate, and exceedingly prone to permanently cripple the joints, particularly of the knee, ankle and wrist. Gonorrheal endocarditis is another serious complication. The author cited the case of a civil engineer in whom exposure and standing in water during the building of a bridge, lighted up an old discharge, of which he supposed he had been cured, which was followed by gonorrheal endocarditis, resulting fatally. Other complications are pleuritis, sterility in the male, following epididymitis, being either partial or complete, depending on whether one or both testicles are affected, stricture, which, if neglected, becomes more and more serious, finally the bladder and ureters becoming involved, and surgical kidney may ensue. Gonorrhea is far from being a laughing matter, and should never be spoken of with levity.

Medicolegal

Experience of Expert Witnesses May be Shown.

The Supreme Court of California says, in the case of Salmon vs. Rathjens, that there can be no doubt that a party producing an expert witness has the right to question him as to his experience in the particular matters concerning which he is to be examined, not only for the purpose of establishing the competency of the witness to the satisfaction of the court, but also for the purpose of making plain the strength of the witness' grounds of knowledge and the reason of trusting his belief. Although one holding a license to practice medicine and surgery may, by reason of that alone, be sufficiently an expert to testify as to the probable effect of certain injuries, the fact that he has had unusually great practical experience in the particular matter as to which he testifies would undoubtedly add somewhat to the weight of his testimony, and it is a legitimate and proper method of strengthening his testimony, one tending to the doing of substantial justice.

Large Awards for Personal Injuries.

The Supreme Court of Minnesota, in the case of Whitehead vs. Wisconsin Central Railway Co., affirms a judgment for $30,000 in favor of a brakeman 27 years of age who was so injured that his right leg was amputated three inches above the ankle, and his left leg three or four inches above the knee. The original verdict was for $35,000, and the court says that, while it was high, it is not disposed to disturb it on the ground that it was so excessive that the jury must have been actuated by passion and prejudice, nor on the ground that $30,000, to which it was reduced by the trial court, was any more than just compensation for the injuries sustained.

Likewise, the Court of Civil Appeals of Texas, in Waters-Pierce Oil Co. vs. Snell, affirms a judgment for $30,000 for injuries sustained by a boy 18 years of age who was badly burned about the face, neck, chest, arms and hands.

And the Supreme Court of Appeals of Virginia, in Southern Railway Co. vs. Smith, affirms a judgment for $15,000 damages in favor of a yard foreman and station agent for the loss of an arm.

False Representation as to Being Cured of Epilepsy Not Ground for Annulment of Marriage.

The Supreme Court of Illinois says, in the case of Lyon vs. Lyon, where the annulment of a marriage was sought for alleged fraud, that the fraud charged was that the defendant falsely represented that she was entirely cured of epilepsy and had no attack of it in eight years. But the court thinks that a decree was properly refused. So far as her being entirely cured was concerned, that was essentially a matter of judgment and opinion. The false representation of fact was that she had had no attack of the disease for eight years. The fraudulent representations for which marriage may be annulled must be of something essential to the marriage relation—of something making impossible the performance of the duties and obligations of that relation, or rendering its assumption and continuance dangerous to health or life. Concealment of the fact that the woman had previously been insane has been held insufficient to justify a decree of nullity of marriage. So has concealment of kleptomania. Also concealment by a woman of unchastity prior to marriage. The case of Gould vs. Gould, 78 Conn., 242, is not inconsistent with these rules, though it was there held that concealment of epilepsy was such a fraud as would justify a decree of divorce under the statute of the state forbidding marriage or sexual intercourse by or with an epileptic under penalty of imprisonment.

Right of Health Commissioner to Sit as Member of Board of Health.

The Supreme Court of Missouri says that, in State, on the relation of Parker-Washington Co., vs. City of St. Louis, it was contended that the health commissioner was disqualified from sitting as a member of the board of health, when, before the board met, in the written notice issued by him to the relators, calling them to appear before the board to answer the charge as to their works being a nuisance, he stated that in his opinion the works as operated constituted a nuisance and were detrimental to the public health. It was contended that in a proceeding of this kind the party to be affected is entitled to the same degree of impartiality and freedom from preconceived opinions in the members of the board as the law prescribes for a juror who is to try a cause in a court of justice. But the court does not agree to the proposition. Proceedings of this kind from necessity, it says, must be conducted with less strictness than the trial of a lawsuit in a court of justice. Such proceedings must be conducted honestly and fairly, and with good common sense, but not necessarily with judicial strictness. If a juror has formed or expressed an opinion in a cause to be tried, the court puts him aside and calls another; but, if it puts the health commissioner aside, whom will it call in his place; and if several other members of the board have seen the object complained of, and have formed the opinion that it was a nuisance and said so, how is the city to proceed to condemn it? The health commissioner is a city officer exercising duties appertaining to his office alone, independent of his membership in the board of health. But he is also a member of the board of health, and, in addition to his duties as health commissioner, he has the duties of a member of the board to perform. Under the provision of the city charter making it the duty of the health commissioner, when a matter injurious to public health is brought to his notice or comes under his observation, to declare it a nuisance by force of his own official judgment and give notice to the offending parties to appear before the board and show cause why the offense should not be abated, he does not by discharging that duty disqualify himself from the performance of other duties imposed by law in furtherance of the same subject.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

February 22.

1 Etiology, Prophylaxis and Therapeutics of Laryngeal Tuberculosis, Including Clinical Experiments with Bier's Congestive Hyperemia. S. A. Knopf and A. J. Huey, New York.
2 *Urticaria. E. B. Finch, New York.
3 Cystitis in Women. Report of Forty-Five Cases Studied Cystoscopically and Some Modifications of Treatment. E. McDonald, New York.
4 *Physical Signs of Incipient Pulmonary Tuberculosis. A. Abrams, San Francisco.
5 Carcinoma of Right Nasal Cavity and of Antrum of Highmore. L. Klemptner, Seattle, Wash.
6 *Cause and Prophylaxis of Sudden Death in Pneumonia. W. P. Worster, New York.

2. **Urticaria.**—According to Finch, angiospasm and angioparesis play important rôles in urticaria. There must also be a peculiar susceptibility of the patient. The exciting cause may be either a pure neurosis or an autointoxication. Emotional causes, such as grief, act by their inhibitory effect on the process of digestion. Finch's treatment is based largely on the presence of toxemic conditions. He has found creosote the most useful drug, even aborting the disease, if given early enough. Four minims (0.24) in elastic capsules, with two minims (0.12) in enteric pills, should be given for an initial dose, followed every fifteen or twenty minutes with two minims (0.12) in capsule until effect. Salol in five-grain (0.30) doses, with five minims (0.30) of castor oil in capsule, after each meal, is often useful. Emetics often give prompt relief. Turpeth mineral (mercury subsulphate), five grains (0.30), mixed with a little water, has proved satisfactory; a high rectal enema often gives gratifying results. Sometimes antispasmodics and vasodilators must be resorted to. Atropin, 1/150 grain (0.00043), or nitroglycerin 1/100 grain (0.00065), hypodermically, may be given with caution. Amyl nitrite by inhalation is useful, especially in cases with edema about the face and neck. Itching may be relieved with dilute vinegar and lotions containing carbolic acid, resorcin or thymol.

4. **Pulmonary Tuberculosis.**—Abrams describes a few original methods of diagnosis and observations. Lung cavitation is, in his experience, no index of an unfavorable prognosis. In health the percussion note of the lung is resonant during inspiration and dull or flat during forced expiration. In emphysema it is unchanged during the two phases of respiration. It is now recognized that this unchanged condition is pathognomonic of lungs predisposed to tuberculosis and of lungs already affected. Associated with it there is an extension of the lung border downward. Unchanged percussion resonance, hyperresonance, and prolongation of the expiration are indicative of deficient expiratory force of the pulmonary sub-

stance, and constitute the earliest trustworthy signs of the so-called pretuberculous stage of tuberculosis. The restricted diaphragmatic movements peculiar to early phthisis owe their origin to the emphysematous lung condition. Anemia of pulmonary origin is associated with atelectatic zones and is dependent on insufficient lung development. It is distinguished from other forms of anemia, except progressive pernicious anemia, by the fact that ferruginous preparations are practically valueless. Abrams further refers to his instrument called the vibrosuppressor, for restoring the vibrations of the sternum, as an aid to outlining the organs. In auscultatory percussion he says that if, during percussion, a stethoscope is allowed to hang from the ears of the physician (no part of the instrument being in contact with the chest of the patient), nuances in the percussion sound, unrecognizable by unassisted audition, are demonstrable. In auscultation augmentation of the respiratory activity of the apices may be achieved by binding the lower chest with a rubber bandage prior to auscultation. He describes the tracheal traction test, the use of the stethophonometer, and a means of extemporizing it from a stethoscope, as well as the use of the tuning fork in testing the conductivity of lung tissue.

6. **Sudden Death in Pneumonia.**—Worster says that in pneumonia patients die, not from feebleness of the heart, as many suppose, but from collapse of the capillary blood vessels, due to a paretic condition of their walls or to a condition of stasis in which the walls remain distended and flattened out. This causes an obstruction, which must be quickly relieved, and this can best be done by placing the patient in a hip bath of water at 100 F. and pouring several basins of water at 60 degrees or lower from a height over his shoulders, chest and back. He asserts that this will positively change the whole aspect of the case, and that perhaps only one application will suffice to save the life of the patient. He warns against the fear of such a cold application, asserting that it is refreshing, stimulating and life saving.

Boston Medical and Surgical Journal.

February 20.

7 Pendulum Apparatus and an Apparatus for Rotary Correction in Curvature of the Spine. R. Soutter, Boston.
8 Mattapan Day Camp. D. Townsend, Boston.
9 *A Diabetic Chart. E. P. Joslin and N. W. Goodall, Boston.
10 *The Best Things in Therapeutics. G. Eliot, New Haven, Conn.
11 *Kallak, an Endemic Pustular Dermatitis. J. M. Little, Jr., Boston.

9. **A Diabetic Chart.**—Joslin and Goodall describe a chart of their own devising, for the benefit of the physician, which covers the analysis of urine as regards acidosis, ammonia, nitrogen, estimation of sugar, levulose, pentose, glycuronic acid, and total sugar; also the nutritive and carbohydrate content of food, the quantity of proteid, the carbohydrate balance, and methods of changing the diet. A specimen chart accompanies the paper.

10. **The Best Things in Therapeutics.**—Eliot recapitulates the drugs that may be considered as of the greatest value to both practitioners and patients as: 1, Mercury in syphilis; 2, the salicylates in rheumatism; 3, quinin in malarial affections; 4, antitoxin serum in diphtheria; 5, aconite in the fever of acute diseases; 6, digitalis in chronic heart disease; 7, alcohol in cardiac weakness of acute disease; 8, ergot in uterine and pulmonary hemorrhage; 9, creosote in diseases of the respiratory organs; 10, the bromids in nervousness.

11. **Kallak.**—Little describes in detail a pustular dermatitis common among and peculiar to the Eskimo. It begins with slight general malaise, followed by eruption on the dorsum of hands and feet and under surfaces of fingers and toes. At first vesicular, it becomes almost immediately pustular, with no inflammatory zone, but intense itching. The pustules spread and extend centrifugally. Bleeding takes place, crusts and scales appear. It is never "weeping," but is protracted in course, with thickening and discoloration of skin. Occasionally premonitory symptoms are severe. He gives reasons for stating that it is not caused by dirt, is peculiar to the Eskimo, is not due to scurvy, has nothing to do with syphilis, does not occur when there is plenty of seal flesh to eat, and has as yet no special associated micro-organism. He describes its differentiation from scabies, eczema, dermatitis herpetiformis, erythema multiforme, impetigo contagiosa, acne and furunculosis. The best treatment has been found to be the addition of seal meat and berries to the diet, protective dressings, lead lotion, or an ointment of zinc oxid and tar.

New York Medical Journal.

February 22.

12 *Triumphs of Scientific Medicine in Peace and War in Foreign Lands, with Suggestions on the Necessity of Important Changes in the Organization of the Medical Department of the United States Army. L. L. Seaman, New York.
13 Art and Science as Applied to the Practice of Medicine. L. H. Mettler, Chicago.
14 *Management and Treatment of Tuberculosis in Infants and Children. J. L. Morse, Boston.
15 Precautions to be Taken in Coming South. W. F. Robinson, Palm Beach, Fla.
16 Rational Treatment of Iritis. A. Brav, Philadelphia.
17 *Unusual Effects of Gonococcus Infections. W. F. Campbell, Brooklyn, N. Y.
18 Carcinomatous Degeneration of Breast Cysts. J. Speese, Philadelphia.
19 Dengue in Cuba. A. H. Allen, Lajas, Santa Clara, Cuba.

12. **Scientific Medicine and the Medical Services.**—Seaman describes vividly the work of Dr. Cruz in eradicating yellow fever from Bahia, Rio de Janiero and Santos—the most prolific culture grounds of the disease in the world—after he had been given absolute control in his own department. He recalls the failure that befell previous attempts to construct the Panama Canal and the comparative failure of the present work until Colonel Gorgas was given the free hand that alone could enable him to accomplish the great sanitary results that are now accomplished facts. He pays a tribute to the late Colonel Senn as an observing traveler and notes his own personal observations when traveling in company with him. He describes how scientific work is fostered by foreign governments, particularly those of France, Germany and Japan, but is neglected by the government of the United States. He contrasts the disparity between deaths respectively from casualties and disease as it is shown in the two recent wars of Japan, first with China and then with Russia, and subsequently the disparity in the hospital ratios of sick respectively of the Russo-Japanese War and the Spanish-American War, to prove the importance of the medical and sanitary corps of the Army. "In surgical technic, or in the after-treatment of the wounded and sick, the Japanese taught the foreigner comparatively little, but in the field of sanitary science and dietetics they demonstrated what had never been done before, viz., that preventable diseases are preventable and can be controlled, and that the great incubus of an army in the field, the presence of crowded hospitals, and the large and expensive force necessary to equip and conduct them, can to a large extent be eliminated." But this supineness of the administration in regard to medical and sanitary matters is shown in the civil as well as in the military field. Representation in the cabinet is still denied to public health. Until this can be granted, at any rate a more liberal policy toward the Public Health and Marine-Hospital Service, rather than a restriction of its field of activity, is much to be desired. He shows by various arguments the weakness of the objection based on states' rights, so frequently urged against a federal health department, and particularly appeals to the fact that so far from the pure food law restricting states' rights, it has been followed in many states by drastic laws to which no one but the manufacturer and seller of adulterated products objects. He urges also an expansion and adequate support for the medical department of the Army. He criticises in detail the bill before Congress, which he regards as hopelessly deficient in the features most essential for a true reform. Faulty organization is the fault of the present system. What is needed is commensurate rank and authority for the surgeon general, with a realization of the fact that the all-important function of the medical officer is the prevention of disease, rather than its cure. Finally, he records part of a letter giving the experiences of a sanitary inspector during the Spanish-American War, which constitutes a standing impeachment of the entire administrative policy of the government with regard to the medical service of the Army.

14. **Tuberculosis in Children.**—Morse refers to the modifications necessary in dealing with tuberculosis in children. Malignancy and a tendency to dissemination are the chief characteristics in infancy. Restriction to a single organ is unusual. Localization is commoner later. The bone, serous membranes and lymphatics are more often involved than the viscera. The lungs are increasingly affected as adult age is approached. Children are more rapidly enervated by warm, moist climates and are less able than adults to bear exposure. They are, however, more amenable to treatment, being devoid of the harassing sense of responsibility that impels the adult to worry about his future and to attend to his affairs. They accommodate themselves better to institutional life, and discipline is easier with them. For practical purposes he divides tuberculosis in children into surgical, including scrofulosis and lymphatism, and visceral. For the former, seashore sanatoria are better than inland, and a temperate is better than a warm or cold climate, though they do well in both these conditions. At least a year's stay is necessary. Tuberculous peritonitis is practically to be classed as surgical tuberculosis. The dietetic treatment of tuberculosis in early life is essentially the same as in adult life. The drug treatment is purely tonic and symptomatic. Morse has no personal knowledge of the use of tuberculin in children, and statistics concerning it are scanty, but he sees no reason why, with due allowances, equally good results should not be obtained as with adults. He deals with two other classes—healthy children of tuberculous parents, who should be sent away, and children with latent tuberculosis, or who are predisposed to it by other diseases, who should be given proper climatic or sanatorium treatment and plenty of country or seashore air. He gives directions for the management of tuberculosis in childhood to prevent its spread.

17. **Gonococcus Infections.**—Campbell states that it is increasingly evident that gonorrhea will have to take its stand as a general disease. A review of the literature shows that there is not a single organ of the body that may not be the victim of such an infection. The entire upper extremity, the parotid, the pleura, various joints, have all been affected. There is a gonorrheal pyemia; enlargement of the liver, and icterus, and a large abscess of the neck have been traced to gonorrhea. Gonorrheal peritonitis has been observed in the male. A distressing surgical complication is gonorrheal proctitis, most common in the female sex. A case has occurred with perforation into the vagina.

St. Louis Medical Review.

January.

20 *Mosquitoes and Their Relation to Disease in Hawaii. E. S. Goodhue, Holualoa, Hawaii.
21 Roentgen Rays. J. W. Wainwright, New York.
22 Surgery of the Ureter. B. M. Ricketts, Cincinnati, Ohio.

20. **Mosquitoes in Hawaii.**—Goodhue, in a scientific study, says that in Hawaii mosquitoes are represented by two genera and two species, namely: (a) *Culex pipiens* (Van Dine). Common gnat of Europe. Thorax covered, narrow curved, golden brown scales; abdomen basal pale bands.—(Braun.) (b) *Stegomyia fasciata*, or *calopus* (Henshaw). Easily told by head and scutellum being entirely clothed with fat scales.—(Braun.) (c) *Stegomyia scutellaris* (Van Dine). Thorax one median silvery stripe so differentiated from fasciata.—(Ibid.) (d) *Culex pungens*, or *fatigans* (Goodhue). Common tropical gnat—resembles *pipiens*, differs in stem of first submarginal cell always being much longer.—(Braun.) All these are probably pathogenic. He describes these varieties with illustrations. With regard to the *Stegomyia fasciata* (properly *calopus*), this insect penetrated into the Hawaiian Islands only a few years ago, but in some places is now abundant. It hides in old clothes hanging in closets, in draperies, curtains, etc. There has never yet, however, been a case of yellow fever in Hawaii. This is probably due to the fact that there is difficulty in introducing a yellow fever patient there in a stage of the disease at which the mosquito can become infected. Goodhue's investigations, so far as they have gone, lead him strongly to suspect the *Stegomyia scutellaris* as being related to the periodical epidemics of influenza in those islands.

New Orleans Medical and Surgical Journal.

January.

23 Rewards of Medicine as a Profession. A. L. Metz, New Orleans.
24 *The Obtuse Angle in Elbow and Elbow-Joint Fractures. J. D. Bloom, New Orleans.
25 Fracture of the Humerus by Muscular Action. E. M. Williams. Patterson, La.
26 *What Surgery Should the Country Doctor Do and What Can He Afford to Neglect? E. D. Newell, St. Joseph, La.
27 Differential Diagnosis of So-called Chronic Rheumatism. E. S. Hatch, New Orleans.
28 Arterial Varix of the Femoral Vessels Operated on by Matas-Bickham Method. H. B. Gessner, New Orleans.
29 *Removal of Hemorrhoids by Angiotribe Method. S. P. Delaup, New Orleans.
30 Rapid Method of Demonstration of the Spirochæta Pallida for Diagnosis. J. D. Weis.
31 Plastic Skiagraphy; Its Advantages. A. Granger, New Orleans.
32 Further Experience with Antidiphtheritic Serum in Nasal Diphtheria. H. Dupuy, New Orleans.
33 Present Status of Opsonins and Vaccine Therapy. C. C. Bass, New Orleans.
34 Second Popliteal Aneurism Operated on by Matas Method. H. B. Gessner, New Orleans.

24. **Elbow Joint Fractures.**—Bloom deprecates the deforming and functionless results with ankylosis that have resulted from the customary method of treating injuries to the elbow joint by a right angle setting. After ten days or two weeks of rest or immobility in the obtuse angle position, Bloom suggests the substitution of a Stromeyer screw splint to favor functional movement, to dispel through capillarity the exuded material, and to insure a perfect result to the fracture and the functional membrane that lines the joint.

26. **The Country Doctor and Surgery.**—Newell refers to the difficulties that beset the young graduate when entering on country practice after a period of observation or assistance in well-equipped hospitals with nurses, anesthetists, ample armamentarium, etc. The obstacles, however, are not so great as they seem. With a thorough grasp of principles and a certain power of adaptability much may be accomplished. Newell describes the simple arrangement used by himself for five years with pleasure, comfort and success, both to the patients and himself. His establishment has three rooms on the second floor of a small brick building; the rooms are large, well ventilated and have plenty of light; they all open into each other and are connected on the side by a gallery. The front room is used for office, reception and general business room; the second is the consultation and operating room, and the third is for the beds. There is water throughout the building, which is supplied by an elevated iron tank in the rear. There is acetylene gas in the building, which furnishes a beautiful light for operating at night, heats water for sterilization, and makes an ideal light for a reflector for nose and throat work. One colored woman attends to the rooms, assists in preparing patients for operation, assists during the operation, nurses the patients after the operation, and prepares their meals. This simple equipment can be had by every country doctor who cares to do surgical work, and without some such arrangement Newell does not believe that surgical work in the country is practicable. By this means the dread of emergency surgical calls has been entirely eliminated. Patients are usually brought to the surgeon, and even when he is called out, he ordinarily contents himself with applying a first dressing and having the patient brought to his operating room. The examples of the Mayos and Joseph Price demonstrate that good work is not necessarily dependent on marble floors, countless trays of instruments, and hordes of assistants. The country practitioner should be able to do all his own minor surgical work, whether in general surgery, obstetrics, gynecology, or special surgery. It is the minor operations, neatly, carefully and patiently done without pain, that spread the doctor's reputation and endear him to his patients. In a case of chancroid under the prepuce, for instance, complicated with phimosis, the substitution of circumcision under local anesthesia for iodoform injections will make the patient his friend. Newell urges that the country doctor should fit himself to perform all the emergency operations of necessity, all the operations of obstetrics. On the other hand, he exercises a wise conservatism in cautioning with regard to operations not of instant importance and requiring more than ordinary skill. No matter what the craving toward this class of surgery, the

surgeon who has not the skill given by daily operations, the trained assistants and nurses, the perfect surgical surroundings, should tune his conscience to the highest tension before undertaking such operations.

29. **Hemorrhoids.**—Delaup describes the technic of the angiotribe operation as performed under spinal analgesia by Dr. Chassaignac and himself, and holds that it should take precedence over the ligature or clamp and cautery methods because it (1) is equally radical, (2) it can be performed as easily and quickly, (3) it is less likely to be followed by hemorrhage or stricture, (4) vesical disturbances are less frequent, (5) after-pain is not so great, and (6) recovery is more rapid.

St. Paul Medical Journal.

January.

35 *Infantilism. J. Tandler, Vienna, Austria.
36 Surgery of the Labyrinth. G. Alexander, Vienna, Austria.
37 Diagnosis of Pernicious Anemia—Nervous Symptoms. H. Jackson, Boston.
38 *Pelvic Suppuration in Both Men and Women. A. MacLaren, St. Paul.

February.

39 Case of Retroperitoneal Abscess of Unknown Etiology in a Child. C. G. Cumston, Boston.
40 Association of Obesity in Women with Amenorrhea and Sterility. J. L. Rothrock, St. Paul.
41 Uterine Fibrosis. H. J. O'Brien, St. Paul.
42 Metastatic Panophthalmitis. L. A. Nelson, St. Paul.
43 Clinical and Pathologic Features of Cutaneous Blastomycosis with Report of Case. B. H. Oberembt, Milwaukee, Wis.

35. **Infantilism.**—Tandler takes up the demonstration of this subject to general practitioners from the standpoint of the anatomist. The clinician's conception of infantilism does not coincide completely with that of the anatomist, because much of what is known to the latter as infantilism is hidden from the former and revealed only at autopsy. By infantilism is meant an arrested development which represents a cessation in the growth or evolution during the developmental history of an individual to which the pathologic complications are irrelevant. He illustrates this by example of umbilical hernia in contrast with ectopic bladder. The first is a persistence of a condition normal to an earlier stage, whereas the latter is due to a series of changes that must have taken place during embryonal life, for no normal embryo shows a bladder fissure at any time. Infantilism may be classified into two principal groups, *infantilismus universalis*, which includes most of the observations on the part of the clinician, and *infantilismus partialis*, in which are placed the cases in which there is a persistence of an infantile condition or an organ complex. Infantilism of an organ may be either *infantilismus formalis*, in which case the organ retains its infantile form; or *infantilismus tropicus*, when it remains in the position occupied in the child but attains adult size. These two conditions may be combined. Tandler discusses the various forms of anatomic infantilism with regard to the ovary, the bones of the skull and face, the larynx, the heart, the vascular and glandular apparatus, the thorax, the kidney and the genitalia.

38. **Pelvic Suppuration.**—MacLaren discusses the causation of ischiorectal, prostatic and appendicular abscesses, and pelvic suppuration in women. He was at first prejudiced against the vaginal operation by the overdrawn claims of some of its advocates, the prejudice being increased by an unfortunate result in an improperly selected case of his own. During the last three years, however, his views have changed, and he now uses the vaginal operation in suitable cases. He disputes the dictum that gonorrheal tubes should always be removed. It is a greater surgical victory to save a leg or an ovary than to amputate one, and it is a great satisfaction to most women to have their organs intact. In his experience the gonorrheal cases are more certain to get a perfect cure than the puerperal ones. In the first 940 laparotomies for all conditions he removed chronic inflamed or suppurative appendages 290 times, while in the last 1,000 laparotomies, or since taking up vaginal section, he has removed only 47 inflammatory ovaries and tubes, through abdominal incisions and through the vagina.

American Medicine, Burlington, Vt.

January.

44 *Case of Acute Pancreatitis. H. M. Silver, New York.
45 Primary Cancer of the Head of the Pancreas Causing Obstructive Jaundice. H. B. Allyn, Philadelphia.
46 Symptomatology and Treatment of Diabetes Mellitus. F. E. Beal, New York.
47 *Influenza and Weather Instability. H. S. Anders, Philadelphia.
48 Fatal Case of Hemorrhagic Purpura Caused by Scurvy. F. C. Knowles, Philadelphia.
49 Recent Literature on the Parathyroid Glands. A. G. Ellis, Philadelphia.

44. **Acute Pancreatitis.**—Silver reports in detail a case of acute pancreatitis, and collates and summarizes the literature of the subject. He states, under prognosis, that cases in which gallstones are present are particularly favorable to the induction of acute pancreatitis, which fact he considers a powerful argument in favor of surgical treatment of gallstones as soon as their presence is made known by active symptoms.

47. **Influenza.**—Anders traces the trend of opinion as to the relation between meteorologic conditions and epidemic disease, and concludes that further study can only corroborate his views as expressed in earlier papers, namely, that whatever causal relation meteorologic conditions bear to the onset, prevalence, and virulence of epidemic influenza will be found almost exclusively in quotidian, tertian or quartan exacerbations, variations, and alternations of weather state; in other words, in the sudden, frequent, extreme and rapid changes in pressure, temperature, humidity, clearness or cloudiness, and wind pressure and direction; in short, instability or nonequability of weather phenomena to an abnormal degree.

Therapeutic Gazette, Detroit.

January.

50 *Treatment of Eclampsia in the Patient's Home. E. P. Davis, Philadelphia.
51 Guaiacol Treatment of Pneumonia. M. G. Cain, Epping, N. H.
52 Comments on Fifteen Cases of Anthrax and Autopsy Notes, with Remarks on Treatment Including Antianthrax Serum. B. F. Royer and E. Burvill-Holmes, Philadelphia.
53 New Method of Testing Functions of Digestive Apparatus. M. Einhorn, New York.
54 Toxic Effects of Urotropin. J. G. Beardsley, Philadelphia.
55 Treatment of Trachoma. C. A. Veasey, Philadelphia.
56 Pharmacologic Study of Cannabis Americana (Cannabis Sativa). E. M. Houghton and H. C. Hamilton, Detroit.

50. **Eclampsia.**—Davis points out that the treatment of eclampsia in private houses must be conducted subject to considerable limitations; perhaps even to those things that the physician can do personally or that can be trusted to untrained persons of average intelligence. The keynote of the article lies in the statement that when the mother recovers from eclampsia she does so by virtue of profuse elimination, while when she dies from eclampsia it is from exhaustion of the nerve centers with high temperature and paralysis of the vasomotor, cardiac and respiratory centers. First should come a thorough examination, noting pupils, pulse tension, fetal heart sounds, uterine contractions, chest of mother, and gas in intestine; and finally vaginal examination to determine the degree of dilatation and effacement and softness of cervix, condition of membranes, position, presentation, and relative dimensions. Effacement or shortening of cervix, tissues soft, dilatation two-thirds complete, engagement of presenting part and active uterus, demand as prompt delivery as possible, otherwise no effort should be made to empty the uterus. Prompt and vigorous elimination is the treatment in the absence of conditions favorable to immediate delivery. Contracted pupils, high pulse tension, dusky color, tendency to coma, etc., suggest removal of from four to eight ounces of blood, followed by intravenous saline infusion, the quantity being directly proportional to the heart's vigor. Flushing of the large intestine is recommended, the patient lying on the left side with the hips raised; from one to two quarts are left for absorption. He also advises lavage of the stomach with hot salt solution, followed by administration of from five to ten grains of calomel and sodium bicarbonate. A hot pack is useful and also hot water bottles; cloths wrung out of ice water may be applied to the forehead. Catheterization is done when necessary every forty-six hours and for some days after recovery. If the pulse tension still remains high, veratrum viride may be given hypodermically in ten minim (0.60) doses hourly, not to exceed three doses. The treatment outlined will occupy several hours, during which the convulsions may be controlled by the inhalation of chloroform, using as

little as possible. As soon as the cervix is softened, dilated, the presenting part engaged, and uterine contractions marked, interference to end labor is indicated, and this should be done completely and rapidly, the uterus douched with sterile salt solution and packed with 10 per cent. iodoform gauze. Lacerations should be repaired at once if the patient's condition is such as to justify it. The eliminative treatment should be kept up until indications for delivery are present; if strength begins to fail, an ounce of whisky by rectum and four ounces of salt solution every three or four hours may be given. Digitalin, to sustain the heart, and strychnin and atropin if pulmonary edema and heart failure are threatened may be desirable. The patient is by no means safe from eclampsia after delivery. The continuous and skillful inhalation of oxygen during eclampsia and after delivery is of decided value. No patient is safe until at least ten days have elapsed after the eclampsia.

Virginia Medical Semi-Monthly, Richmond.

January.

57 *Treatment of Diffuse Suppurative Peritonitis. S. Leigh, Norfolk.
58 Advanced Surgical Methods on Nose and Throat and Why They Are Necessary. C. R. DuFour, Washington, D. C.
59 Extrauterine Pregnancy. W. M. Randolph, Charlottesville.
60 Case of Strangulated Inguinal Hernia in Infant. J. E. Cannady, Hansford, W. Va.
61 Dionin in Chronic Atrophic Rhinitis and Chronic Dry Pharyngitis. D. D. Wilcox, Petersburg.
62 *Germ Proof Qualities of Tiling. C. J. Cox, Washington, D. C.
63 Principles of Surgery. S. McGuire, Richmond.

February 7.

64 Diagnosis and Symptomatology of Cancer. M. M. Pearson, Bristol.
65 Aural Affections Dependent on Visceral Lesions and Functional Nervous Disorders. J. J. Richardson, Washington, D. C.
66 A Plea for High Standard in Therapeutics. J. N. Upshur, Richmond.
67 Typical Case of Typhoid Fever in a Child Eight Years of Age, Complicated with Intestinal Perforation and Hemorrhage. L. W. Glazebrook, Washington, D. C.
68 Formaldehyd Disinfection. H. R. Dupuy, Norfolk.
69 Exophthalmic Goiter. C. Jones, Staunton.
70 Evils of the Drug Habit—Can It be Regulated? R. L. McMurran, Portsmouth.

57. **Diffuse Suppurative Peritonitis.**—Leigh eulogizes the Fowler-Murphy method of dealing with suppurative peritonitis, by operation for drainage, posture, and rectal irrigation. In his work the results have been gratifying. He commends the method especially to physicians practicing in remote districts, and holds that in appendicitis cases the patient should always be promptly elevated and kept on the right side. Rectal infusion would be of service here also. The posture and infusion would also aid in lessening the danger to puerperal infection. He describes a method in use in the Sarah Leigh Hospital for elevating the head of the bed.

62. A similar article appeared in the *Yale Medical Journal*, November, 1907, and was abstracted in The Journal, Feb. 8, 1908, page 433.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

February 8.

1 *Sleep and Sleeplessness. A. Morison.
2 *Sources of Wound Infection. C. B. Lockwood.
3 *Is the Death Rate the Best Measure of Severity in Disease? F. M. Turner.
4 Excision of Rectum for Carcinoma. W. A. Lane.
5 Methods of Primitive Midwifery. J. B. Hellier.
6 *Phosphaturia and Treatment of Disease by Conversion. R. Harrison.
7 Hemopericardium Associated with Syphilis. J. L. Baskin.
8 Case of Acute Ascending Paralysis with Recovery. C. W. Vining.
9 Case of Enucleation of Uterine Fibromyoma During Seventh Month of Pregnancy; Premature Labor Two Days Later. H. Williamson.
10 Five Years' Experience of a Reception House for Recent Cases of Insanity. H. C. Marr.

1. **Sleeplessness.**—Morison discusses the factors that underlie sleep and wakefulness, the discrimination of one type of insomnia from another, the significance and prognosis of different varieties of sleeplessness, and the rational treatment of the condition.

2. **Wound Infection.**—Lockwood discusses the disinfection of instruments, etc., the hands, for which he uses biniodid of mercury 1 in 500 in spirit, then 1 in 500 in water, repeated at least four times until the watery solution is absorbed into the depths of the skin; he also discusses disinfection of the skin of the patient and the environment of operation. In the last, he deals with ventilation and the cubic space of the operating room, and particularly with the dust and dirt brought in on the garments and boots. He recalls Gordon's experiments in the house of commons with the *Bacillus prodigiosus*, in regard to which it is stated that the members carried this easily identifiable microbe a distance of 576 feet.

3. **The Severity of Disease.**—Turner argues that the death rate is not a reliable test of severity in disease, and suggests that the severity of the symptoms is a better test, particularly if cases are divided into groups or classes according to the severity of any symptom. Death depends on two independent factors: the severity of the attack and the strength of the patient; the latter, being also an unknown quantity, must vitiate conclusions based on the former. The only important argument in favor of death rates and complication rates as against criteria obtained by measuring the severity of symptoms is the risk of high personal equations in the latter, and this Turner considers to be not so great as most people assume.

6. **Phosphaturia and Gonorrhea.**—Harrison points out that in the treatment of chronic urethritis and mucopurulent discharges it has often been noticed that irrespective of the internal administration of alkalies, and often imperceptibly to the patient, the urine has changed character and become assimilated to phosphaturia, hence the question arose whether the phosphaturic state of the excretion was inimical to the existence of the infecting bacillus. A systematic examination of urine and other discharges for gonococci in patients with gonorrhea leads Harrison to the following conclusions: 1. In a considerable number of instances just designated, and of undoubted specific origin, there was no evidence at the time of his examination that there was anything wrong with the urine or with any urethral discharge complained of, inconsistent with the phosphaturic state alone. The examination showed how easily and frequently phosphaturia may counterfeit, and be treated for, a specific urethritis, and even be intensified by the remedies commonly used for the latter. 2. The artificial production and temporary continuance of a state of phosphaturia might be utilized in the treatment of chronic gonorrheal infections. All the prominent features of a phosphaturia responding to the usual tests, microscopic and otherwise, by which phosphaturia is recognized, may be produced by the administration of alkalies. This condition should be maintained for some little time and local applications be suspended. Usually, after a period of ten days or so, and as the phosphaturic condition gradually passes off under the influence of altered treatment and diet appropriate to this state, no signs will be found such as were previously complained of. There was a time when infecting urethritis—at all events in its earlier stages—was generally treated with alkalies, though not for the reason Harrison now offers. He expresses doubt whether by modern mechanical processes we have much improved on the older practice.

British Medical Journal, London.

February 8.

11 Symptoms, Diagnosis and Treatment of Tubal Gestation in the Early Weeks. W. Tate.
12 Case of Ruptured Ectopic Gestation Occurring In a Rudimentary Horn of a Uterus Bicornis Unicollis. H. T. Hicks.
13 *Rigor Mortis in the Stillborn. C. H. W. Parkinson.
14 *Use of Chemicals in Aseptic Surgery. C. B. Lockwood.
15 Splenomedullary Leukemia and Splenic Anemia. J. G. Taylor.
16 Experiences in the Testing of Tincture of Digitalis. S. C. M. Sowton.
17. Migraine. T. H. B. Dobson.
18 Removal of Foreign Bodies from the Air and Food Passages. D. R. Paterson.

13. **Rigor Mortis in the Stillborn.**—Parkinson describes four cases of rigor mortis in the stillborn, from which he draws the following conclusions: Rigor mortis may set in under certain conditions before labor, and may pass off while the child is

still *in utero*, and possibly may delay the birth in these cases until it has passed away. Rigor mortis may set in when the child dies during labor, and may either be complete before or may go on to completeness after birth, and in these cases it increases the difficulty of expulsion. A child may die during labor and be expelled before rigor mortis can set in, but rigor mortis may supervene after birth more or less completely. The attitude produced by rigor mortis in stillborn children differs from that produced by cadaveric rigidity under ordinary circumstances, and by its character enables an opinion to be given that the child had no separate existence, for in every such case the limbs and body generally become drawn into the position in which it lies normally in the mother's womb. His first point is that rigor mortis is not a sign of live birth; and his second that the character of the rigor mortis enables one to decide whether or not the child was stillborn.

14. **Chemicals in Disinfection.**—The scope of this paper by Lockwood is much the same as that covered in Abstract No. 2. He concludes as follows: Until the hands can be sterilized or sufficiently protected; until the patient's skin can be disinfected; until the science of architecture gives us an ideal environment; and until we learn never to cough or gesticulate, I shall continue to use chemicals.

Medical Press and Circular, London.

February 5.

19 General Surgical Technic. W. I. de C. Wheeler.
20 *Pathogeny of Diabetes. S. A. Arany.
21 Tuberculosis of the Kidney. C. J. Symonds.
22 Infant Feeding. H. Armstrong.
23 Congenital Hypertrophy of the Pylorus. E. Cautley.
24 Optic Neuritis in Cerebral Tumors. L. Paton.

20. **Diabetes.**—Arany concludes that whereas lesions to, or the removal of some of, the so-called diabetogenic organs, are apt to produce diabetes in animals, in the majority of cases of human diabetes there are no changes in the diabetogenic organs, the chief feature in common between the two kinds of diabetes being in the hyperglycemia only, which condition can also be produced by certain acids and alkaloids. It has further been pointed out that the appearance of acids in the blood of diabetics is a simultaneous phenomenon of the disease, and as physiologic researches have proved that the appearance of acids in the blood retards the process of assimilation, the loss of the assimilation of carbohydrates is probably due to the appearance of such acids. It is also highly probable that the production of these acids is effected by a toxin produced by some unknown bacterium, which may or may not be present in the system of the healthy individual, and which, if brought under favorable conditions, is apt to produce human diabetes. In spite of the occurrence of diabetes in married couples there is no evidence to support the idea that it is a contagious disease. Notwithstanding that a diabetic predisposition is noted in certain families, Arany holds that the disease can not be inherited, and also that the belief that certain races are prone to it is erroneous.

British Journal of Children's Diseases, London.

January.

25 *Inherited Syphilis. R. C. Lucas.
26 *A Healthy Child Showing no Signs of Syphilis, Suckled by a Mother Inoculated with Syphilis Subsequent to Birth of Her Child. Id.
27 *Eruptions of the Napkin Region in Infants: Differential Diagnosis of Specific and Non Specific Eruptions. H. G. Adamson.

25. Abstracted in The Journal, Feb. 20, 1908, page 730.

26. **A Healthy Child.**—This case is the one discussed in Lucas' address, referred to in No. 25.

27. **The Napkin Region.**—Adamson insists that the importance of a careful study of the skin eruptions which occur in the "napkin region" of infants is not sufficiently appreciated. From want of knowledge many non-specific eruptions are regarded as specific and at times specific eruptions are regarded as non-specific. There are several distinct and characteristic, commonly occurring eruptions often confused with those of congenital syphilis. One group is probably due to local irritation, combined with gastrointestinal toxemia. Others owe their origin to local microbic infection. He describes the surface anatomy of the napkin region, which includes not only the lower abdomen, the buttocks, the genitals and the thighs, but also other parts coming into contact with the napkin from outside when the infant is in the flexed position, particularly the calves and heels. The areas covered consist of eminences and the sulci between them. The eminences in front are the lower abdomen, genitals and perineum, and the upper and lower halves of thigh, separated by a deep fissure, present only in babies; those behind are the buttocks, scrotum, thighs, calves and heels. The convex eminences are subjected to pressure and friction, the flexures afford moist warmth for growth of micro-organisms. Adamson considers the lesions in four sections: 1, Simple erythemas of the napkin region; 2, seborrheic dermatitis; 3, streptococcic impetigo; 4, eruptions of congenital syphilis. The characters of specific eruptions are summarized as follows: 1. Appearance of eruption at the age of from 4 to 8 weeks. 2. Eruption consisting of disc-like coppery-red macules, maculo-papules, scaly papules, or rarely bullous or crusted. 3. Eruptions situated about the genitals, buttocks, thighs, and often around the mouth, and on the palms and soles, and invading flexures and convex surfaces alike. 4. Other signs of syphilis; the child begins to lose its plump and healthy appearance, the skin becoming opaque and muddy looking; snuffles, hoarse cry, fissures of the lip, iritis (rarely), enlarged testicle (rarely). The "syphilitic wig" and the "old-man appearance" are not characteristic signs of syphilis, but may be seen in any condition of malnutrition. The article is illustrated with diagrammatic illustrations.

Intercolonial Medical Journal of Australasia, Melbourne.

December.

28 President's Address Before the Victorian Branch of the British Medical Association. H. B. Allen.
29 *Blood Examination in Surgery. J. Smith.
30 Influenza: A Retrospect. J. W. Springthorpe.
31 Heart Strain. C. F. Harkin.
32 Case of Primary Pneumococcal Peritonitis. W. R. Groves.

29. **Blood Examination.**—Smith discusses the subject of blood examination in surgery, and with regard to opsonin estimation says that granting that time does not permit of every case being treated from beginning to end, with the opsonic index (taken, say, triweekly) as a guide, it still holds that some amount of index estimation is better than none at all. This stand is taken up because: 1. A more intimate and intelligent conception of the clinical conditions is afforded, and principles may ultimately emerge, from a sufficiency of observations, which will guide the way to improved therapeutic methods. To disregard the scientific attitude in new work is a neglect of duty. 2. It is possible, at the beginning of treatment to ascertain the untreated clinical course, and then to watch, in the early days, the results of treatment. In a few weeks it is possible to arrive at a suitable tuberculin dosage as to quantity and frequency. Opsonic estimation might now be disposed of with more reason, so long as satisfactory clinical progress continues. But even then an occasional index record would be reassuring, or else give timely warning. On the other hand, unsatisfactory progress should be the signal for complete revision of the case, and opsonic estimation, among other things, should receive due attention.

Clinical Journal, London.

February 5.

33 Malignant Growths in the Long Bones. A. A. Bowley.
34 Pancreatic Disease. W. C. Bosanquet.

Journal of Tropical Medicine and Hygiene, London.

February 1.

35 Spirochetosis of Sudanese Fowls—an After-Phase. A. Balfour.
36 Cases of Blackwater Fever in the Malay Peninsula. B. Orme.
37 Age Incidence of 109 Cases of Opisthorchis Sinensis Infection in Cantonese; Its Small Pathologic Importance. C. N. Heanley.
38 Recommendations for the Protection of the Water Supply of Manila. G. F. Campbell.

Glasgow Medical Journal.

January.

39 Degeneration of the Spinal Cord Associated with Severe Anemia in a Case of Chronic Gastric Ulcer. T. K. Monro and M. B. Hannay.
40 Case of Cirrhosis of Liver in a Boy Nine Years Old. W. K. Hunter.
41 Albuminuric Retinitis with Vascular Changes: Aneurisms on Retinal Arteries. A. J. Ballantyne.
42 Three Cases of Severe Injury at the Ankle Joint. A. A. Young.

43 Mediastinal Cancer, Occurring Ten Years After Removal of the Breast, with Secondary Nodulation Well Distributed Over the Head and Trunk. J. S. McKendrick.

Indian Medical Gazette, Calcutta.

January.

44 Medical Services in the Mutiny. D. G. Crawford.
45 Critical Analysis of the Etiology and Symptomatology of the Three Day Fever of Chitral; and an Analogy Between This Condition and Dengue. R. McCarrison.
46 Forster's Vaccine Treatment of Dysentery. W. Gillitt.
47 High Mortality Due to Childbearing Among Burmese Women. J. Entrican.

Archives Générales de Chirurgie, Paris.

January, II, No. 1, pp. 1-112.

48 Coxa Valga and Its Various Forms. P. Mauclaire and E. Olivier.
49 Case of Inflammation of Meckel's Diverticulum. C. Viannay.
50 *Venous Reflux with Superficial Varices. L. Chevrier.

50. **Importance of Venous Reflux for the Treatment of Varices.**—Chevrier calls attention to the importance of differentiating the clinical varieties of insufficiency of the valves of the veins in varicosity, and the importance of the descending or ascending venous reflux as diagnostic signs. The insufficiency of the valves in the saphenous vein is shown by Schwartz's sign—striking lightly on the dilated vein and looking at its outline against the light. If the valves are insufficient, a wave is seen to spread rapidly along the vein to a considerable distance, while it is soon arrested if the valves are working normally. Another test is to raise the leg passively as the patient sits up in bed, his back supported. The blood is massaged out of the leg and the leg is then lowered. The blood will rush back into the leg, filling all parts that are below the level of the heart. For the Trendelenburg test the patient lies across the bed, the legs pendant their entire length. The leg is raised and the blood expelled by centripetal massage. The leg is then abruptly lowered below the level of the bed, and the patient is told to sit up at the same time. The blood rushes furiously down the vein as the passive mechanical force of gravity is supplemented by the active pressure of the abdominal muscles. This test shows the insufficiency of the valves of the saphenous. A counter test is made by compressing the saphenous vein with the fingers applied flat, just before the limb is lowered. If the varices below fill up from the periphery very slowly, or not at all, the valves of the communicating veins must be functioning normally. In the exceptional cases in which the varices fill up rapidly from the periphery the ascending reflux testifies to insufficiency of the valves in the branches connecting the deep with the superficial veins. Clinically, Chevrier finds three classes of varicosities: 1. Superficial varices with descending venous reflux but no deep varices. In this case the valve at the mouth of the saphenous vein is insufficient. The varicose condition can be remedied by transplanting the saphenous into the femoral below the normally functioning valves of that vein. This operation has been successfully done by Delbet, who calls it the "sapheno-femoral anastomosis." The operation removes the cause of the varicose condition by supplying sound valves for the venous circulation. 2. Both deep and superficial varices with ascending venous reflux. In this case the indications are best met by extensive resection of the superficial veins, followed by the wearing of an elastic stocking. Cases of this kind are extremely rare. 3. Both deep and superficial varices with descending reflux. In this, which is the common type of varices, ligation of the saphenous vein with partial resection is indicated, but the ligature must be applied high on the saphena near its mouth. If the ligature is applied too low it neglects an important tributary of the saphenous vein, which may lead to the recurrence of the varicose condition, as this branch is exposed to all the abrupt variations in the abdominal pressure. It seems superfluous to apply several ligatures. A single one, placed at the right point aiming to take the place of the valve at the mouth of the saphenous vein answers every purpose. This treatment does not remove the cause, as nothing is done directly to relieve the deep varices. But the improvement in the superficial conditions tends to improve matters below. In conclusion, Chevrier suggests ligation of the femoral vein to protect once for all the circulation in the leg from the influence of the sudden changes in the abdominal pressure. Aseptic ligation of the femoral is not so dangerous as formerly supposed. To facilitate collateral circulation through the anastomoses in the abdominal wall the saphenous vein should not be ligated near its mouth.

Archives Générales de Médecine, Paris.

January, LXXXVIII, No. 1, pp. 1-64.

51 Solid and Cystic Tumors of Thyroglossal Tract. L. Bérard and A. Chalier.
52 Physiology of the Pancreas. L. Sauvé.
53 Historical Sketch of Laennec. P. E. Launois.

Bulletin de l'Académie de Médecine, Paris.

January 28, LXXII, No. 4, pp. 109-128.

54 The Neurotics of History. (Les névrosés de l'histoire.) L. Nass.
55 *Successful Treatment of Vascular Nevi with Radium. L. Wickham, Degrais and Fournier.
56 *Intestinal Occlusion Consequent on Removal of Uterine Fibroma. J. Boeckel.

55. **Successful Radium Treatment of Vascular Nevi.**—Fournier has been investigating the claims of Wickham and Degrais in regard to the complete cure of vascular nevi under the action of radium, and has found that their claims are substantiated. He says that the cure of extensive nevi without a trace of disfiguring scars renders the method destined to supplant all other technics when the cosmetic result is of importance, while its simplicity commends it for general adoption. The radium salt is mixed with a varnish and spread on a disc which is applied directly to the nevus. The thickness of the varnish filter and the length of the application are varied for the individual cases. A slight ulcerative reaction seems to be required for flat, superficial nevi, while deeper ones require stronger action. Prominent, projecting nevi are best treated by weak doses, frequently repeated, which act without inducing appreciable reaction. There is no destruction of tissue, to leave a defect, but the tissues are modified, and repair proceeds normally, leaving a smooth, regular surface, somewhat paler than the surrounding tissue, but otherwise normal. The application of the radium is entirely painless; the disc can be worn during sleep.

56. **Intestinal Occlusion Consequent on Removal of Large Uterine Fibroma.**—The fibroma in the case reported weighed over twenty-two pounds, and it had crowded the intestines up so high that even after removal of the tumor the transverse colon was held by adhesions and became kinked. Threatening symptoms from this source were met by a second laparotomy, when the colon was incised each side of the obstruction, emptied and sutured; the intestine was then drawn down to its normal place and fastened there. The patient rapidly recovered.

Presse Médicale, Paris.

February 1, XVI, No. 10, pp. 73-80.

57 Technic for Spinal Anesthesia. (Rachistovainisation.) Chaput.

Beiträge zur Klinik der Tuberkulose, Würzburg.

IX, No. 1, pp. 1-198.

58 *Cutaneous and Ocular Reactions to Tuberculin, and Other Clinical Methods of Early Differentiation of Tuberculosis. (Ophthalmo- und Kutan-Diagnose der Tuberkulose.) A. Wolff-Eisner.

58. **Early Differentiation of Tuberculosis by Ocular and Cutaneous Reactions and Other Tests.**—Wolff-Eisner reviews the experience to date with these and other differential technics and experimental research, and the practical conclusions from the findings in disease and in health which he gives in tabulated form. He urges the keeping of careful records of each case, as the findings in thousands of cases should be compared with the ultimate outcome of the cases. He uses a blank form with columns for name, age, stage of the disease (I, II or III); fever, bacilli, conjunctival reaction (day 1, 2, 3, 4); control eye; eventual permanent reaction; repetition of test (same eye, day 1, 2, 3, 4; other eye, day 1, 2, 3, 4); cutaneous reaction (day 1, 2, 3, 4); eventual permanent reaction (? days); repetition (day 1, 2, 3, 4); tuberculin subcutaneously; by-effects; postmortem findings or course of the disease. A similar card is made out for the non-tuberculous, only in place of the column "bacilli," the findings in regard to tuberculosis in the family are recorded (P., *pater*; M., *mater*; Pr., *propinqui*). He believes that the conjunctival reaction is

more valuable for the clinic than the cutaneous. In case of negative conjunctival findings, the cutaneous reaction allows the anatomic diagnosis of healed or inactive tuberculosis; the cutaneous technic also allows control over the technic of the conjunctival test. As the cutaneous test has a tendency to give positive results, negative findings confirm the precision of the conjunctival test. He reviews also the efforts to apply the conjunctival and cutaneous tests to other affections. His experience confirms the importance of the early pronounced reaction to conjunctival instillation as a sign of active resistance to the tuberculosis invasion on the part of the organism, while a feeble or minimal or no reaction indicates an unfavorable prognosis. He comments further on the differential importance of large proportions of lymphocytes in the sputum; they sometimes form from 33 to 90 per cent. of the total cells in the sputum. The presence of lymphocytes is not specific for tuberculosis alone, but it is so rare under other conditions that it is a valuable aid in differentiation of tuberculosis. It excludes the presence of ordinary bacteria or causes of inflammation. As the other affections—whooping cough, tetanus, syphilis and tabes—are not likely to be confounded with tuberculosis, the presence of large proportions of lymphocytes in the sputum is an important aid in the differentiation of incipient tuberculosis. In his colored plates the lymphocytes show up well in specimens stained with Loeffler's methylene blue stain. The blue stain after the tubercle bacilli staining is generally sufficient. He mentions in passing that American clinical thermometers are far preferable to the German, in his opinion.

Deutsche medizinische Wochenschrift, Berlin.

January 30, XXXIV, No. 5, pp. 177-224.

59 The Tuberculosis Question and the Work of the British Commission on Tuberculosis. H. Kossel.
60 Cutaneous and Conjunctival Reaction to Tuberculin. Stadelmann and A. Wolff-Eisner.
61 "New Tuberculin." Tuberculin T. R. (Eine Berichtigung.) W. G. Ruppel.
62 *Skiagrams of Heart Taken from a Distance. (Teleröntgenographie des Herzens.) A. Köhler.
63 *Occult Blood in the Feces. (Blutanalyse der Faeces.) H. Citron.
64 *Vaginal or Abdominal Route for Operating on Tubal Pregnancy in the First Months. (Tubenschwangerschaften.) E. G. Orthmann.
65 Etiology of Abducent Paralysis, Especially Isolated Paralysis. Köllner. Commenced in No. 4.
66 *To Prevent Cloudiness on the Laryngeal Mirror. (Verhütung des Beschlagens der Kehlkopfspiegel.) C. Leuwer.
67 Deterioration of Atoxyl with Age. W. L. Yakimoff.
68 *Necessity for Some Central Institution for the Testing of Secret and New Medicines. (Nothwendigkeit einer Zentralstelle zur Prüfung von Geheimmitteln und neuen Arzneimitteln.) L. Henius.

62. **Teleroentgenography.**—Köhler gives sixteen skiagrams of the heart taken from a distance of six to six and a half feet. This distance exposure eliminates the errors from the tangential rays.

63. **Occult Bleeding in Digestive Tract.**—Citron discusses whether or not a positive reaction to the tests for occult blood is ever given in the absence of bleeding, and also the sources of error to be avoided. He never obtained a positive response to the test, in the absence of actual lesions, when the diet was exclusively milk or vegetable, but in nine instances, on an animal diet, the findings were positive although there were no anatomic or pathologic bases for the reaction. It is necessary, therefore, in applying the test to exclude meat from the diet entirely for two or four days before the test. A considerable amount of feces should be used for the test, not merely a minute scrap. He found the benzidin test with an ether-glacial acetic acid extract of the stool the most sensitive and reliable technic, but only on a milk-vegetable-egg diet. A positive response indicates a probable destructive or atrophying process, and repeated negative findings exclude cancer with almost absolute certainty.

64. **Operative Treatment of Early Tubal Pregnancy.**—Orthmann pleads that the vaginal route avoids shock and all its dangers from the frequently almost pulseless woman, and states that it also allows access to the bleeding point as quickly, if not more so, than abdominal section. The ruptured point is generally close to the uterus and, drawing the tube down, the uterus plugs the opening into the peritoneal cavity. Blood pouring out in this region does not interfere with the operation to such an extent as with abdominal section. The drawing down of the uterus seems to have a tendency to check the hemorrhage. The mortality of 1,176 abdominal sections in 25 different clinics was 8 per cent., while it was only 5 per cent. in 135 operations by the vaginal route. and in his own experience with 57 patients it was only 1.7 per cent., while he lost 12.8 per cent. of the 39 patients treated by abdominal section. His article is based on 228 cases, with operative treatment in 100.

66. **To Prevent Clouding of the Laryngoscope.**—Leuwer has his mirrors made with a space at the back which can be filled with a mixture of sodium acetate and pulverized glass or paraffin, heated to melting point. As the chemical hardens it emits warmth for several minutes, and as the mirror is thus kept warm no droplets of moisture accumulate on it. The mirrors are made a little larger and heavier by this contrivance, but not enough to interfere with the use of the laryngoscope.

68. **Necessity for a Central Institution Where New and Secret Remedies Can Be Tested.**—Henius says that this question has been agitated in Germany since 1900, and that the authorities have repeatedly been appealed to by medical and pharmaceutical organizations. The organized apothecaries of Saxony petitioned in 1903 for the establishment by the government of a department where new chemicals and drugs intended for medicinal use should be studied, and the maximal doses and the advisability of their general sale determined. The apothecaries again agitated the question in 1906, and presented a new petition, but without avail. The same indifference was accorded the petition presented to the department of the interior by the German Antiquackery Association in 1905. which set forth numerous important reasons why the petition should be favorably received and acted on. Among the instances cited in evidence of the present disorder from the lack of some such official institution is the history of "homerian tea," in regard to which the authorities had warned the public, describing the worthlessness and exorbitant price of the remedy. The manufacturers merely changed the name of their product to "polypec" and calmly proceeded to patent it. The public regard the patent as an indication of endorsement by the government, as, if it were a fraud, they say, the government would not grant it a patent. Polypec is now being sold in this way without further interference from the authorities. Henius says that no one knows so well as physicians the harm wrought by "patent medicines" and nostrums, and although they also know the extreme efforts required to start a stone to rolling, yet all must lend a hand now. Physicians must join with the pharmacists in demanding that new drugs as well as "patent medicines" should be placed on the list to be examined by the desired official examining and testing bureau. Large means are at the command of the chemical industries, he adds, and they are striving to conquer more and more fields all the time. The chemical industries have their eyes fastened on the pharmaceutical field, and from the business standpoint it is worth while, for if even one in ten or twenty new drugs wins an established position the gain is great. Their methods of advertising are to herald broadcast a new discovery as the longed-for panacea, without waiting for thorough clinical and experimental tests of the new drug—time is money and they have no patience with scientific delays. In these days of many periodicals and fondness for seeing one's words in print, authors soon begin to write their experiences with the new remedy, and the game is then half won. Reprints are sent out by the thousands and physicians and medical journals are flooded with announcements and circulars. Henius states that in the course of two months recently he received literature in regard to 127 various remedies, and in two numbers of a certain large medical journal he counted 83 advertisements of pharmaceutical preparations in one and 73 in the other. Even with the best of wills, it would be impossible for the physician to keep himself posted in regard to all these, and yet it is important that the physician should have some authoritative knowledge concerning them as the public

sees the advertisements and wants to know about the preparations. It is putting the cart before the horse to allow a new remedy to be freely sold until fatalities from its use compel official restriction of its sale, as has occurred with lysol, antifebrin, veronal, migrainin and others. The Carlsruhe board of health has done some examining of this kind, and it found in 75 secret medicines examined that 48 were absolutely dangerous and 11 others dangerous in the hands of the laity. Thoms and Zernik of Berlin have also been doing good work along these lines in the Pharmaceutical Institute, but it is not equipped nor endowed sufficiently for experiments on a large scale. The expense so far has been borne by private subscriptions, the German Apothecaries' Association contributing generously to the work. Even thus handicapped, the institute has investigated since 1903, 49 new drugs and 162 "patent" and secret remedies. The manufacturers supplied information in regard to 51, but it coincided with the analysis only in 33 instances. Thirty-eight of the remedies had already been investigated by others, but in only 18 cases was the analysis confirmatory of their findings. In several instances the work of the institute led to warnings on the part of the police department. Henius then describes the workings of the Council on Pharmacy and Chemistry of the American Medical Association which, he says, is doing a similar work in America, and publishes in The Journal A. M. A., the results of its investigations, with the result "that the remedies which ring false do not get on the market." This Council on Pharmacy and Chemistry, he continues, has concluded an agreement with the Berlin Pharmaceutical Institute to exchange information and conclusions. "If a remedy investigated here," he adds, "is not approved, it does not get on the market in the United States, while in Germany it is still advertised and pushed without interference afterward as before." He remarks that this experience confirms anew the truth of the saying that a prophet is not without honor save in his own country. The necessity for scientific supervision of commercial claims, he continues, is demonstrated by the experiences with eston, iodovasogen, neu-sidonal, iodofan—which contains 4 per cent. iodin instead of 47 per cent. stated in the circulars—and pyrenol. He remarks in regard to atoxyl that it was on the market for years as "meta-arsenic acid anilid" until it was discovered that it was not this but a sodium p-amidophenyl arsenate, and that it contains not 38 but only 25 per cent. arsenic. It is most remarkable. he says, how this drug masqueraded so long under a false name.

Medizinische Klinik, Berlin.

January 26, IV, No. 4, pp. 111-142.

69 Atherosclerosis and Other Scleroses. L. Aschoff.
70 Present Status of Neuron Theory. M. Verworn.
71 Experiences with the Ocular Tuberculin Reaction. (Ophthalmoreaktion.) P. Krause and E. Hertel.
72 *Measurement of Blood Pressure and Its Importance for Practical Medicine. (Unblutige Blutdruckmessung.) O. Müller.
73 *Therapeutic Injection of Air. (Luftinjektionen.) Loewenthal.
74 *Tuberculin in After-Treatment of Surgical Tuberculosis. C. Kraemer.
75 *Alcohol Soaps. (Alkoholseifen.) K. Gerson.
76 Behavior of Red Blood Corpuscles in Progressive Anemia. (Verhalten der roten Blutzellen bei der Biermerschen progressiven Anämie.) E. Bloch.

February 2, No. 5, pp. 143-176.

77 Conception of Neurasthenia. R. Bing.
78 *Drawbacks and Dangers of the Ocular Reaction to Tuberculin. R. Collin.
79 Retrograde Incarceration of the Intestine. E. Heller.
80 Indications for Hypnotherapy. E. Trömner.
81 Lumbar Puncture in Mental and Nervous Affections. (Lumbalpunktion bei Geistes- und Nervenkrankenheiten.) W. Seiffer.
82 Diabetes as Consequence of Trauma. (Unfall und Diabetes.) P. Zander.
83 Action of Roentgen Rays on Blood and Blood-Forming Organs. (Wirkung der Röntgenstrahlen auf das Blut und die blutbildenden Organe.) P. Linser.

72. **Measurement of the Blood Pressure.**—Müller concludes this exhaustive study of the blood pressure with the statement that in order to have an approximately correct estimate of existing conditions it is important not to trust to any one technic alone, but to compare the findings with the sphygmomanometer, the plethysmograph, etc. Only when the pulse is studied in regard to pressure, current and volume do the results give an accurate general picture of the actual condition.

73. **Injections of Air in Therapeutics.**—Loewenthal explain the benefit from injection of air in neuralgia and in chroni inflammatory changes in the nerve trunks, muscles, ligament and projecting bones, as due to the interposition of an ai cushion between the inflamed tissues and the parts resting o them. An air cushion applied outside spreads the pressur of the outer world over such a large surface that the sensitiv parts feel it less. The same thing occurs when air is injecte over the aching part of the sciatic nerve, for example. He repeats the injection of air once or twice a week as the injected air becomes absorbed. Pain is relieved at once and final recovery hastened as the air loosens up the pathologic tissue and releases the nerve from neuritic and perineuritic adhesions. The best results have been attained in sciatica and in coccygodynia. It is an easy matter to inject air into the tissues over the coccyx, and this relieves the patient for six or seven days. The results are not so constantly good in intercostal neuralgia. He has not found that pure oxygen gives any better results than air alone, but experiments with carbonic acid seem to suggest promising results in this line, as the carbonic acid displays a stimulating though not destructive action on the nerve tissue.

74. **Benefits of Tuberculin in After-Treatment of Surgical Tuberculosis.**—Kraemer calls attention to the positive reaction to tuberculin so frequent after entire healing of surgical tuberculous affections, especially in children. He believes that this indicates the persistence of a primary focus, and that it behooves the physician to eradicate this primary focus before dismissing the case as cured. Otherwise the tuberculosis may flare up again and the patient prove a source of contagion for others. During the last few years he has encountered forty patients with pulmonary tuberculosis who earlier in life had had some tuberculous process in the bones or joints, or in the glands of the neck or the genital organs. These patients, he asserts, might have been spared their later pulmonary tuberculosis if the disease had been thoroughly eradicated during the surgical stage. The family physician and the surgeon should realize when confronted with a case of surgical tuberculosis that operative treatment is only symptomatic—no matter how extensive it may be—except in the rarest of cases. The primary focus in some bronchial gland or elsewhere persists unmodified; it was the source of the surgical affection and it may prove the source for pulmonary or other lesions later, either by way of the blood or lymph glands or by encroaching growth. The primary focus may and sometimes does heal, but the physician should not hazard the patient's health or life on such a remote contingency. The efficacy of systemic tuberculin treatment was emphasized, he adds, at the Convention of Sanatorium Physicians at Berlin last spring and at the Naturforscher Congress in the fall, where the harmlessness and the usefulness of tuberculin were extolled.

75. **Alcohol Soaps.**—Gerson states that the use of tin tubes prevents evaporation of the alcohol in a soft, 50 per cent alcohol soap, and that soap of this kind, used with finely pulverized sand dust, is an improvement in the technic of disinfection of the hands. The sand dust prevents the evaporation of the alcohol and penetrates with it into the depths of the skin, adding mechanical disinfection to the chemical.

78. **Drawbacks and Dangers of Conjunctival Reaction to Tuberculin.**—Collin is an ophthalmologist, and he expresses amazement at the heedless way in which tuberculin has been instilled into the eye with nothing to guarantee its harmlessness. He points out that even in the hands of an expert it is difficult to be certain as to the amount of the drug that really reaches the conjunctiva and is absorbed when a solution is instilled into the eye. As the amount of the tuberculin absorbed from the instillation is thus liable to vary, the findings in the reaction become unreliable; negative findings may be the result of an insufficient amount of the tuberculin having reached the conjunctiva. A specific reaction can be assumed only when it is certain that the eye has not been rubbed or scratched after the instillation, and that the eye was free from any pre-existing acute or chronic affection, especially a follicular or trachomatous catarrhal condition. The general

practitioner is not equipped to decide positively in regard to the absence of all tendency to catarrhal, tuberculous or other pathologic conditions in the eye. A positive response to the test should be judged with caution if the patient has any personal advantage to gain in posing as tuberculous, to obtain sick benefit or for other reasons, as rubbing the eye or irritating it with a little salt might easily simulate the specific reaction. This alone is sufficient to exclude the ocular reaction from use in the army and navy. Collin adds that the tendency of the conjunctival reaction to recur when tuberculin is instilled or injected again later, throws a difficulty in the way of later systematic tuberculin treatment, as the patient would have to reckon with a possible eye affection of unknown duration. In regard to the alleged harmlessness of the ocular reaction he warns that any acute catarrh of the conjunctiva —and this is what the ocular reaction amounts to—entails a number of subjective symptoms and the possibility of ulceration of the cornea. The so-called catarrhal ulcerations are generally at the edge of the cornea and are easily overlooked by an untrained observer, but they may develop into a penetrating ulcer. Even without the sequel of ulceration, every acute conjunctival catarrh should receive treatment by a specialist to prevent the condition becoming chronic. He has had opportunity to examine the eyes of thirty persons who had had tuberculin instilled. Among them he found five cases of such severe conjunctivitis, that, as an ophthalmologist, he feels constrained to warn that this measure must no longer be recommended as harmless, especially in the hands of the general practitioner.

Münchener medizinische Wochenschrift.

January 28, LV, No. 4, pp. 153-208.

84 Living Animals Artificially Joined Together. (Parabiose künstlich vereinigter Warmblüter.) F. Sauerbruch and M. Heyde.
85 *Meat Poisoning and Agglutination Test. (Fleischvergiftung und Widal's Reaktion.) H. Liefmann.
86 *Modern Serodiagnosis. Fornet.
87 Etiology of Fowl Cholera. (Hühnerpest.) S. Prowazek.
88 Experiences with Cutaneous Reaction to Tuberculin. (Die v. Pirquetsche kutane Tuberkulinreaktion.) W. Goebel.
89 Contusion of Duodenum. (Verletzung des Duodenums durch stumpfe Gewalt.) Steinthal.
90 *Symptomatology of Pleurisy with Effusion. (Pleuritis exsudativa.) H. v. Schrötter.
91 Restriction of Abdominal Operations in Favor of the Vaginal Route. (Einschränkung des Leibschnittes durch vaginale Operationsmethoden.) H. Lehmann.
92 Munich Infant Consultations and Dispensaries. (Säuglingsfürsorge.) K. Oppenheimer.
93 Constriction and Suction Hyperemia in Therapeutics. (Behandlung mittels Hyperämie nach Bier.) Gebele. Commenced in No. 3.

85. **Meat Poisoning and the Agglutination Test.**—Liefmann reports an epidemic of enteritis with much exhaustion and throat symptoms affecting 50 soldiers in barracks and also the inmates of an asylum which obtained meat from the same source, as also the men in the butcher shop. The serum of these patients agglutinated typhoid bacilli and also Gaertner's bacilli, but other circumstances, especially the discovery of Gaertner's bacilli in the stools of three soldiers suggested that these germs were responsible. Two of the men in the butcher shop had these bacilli in their stools and presented the characteristic agglutination reaction, although one had not been made ill by eating the meat assumed to be responsible for the poisoning, and another had only been slightly affected and had ascribed his trouble to another cause. The agglutination test with paratyphoid bacilli also gave positive results in the patients. Those patients who ate the meat uncooked were most seriously affected, but even cooking the meat did not prevent the poisoning. He ascribes it to some animal slaughtered while infected with Gaertner's bacilli, although direct proof was not forthcoming. He found, however, that the meat in question had been treated with considerable sulphuric acid as a preservative, and suggests that the presence of this chemical might have aided in the production of the enteritis. About 0.01596 gm. of sulphur dioxid was found in each gram of the meat examined. He mentions that 60 in 147 patients in the hospital gave a positive response to the agglutination test with typhoid bacilli, and 25 of this group agglutinated also the Gaertner strain. In 87 other cases the Widal was negative and none of these patients agglutinated the Gaertner strain.

86. **Modern Serum Diagnosis.**—Fornet reviews what has been accomplished in this line, especially with precipitins and opsonins, the whole showing great progress along manifold lines toward exact diagnosis.

90. **Symptomatology of Pleurisy with Effusion.**—H. von Schrötter illustrates the findings with the bronchoscope and esophagoscope in a woman whose symptoms indicated compression of the air passages from an effusion or tumor in the thorax. The findings showed elastic compression of the left bronchus above the bifurcation, evidently due to effusion in the pleural cavity, and the stenosis vanished after removal of the fluid. In another patient, a girl of 15, symptoms of extreme stenosis of the trachea vanished entirely after removal of a right pleural effusion. In another case the stenosis was shown by the bronchoscope to be the result of traction from adhesions left from an old pleurisy. The right wall of the chest had shriveled and the trachea had been twisted on its axis to a certain extent.

Therapie der Gegenwart, Berlin.

January, XLIX, No. 1, pp. 1-48.

94 *The Therapeutics of the Present. (Therapie der Gegenwart.) W. His.
95 *Phosphaturia. (Zur Prophylaxe der Nierensteine.) G. Klemperer.
96 *Dangers of Administration of Scopolamin and How to Avoid Them. (Gefahren der Skopolaminanwendung.) H. Kionka.
97 *Treatment of Flat Superficial Cancer. (Behandlung der flachen Hautkrebse.) E. Lexer.
98 *The New Movement in Obstetrics. (Die neue Bewegung in der Geburtshilfe.) A. Döderlein.
99 Prophylaxis and Treatment of Ophthalmia Neonatorum. (Augeneiterung der Neugeborenen.) R. Greeff.
100 Present Status of Operative Treatment of Certain Forms of Emphysema of the Lungs. (Freundsche Operation.) F. Klemperer.
101 Present Status of Roentgen and Phototherapy of Cutaneous Affections. (Hautkrankheiten.) P. Mulzer.

94. **The Therapeutics of the Present.**—His comments on the reaction from therapeutic nihilism, which characterizes the day, and recalls that in 1899 when the flood of new drugs reached its highest point he, with Pauls, urged the appointment of a committee to report with objective criticism on the drugs put on the market during the year. The suggestion was frowned down by von Bergmann and others, who feared that independent research would be checked by the work of such a committee, while the manufacturing druggists opposed it on other grounds. The expense of advertising and pushing a new drug is so great now, however, that the German manufacturers do not care to attempt it unless they are convinced that the drug has actual permanent value. The number of medical writeups has also declined in late years. Many honest writers rushing into print in their enthusiasm over the effect of some new drug in a few cases, found afterward that injurious by-effects or absolute uselessness were demonstrated later by the drug they had been lauding, and they decided to refrain from such overhasty conclusions in future. Besides the leading manufacturing firms, he adds, there are other, less scientific, houses which strive to make money out of old familiar drugs by new combinations and a catchy name, or by substituting some cheaper, less reliable drug for some old standby. From these firms down to the actual nostrum makers the dividing lines are very vague, and it is hard for even an expert, and absolutely impossible for the general practitioner, to sift the grain from the chaff, particularly as he is flooded with misleading literature. This evil is so serious that His believes that the time has now come for concerted action against it. Many circles are interested in its suppression, the Imperial Health Office, the Pharmacopeia Commission, the Leipzig Association for Protection of the Material Interests of the Physicians of Germany (*Leipziger Verband*), the sick benefit societies, scientific associations, the general public, and, last but not least, the thoroughly reliable firms which would enter gladly into a combination to do away with dishonest competition. Medical students should be taught to think physiologically, and should be trained in pharmacology. They should know the work of the various organs and the possibilities of their being influenced by drugs, so that they can put a new preparation in its proper place, fitting it into what they already know, viewing it critically and not letting themselves

be deluded by too credulous anticipations. Young physicians should be equipped with useful recipes instead of hoary theories. It must be confessed. His adds, that experimental pharmacology has wandered too far from the clinic, but it recognizes this, and it is now striving to remedy it. Experimental, chemico-physiologic pharmacology must not take the place of systematic pharmacologic training, but supplement and stimulate it. Physicians trained to discriminate will not be so easily misled by the specious advertising methods of the promoters of new drugs or combinations of familiar drugs, and will rate at its true value the literature they receive.

95. **Prophylaxis of Kidney Stones.**—Klemperer reviews the scanty knowledge in regard to prophylaxis of phosphaturia, and describes his clinical experience with measures to prevent formation of phosphate stones in the kidneys. He mentions the efficiency of small doses of oxalic acid in this respect. Phosphaturia may be the result of bacterial action, and in this case energetic local treatment of the urinary affection is required with internal measures to render the urine bactericidal. Aseptic phosphaturia may be the result of precipitation of the calcium phosphate from alkaline modification of the reaction of the urine, or from an excessive proportion of calcium salts. When there is hyperacidity or hypersecretion in the stomach, an excessive amount of acid is retained in this organ, which upsets the balance elsewhere; the result is an undue proportion of phosphates in the urine, although the absolute amount is within normal range. In case of inability on the part of the intestines to eliminate the normal proportion of lime, or when the kidney displays an excessive avidity for lime, the resulting excess of lime salts in the urine may be much above normal limits, with consequent phosphaturia and formation of phosphate stones and gravel. It is in these cases—of which he has seen nine typical ones—the avidity of the kidneys for lime can be combated by restricting the food to contain not more than 0.5 gm. (7.5 grains) of lime in the twenty-four hours, or by administration of 0.3 gm. (5 grains) of oxalic acid with 3 gm. (45 grains) sodium bicarbonate, dissolved in 200 gm. (℥viiss) water. This amount of oxalic acid in the twenty-four hours seems to be entirely harmless for the stomach, kidneys and the metabolism in general, as he shows by the tabulated findings in several cases. Similar benefit was derived also from minute doses of bichlorid of mercury .0015 gm. (1/40 grain) in water in the twenty-four hours. Neither of these drugs showed any effects when given to healthy persons in this dosage. The symptoms in the cases of phosphaturia, aside from the presence of stones, were mainly those of neurasthenia and hyperacidity.

96. **Dangers of Scopolamin Anesthesia.**—Kionka reports experiences which demonstrate anew the difference in the reaction to scopolamin in different persons; also, that differences in the physical behavior of different specimens of scopolamin do not seem to affect its action. The difference in the reaction is due to the peculiarities of the individual, not of the drug, and this difference in the individual reaction is most pronounced in the more highly developed species and probably also in pathologic conditions. He states that scopolamin which is optically inactive does not change with age, while all the optically active specimens—especially solutions—change their physical properties, gradually losing their rotating faculty while the melting point drops. Admixture of the dangerous alkaloid, apoatropin, can be detected, he says, by adding a drop of a solution of potassium permanganate to a dilute solution of scopolamin. In the presence of apoatropin, even 1 part in 20.000, the fluid turns brown. This reaction is liable to occur when a solution has been kept for some time, even when previous applications of the test had given a negative result. It means, in this case, merely contamination with some organic substance, and this interpretation is correct sometimes under other conditions. Ready-made preparations combining scopolamin and morphin may deteriorate with age.

97. **Treatment of Flat Superficial Cancer.**—Lexer has had occasion to observe some cases of comparatively small skin cancers apparently healing under Roentgen treatment and reported as "cures." Time revealed, however, that the cancer was still at work beneath the apparently healed cicatrix, and when it broke through the growth was generally inoperable. In other cases recurrence was soon observed. He thinks that the lymph glands are liable to become involved during the long course of Roentgen treatment necessary for a cure. For these and other reasons cited he declares that Roentgen treatment alone is justifiable only in case of basal-celled cancer, the corium carcinoma. In all other forms of cancer operative treatment is imperative, as they resist more effectually the action of the Roentgen rays. The main point, therefore, is to differentiate early this special variety of cancer. If with even the basal-celled carcinoma, there is the slightest indication of hardening of any glands, then operative treatment is imperative unless contraindicated by age and weakness. Operative treatment should be the rule for all other forms of superficial cancer. He covers the defect with flaps of skin taken from the arm; epidermis is liable to shrink and shrivel. All inoperable cancers, he declares, should be given the benefit of Roentgen treatment.

98. **The New Trend of Obstetrics.**—Döderlein refers to the greater prevalence of expectant management of childbirths, even with contracted pelves, and the revolution in regard to operative measures when intervention becomes necessary. He believes that his technic of subcutaneous pubiotomy—which he has applied in thirty cases—is destined to revolutionize the indications for operation with contracted pelvis.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Vitality, Fasting and Nutrition. By Hereward Carrington, Member of the Council of the American Institute for Scientific Research and Author of The Physical Phenomena of Spiritualism, with an Introduction by A. Rabagliati, M.A., M.D., F.R.C.S., Hon., Gynecologist and Late Senior Hon. Surgeon Bradford Royal Infirmary. Cloth. Pp. 648. Price $5.00. New York: Rebman Co., 1908.

Laboratory Studies in Tropical Medicine. By C. W. Daniels, M.B., Camb., M.R.C.S., Eng., Director of the London School of Tropical Medicine, and A. T. Stanton, M.D., Tor., M.R.C.S., Eng., D. T. M. and H., Camb., Demonstrator London School of Tropical Medicine. Cloth. Pp. 491, with illustrations. Price $4.00. Philadelphia: P. Blakiston's Son & Co., 1907.

A Short Practice of Gynecology. By Henry Jellett, B.A., M.D., B.Ch., B.A.O. (Dublin University), F.R.C.P.I., Gynecologist and Obstetrical Physician to Dr. Steevens' Hospital. Cloth. Pp. 518, with 310 illustrations. Price $5.00. Philadelphia: P. Blakiston's Son & Co., 1908.

Text-Book of Ophthalmology. By Dr. Ernst Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized Translation from the German Edition with numerous additions by Alexander Duane, M.D. Surgeon Ophthalmic and Aural Institute, New York. Cloth. Pp. 908, with 441 illustrations. Philadelphia: J. B. Lippincott Co., 1908.

Diseases of the Breast with Special Reference to Cancer. By William L. Rodman, M.D., LL.D., Professor of Surgery in the Medico-Chirurgical College of Philadelphia. Cloth. Pp. 385, with 111 illustrations. Price $4.00. Philadelphia: P. Blakiston's Son & Co., 1908.

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The Physician's Automobile

Its Advantages and Disadvantages.

A DISCUSSION OF CARS, TIRES, MOTORS, ROADS, CHAUFFEURS, AND REPAIRS.

PROFITING BY THE OTHER MAN'S EXPERIENCE.

ROLANDUS G. WALKER, M.D.

DENVER.

BUY a car proved good by others' experiences. Do not buy a machine that was worn out by a previous owner, or one that was built to sell cheaper than a good, substantial automobile can be sold. My car has proved a great satisfaction to me. It is a well-made, four-cylinder runabout (102*), 20 h. p., easy access to all working parts, plenty of space for satchels, rides easily and is operated economically.

Advantages of Automobiles.

The advantages of automobiles as compared with all other vehicles are, in brief, their speed, absence of fatigue, ease of control in not running away, in not starting unbidden, in being safely left untended, in excellence of brakes, economy in requiring less stable room, less immediate attention on return from a journey, and less lengthy attention before starting on one, the access they give to beautiful scenery, the access to a large circle of friends when living in the country, and the access to the country when in town, the health they bring with fresh air, all united with an absorbing pursuit, distraction from work, ease of traveling, and perfect harmlessness in the streets.

The horse and buggy can not be compared with an automobile for genuine pleasure, health and excitement. For the busy, overworked doctor, it is better than medicine, vacations or religion. It makes one forget he is living in a world of sorrow and trouble, or that some day he must die. It makes him feel that if he must die the auto route is the best. If one is at all inclined to mechanics, the few minutes each day spent in putting the machine in shape is pleasant diversion. You become a part of your machine, and it becomes a part of you. Much of the pleasure of running a car is in knowing its mechanism.

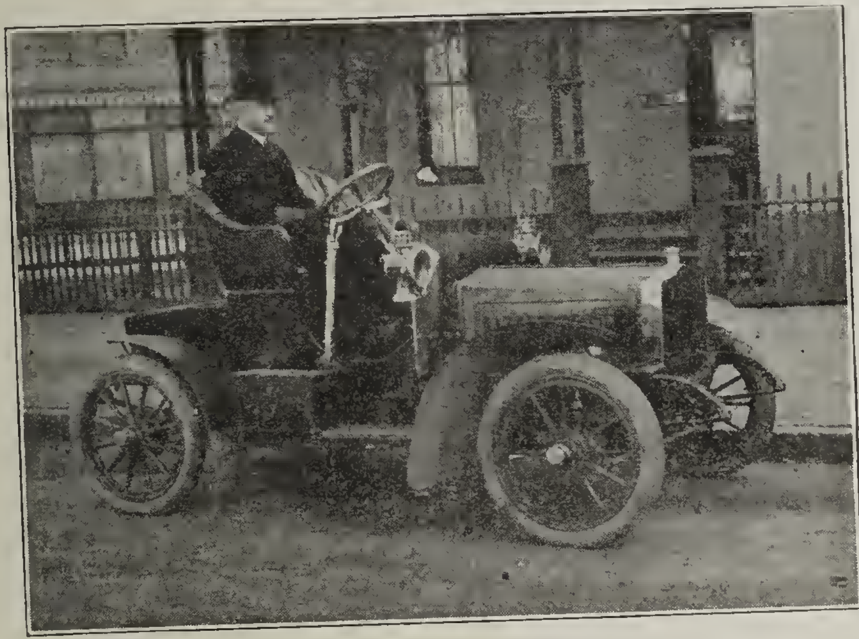

Fig. I.—Dr. R. G. Walker, Denver, in his very satisfactory car (102), just leaving his office.

Automobiling a Recreation.

To run a car is one of the most pleasant recreations for the busy doctor. We generally are too busy to take our rest at regular times, and to be able daily to alternate our work with the exhilarating effects which come from a spin in an auto, while going from home to home, is to me a pleasure and a recreation that I can get in no other way. For a doctor to be able to fly on the wings of volatile gasoline to the relief of his patients is also a satisfaction. To the busy professional man, trying to carry with him the troubles of his patients, and to the homebody whose humdrum life needs broadening, we commend an auto trip Not a cut-and-dried affair, where the details have been arranged in advance, but a go-as-you-please, with no definite route in view. Just go when and where the spirit moves you. Don't hurry. Take things easy, and if you come to a broken bridge, don't swear, just consider it one of the experiences, back up and find another way around. It is these unexpected things that bring the best recreation. Let down the top and give the sun and air a chance to get at you. They are both great gifts and ought not to be shut out. Stop at every town, talk with its people, compliment them if you see anything worthy, and carry home with you added knowledge of human nature and a sense of satisfaction that will do you good.

The Auto a Time Saver.

The automobile is a great time saver, which is an item of great importance to the physician. The auto enables the physician to spend more time in his office, which can be profitably employed in reading and studying or recreation, the value of which can not be computed in dollars and cents. The saving of time, the fresh air, the forgetting of little annoyances, the absorption in the car in motion, and the possessing of a hobby which one enjoys while actually doing his work, bring the doctor home at night fresh and ready for his reading.

Study Your Car.

Study and understand your car as you do the human body. Learn to diagnose your trouble when it arises, understand the physiology of your engine so you will recognize anything pathologic. Apply the treatment just as scientifically as when you prescribe drugs in your daily practice. The great satisfaction in running a car is in knowing its anatomy, physiology, pathology and the proper treatment when trouble comes—and come it will, sometimes. Know the anatomy of your car, and be able to tell by its pulse and respiration whether it is doing perfect work. The carburetor is the heart of a gasoline machine, and the trained ear of a physician quickly detects any departure from the normal heart sounds. The normal sounds and pulsations of an engine are as characteristic as normal heart sounds, and to the discriminating ear any murmurs or irregularity of sounds are quickly diagnosed. The automobile is not nearly so complicated a piece of machinery as the human body. The requisite knowledge to run a machine successfully can be acquired easily by any natural born physician, for he is acquainted with mechanics and has his faculty of observation well developed, always on the lookout for deviations from the normal. Do not get discouraged, for remember it took you four years of hard study to become a doctor, and perhaps years of experience have made the art of healing easy for you; so months of experience may make you proficient in handling an auto.

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* For key to automobile names, see editorial explanation, page 773.

When something goes wrong with your car, do not say it is no good, that it costs more than horses. You probably have given the machine no attention, nor do you allow sufficient time to repair the car. Usually the owner waits until something breaks before purchasing parts. The moment a horse shows signs of straining or lameness, he is laid up for repairs. The motor car, on the contrary, goes on until the break occurs, and then the owner puts the blame where it does not belong. Locomotives and electric cars are looked after systematically; give the auto the same care and it will prove a good servant and a money-making investment for the doctor.

Again the Tire.

The most annoying, the most ardor-chilling, of all automobile troubles is undoubtedly tire trouble. It is likewise one of the most expensive, yet nine-tenths of all tire trouble and expense is easily avoidable. A car can be so fitted with tires that they will wear double or triple the average length of time, so that punctures and blow-outs will be almost unheard of. To secure these results use larger tires than necsesary, and by so doing decrease the weight on them (especially the driving tires); have them made of good rubber and fabrics; have easy springs under the car; have a clutch that does not jerk, and five-tenths of your tire trouble is gone. Keep them pumped up; don't ride them flat; don't let water or rust rot them; don't get the habit of making fancy quick stops or starts, and you will avoid another four-tenths, leaving about one-tenth to luck.

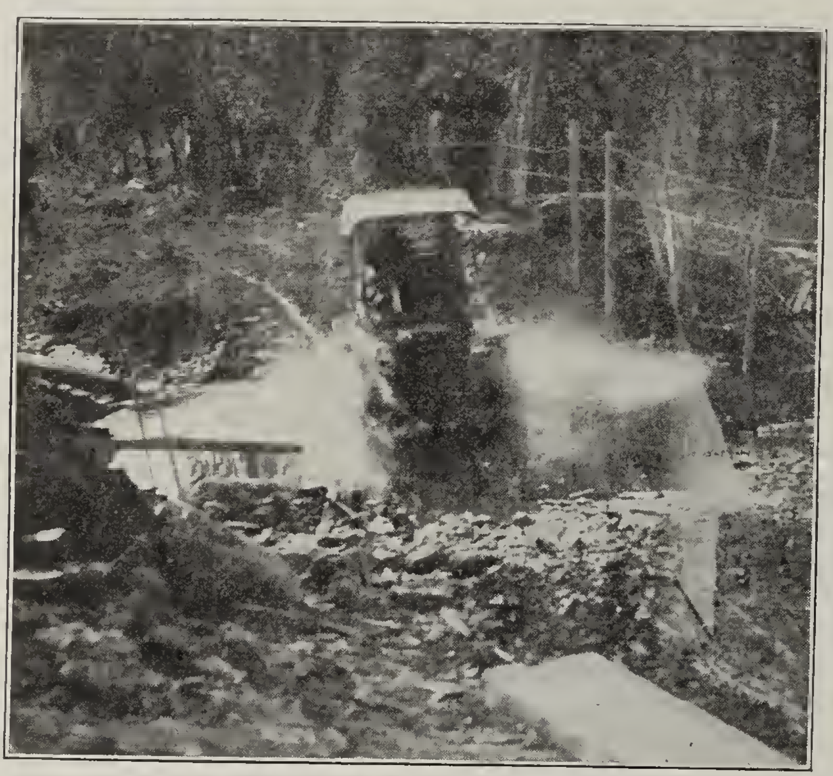

Fig. 2.—The auto that will compete with horse and buggy must occasionally tackle a proposition like this.

Water-Cooled Motors Preferred.

Many things are best for certain purposes and worst for other purposes, and this applies to air and water-cooled motors. The conditions under which a gas engine works vary quite widely at best, and a further variation does not improve the results. The water-cooled motor being kept at a fairly constant temperature does not vary so widely as the air cooled, giving results more constant. This is the verdict that most makers have accepted and they prefer water-cooled because of the lessened possibility of trouble. The inner wall of the cylinder is exposed to a very high heat, which travels through the wall as rapidly as the iron will conduct it. It makes no difference to the engine how this excess heat is carried away. With water cooling the walls will generally be kept cooler than by air cooling, and a lower fire test of oil may be used, an oil not quite so stiff, and will therefore permit easier starting on a cold morning.

One of the standard "anti-freeze" solutions is as follows: Three quarts of wood alcohol and one quart of glycerin. To every gallon of this anti-freeze solution add two gallons of water. This mixture will not freeze at 40 degrees below zero.

How to Avoid Skidding.

Particular attention should be given to the matter of avoiding and controlling the phenomena of skidding. This freakish and dangerous antic of the car, which consists in starting off at a tangent on a wet pavement, and possibly turning around before stopping, if, by good luck, the curbstone or another vehicle is not struck, may be avoided by driving slowly whenever the road surface is wet, and by religiously avoiding all abrupt turns and sudden applications of the brake. It is well also to release the clutch when making a turn, so that no driving power is being applied to the wheels, and the car simply coasts smoothly. To slow down, also, use the throttle where possible, rather than the brakes, and in general aim to drive as if you had no brakes at all. It is a good plan to run as close to the curb as practicable, so that if a side slip should occur the car will not have time to gather momentum before it strikes the curb, providing it skids in that direction. Never change gears on a slippery pavement if you can help it. If you must do so, engage the clutch very carefully.

Skidding may be controlled, when it occurs, by turning the front wheels in the same direction in which the rear wheels (which are almost invariably the ones to slip) start to slide. Thus, if the rear of the car suddenly swings off to the right, the front wheels should be turned to the right, which likewise deflects the front of the car in the same direction. This equalizes the lateral movement fore and aft, and may be compared to the process by which a cyclist keeps himself upright by slight changes in his direction.

One-Third the Time, One-Half the Expense, of a Horse.

Formerly I had three horses, five carriages and a hostler to look after my turnouts. I have discarded all these and I now do more work in one-third the time, at one-half the expense, and derive ten times the pleasure. I am an automobile enthusiast, and would not exchange my auto for the best team, outfit and coachman.

THE AUTOMOBILE AS A PHYSICIAN'S VEHICLE.

H. A. STALKER, M.D.
POND CREEK, OKLA.

When the last Automobile Number of The Journal was published, I was one of those plodding country practitioners pondering the problem of more rapid locomotion. Often I returned from a long, dusty drive to find I had lost more business in my office than my trip amounted to, saying nothing of the physical fatigue. Finally I bought a two-cylinder, 10 horse-power, water-cooled, shaft-drive runabout (183*) which I used to learn on.

I fooled along with this car for seven months, and finally succeeded in turning it back on the company I purchased a new car (203), 22 horse-power, two-cylinder, water-cooled engine, which did not depend on air pressure to feed oil to its mechanism nor on gravity to keep up the water circulation, a pump having been installed in each one of these circuits which did the work to perfection.

Dolce Far Niente.

From that time until now I have not known what trouble meant; my car has been a perfect dream. Mud, hills and sand are petty annoyances, meaning simply a slack in speed, if very bad; nothing more. My car only requires 2½ gallons of water to fill pipes and radiator, and the waste is so trifling that I do not look to it oftener than once a week, when driving continuously.

Save Time and Do More Business.

To assert that it costs no more to run a car than to keep up a team is absurd. But if one considers the time saved on the road, and the consequent additional business made possible, to say nothing of the lessened physical discomfort, a busy practitioner will find a large balance on the side of the motor car. It is my opinion, based on an experience of nearly two years, that with the right car, in a country adapted to its use, a busy practitioner will do enough additional business in two years to pay for his car and all running expenses. Do not be afraid of getting too much horse-power. The intense vibration of a powerful engine gives a very pleasurable sensation of assurance to a fellow in a tight place.

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* For key to automobile names, see editorial explanation, page 773.

BELIEVES IN THE AUTOMOBILE.

HORACE G. WETHERILL, M.D.

DENVER.

My first automobile was an 18-20 horse-power touring car (144) weighing 1,300 pounds. It had ample power, but was of the early type with the engine under the body, consequently, inconvenient and expensive to maintain and repair, and unsatisfactory for business purposes. My second car (145) was an electric of standard make, and was very convenient and satisfactory for use about a city with good streets. It was, however, very expensive to maintain and keep in repair, the necessity for new batteries and tires making the average cost in the neighborhood of $60 a month; and, of course, its mileage was limited.

A Splendid Endorsement.

My present car (146), a 12-14 horse-power runabout, is, from the standpoints of economy in operation, freedom from road troubles, power and speed, absolutely satisfactory. I recently ran it about 190 miles over our rolling roads, including some bad stretches of sand, on eight gallons of gasoline. The sum total of trouble was a puncture and an adjustment of the high-speed clutch. The engine never missed a beat. The car is shaft driven, with the engine under the hood, and my experience and knowledge about gas engines lead me to conclude that the engine is by far the most efficient and satisfactory of its type. There are two cylinders, and for a two-passenger car of its weight I can conceive of no reason for having more than two cylinders. The engine is very quiet and the operation of so light a car, with its planetary gear, is very easy and satisfactory. The great range of speed and power on "the high" makes it an ideal car for a doctor's use. My bill of expense has not exceeded $12 for any month since I have driven it. The car has been in daily use and some rather long out-of-town trips have been made.

Buy a Car Whose Makers Will Treat You Right.

One point in particular should be considered in purchasing a car, which is the willingness and readiness to make good any of the little imperfections which all new cars may develop. Buy a car of a local dealer and manufacturer who will "take care of you;" in this respect I have found the local agent and the manufacturer of my car ready to make good all such minor defects. I shall use equal parts of alcohol, glycerin and water this winter. I have no hesitation in expressing a preference for a water-cooled car. The loss of power and the great consumption of oil in the air-cooled cars more than overweigh their alleged advantages.

THE AUTO HAS COME TO STAY.

EDWIN OLANDER, M.D.

ST. PAUL, MINN.

An automobile number of THE JOURNAL is certainly a good thing for the doctor, for the auto has come to stay. For the benefit of a prospective buyer I wish to sum up my own conclusions as follows:

1. The greater the number of cylinders the better the efficiency (up to six cylinders), but expense, up-keep and trouble increase according, without fail!

Once Frozen Up Is Enough!

2. The air-cooled machine has come to stay. It is the machine for the doctor who has no time to fool with anti-freezing mixtures in winter. One experience with a leaky or frozen radiator is enough.

3. If anti-freezing mixtures must be used, a combination of 1 part wood alcohol, 1 part glycerin and 3 parts water will stand any temperature down to zero. Below this it will congeal into a mushy consistency, easily broken up and melted. Draining the radiator over night in weather below zero is the safest plan.

4. For the physician with moderate income, the small car is to be preferred. Tire, gasoline, oil and electricity expense increase with size of car, other things being equal.

Favors the High-Wheeler.

5. For the physician who must travel sandy or muddy roads and deep snow, the high-wheeler, solid-tire machine, with at least 10 or 12 horse-power is the proper one to choose. For good roads and paved streets the pneumatic-tired machine is, of course, easier riding, but more costly in up-keep. Any large high-powered machine fitted with chains can go where no horse and buggy could go; but so can a high-wheeler of sufficient horse-power. The former is for the doctor who has $3,000 to pay for an auto, the latter for the man who has from $300 to $1,000.

Fig. 3.—Nearly snowbound, but still victorious, Dr. Frederick Menge, Chicago (auto 226).

6. To the physician who has no one to take care of an auto, and who is not himself mechanically inclined, I would say, "Stay clear of an automobile." To others I would say, "Get an automobile." From my experience I recommend that one buy a high-wheeled machine (111) if he has bad roads. If the physician is in the city, there are a number of air-cooled (112) or water-cooled (113) cars that have good points in their favor.

THE AUTO BOTH CHEAP AND EFFICIENT.

O. W. COSBY, M.D.

MONROE, LA.

My three years' experience with a gasoline runabout (137), has been most favorable. I find the four-cylinder car of simple design infinitely better than the single cylinder. Hills are not insuperable obstacles to a good auto; neither is sand nor loam; with my car I have never found mud too deep to pull through.

For my use an auto is cheaper in dollars and cents than a horse, and does the work of four or more; it is always ready and never out of order if let alone. With the occasional assistance of a skilled and honest mechanic, this car can be run night and day, rain or shine, up hill and down. It has absolutely never failed me. Specially covered tires (138) will prevent skidding, also wear and tear on tire.

WOULD NOT PRACTICE WITHOUT AN AUTO.

GEORGE KESSEL, M.D.

CRESCO, IOWA.

This is my third season running an automobile, and I would not care to practice medicine without it. The summer season is now one of pleasure in my practice instead of drudgery. A country trip that formerly kept me away from my office four hours, now keeps me only two hours, and often less. It is the same as if the day had forty-eight hours instead of twenty-four.

More Speed Than He Dare Use.

My car is a two-cylinder, gasoline runabout (185), 18 horsepower, water-cooled, and weighs 1,600 pounds. It has all the power I need, far more speed than I dare use, is simple and strong in construction, and very easily managed on the road. It has given me entire satisfaction and much pleasure.

Care of the Auto in Winter.

The antifreezing mixture that has proved efficient and non-injurious to the metals of radiator and pump is a solution of 25 per cent. denatured alcohol in soft water during the early fall, and about 33 per cent. later. In the winter season my machine is carefully housed. The tires are removed, and kept in a warm and dry place, the radiator is removed and stored in a warm place, as it can not be drained completely of the mixture. In the spring every part of the machine is thoroughly cleaned, polished and oiled. The rims of the wheels are also well cleaned of rust and polished before the tires are replaced. This is a good precaution and prevents rim cutting and otherwise injuring the tires.

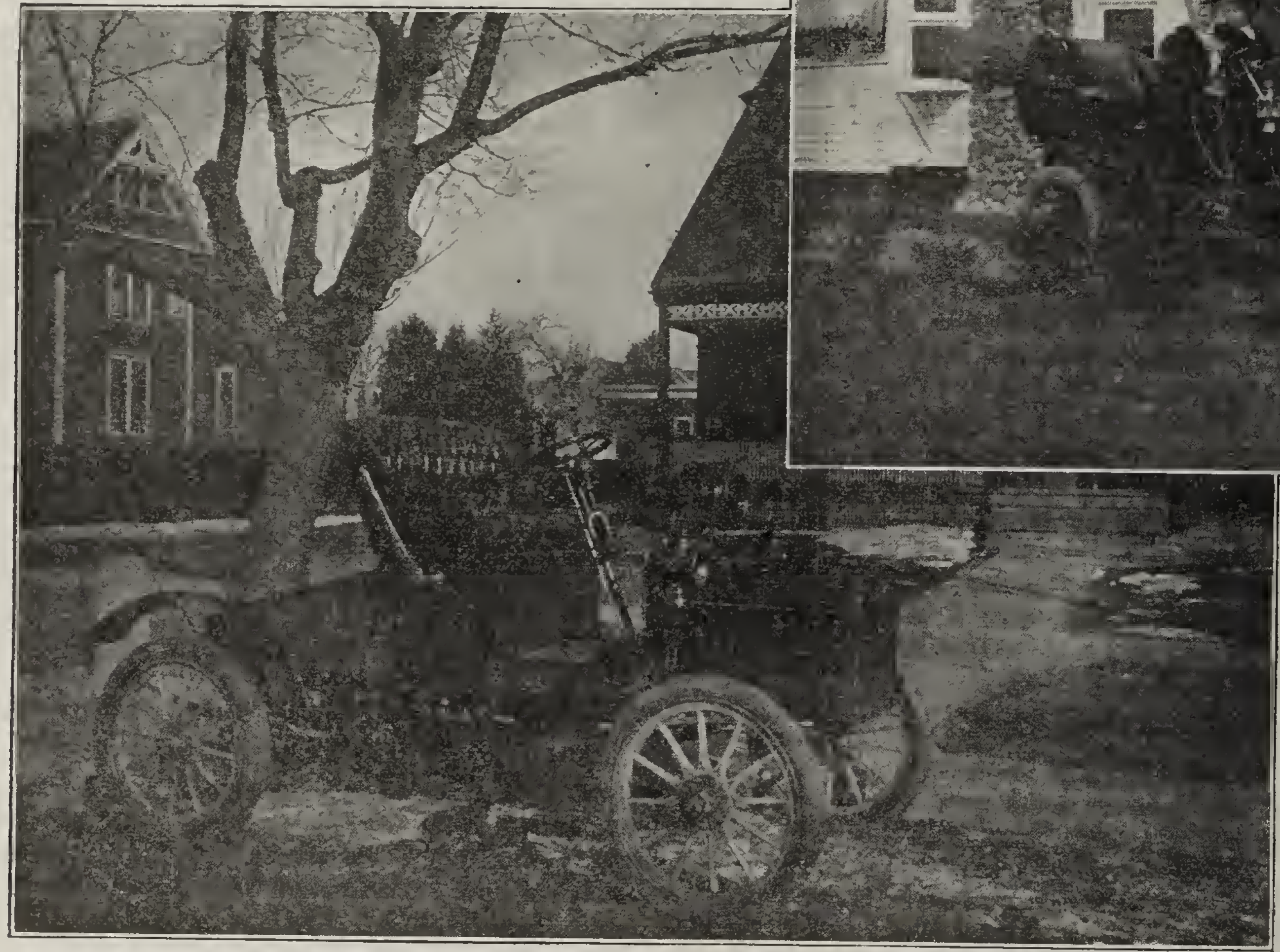

Fig. 4.—This car (185) made country riding a pleasure instead of a drudgery for Dr. George Kessel, Cresco, Iowa.

The Auto Is for the Man with a Lucrative Practice.

The cost of running an automobile should never be considered. It costs to buy an automobile; it costs to run one. It is not economy to run an automobile unless your time is very valuable. A man whose practice does not average more than $10 per day, for 365 days in the year, has no business with an automobile.

THE ANTI-FREEZING SOLUTION.

HARRY SUMNER KISKADDEN, M.D.

DETROIT.

Bursted radiators, stripped gears, or broken pumps are not only a considerable annoyance, but big expense, and a proper cooling solution is an important factor in the winter use of a water-cooled car.

During the past three years I have driven three different cars and each with a different cooling solution. In the first car (177) I used the regulation calcium chlorid preparation; this I found hard on the metal parts of the engine. The rust became so thick that it was difficult to remove the solution in the spring. The next winter in another car (178) I used alcohol, glycerin and water; this does not corrode or rust, but is objectionable on account of its sticky nature, daubing up the machine wherever a few drops are spilled, and the glycerin is expensive.

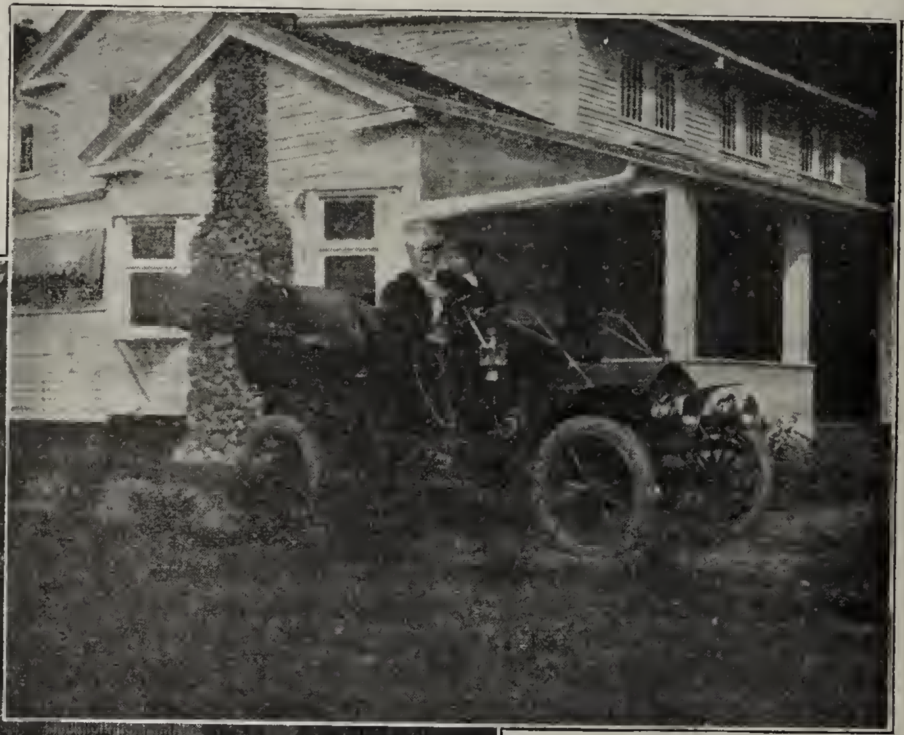

Fig. 5.—The doctor sometimes has to take a back seat. The auto (178) of Dr. H. S. Kiskadden, Detroit, with Mrs. Kiskadden and Miss Maude Adams (Kiskadden), the actress, on the front seat.

This winter I use a 30 per cent. solution of wood alcohol and water and find it has none of the objectionable features of the other two. I tested this strength mixture at zero and it did not freeze—how much lower it will stand I do not know. On account of the more ready evaporation of the alcohol, I would advise, when making additions, on account of evaporation or leak, to use a 50 per cent. mixture, and if the temperature is below zero, pure alcohol.

BAD ROADS RETIRED THE MACHINE.

R. A. QUIN, M.D.

VICKSBURG, MISS.

Several years ago I had the automobile craze, and about 1903 purchased a car (191) in New York City, because as a steam vehicle it would climb all the steep hills.

I soon found it an expensive luxury, there being no skilled labor around to help me, and with no paved streets and but indifferent roads. I have it now in my garage, resting peacefully; have not used it for more than a year. For hill-climbing and rapid transit it is *par excellence.*

SOME EXCELLENT SUGGESTIONS.

C. P. WERTENBAKER, M.D.

NORFOLK, VA

His Car a Satisfactory One.

FOR the physician who wishes a car in place of a buggy, the two-seat gasoline runabout, of from 12 to 14 horsepower, that does not weigh over 90 pounds to the horse-power, with two cylinders, the motor placed under the hood, is the most practicable car to-day. Mine is such a car (130). It has a gasoline motor under the hood, double opposed cylinders, 4½-inch bore, with 4-inch stroke, developing 14 horse-power at normal speed. It has planetary transmission, with multiple disc clutch, all metal. Maximum speed, 35 miles an hour. Two speeds forward and one reverse, direct on high. It weighs 1,200 pounds with top and equipment, and cost $825 without top. It has the thermo-syphon system of water cooling which gives no trouble. Being light, with sufficient horse-power for its weight, it is a good hill-climber, and goes through both sand and mud. There are about 40 such cars in this section, most of them owned by physicians who use them daily in their practice, and I have yet to meet an owner of such a car who is not satisfied with the service it gives.

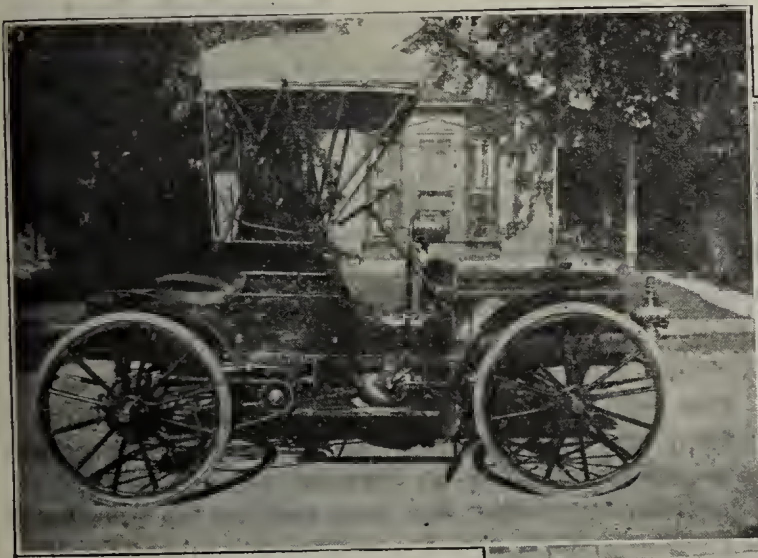

Fig. 6.—A machine that was built from the designs of the owner, Dr. H. W. Chapman, White Hall, Ill., and under his supervision.

I am of the opinion that for small cylinders, 4 inches and under, air cooling is as efficacious as water, but when the cylinder is larger than four inches, water cooling is best, because the air which itself may be hot will not always cool the cylinder satisfactorily.

Favors the Gasoline Motor.

In my opinion, the gasoline motor is the only practical one, at present for the general use of a physician. Electrics are delightful and elegant, but can only be used in a limited radius near a supply plant. Steamers are very satisfactory when new, but I understand that as soon as they become worn they begin to leak and give a great deal of trouble. Being under high pressure, all the parts are subjected to great strain and joints have to be repacked frequently. They also have to take in water about every 30 miles, and this is very inconvenient times. Gasoline can now be procured in every village, and even the smaller cars carry enough for a run of 100 miles or more.

Little Trouble from Pneumatic Tires.

The question of tires was much discussed in the last automobile number of The Journal. Pneumatic tires have lost none of their popularity, and solid tires have not made their appearance in this section, except on motor trucks. Pneumatics are now so well made that they give but little trouble. The best makers guarantee their tires for 3,000 miles, and they are usually good for double that distance. Of course, the pneumatic is liable to puncture, but unless one is a reckless or careless driver, he will have but little trouble from this source. From what I had read in the last automobile number of The Journal, I had expected to have constant trouble with pneumatic tires. I have had only one puncture in nine months.

Cost of Maintenance.

Assuming that you drive and keep your car yourself and make minor adjustments, the average cost should not exceed $30 per month. This includes gasoline, oil, batteries and minor expenses. Many cars used by physicians in this section do not cost half that amount.

How to Select the Best Automobile.

I would suggest that a physician first get one of the numerous works on motor-driven vehicles and learn the principles of the gasoline engine and its application to automobiles. The one I have (131) is a short, simple exposition, and I have derived much information from it.

Having mastered the principles of motor cars, send for catalogues of the leading makes, study them well, and having selected several cars that meet your fancy and pocketbook, call on an agent and have him demonstrate them to you. You will then be in a position to decide which car to buy. In buying a car select one with a reputation, and also one with as few parts as possible. The simpler the car the less trouble you will have.

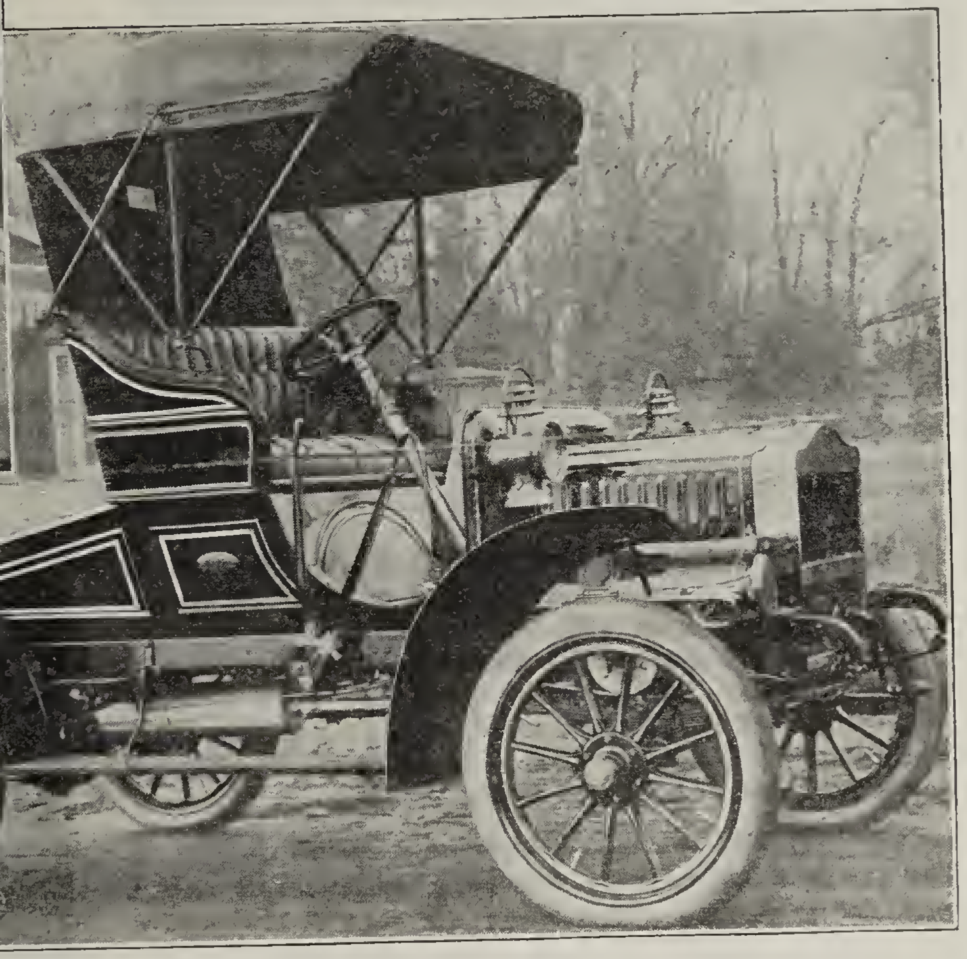

Fig. 7.—A good hill-climber belonging to Dr. C. P. Wertenbaker, Norfolk, Va.

If You Buy a Second-Hand Car.

Should you think of buying a second-hand car, have it thoroughly examined by a reliable expert, who will tell you what its value is and what service you may expect from it. There are many good values in second-hand machines, but there is also a lot of junk that is only of value as scrap iron.

Dr. J. G. Henry, Winchendon, Mass.: I am still using the steam machine (165) that I bought in 1901. I have run it six full seasons and a part of the seventh, covering at least 30,000 miles. It is still probably good for several seasons more. I have not kept a horse for some years during the auto season.

THE AUTOMOBILE IS THE THING.

FREDERICK C. WARNSHUIS, M.D.
GRAND RAPIDS, MICH.

Situated in a city of 100,000 inhabitants, we have a considerable number of paved streets, and an equal number of the remainder are graded. Throughout the city and surrounding country there are a number of hills, some of which are fairly steep and long. The surrounding country is more or less sandy. My practice extends all over the city, and I occasionally make a call five or six miles out in the country. Previous to last April I kept two horses to do my work. The average monthly cost of keeping the two horses was $45 per month.

All Calls in All Weather and Never Been Delayed!

April 1, 1907, I purchased a runabout (104), for which I paid $725, including top, lamps and extras. Since then I have made all my country and city calls in it, in all kinds of weather, and I have never been delayed or hung up on the road. My car will climb any hill, the majority of them on high speed. I can make my calls in a shorter time than I could with horses. I do not have to bother about hitching or blanketing, neither do I get muddy and dirty getting in or out. At night I am gone and back in the same time that it formerly took me to hitch and unhitch.

Fig. 8.—Made all his calls in all kinds of weather and never been delayed—thus comments Dr. F. C. Warnshuis, Grand Rapids, Mich., concerning his car (104).

Horses Cost $45, Autos $18, Per Month.

The car is a one-cylinder, four-cycle, water-cooled engine, dry-cell batteries, two speeds ahead and reverse, chain drive, engine under the body, easily accessible, however; 12 h. p., speed 5 to 30 miles an hour. Five gallons of gasoline will run me 100 miles. One gallon of gas engine oil will last three weeks. I run an average of 500 miles a month. I oil my own machine and fill it with gasoline every morning, about ten minutes' work. Washing and polishing is done at the garage. The average cost, including three new tires and all accessories and garage charges, has been $18.28 per month.

I have just had my machine in the garage for examination and find that no part is overworn and all in as good condition as when new.

In the seven months' ownership this is the first time a wrench has been put on the engine. It has always run whenever cranked. Four punctures are the only difficulties I have encountered. My machine is not an exception. There are others here that are doing the same good work and run a longer time.

Advice to the Prospective Buyer.

Now, as to the purchase of a new machine for a physician. The simpler the engine the better. Two or four-cylinder engines mean two and four times the amount of trouble and care over a one-cylinder. Four more spark plugs, four times as many batteries, four times as much oil, and also more gasoline. A one-cylinder, four-cycle 10 to 12 H.-P. (delivered) engine will take you anywhere as fast as you care to go.

Have the Engine Under the Body.

The engine should be under the body, especially in hilly regions, for the reason that with the engine under the hood in climbing hills the flow of gasoline is lessened to your cylinder and a weaker explosion and less power results. I can climb hills on the high speed where other cars with two and four cylinders under the hood have to shift to low speed.

No More Horses for Him.

To sum up, no more horses for me, for the following reasons.

1. Calls made in a shorter time; more leisure for me.
2. Night calls made in half the time; more sleep.
3. No dirt getting in or out.
4. No engine trouble.
5. A saving of $25 per month.
6. No worry about my horses or their overexposure to weather or irregular feeding hours.

The auto is the solution of the doctor's problem of conveyance, and my machine (104) tops all the other makes on the market. This I have learned by personal experience, investigation and in conversation with other physicians owning other makes of machines.

A SUCCESSFUL INVESTMENT IN AN INEXPENSIVE MOTOR CAR.

H. M. FERGUSON, M.D.
MORRIS, ILL.

Nothing tells the story to the country practitioner in its true light to better advantage than a candid statement from one who has tried the experiment and proved it out on a standpoint of money invested versus results.

My personal experience has been confined to practice in a thriving country town, and has carried me a considerable distance into the outlying districts, over all kinds of roads, through good and bad weather, during the four seasons of the year. After careful investigation, I selected an inexpensive, but what appeared to be an extremely durable, car, not only on account of the saving in the initial purchase, but with a view to subsequent economy in connection with the repairs and up-keep. My report is, therefore, made from a practical point of view as applied to the country doctor.

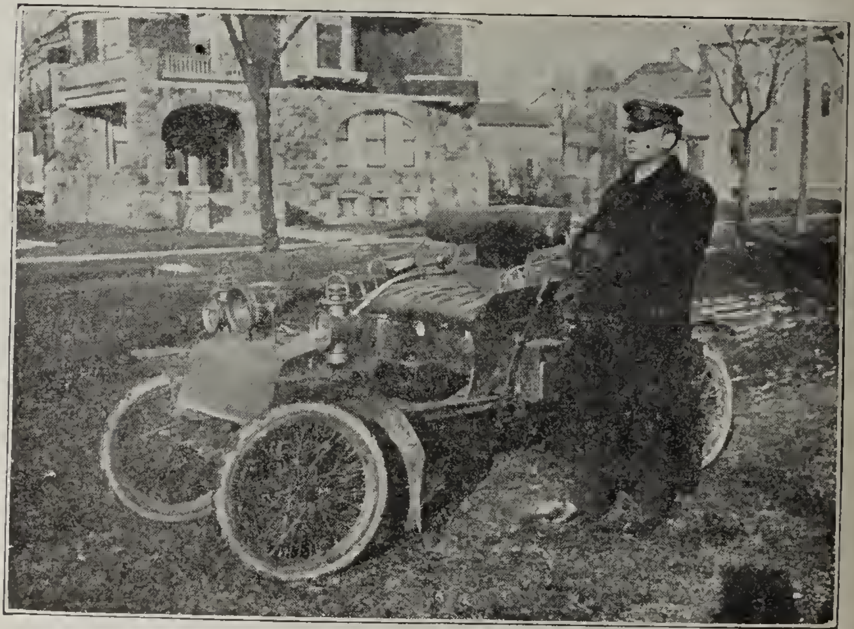

Fig. 9.—The economical investment (126) of Dr. H. M. Ferguson, Morris, Ill.

My light weight car (126) cost $400, in addition to a few necessary extras in the way of equipment. My professional neighbors were running more expensive cars and were disposed to smile, but they now agree that I made the best and most economical investment of any of them, and that my car is the "best yet" for our peculiar requirements. I am firmly convinced that I have accumulated more mileage with greater comfort and less expense for original cost, subsequent maintenance and depreciation from wear and tear, than any other car within my knowledge.

Not Looks, But Services Count.

My car has only four horse-power, but it is light in weight, that is ample at all times, and it has the advantage of an air-cooled motor, which enables me to run my car all the year round. This type of car is open to two objections, one of which is real and the other one is relative. The first is that it is a runabout having only one seat, therefore will not accommodate my family and friends; the second is that it can not be operated through thick, black mud; but, for that matter, neither can any of the more expensive cars owned by my neighbors. My car averages about fifteen miles an hour, mile after mile, and this is sufficiently fast for a physician's practice, and very few higher powered and heavier cars average more than that on ordinary country roads. The coming season I shall raise my horse-power to eight by adding another cylinder. This combination, I am told, is very efficient, indeed.

An Economical Investment with Little Depreciation.

A gallon of gasoline will carry me fifteen to twenty miles, depending on the care I use in operating the throttle. This is a matter that does not concern me very much as my running expenses are otherwise so small. My repair expense for the past twelve months has been practically nil. Mine is not a $3,000 investment that will rapidly depreciate in value, but on the contrary, represents an original outlay of $400, and this permits me to make my calls at the rate of $1.50 each, plus 50 cents per mile, and I can do this at a profit. This is certainly a very practical consideration.

Fig. 10.—When you call another physician in consultation, it is pleasant to take him in your auto (220). Dr. W. C. King, Helena, Ark., is at the wheel.

The country doctor who thinks he requires a $500 pair of standard bred horses and an equally expensive buggy, one who incidentally hires a livery rig for every hard trip he makes, to save his fancy stock, will naturally not be in sympathy with my argument, but the physician who believes that a pair of hardy western horses and a comfortable buggy represent the proper economy for use in his practice, mile after mile, day after day, will recognize that my position is well taken.

DR. J. E. HEQUEMBOURG, CHICAGO: I use a runabout (258) regularly in my practice, as well as a touring car (259) for family purposes and for emergency. I do not see how any busy physician can do without an automobile.

MOST TROUBLES ARE ONE'S OWN FAULT.

P. M. JEWELL, M.D., AND M. D. JEWELL, M.D.
DECORAH, IOWA.

We have had experience with an automobile since about Sept. 1, 1906. It is a two-cylinder, horizontal opposed, water-cooled, gasoline, 18-22 horse-power, chain drive motor car (143). It seats five people and has a detachable tonneau, which, when removed, leaves a runabout seating two. It is equipped with 3½-inch pneumatic tires (175), which, by the way, have stood up well and given us practically no trouble.

We have operated and taken care of the car ourselves, except when necessary to send to the hospital, which has been all too frequent for pleasure or profit. From this it may be inferred that we have had troubles of our own, which is true. But to be frank and candid, most of these troubles have been of our own making, due to our ignorance and lack of experience in the care and operation of this class of vehicles.

Fig. 11.—Certainly up against it! It looks like a case of "Back up." Dr. O. C. Breitenbach, Escanaba, Mich., says the roads are bad in northern Michigan (auto 202).

The Ever-Present Dread That Something Will Happen.

When everything works well it is satisfactory to make our trips at a 15 to 20 mile gait. But if something goes wrong and we are laid out, it is humiliating to be towed home by an old team of farm horses. This has been our experience only once, and was entirely our own fault. But the feeling that something may go wrong and leave one stranded from 5 to 20 miles from home, is not pleasant by any means. This feeling is a constantly present and harassing one, that can not be shaken off by any ruse, so far, brought to our notice. With a good team of horses and carriage, the question of being unable to make the trip and return in due season never enters a man's head; but with a motor car that question is constantly uppermost in his mind, and in case he does have a breakdown and is able to repair it, the chances are ten to one that he will be covered with grease and grime from head to foot before h gets the car in operation again.

The Value of Easily Inspected Machinery.

We have had ignition troubles and transmission troubles. Batteries and clutches, adjustments and contacts and a hundred and one other things demand daily attention. Gears ought to be open to easy inspection, otherwise how can anything be known about the question of lubrication? When they are hid away in a cast-iron encasement it is all a matter of guess work, and in rapidly revolving gears it is of vital importance that guess work be entirely eliminated and that one knows that lubrication is perfect.

Again, easy access should be had to the explosion chambers of the cylinders. In cold weather it is a difficult matter to get sufficient gasoline vapor into the explosion chambers to start the engine. If a little gasoline can be introduced into the chambers, a turn or two of the crank will develop a mixture sufficiently rich in gasoline vapor to keep the engine in operation long enough to pump in a supply from the carbureter, then all is well.

The Test of the Car.

We bought and have used our machine for business purposes. When in order and running well and the roads have been in good condition, it has been very satisfactory, but when out of order or the roads have been bad, quite the contrary.

Fig. 12.—The car (205) of Dr. R. R. Campbell, Chicago.

With our experience as a guide, we are willing to return to the more prosaic, plodding means of locomotion and retire the auto to the limbo of the past.

THE AUTO A TREASURE AND A BLESSING.

CHARLES FARQUHAR, M.D.
OLNEY, MD.

Having used an automobile for six months in country practice, I can say that if a doctor can go his rounds with one good horse, it would be folly to substitute an auto. No matter how carefully a machine is driven, there are always liable to be breaks, and worn parts that have to be replaced, that will cause interruption and loss of time to a busy practitioner, especially in a country neighborhood, and at a long distance from a machinist. On the other hand, if a practice is too large for one horse to accomplish the necessary work, the addition of an automobile will be a great satisfaction, and a source of pleasure and comfort, to glide along easily, and return quickly, saving fully half the time required by a good horse. In case of breakage, the machine can be repaired, and the physician can make out with his horse until he gets back his machine. If a doctor is in a position to keep two automobiles, he might get along without the horse. Living in the city, where a machine can be quickly repaired, would alter somewhat the above view.

Many Cylinders, Multiple Trouble.

My auto is a one-cylinder, water-cooled, 10-horse power machine (121), costing, with top, lamps and horn, $885. As my practice is in a stony country, with flint stone pikes, solid tires are used, having a depth sufficient to make resilience enough to ride as easily as a hard pneumatic tire. I prefer the one-cylinder machine, as the flywheel is larger and equalizes any irregular motion; less complicated machinery, being less to get out of order and less to inspect. The saying, "one cylinder one trouble, two cylinders two troubles, and four cylinders four troubles," is doubtless somewhat true.

As an antifreezing solution I have used with entire satisfaction one quart wood alcohol and three quarts water. This solution has less tendency to corrode the metal than some others, and it is cheaper.

Success Demands a Thorough Knowledge of the Car.

To be successful in the use of a machine from an economical point of view the physician must understand every part, and it is best for him, especially if he lives in the country, to care for it himself, seeing that it is well oiled and cleaned.

The automobile in the hands of the right kind of a man, and under proper conditions, is a treasure and blessing to a physician.

ONE CYLINDER BEST FOR THE PHYSICIAN.

J. A. LYNCH, M.D.
CRESSON, PA.

Although I am an automobile enthusiast, I do not let my enthusiasm get away with my judgment. I was induced to buy an auto by the enthusiastic accounts of them given in the 1906 Automobile Number of The Journal. The automobile has not met my expectations from a practical standpoint, in spite of the fact that mine was going when nine out of ten of all the others in this section were down and out.

I have been using a standard make runabout (156) for two years, over roads as good and bad as will ever be encountered in any settled country, and it is from this experience I write.

Auto Cheaper Than Horses.

With a standard make gasoline machine, having a fair knowledge of its working parts, one can drive over good roads as cheaply, as reliably and more quickly than with a good team of horses, but the reverse of this will be the experience of anyone having bad or even medium roads to drive over.

The best machine for a doctor who intends to drive it himself is a one-cylinder gasoline runabout of not less than 10 horse-power and not weighing more than about 100 pounds to each horse-power. He will not have enough power to make 40 or 50 miles an hour, but this will probably save the machine and his neck at the same time. Two-cylinder machines give more power and less vibration, but this advantage is entirely outweighed by the amount of trouble two cylinders give to beginners.

Fig. 13.—A car (174) from the Pacific Coast. Dr. J. C Bynum, Ventura, Cal., starting on a country trip with Mrs. Bynum for company.

Best to Have a Horse Handy.

No physician who drives 10 to 20 miles daily over country roads should expect to use the automobile to the exclusion of the horse. Deep mud roads; new roads; recently repaired roads; frozen cut-up roads; deep snow and unavoidable accidents to tires and machine will compel one to have a horse handy.

Cost of Maintenance.

The cost of maintaining my machine for about 3,000 miles has been as follows:

Gasoline	2½	cents per mile.
Tires	.7	cents per mile.
All other expense	.1	cent per mile.

This does not take into account the first cost of the machine, nor the fact that it will need about $100 worth of overhauling before it will turn a wheel again.

Physicians require a machine equipped with solid tires of some form on rear wheels and, because of the numerous stops they have to make, a machine that will start from the seat without delay; a machine with power enough to climb the steepest hill at a 15 to 20 mile gait; a machine of the runabout type, equipped with a good top and storm aprons; a machine whose first cost will not be more than the cost of a good team of horses and carriage.

THE AUTO AS NECESSARY AS THE TELEPHONE.

O. E. McWILLIAMS, M.D.
ANDERSON, IND.

CONCERNING the use of the automobile instead of the horse, I am firmly convinced that the time is at hand when every physician, doing a practice which calls him away from his office, must give this matter careful consideration if he would maintain his prestige. In these progressive times when our best patrons, in both city and country, can step to their phones and call the doctor, they will call him who they know has the best facilities for answering the call quickly. They certainly will not attempt to call one who has no phone; he is not in the race and should not be. If we believe in conveniences which will enable our patrons to call us quickly I believe it is our duty to provide a means of rapid transit, if possible, in making our calls. The automobile offers this means.

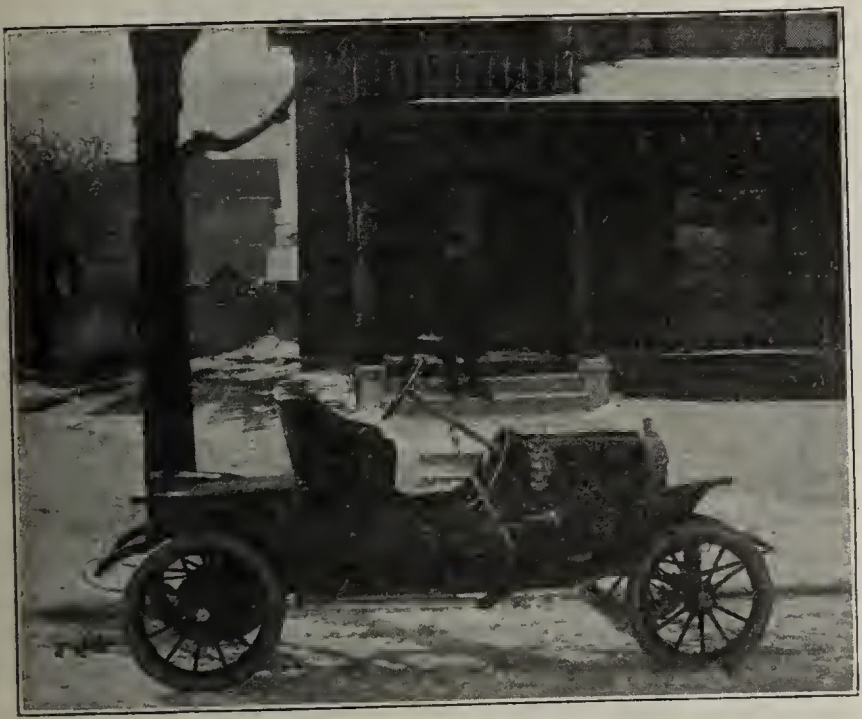
Fig. 15.—A valuable time-saving investment for the practitioner, reports Dr. O. E. McWilliams, Anderson, Ind. (auto 217).

The busy physician not only loses business by reason of his inability to see all who desire his attention, but he is often tempted to, and no doubt frequently does, make his visits too short for his own and his patients' good in order to gain time. Much of his time is wasted behind a tired and emaciated horse, whose condition often marks the physician's inhumanity. The automobile needs no more care than a horse, and if it gets as much as a hard-worked horse ought to have, it will require no sympathy or mercy whatever. All of which can be reserved for one's patients, wife and children. While the jaded horse is covering 1 mile the auto will take the physician 3 and still stay within the speed limit. It will give the doctor more time with a greater number of bedfast patients, more time in his office, more time with his family, more time for sleep, more time for recreation, a greater degree of comfort on his daily rounds than is possible with a well-cared-for team of horses.

The machine (217) I am using I regard as an ideal one for the physician.

THE AUTOMOBILE IN THE CITY; THE HORSE IN THE COUNTRY.

M. CLAYTON THRUSH, Ph.M., M.D.
PHILADELPHIA.

FOR the city practitioner there is no question that the automobile is rapidly supplanting the horse, and justly so, as one can cover ground more rapidly and thus economize time; and since the automobile is now past the experimental stage, those who have had experience for several years with various types of cars can give some practical points which will be of great value to the tyro in automobile transportation. In the city, with its paved streets, they are of value all the year around, with the modern tire devices, but in country districts, where the roads are bad, I would decidedly prefer the horse.

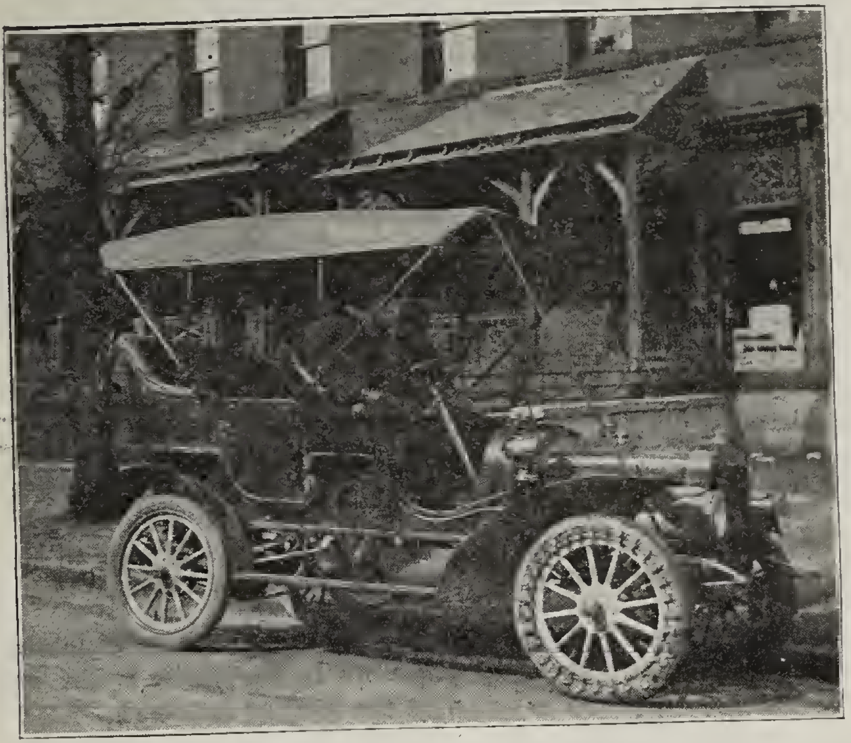
Fig. 14.—Dr. M. Clayton Thrush, Philadelphia, ready for the morning's work. The top and tonneau of this car (109) can be removed. On the other hand, curtains can be put up, protecting from storm.

For the past four years I have used a one-cylinder car (108) and derived good service from it. As I had my own garage, the actual cost of running (gasoline, oil, repairs, etc.), would average $6 per month, not including the cost of tires. A tire will last about a season and a half when it is used daily all the year around, and averaging about twenty miles a day.

During the past five months I have used a new two-cylinder car (109) and find that the cost for running is about $8 a month, but there is the advantage of higher speed, this car going forty miles an hour (maximum), the one-cylinder car going only twenty, and it rides much easier. I have compared the cost of this with the four-cylinder type, and find that to go the same distance a four-cylinder car uses about 50 per cent. more gasoline than a two-cylinder. This is a fact that everyone knows. The advantages claimed for four-cylinder cars are smoothness of action with plenty of power, which is true, although a two-cylinder opposed engine runs almost as steady if in good condition. My one-cylinder car was 8¼ horsepower and the two-cylinder 22 horse-power; in each case a tonneau was attached. After running the one cylinder car four years it was sold for one-fourth the cost price.

Prefers a Water-Cooled Car.

The question of an air-cooled or a water-cooled car is not a serious problem, as you can secure a good car of either type, and there is one point here on which all agree, viz., air-cooled cars require more oil than water-cooled cars, and water is cheaper than oil. After experimenting I decided that the following was the best and cheapest mixture:

Wood alcohol	1 pint
Glycerin	1 pint
Water	6 pints

This mixture will not freeze no matter how cold, and it makes a solution of about the specific gravity of water, and it is not corrosive on the water tank, as are some of the chemical salts sometimes used.

Most physicians' cars are gasoline machines, although steam and electricity can be used. The objection to steam is stopping the engine and starting, with the waste of fuel in obtaining steam each time. The chief objection to electricity is the cost and the time required to recharge the storage batteries.

Fig. 16.—Yes, it is, of course, an advantage to be able to stop your car anywhere (Dr. J. M. Bertolet's car [212], Reading, Pa.)

Money-Saving Cautions to be Observed.

In conclusion let me call attention to a few practical points, the result of experience, which are "money savers."

1. Filter all gasoline through regular filter paper. A piece of dirt may mean a $40 repair job.
2. Use plenty of oil. Insufficient oil means wear of bearings and a "drag" on your engine.
3. Filter all your water. Same reason as in No. 1 above.
4. Tighten all nuts once or twice a week for obvious reasons.
5. Anything wrong, stop and find trouble at once and correct it. You soon become accustomed to normal sounds when running.
6. Engine runs jerky or irregular, clean your spark plugs and see that your coil is working properly. Throw spark plugs away when worn out. It is cheaper than wearing out your engine.
7. Engine refuses to run, the usual cause is the same as No. 6, for an engine will always run unless something is broken at one of the valves, unless due to spark plug or coil trouble. This is an important point to remember.
8. As soon as you have a flat tire, repair it, unless you wish to purchase a new inner tube.
9. When the thermometer is below 32 degrees F. use antifreezing mixture or you will order a new pump.
10. To protect your tires and avoid accidents, use steel-studded leather casings or similar devices in wet and winter weather (216).

DR. F. E. WELSH, RUTLAND, IOWA: Country practice here demands both horses and automobiles. If I had to choose between them I would take the car, but a combination is more effective and more economical. I have a lively little runabout (234) for average roads and a sturdy driver for deep mud and snow.

THE AUTOMOBILE AS SEEN IN DAILY USE.

R. J. THOMSON, M.D.

TUCUMCARI, N. M.

During the past two years I have used the automobile in my practice, and am doing so daily. My machines have been of the gasoline, water-cooled runabout type, two cylinders (141) and four cylinders (142), 18 horse-power. The four-cylinder runabout of from 16 to 22 horse-power is the ideal car. Such a car runs more smoothly, with less vibration, and one or even two of the cylinders may be working badly and still bring one home. The cost of operation as regards the number of cylinders is about the same, but horse power and cost of maintenance mean nothing unless the "dead weight" is considered. This should not be over sixty or seventy pounds each horse power, and then there is power when needed for sand and hills. The tire bill, too, will be much less, as the more weight the greater the wear on tires and the more oil and gasoline required.

I have tried the car in practice in rough, hilly and sandy country and did not find it practical, but at present I have a rather level country with some hills and bad sand, but my small four-cylinder, 18 horse-power (1,050 pounds) car takes it all alike, with the assistance of chains in sand or mud.

SUPERIORITY OF AUTOMOBILE OVER HORSE.

H. E. SMYTH, M.D.

BRIDGEPORT, CONN.

October, 1905, I purchased an automobile of the runabout type (110), then selling for about $750. I have driven the car about 7,000 miles, largely on smooth Connecticut roads, at a total expense of $770, including accessories, but exclusive of care, which I supplied.

Pneumatic Tires the Greatest Expense.

The greatest single expense has been pneumatic tires, which amounted to $300. They are a constant menace to a physician's convenience, and perhaps will be superseded, in the near future, by some form of non-puncturable tire.

Fig. 17.—The car of Dr. Henry Wiedow (255), Worthington, Minn.

The two-cylinder motor has proved very satisfactory, being simple, quiet and efficient, giving all necessary power and speed for a light car, although in a rough country more power would be desired. The shaft drive seems ideal, being clean and effective, although I have been annoyed by the occasional loss of a bolt from one of its universal joints.

Manufacturers Should Furnish Parts Promptly.

The automobile thoroughly outclasses the horse, both in convenience and speed, and will be used more and more by the medical profession, especially as manufacturers now try to meet its requirements. The ideal physician's car would seem to be a light runabout, with two or four cylinders under the hood, preferably a shaft drive, water cooled, non-puncturable tires, full elliptic springs, a good carrying capacity for medicine case and bags, and, above all, purchased of a manufacturer who realizes the importance of being prepared to furnish parts promptly at all times.

A SATISFACTORY THREE-WHEELER.

EDWARD G. RHOADS, M.D.
GERMANTOWN, PA.

SIX years ago I began using automobiles, my first machine being a three-wheeled, air-cooled, single-cylinder car (158) of about 4 horse-power, weighing about 800 pounds. I used this car for three seasons, found it very reliable, although slightly under-powered.

The vibration of the engine and, still more, the jarring from the roughness of the road, decided me to try a slightly heavier four-wheeled car (159), having a two-cylinder, two-cycle, water-cooled motor. This car I used one season; there was not much vibration from its engine when running on level roads, but a great deal where it became necessary to use the hill-climbing gears. I found that in this car also I felt the roughness of the road very unpleasantly, and finding that I seldom used the car for a whole day's work without suffering from headache, I sold it and returned to the use of horses.

About eighteen months ago I purchased another car of the same make as my first one, but improved. I find this car very satisfactory, except that its weight necessitates large tires, and although my mileage is not more than 4,000 miles a year, the cost of tire renewals is a large item.

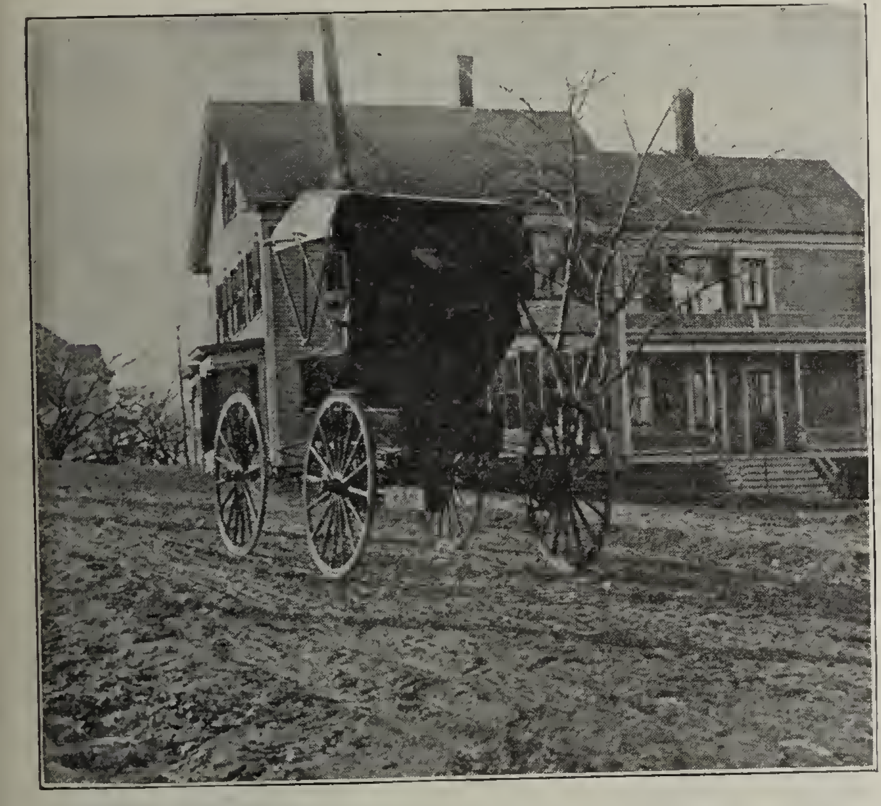

Fig. 18.—A good hill climber that rides as easily as any carriage—is the verdict of Dr. E. S. Winslow, Orange, Mass., on his car (221).

Maintenance Equals Two Horses.

I believe that the cost of maintenance and running expenses of this car approximate the cost of keeping two horses with the corresponding carriage repairs; but the increased facility, the saving of time and the ability to do a greater amount of work in a day, make my machine almost a necessity. As in our climate during part of each year motoring is difficult or impracticable an account of deep snow, I keep one horse. I previously kept three.

I hope manufacturers will focus their attention on cars for business and professional use which I feel have not commanded the thought and attention they deserve.

AN AUTOMOBILE FOR EVERY BUSY PHYSICIAN.

WILLIAM STANTON, M.D.
WEBSTER, N. Y.

MY ADVICE to every busy doctor is to buy an automobile. It is afraid of nothing, is not pestered by flies, mosquitoes or dogs, stands without hitching for any length of time, day or night, hot or cold, rain or shine, does not stiffen from standing in the cold or founder from overdriving in the heat; neither does it get restless when not fed on time, nor eat while you are away on your vacation or sick yourself; it is absolutely untiring, and will drive just as freely after having gone fifty miles in a day as after five; it is always fresh for that unexpected long drive when you have been on the road all day. I regret that our climate forces me to expect to be obliged to depend on horses for even a few weeks each winter.

Fig. 19.—Dr. and Mrs. G. T. McCullough, Missoula, Mont. (auto 227).

I studied the question for two years from the viewpoint of a busy physician located in a country village, with plenty of driving over ordinary country roads. I bought a runabout (105), that has made good every claim of the makers. For several years I have kept from two to four horses, and most of the time a man to care for them. This season I sold all but one and soon put him in pasture, and have kept no man. The auto did the work in much less time and at very much less expense, about one-sixth of the cost of feed and shoeing for two horses the same length of time. This includes gasoline, oil, batteries, repairs and everything. I have found it just as reliable as horses, and requiring much less care, besides what is required I can do myself at my convenience. I have never been towed in nor have I been delayed on the road for longer than a few minutes.

Skidding and Tires.

The high wheels and solid tires practically eliminate the dreaded skidding as well as the troublesome punctures. I have driven during the hardest showers and every day during a week's rain, and can scarcely notice any tendency to skid even on a muddy sidling road.

Only Two Cylinders Necessary.

I prefer two cylinders for a runabout for several reasons. It does away with the throbbing or vibration which a single cylinder gives. Two cylinders sustain the power better on a long, hard pull, and it gives you a chance to get home with your own power if anything should go wrong with one cylinder.

The Driver Must Furnish Eyes and Intelligence.

In conclusion, remember that an automobile is a machine, and that you must furnish the eyes and intelligence; that it must be kept in good condition, properly adjusted, with gasoline in the tank, or it will not go. But buy any one of several well-known runabouts with air-cooled motor of 10 to 20 h. p., equipped with some form of non-puncturable tires, learn to keep your ignition system in perfect order and to let the carbureter alone, and you will be pleased with the results. The more simple the construction of your car the better pleased you will be.

TROUBLE WITH TIRES.

I. S. CLARK, M.D.

SPRAGUE, WASH.

Having done with autos (195) almost all my work in town and country, for over two and one-half years, in spite of our rough, rocky and very hilly roads, I would not think of returning to horse-drawn vehicles, the advantages and pleasures of motoring are so great.

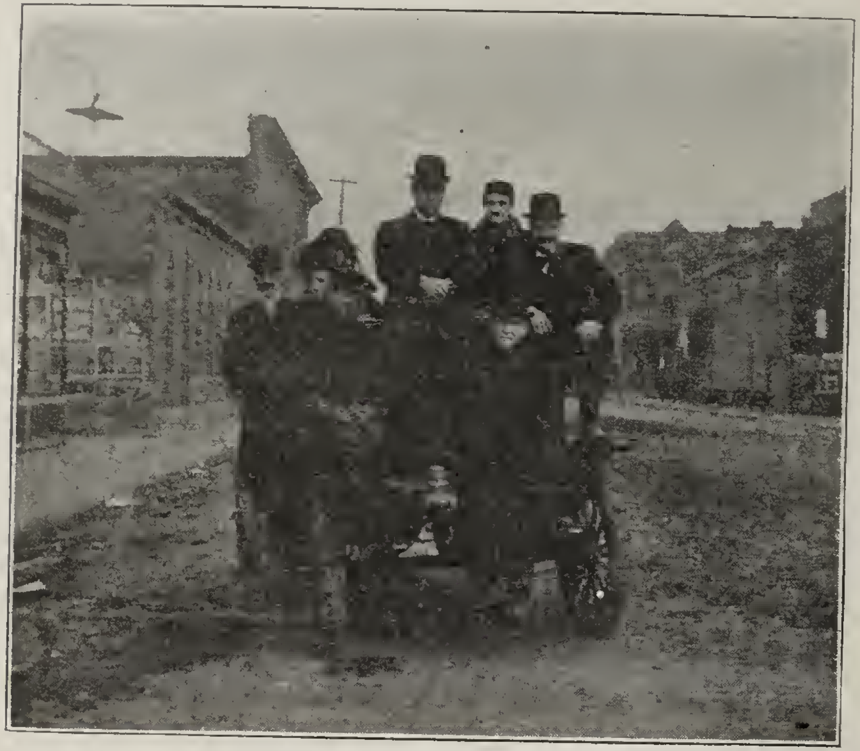

Fig. 20.—First aid. Dr. H. G. Blanchard, Waseca, Minn., found an auto party stranded and brought them to town, nine miles over rough hilly roads without changing from the high speed gear (auto 223).

To doctors I would say, do not consider a single-cylinder machine unless your roads are perfect, and then—don't. Do not buy second-hand cars unless you understand motor cars thoroughly—then you probably won't.

As to Tires: There's the Rub.

Until manufacturers make pneumatics considerably heavier than now, we are certain to have some trouble with punctures. If they would use about twice the amount of fabric that they do now, leaving the air space considerably smaller, our troubles would be very few. In the meantime I use a four-inch tire, where ordinarily a three or three and one-half inch tire is used, with very satisfactory results.

I had solid tires applied to the front wheels, but they proved unsatisfactory.

The expense of running and keeping in repair my auto (196) is no more than for a team and buggy, and the advantages—well, you will have to experience them in order to understand thoroughly.

DO NOT USE SOLID TIRES ON LOW WHEELS.

M. T. ZELLERS, M.D.

HOOPER, NEB.

One who depends on his faithful old horse and comfortable old surrey to make his country calls will, ere long, awaken to the fact that in this age of unprecedented progress and extreme nervous activity his more up-to-date competitor who soars, as it were, to his patients on the wings of a swiftly moving automobile, will do the major part of the practice in his community regardless of skill or ability. But in order that the prospective buyer of an automobile may not be led astray, as I was, by articles which appeared in the first Automobile Number of The Journal two years ago, I want to impress on him, in the strongest terms, not to use solid tires on a low-wheeled machine. It is true, as stated by many physicians, that 80 per cent. of the upkeep of a machine is due to tire troubles where pneumatic tires are used, but it is equally true that machines equipped with solid tires require 90 per cent. more repairs than those running on pneumatics. Solid tires also shorten the life of the machine 50 per cent., and lessen the comfort of the driver 75 per cent. I used both solid and pneumatic and know whereof I speak (256).

SOLID TIRES SOLVE THE PROBLEM.

FRANCIS R. SHERWOOD, M.D.

CHICAGO.

Having used an automobile for the past seven years, I desire to give my experience with the most expensive part of the up-keep of the machine—the tires. In three and one-half years' use of pneumatic tires I was constantly annoyed with punctures and pinches of the inner tubes and cuts, blisters, rim cuts and blow-outs of the outer tubes as soon as the newness wore off the tires.

With the greatest care I wore out and destroyed on an average of two sets of pneumatic tires a year. I have had to change inner tubes as high as three times in a single day. I never was sure on starting out that I would get back without tire trouble.

I used one set of solid clincher tires (209) for three and one-half years, running at least 30,000 miles, without spending anything on replacement or repairs on the tires. I have pulled numerous nails out of them. I ran a three-eighths-inch bolt through one of them, have cut them with glass, etc., but still use them without annoyance or inconvenience.

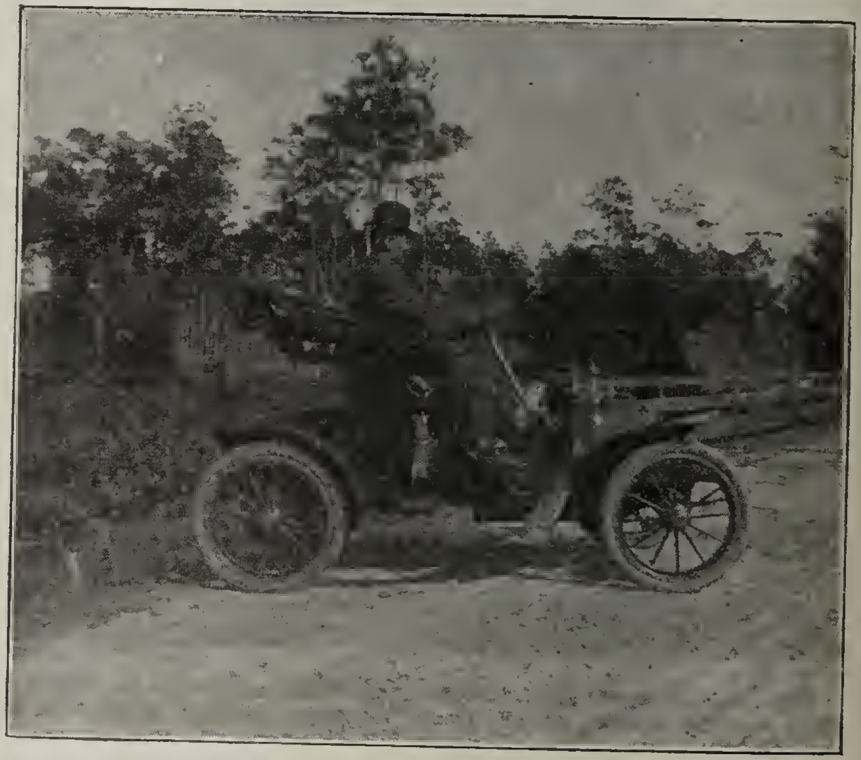

Fig. 21.—A car (218) that stands well the rough roads of Florida, says Dr. Louis Blocker, Pensacola, Florida.

They do not skid worse than pneumatics. On good roads the vibration is negligible. I have had many say when riding in my machine that they could not notice the difference in the vibration or riding quality between these tires and those of the pneumatic type. I used one set for three and one-half years on an 1,800 pound runabout (213) and have used another set on a 2,200 pound (215) touring car for one year.

On crossing bad street-car tracks or on cobble-stone pavements or very rough roads there is more vibration than with pneumatic tires, but this can be compensated for by cutting down the speed with much less annoyance and loss of time than in using pneumatics with all their disadvantages.

I have never broken a spring on any of my cars and I do not believe that I have spent $1 more for repairs on the engine or machine on account of the extra vibration from the solid tires.

I can run on good roads as high as 25 or 30 miles an hour without noticing any difference in the steering of the machine. I can run in street-car tracks without injuring the tires, which is a very great advantage to a physician, as many calls take him on poorly paved streets.

In my opinion, the single disadvantage in the use of solid tires—increased vibration on rough roads—is very much less than the many disadvantages in the use of pneumatic tires. From experience I have found that it is wise to increase the diameter of the wheels two inches and buy solid tires at least one size larger in circumference in order to obtain a tire of approximately the same dimension as pneumatics.

A FIRM BELIEVER IN SOLID TIRES.

B. H. S. ANGEAR, PH.G., M.D.

SUBLETTE, ILL.

LIKE most beginners, I first purchased a light, 10 horse-power car (128) with solid tires (129). I soon found I was short of power and that the machine was too light for country roads, but I had no tire trouble. I soon purchased a 22 horse-power machine (128) with pneumatic tires (169), which was heavy and built for country roads. This machine was just the thing, but I had tire trouble, and will always have it till I return to solid tires. My advice is to get not less than a 20 horse-power machine and, by all means, solid tires. Automobile manufacturers will talk against solid tires, but do not have pneumatic tires unless you are looking for lots of trouble.

BELIEVES IN AUTO, BUT HAS GONE BACK TO HORSE.

C. J. B., M.D.

MASSACHUSETTS.

I BOUGHT a single-cylinder runabout (194) in April, 1903. I used the auto exclusively in 1903 and 1904 when there was no danger of freezing the water in cooling apparatus.

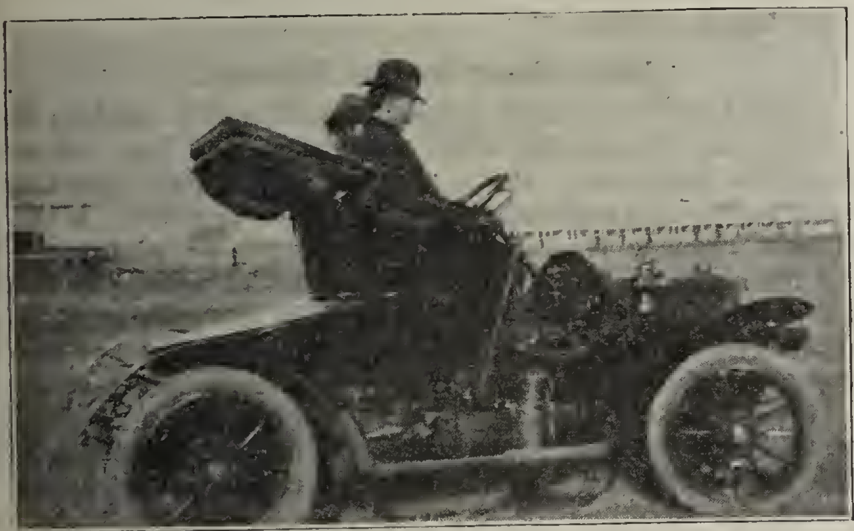

Fig. 22.—The car of Dr. M. D. Westley, Cooperstown, N. D.

During the winter I made my calls on foot, and when it became a necessity, by street car and by a livery horse. This was much cheaper than keeping a horse.

The first year I used the machine thirty-four consecutive weeks at an average weekly expense of $5.34. This included two expensive breakdowns (crank shafts), etc.

Takes Less Time for Care Than a Horse.

I took care of my own machine and made as many repairs (including tires) as I was able. I believe that to run an auto successfully one must understand it, and one can not learn any quicker or better than by caring for it personally. I made a practice of going over the machine every morning before starting on my calls, tightening loose nuts and clutches, filling oil and grease cups, replenishing water and gasoline and washing the machine externally. The auto is superior to the horse in many ways. I can make my work quicker and with more pleasure.

The Disadvantages—Dirt and Pneumatic Tires.

Its chief disadvantages are *black dirt* and *pneumatic tires.* It is utterly impossible for one to kep his hands even decently clean. The black grease gets under finger nails, at base of nails, into finger joints and cracks. It is the simplest method I know of spoiling cuffs and shirts. Your outer garments come in for a portion of this defiler also. Some one says "wear gloves;" you will for a while, but did you ever see a mechanic wear gloves when he was doing his work? You will find that you can do it better without gloves, and so they are discarded.

Fig. 23.—The compact car (242) of Dr. G. H. Mayhugh, Westerville, Ohio.

Returns to the Horse.

I have discarded the general use of the automobile on account of these two troubles, and have gone back to the horse and team, and I am sure it is a backward step, but the puncture and the dirt had to be avoided. If one can afford to keep a chauffeur these two features are of no importance. but if you do your own work, it means much to your peace I am still a firm believer in and admirer of the automobile, and intend to get back into the game as soon as I see a car that is what I want.

I believe that the ideal car for a physician must be air cooled, shaft-driven, high-wheeled, and cushion-tired or solid-tired. The other parts are of minor importance, except that they should be made of high-grade material.

NO HORSE EVER OWNED CAN COMPARE WITH THE AUTO.

F. A. ROGERS, M.D.

EVERETT, MASS.

MY experience has extended over three years. Whether we expect it or not, difficulties will arise with any kind of car, for the more or less delicate mechanism will surely get out of adjustment on uneven roads; while dust and mud contribute toward the same end. A stationary engine, protected from the inclemency of the weather, and working with an even load, is a different problem from an engine, subject to the most severe strains; one moment exerting the utmost power to climb a hill and the next moment racing down, and at the same time tossed about, by passing over rough surfaces.

The Shrewd Demonstrator and the Would-Be Purchaser.

It is one thing to sit beside the demonstrator, trained to magnify the commendable points of a car, and carefully to pass over the real difficulties, which one will have to encounter sooner or later; it is quite another thing to take possession of the car for business purposes. In the first place, I believe, it requires a person of a mechanical turn of mind to operate a car successfully for any length of time.

If a proper understanding of a car was a prerequisite to purchase there would be fewer cases of annoyance and exasperation on account of being towed home. I have learned these points from experiences, for the unexpected is sure to happen.

I have owned and operated two kinds of automobiles. My first car was a steamer (123).

Nothing surpasses a steam car, in the beauty and delicacy of operation, but pleasure is more or less clouded with a multitude of cares.

My attention was next turned to a gasoline car. I had demonstrated to my satisfaction a one, a two and a four-cylinder machine. Whether I made the wisest choice or not, I do not know, but I chose a four-cylinder, air-cooled runabout car (124). I have found this machine to work very satisfactorily, but it needs constant attention to the details of adjustment.

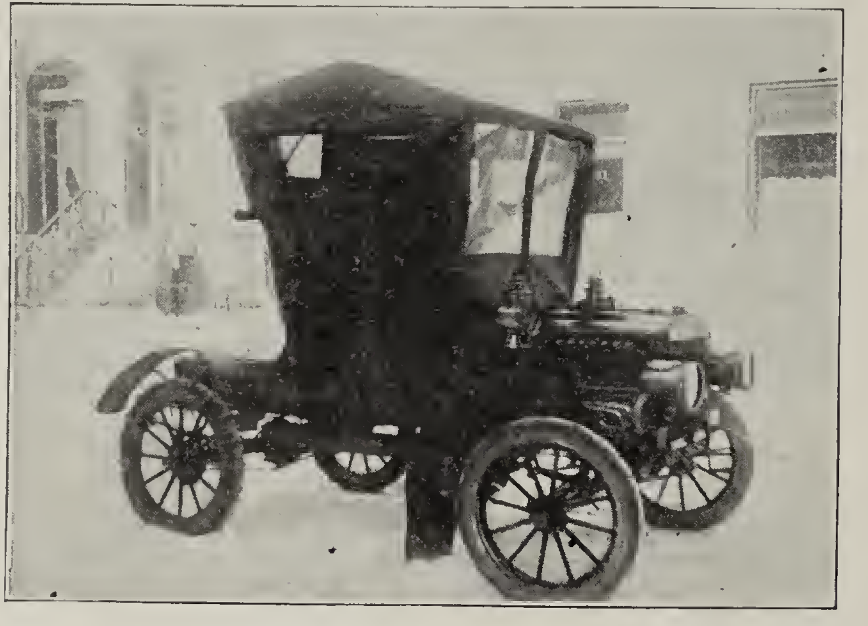

Fig. 24.—Drove his horse but twice after he purchased this (222) reports Dr. A. L. Peckham, Poughkeepsie, N. Y.

I value my experiences very highly, and, after more than twenty-five years' experience with horseflesh, I find that for rapidity of transportation, practical and pleasant locomotion, no horse that I ever owned can compare with my four-cylinder, air-cooled, gasoline runabout.

NOTHING LIKE AN AUTO—IF YOU RUN IT YOURSELF.

DELNO E. KERCHER, M.D.

PHILADELPHIA.

Over five years ago I abandoned the horse for the automobile as a means of getting about in my professional work. I have had four new machines. The first two were popular single-cylinder runabouts (186) and were fairly reliable on our smooth city streets, although they were under-powered, uncomfortable from vibration, and not handsome. The two functioned for two years and four months. My next car was a two-cylinder, 10 horse-power runabout (135)—a very decided improvement on the other two. This car was in daily use for sixteen months, and cost for repairs, apart from tires, $11. It cost new $750 and I sold it for $400.

Does His Own Repairing.

My fourth and present car is a four-cylinder runabout (136) of 1,100 pounds and rated at 15 horse power. This car has been in constant service for fourteen months, and the actual outlay for repairs has been $3. I rent a small stable in which I have tools and machinery sufficient to do all the repairs needed so far. This explains the small cost of this usually large item. I regard this work as recreation. Automobile anatomy and physiology is interesting and useful. My 28x3 clincher pneumatic tires have been run 8,000 miles without retreading. The tires are the most vulnerable part of the automobile. I have a small vulcanizer with which I can repair nearly all the injuries to the case or tube without removing from the wheel. My total tire expense for the fourteen months is $38.

A Very Small Expense Account.

My monthly expense averages $12, made up of the following items: Rent, $5; gasoline, $4.50; lubricating oil, $1; batteries, $1.50. I run about twenty miles each day. From each gallon of gasoline I get from twenty-five to thirty-one miles. One set of twelve dry cells runs the car 1,000 to 1,800 miles.

Auto Is Unsafe If Not Kept in Order.

My practice is to examine the working parts of my car every few days, to run the car myself, to be thoroughly familiar with the physical diagnosis of its every ailment. Otherwise, I believe the automobile is often disappointing, unreliable and even unsafe.

THE AUTO IS ALL RIGHT—IF YOU HAVE A MAN TO RUN IT.

M. C. OVERTON, M.D.

LUBBOCK, TEXAS.

I have two two-cylinder runabouts (187, 188), and my experience has brought me to the conclusion that no country physician has any use for an auto unless his practice justifies him in employing a driver. My two machines keep a man busy.

No country roads could excel the roads on the plains in western Texas. I average 18 or 20 miles an hour. I have used machines about two years. I formerly kept four to six horses, but found them inadequate for my practice. I now hire a team in muddy weather, as it does not pay to use a car.

An auto is more expensive than horses, but a doctor's life is made easier, and he can do twice as much work in the same length of time.

Large, Heavy Machine Preferred.

I would advise strongly against a light weight machine for country use, also against a low-power machine. They will not stand the hard work. Get a machine weighing not less than 1,200 pounds and not less than 18 or 20 horse-power. A two-cylinder machine is preferable. A one-cylinder machine has not the necessary power, and if it gets out of order, you have a dead machine, while you can come in on one cylinder if one of the two cylinders quits. A four-cylinder machine has more to get out of order and for a physician's use has no advantage.

If a car is properly taken care of, one need have but little trouble; but if a man tries to practice medicine and run his own automobile in a general country practice, I fear he will soon decide an auto is of no service.

THE AUTO A GOOD INVESTMENT FOR A COUNTRY DOCTOR.

H. G. BLANCHARD, M.D.

WASECA, MINN.

During the last four years I have done most of my driving by automobile, only occasionally hiring a livery team when mud was very deep or when snow was deep or badly drifted. During the six years preceding this time I tried hiring all my driving, and keeping one and two teams.

My actual expenses during these six years averaged about $60 per month.

During my automobile experience in the last four years I have done more driving and my monthly expenses, including all breakage, gasoline, oils, batteries and tire renewals, have been less than $25 per month. During this time my livery bill has averaged $15 per month for the first three years and $8 per month for the last year.

Auto Increases Income.

My automobile experience has been very favorable financially, but what I consider of still more value to me—and this can not be measured by dollars and cents—is that I have done my driving with very much more comfort, and with a saving of at least one-half the time it would have taken to do it by team. I find that I have been able to spend twice as much time in my office during these four years, and that my work has averaged $1,000 more per year than any of the four preceding years.

Less Delay on Road Than with Horses.

I am driving a (223) car, and I never have had a horse hitched to it and have never left the car. My delays on the road for any cause have been less during these last four years than they were during the four preceding years.

My experience with the automobile may have had some element of luck in it, but I should not care to go back to horses and do without my car, even if I knew that I should have a breakdown once in every five or six trips. The comfort in riding and the saving in time would more than make up for the inconvenience of an occasional delay.

USES THE AUTO FOR THE HARD WORK.

M. PIERCE RUCKER, M.D.

MANCHESTER, VA.

FOR sixteen months I have been using a single cylinder, 10 horse-power (160) runabout. I have also had a horse and buggy. The automobile can be made to do all of my work, but when the streets are rough and muddy driving an automobile spoils my temper. For this reason I do my close work on the back streets in my buggy, and my long calls and night calls in the automobile. I prefer a single cylinder for the reason that it is simpler and easier to keep in order, and cheaper to run. I keep the auto in my barn, where it is always ready to go night or day. I append my expense account for the first twelve months.

Tires	$ 58.00
Gasoline	37.78
Repairs	15.29
Tools and equipment	9.20
Lubricating oil	6.75
Sundries	4.35
Batteries	2.00
Total	$133.37
Monthly average expense	11.12

For the past four months my expense has averaged $10.98.

ELECTRICITY VERSUS GASOLINE.

MAX.

CAMBRIDGE, MASS.

I WAS the first physician in Cambridge to use an automobile. I leased an electric stanhope for $60 a month. The company assumed all the care, including repairs, charging and maintaining the battery, etc. It was a great snap for me. To my great regret the company failed.

I had little faith in the steam or gasoline cars of that period, and bought a second-hand electric runabout (167), and later a touring car (170), with a two-cylinder apposed, 18-horse power, water-cooled gasoline engine. It had a shaft drive with three speed, selective, sliding gear transmission. This car I still have. It carries five people comfortably and is good for about 30 miles an hour on good roads, but I seldom care to drive that fast. When I take my family out for a pleasure trip we like to see the country, and we find we can not appreciably enjoy it much faster than 18 miles an hour.

An electric vehicle equipped with solid rubber tires will afford the maximum of comfort and reliability with the minimum of care and trouble. But, of course, the limited mileage will not allow one to go touring with it. If that feature is desired in addition to the strictly professional use of the car, then the gasoline engine is to be preferred, unless one's pocket allows him to own both an electric and a gasoline car. With my present car I can take my wife and five children and make a trip of 50 to 100 miles in any direction that pleases us with no fear of being unable to get home again.

A SATISFACTORY EXPERIENCE.

T. C. GIBSON, M.D.

SALT LAKE CITY, UTAH.

EVER since I bought a light, two-cylinder 10-horse power runabout (173), April 19, 1907, I have used it almost constantly in my practice. For the first eight months my expenses, not including storage charges in garage, were:

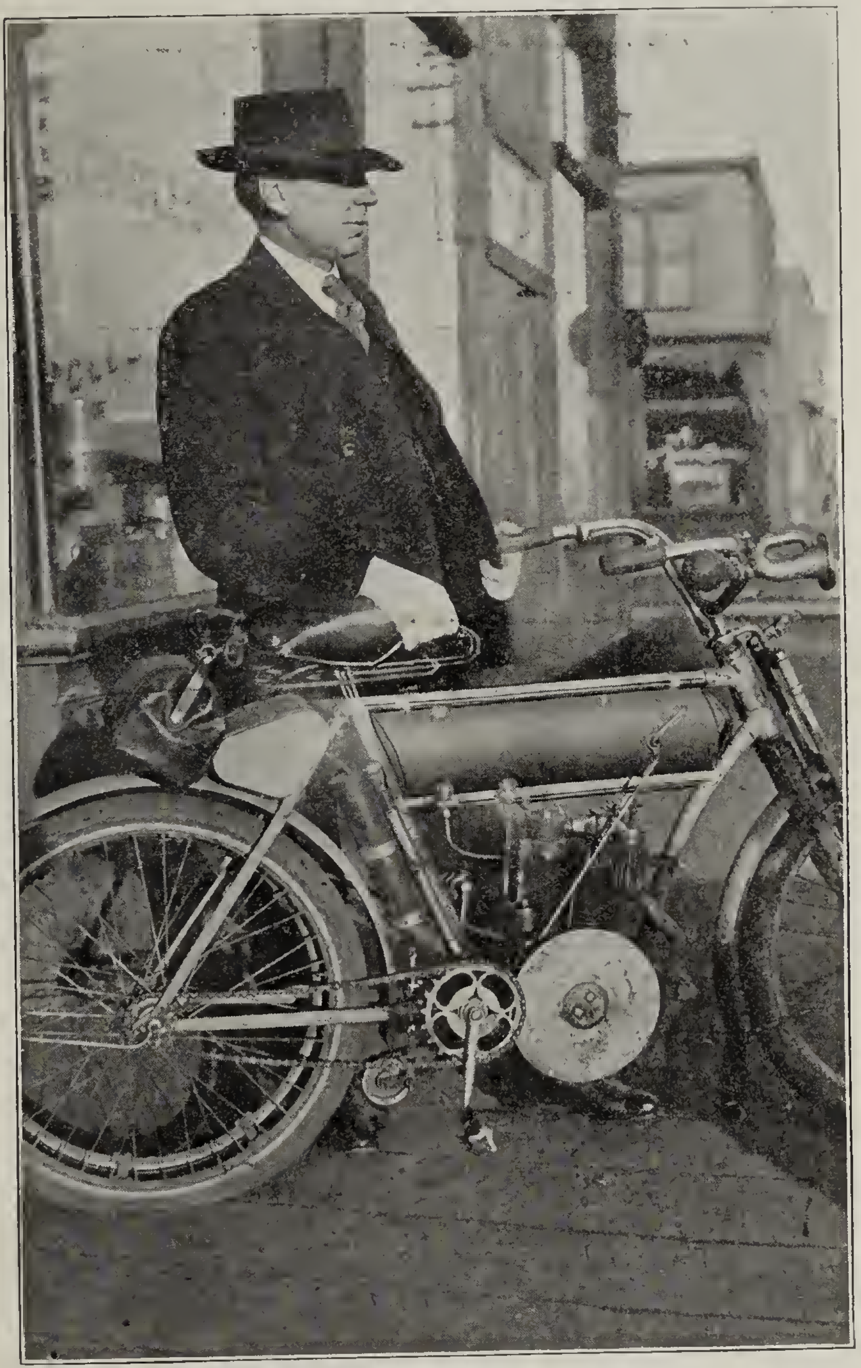

Fig. 25.—The motor cycle (206) of Dr. John Specht, Superior, Wis.

Tire repairs	$32.50
Gasoline	38.50
Lubricating oil	9.00
Batteries (which include a storage battery purchased for $18)	25.00
Repair bills	44.15
Miscellaneous	3.25
Total	$152.90
Average per month	19.11

The man who does my repair work has frequently told me that I have been extremely lucky.

At present I do not expect ever to return to the horse and buggy, but I certainly would not advise any one not living in a city and convenient to a repair man to depend on an automobile unless he has a first-class mechanic.

BRIEFLY PUT

Dr. W. K. Prichard, Cloverdale, Ind.: With a machine, time—one of the most valuable things a physician has—is conserved. (Auto 249.)

Dr. Chas. W. Brown, Washington, D. C.: I have used a two-cylinder runabout (229) in my general practice continuously for nine years. I have made all the repairs necessary. I have had less delay and less expense than when using horses, which in icy weather gave much trouble and loss of time to keep them properly shod, so they could travel on our asphalt pavements. I am able to do double the amount of work in same time.

Dr. J. B. Potsdamer, Philadelphia: I would never return to a horse. The question resolves itself into a few definite points: 1. As simple a machine, of reliable make, as possible. 2. Careful running, and familiarity with all its points. A runabout, one-cylinder machine of 10 horse-power is all that is necessary. My first runabout (247), single cylinder, for four years, cost an average of $28 per month. For the past twenty months another car (248) averaged a cost of $20 per month, and I have not lost one day.

Dr. Samuel C. Rumford, Wilmington, Del.: Starting with a single-cylinder car (251)—no better ever made for hard, rough work and reliability—and using it for three years, I changed about nine months ago to a lighter and faster four-cylinder runabout (252), which has been equally satisfactory, and goes through six inches of snow without difficulty. Four cylinders about double the consumption of gasoline and oil used in a single cylinder. The expense from July 1, 1907, to Jan 1, 1908, was:

Gasoline, 7 barrels	$47.32
Cylinder oil, 8 gallons	4.00
Charging batteries	3.00
Tire patches	1.25
Lights	2.45
Mechanic's time	9.60
State license	5.00
Glycerin, 2 gallons	4.00
Total	$76.62
Average cost per day	.40

With every cylinder the care is multiplied, and so for a beginner I advise a good reliable single-cylinder car that will surely get him to the patient in half the time his horse would take; and then, after a year or two of experience, get the more complicated car and cut his horse's time down to one-third. I see no advantage in air cooling. A man does not need to be a mechanic to operate an auto successfully. All that is wanted is common sense and the ability to resist the temptation to tinker with the machine unless one knows exactly what he wants to do. A man who has used a horse thinks now that he has a machine to drive speed is necessary, and flies across rough crossings at 20 miles an hour, when at that same crossing he would have pulled his horse down to a walk.

Dr. J. H. Guinn, Arkansas City, Kan.: Having had seven years' experience (118) with a trouble wagon, I realize how expensive experience is. A steamer (119) is a nice smooth, noiseless running car, but not suited for a doctor. For pleasure of steady running it is a nice machine, or if you are able to have a chauffeur; but in that case you are able to retire from the practice of medicine. For city work the electric (120) is the ideal machine. There is no smoke, no smell, no vibration, no heat, no noise and no complicated machinery. The electric is always ready and reliable, lights in an instant and is unaffected by heat or cold. A child can operate it, and a doctor will feel a hundred times more safety for his wife or children when out in an electric than when out with a horse. I keep the machine behind my office and do my own charging from a small generator driven by a 2-horse power electric motor. I have nothing to do but plug in, throw the switches and go to my office, and return when the battery is charged and turn off. If I come in late at night and the batteries are well down, I cut the amperes back with the rheostat, calculating the number of hours that I will be away, and when I go back in the morning I have thirty-six or forty miles of energy that I can rely on and have no fear that I will have to be hauled home. (A doctor would rather lose a patient than have his machine hauled through the city behind a dray!) I oil my machine and look the batteries over once or twice a month, requiring thirty to forty minutes. My running expenses have slightly exceeded one cent per mile, but this is due to cheap natural gas, 25 cents per 1,000 cubic feet, and the electric plant people have water power and meet competition.

BOILED DOWN

Dr. Albert R. Trapp, Springfield, Ill.: I am able to go almost anywhere on the roads except when the mud is sticky and deep. I would not advise a physician to purchase a machine if he did not have a fancy for machinery, nor if he is afraid of having hands soiled with engine oil. I take care of my own machine (253), which is not hard work, but rather recreation. One ought to spend several days in the factory o become familiar with the anatomy of his motor.

Dr. James Frederic Clarke, Fairfield, Iowa: As my automobile (166) was too light for country work, I sold it. I could only use it in the summer because of bad winter roads and freezing. I would buy another but for the fact that they frighten the farmers' horses. If one cares for the rights of others and for the good will of the farmers, the use of an automobile at this time and place is perhaps not wise. I found the automobile more expensive than a team. The machine wears out rapidly, tires are expensive, and after using my machine two years it sold for 16 per cent. of the first cost. When able to afford the luxury I will buy an automobile for pleasure. In my opinion, with southeastern Iowa mud and cold weather, the automobile, as now made, is not a practical machine.

Dr. A. L. Peckham, Poughkeepsie, N. Y.: To have satisfactory service one must have a reliable car, personal interest and ability to care for it properly, and fairly passable roads. My car (222) has now been in commission every day for a full calendar year. The maintenance for twenty-one months, 8,200 miles, cost:

Gasoline (at 20 and 22 cents)	$112.20	
Lubricants	21.95	
Batteries	11.00	
		$145.15
Tires: New	$133.50	
Repairs	16.00	
Patches and cement	4.60	
Replaced cross chains	8.00	
		162.10
Repairs: Broken springs	$ 25.75	
Other repairs and varnishing	47.00	
		72.75
Miscellaneous: Alcohol, carbid, polish, etc		5.50
		$385.50

This averages $18.36 per month, or about $220 per year, 4.7 cents per mile. That is less than the present cost of keeping a single horse. As the service value of a horse is the miles traveled, the comparative cost of maintenance should be figured on the mileage covered in a given period of time. On this basis, estimating the horse mileage, I believe the automobile has cost me about half as much per mile as the horse. Aside from its ability to wade through very deep snowdrifts, I can not see a single point on which I am willing to concede superiority of the horse over the automobile in the usual service that I require.

Dr. Z. Fuller, Sac City, Iowa: Even the worst snow and mud can be "negotiated" with my car (155); but it is more sensible and satisfactory to go with a team when such road conditions prevail. Twelve to fifteen miles is my usual speed, which is about double that of an ordinary team, if continued more than an hour or two. The higher the speed the greater the liability to breakage, with its dangers and expense, and the shorter the life of the machine. Driven at this moderate speed, I see no reason why this machine should not outlast a team. I have found the machine less expensive than keeping a team. My repair expense has been very light, mostly, perhaps, because of the solid tires. I suspect that the size of repair bills depends a good deal on the man who runs the machine; whether he understands his machine; whether he is at least reasonably thoughtful and careful; and, most of all, whether he has "speed mania." My machine has more than met my expectations; I am greatly pleased with it. Horses have always been, for me, too slow and otherwise unsatisfactory. On long, hard drives especially, when one must hurry, it has always hurt to force horses on, as one must, mile after mile when they are tired and worn. A machine has no nerves, a very large item to me. I can do far more work, yet have more time for rest, and the pleasure, diversion and healthfulness of driving the machine has been of no small consequence. Country doctors get little enough of pleasure and diversion, and more than enough of unhealthfulness. Yet for these advantages I have had to pay the price. This price has been much time, hard work and plenty of annoyance while learning the machine. A country doctor must drive and care for his own machine for the most part. He must learn to be an engineer, and he must learn this largely on the road, without an instructor; must "work out his own salvation."

TWO-YEAR-OLD MACHINE GOOD FOR TWO YEARS MORE.

N. B. BAYLEY, M.D.

HAVERSTRAW, N. Y.

After two years' continued use of a "one lunger" against the advice of my friends, the machine to-day has by far the best record of any in my vicinity: it has cost less and has been less disabled. It is a horizontal runabout (106) of 10 h. p., chain drive, with a single cylinder (5x5 in.).

Bought Books and Studied the Auto Subject.

As it had been used two months, the listed price was discounted $200, and I have never regretted the purchase. As I knew absolutely nothing about gasoline or automobile construction, I bought books on this subject and read up until I understood the principle of automobile mechanics.

Never Fails to Start.

The machine worked smoothly; it was easy of control, simple in construction and seemed to me as if it ought to be economical in operation. The machine has been used both summer and winter. The engine has never failed to start when cranked, provided the ignition was properly adjusted. I sold my horses and in the past fifteen months have not hired more than twenty-five days. Deep snows are prohibitive in driving, especially so when wet; light snows of six to eight inches are easily ploughed through; icy roads present no difficulty. Chains on the rear wheels prevent skidding at moderate speeds—and help the rear wheels to hold firm in the mud.

The automobile teaches care and observation. Always keep it supplied with gasoline; oil in plenty, but not too free; the best spark plugs and dry cells or batteries obtainable; see that all the connections are clean and tight; have spare inner tubes and casings on hand, and such other things as may be necessary; then one can drive his machine with the assurance of continued service.

The country in my vicinity is hilly; the main roads are hard, the secondary roads are soft. The population of this town is about 7,000. My mileage runs from 200 to 350 miles per month, yet it formerly required two horses to accomplish it.

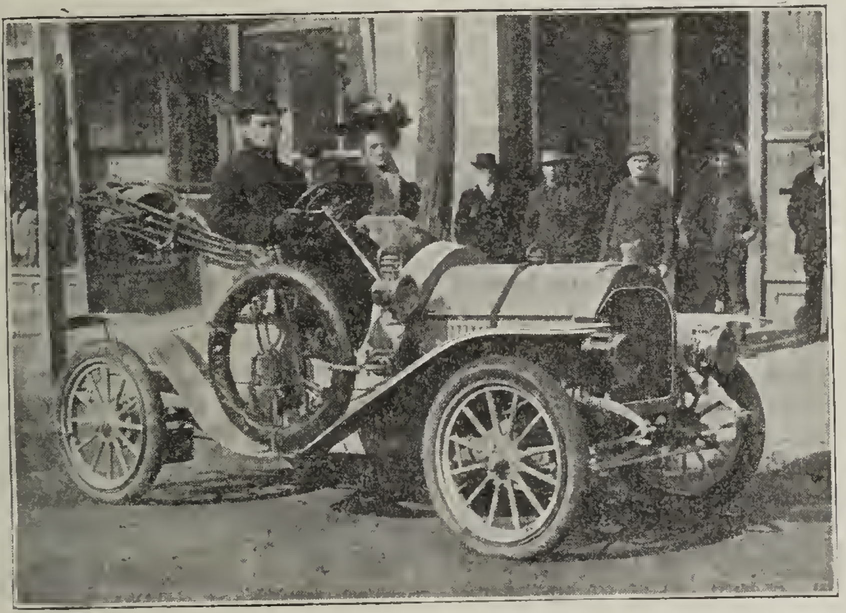

Fig. 26.—They all posed for this. Dr. E. T. Fields, Ensley, Ala., in his car (224).

The Auto Halves the Time of Travel.

The machine halves the time of travel, greatly reduces the fatigue therefrom, and saves, if necessary, a driver. After two years' use of the machine it is apparently in as good condition to do the next two years' work at it has been during the past two years. I take care of the machine mostly myself; occasionally a mechanic assists me, and a man washes it.

A Sample Expense Account.

My expense account is epitomized as follows for the year ending October 1:

AUTOMOBILE EXPENSE ACCOUNT.

	1905-6.	1906-7.
Repair and labor	$68.13	$45.45
New parts	16.15	18.50
Gasoline	29.24	47.25
Oil and grease	11.90	8.75
Ignition	6.42	15.55
Tires	120.00	116.75
Painting	....	35.00
	$251.84	$287.25
Total for two years		$539.09

The above account does not include the first investment or depreciation. In my experience a physician's riding outfit has little commercial value when offered for sale, as he is seldom in a position to seek purchasers, and usually has to take what is offered.

In winter I fill the water tank with a solution of a special form of calcium chlorid (107). Last winter this cost me $1. This solution seems to have no corrosive action.

Cheaper Than Horse.

In 1906 gasoline cost me 14 cents per gallon. The present year about 20 cents. My car will run from fifteen to twenty miles on one gallon of gasoline. Situated as I am, the gasoline runabout is cheaper than two horses—or even one horse. It is cheaper than a touring car, as it is of less weight. For economy I believe that a car should not have more than two cylinders. I can say that one cylinder has done my work well and economically.

Consider Yourself an Apprentice for a Year.

Reading the above it may seem that I have painted the physician's motor car in a roseate hue. That there is an obverse side of the shield is to be admitted: vexatious delays and accidents may occur when one's time is most limited; nevertheless if the neophyte will consider himself an apprentice for the first year, will actually learn how to run the machine, care for it, study it and actually follow the directions of the makers of the car, and not try to invent innovations until he has learned the mechanism of the motor car—there will be no serious trouble.

Nevertheless, there are some men who will never succeed in running a motor car; those who are destitute of the "mechanical sense" would better stick to the "one-hoss shay."

What Is Meant by "Two-Cycle" Automobile Engine?

In a "two-cycle" engine the piston and crank shaft are given an impulse with each revolution of the shaft, and each down-stroke of the piston is a power-stroke. In the contrasting, and at present the more common type, of automobile engine, the "four-cycle," the piston is given an impulse on every other down-stroke, which means that alternate down-strokes are idle strokes.

The development of the four-cycle type has become general because when gasoline engines first began to be applied to automobile propulsion the two-cycle idea was in a crude form and applied to boat engines almost entirely. The four-cycle engine was the easiest mechanism whereby to utilize gasoline power, and the demand was so great for automobiles, of any kind, that this type of engine was used because it was the most available.

A few mechanics stuck to the two-cycle principle, whereas nearly all of the older mechanics in gasoline engines had taken it up and dropped it for the more available mechanism. But, as is the case in so many other branches of mechanics, the men who persisted in their idea and work have now made a wide impression and there is no question that the perfected two-cycle idea will become more and more popular.

The makers point to the dramatic contrast between the reciprocating type of steam engine and the startlingly simple turbine engine, which has been known as a principle for centuries, but has only in present years been perfected. The giant turbine engines of the *Lusitania* and *Mauretania* are magnificent examples of this universal trend towards simplicity in all mechanical construction. It is a rare device that does not start in what afterward is seen to have been an amazing complication.

Of course, the saving in initial cost of manufacture is one thing, but the saving in care and adjustment is another and a far greater thing, whether it is a steam engine or a gasoline engine. Two-cycle history is, in a word, the history of all mechanism over again. The principle was long ago recognized, and has taken a longer time to work out.

IN A NUTSHELL

Dr. J. E. P. Holland, Bloomington, Ind.: I certainly could not do without my car (214).

Dr. John Specht, Superior, Wis.: Last year a motor cycle (206) was my hobby. But I found that for a physician who wishes to be well dressed and have clean clothing a motor cycle is not practical. I intend now to get a single-cylinder gasoline motor car (210), with a good top and storm front and apron, and will be able to ride in all kinds of weather.

Dr. R. R. Campbell, Chicago: Now that the automobile has become a necessity with the busy practitioner, the two all-important questions are what to buy and where to buy. I would answer the first question by the simple statement, a first-class four-cylinder machine. Not only have my cars been satisfactory in every detail, but my dealings with the company, of which I have bought three cars (205), have been eminently satisfactory.

Dr. E. T. Fields, Ensley, Ala.: I have owned two cars (235, 224), but I have never given up my horses and buggy and would advise anyone—especially those who have more or less muddy country roads to run on—to not think of giving up horse and buggy entirely. It is mighty nice to have both, but if you are going to take one or the other for ever ready, every day and any kind of a day or any kind of roads, take your horse and buggy. I will say this for my present car (224), that I don't think there is a better machine made for anything like the money, and it will go anywhere and has given me perfect satisfaction.

Dr. H. W. Chapman, White Hall, Ill.: On good roads the automobile is far superior to the horse. On bad roads the horse is still in the lead and most satisfactory. My first machine (233), described in your former Automobile Number, was very unsatisfactory from faulty design and poor construction. It was disposed of at a great sacrifice and I immediately had one built from my own designs and under my own supervision. It is a success. Drive at a speed that shows you have some regard for others if not for yourself, and a properly designed and constructed car will do the work of three horses at the cost of one.

Dr. Marion M. Hull, Atlanta, Ga.: Since July 10, 1907, I have driven my car (201) over 3,900 miles on professional calls, with the exception of possibly 150 miles on purely pleasure drives; have not been without the use of it a single day; and the total cost of maintenance, including repairs, has been under $200. It needs adjusting occasionally, but so does its driver. I am entirely satisfied that a good automobile is the best means of transportation for a physician. I keep mine at home, and find I do not dislike to make long calls at night as badly as I did. I enjoy it most by the fact that I can go when I have to without having to wait for a negro to get his meals—a loss of about two hours a day previously.

Dr. O. C. Breitenbach, Escanaba, Mich.: Motoring under difficulties in this northern country, a one-cylinder machine (237) served me very well at first. After one year's service the multiple cylinder machine stimulated vain desires, and I began to use a two-cylinder touring car (239). After several months' use I disposed of this machine because of its not being adapted to a physician's work. I have come to the conclusion that a certain four-cylinder runabout (202), because of its light weight and economy in maintenance, is the ideal machine for the practitioner. I am opposed to a high-priced runabout or roadster, because it does not assure any more success than a medium-priced car and the depreciation is so much greater.

Dr. Frederick Menge, Chicago: A few days ago, leaving my car (226) in the favorite doctor's haunt, the Washington Street side of the Public Library, a regulation blizzard in the course of the day accumulated a snowdrift in front of the machine up to the radiator and finally through this under the bonnet, until the whole was turned from a greasy black engine to a mass of snow through which one could not tell apart the cylinders nor find the carbureter, commutator or even the fan. This being a new contingency, which it had never been my fortune to experience, the best plan and the one involving the least amount of work seemed to be to remove the snow carefully from one of the spark plugs, remove the plug and prime the cylinder. Cranking in the usual way started this cylinder, and that in turn the others. The heat generated by the running engine soon had the snow melted away and we went on our way rejoicing.

MULTUM IN PARVO

Dr. Ira M. Comstock, New York Mills, N. Y.: I believe that the automobile is a necessity to the general practitioner (236).

Dr. M. D. Westley, Cooperstown, N. D.: For three years I have made my calls in a runabout (208) and find it practical and economical. I was delayed on the road but twice last season, by a nail puncture and by water freezing in the carbureter. Last season was unusually long for North Dakota, extending from April, 1907, until Feb. 5, 1908. During cold weather I use 30 to 40 per cent. wood naphtha in water for cooling. An enclosed top is an absolute necessity for comfort in severe weather.

Dr. E. F. Cooke, Houston, Texas: My little old auto (151) is running to-day as sweetly as ever, although it is about five years old, but it has not sufficient horse-power to carry a top well, and so in bad weather I have to use a horse and buggy. The great expense of operating a machine nowadays is in the tire. As far as my observation and experience goes, the engines are reliable enough. Like all machinery, the engine will get out of order, especially if not well looked after, but the troubles are mostly easily remedied.

Dr. W. C. Clarke, Cairo, Ill.: Last October I wound up my automobile experience at a decided loss—the friendship of the one to whom I sold the machine (162). Since that time I have increased in weight and general appearance. The transition from mechanic, electrician and general roustabout back to M.D. was very pleasing, indeed. I have more money now, do not beat my wife or grocery bills, ride in a comfortable buggy drawn by an old plug always good for a return trip, and am entirely satisfied over my complete and permanent recovery. I send my condolence to any brother physicians who are not content to be in my class.

Dr. Max Henning, Memphis, Tenn.: My car (228) has cost me $2,000 counting extras, with monthly expenses running from $25 to $50, besides keeping a horse and buggy for bad weather and when the machine is laid up for repairs. Since the middle of August I have gone over 3,500 miles, using 380 gallons of gasoline, costing $69.80. As the streets of Memphis are not all paved, a doctor has a lot of riding in his machine to keep on the good streets, and then has to walk to make some calls. While the streets are dry and the machine is running, it is great, but I would not advise any physician in Memphis to get an automobile unless he expects also to keep a horse and buggy.

Dr. S. B. Dickinson, Watertown, S. D.: My 6 horse-power runabout (240) has now been doing practically all my work for nearly five years, both summer and winter, and will run through soft snow or mud very satisfactorily, having just as much power as four years ago. I have done most of the repairing and adjusting, which has been very little, during the past year. I do not expect to revert to the use of the horse-drawn vehicle except when the roads are very bad. With an additional 6 horse-power in my machine it would be very satisfactory for at least three or four years more. Were I to buy a machine to-day I would want one with, briefly, the following points: 1, wheels 36 to 40 inches in diameter; 2, solid tires; 3, wheel base not less than 70 inches; 4, chain drive to both rear wheels; 5, water cooled; 6, friction drive; 7, engine in center or toward rear, and 8, at least 12 horse-power.

Dr. C. B. Miller, Helena, Mont.: For the past two and a half years I have relied entirely on my high-wheeled, self-propelled vehicle (219) for making all my calls, and I have been hauled home but once, when, it being dark, I ran off the side of a bridge and broke the control lever. My machine is the pioneer in this city and has but seven horse-power, yet it has not failed to carry me to and from my destination, up hill and down, through snow and mud, in less time, and with less care than a horse could have done, and at one-sixth the cost. It is practically as good now as when purchased, due, in part, to replacement of wheels and axles, on account of the railroad backing a freight train into my machine. On account of the grades on our streets, ranging from 1 to 15 per cent., more power is desirable, and wishing to avail myself of the improvements since made, I have just bought a new twelve horse-power car of the same make, and anticipate increased pleasure and comfort in its use. Although I miss the horseback rides, of which I am very fond, no more horse-drawn vehicles for me.

TERSELY TOLD

Dr. S. M. Cummings, Elkhart, Ind.: I consider my car (231) a fine one for a physician's use. I used it last year, and it **runs quietly** and economically, which are two important points.

Dr. D. W. Evans, Scranton, Pa.: 1. Too high prices. 2. Too much tire trouble. 3. Too much robbery by repair men. 4. Too small power wheels. 5. Too little clearance. 6. Too much speed.

Dr. G. F. Reineke, New Ulm, Minn.: My car, a 10-horse power single cylinder runabout (250), always goes. It is more **reliable than a team if the roads are fair.** I do all my own adjusting and most of my repairs. My expenses, except for tires and repairs, amount to about $25. I am a firm believer in the automobile for a physician if he understands machinery sufficiently to know when something is going wrong.

Dr. Louis de M. Blocker, Pensacola, Fla.: On our sandy Florida roads for nine months, my machine (218) has had as rough treatment as any machine could get in running over rough roads washed out by log carts, running into stumps, etc., and to-day is in good shape. The cost of maintenance has been small; my horse costs three times as much. If I had the good roads they have north, the machine would last a very long time. **This machine is all they claim for it.**

Dr. Henry Wiedow, Worthington, Minn.: I have been driving a car of the high-wheel type (255) for about one year. Though I can never again get along without an automobile, I have had more than my share of unpleasant experiences. This has been mainly due to poor construction and workmanship. The company cares little after they once have your money. A car, at the best, consists of a lot of machinery, and it is bound to get out of order and make trouble sooner or later. I think the high-wheel cars will give no better service, except in rare instances, than the low ones, and are just as expensive to keep up. An auto is much more expensive than horses, and you must depend on a team a part of the time.

Dr. G. T. McCullough, Missoula, Mont.: In 1907 I ran over 3,000 miles for $365.40, or one dollar a day. In this expense account were four new tires, two new front springs, a new transmission frame (broken by losing out a bolt), gasoline, lubricating oil, a new carburetor and all minor repairs, besides one complete overhauling with grinding of valves, dry cells and charging storage battery. My car (227) is kept at home, and **ready for use in a half-minute at any hour.** I find the auto a great saver of time and would not be without one, yet I do not use it exclusively, as there are times in mud and snow that the buggy or cutter is more desirable. Weather and roads favorable, I can make trips in about half the time one can with the best of driving horses.

Dr. Edwin B. Tuteur, Chicago: To one accustomed to the use of street cars and horse-drawn vehicles for years, the change to an automobile is almost magical by comparison. **The automobile assuredly grasps old Father Time by the forelock and leads him a merry chase.** The economy in time is the chief factor in the use of the automobile. The time saved can of course be utilized for other important purposes. My experience has made my car a necessity, even though in a sense it may be considered a luxury. The expense has not been great and I have found can be reduced to a minimum by some knowledge of the mechanism of the machine, so that trifling difficulties can be quickly and inexpensively remedied. My car (254) has proved staunch, reliable and satisfactory. It stands up splendidly under the rough usage the average doctor is compelled to give it.

Dr. John M. Bertolet, Reading, Pa.: My experience with a steam runabout (238) in 1901 was so satisfactory that I have used automobiles up to the present time. For the past three years I had a 16 horse-power gasoline runabout (257). During these seven years I have acquired some decided opinions, and last August I commissioned a local manufacturer to build a car for me on the following lines: A comparatively short wheel base, medium weight, ample horse-power, a convertible body and all mechanism as simple as possible. The result is what I consider an ideal car (212) for any one who needs a small car for business or professional purposes, and which answers equally as well for a five-passenger touring car, with about ten minutes' time to attach the rear seat. The tryout for the past four months has shown such good results that the manufacturer has concluded to make this his leading model for the coming year.

JUST THE GIST

Dr. Henry E. Tuley, Louisville, Ky.: I have found it entirely impossible to use my cars (184, 225) in the winter for health reasons, but during the spring and summer use it continuously with **very great satisfaction.**

Dr. E. S. Winslow, Orange, Mass.: My car (221) is inexpensive to run and is handled very easily. It has all the speed that is necessary, is a good hill-climber and rides as easily as any carriage. It is adapted for both summer and winter use.

Dr. Amos Avery (179), Sapulpa, Okla.: A doctor who uses an automobile certainly **wants a machine that will bring him back home.** The runabout type, with two or four cylinders, mechanical oil feed and water cooling, with sliding gear transmission, I consider the best for this country. In the Southwest one may be far from repair shops and have to look after all details himself. Next of importance is high clearance; the roads often have large stones and deep gulleys. Then again, there are streams to be forded. I certainly believe that the automobile is the coming means of conveyance for the physicians, whether for business or pleasure.

Dr. G. H. Mayhugh, Westerville, Ohio: I bought a second-hand runabout (242). I have had the usual minor troubles, but, on the whole, my experience has been favorable, and has proved the following: 1. Thirty-two inch wheels are the smallest practicable for country dirt roads, and a higher wheel is essential if solid tires are used. 2. The two-cycle type of engine is the simplest and best, though difficult of lubrication. 3. The water-cooled engine is always cooled. 4. For the man whose work takes him into the country, 10-horse power is the minimum that is effective. 5. The simplicity of the single cylinder more than offsets the slight annoyance of extra vibrations. 6. Any tread less than 56 inches is not fit for use on country roads, and 61 inches is preferable.

Dr. J. C. Bynum, Ventura, Cal.: I believe here in Southern California we have the best all-year-round conditions favorable for automobiling, and there are times here when it is very difficult to make one's calls in one. Last winter I used a runabout (171) 10 horse-power, 28x3-inch pneumatic tires. I had chains on rear tires, but frequently when the mud was deep I had to resort to the horse and buggy. Last fall I bought a high-wheeled solid-tired machine (174), and so far this winter I have no occasion to abandon it for a buggy. I believe the high-wheeled solid-tired car is the coming machine for the physician, for there is no mistake about its **ability to go through sand, mud, dust and water** better than the low-wheeled pneumatic-tired machines. If one takes the trouble to understand his machine, so he can correct small troubles, his auto will be a success; otherwise not.

Dr. J. L. Ormsbee, Springfield, Mo.: My motorcycle (211) is a strong, durable, well-built machine, with a 3 horse-power, air-cooled gasoline engine. It goes up all ordinary hills and will go as fast as one cares to ride over common roads or streets. The machine is easily controlled wherever there is a path, causes no delay in getting started, **does not scare horses as an automobile does**, and costs from $100 to $200. I like my motor cycle first rate. Repairs so far have cost nothing; a gallon of gasoline will run the machine 50 miles. In guiding the motorcycle one has to use good judgment and attend to business, but it is simpler in construction and will do the same work or more for the doctor than an automobile will. For a cheap, convenient and rapid method of transportation for a young and energetic doctor, or one who likes to use a bicycle, I recommend the motor cycle for use in good weather.

Dr. W. C. King, Helena, Ark.: The motor car is in every way superior to the horse-drawn vehicle, **provided the roads are good.** While I use my machine (220) the greater part of the time even at this season, I find it necessary to keep a horse to use when much mud is to be encountered. I have run my machine in mud two or three inches deep with no difficulty, yet I think it very detrimental to the machinery to run a very great distance in mud, and I do not believe any automobile can be successfully operated over real rough, muddy roads, the claims of the manufacturers to the contrary notwithstanding. I keep my car at home, and can have it ready for use at a moment's notice. The cost of maintaining my machine is less than keeping a horse. I think the life of a car and the success in operating it depends largely on the mechanical ability of the owner, the care exercised in driving it, and a thorough understanding of its mechanism.

SOME SHOWINGS FROM MISSOURI.

CHESTER E. FULTON, M.D.

SPRINGFIELD, MO.

Last March I purchased a four-cylinder gasoline runabout (101), water-cooled, weight about 1,000 pounds, pneumatic tires, 28x3; cost of car and equipment, $773.93. I have used it constantly, except when laid up for repairs or waiting for new parts to replace those broken.

Our streets and roads are very rough and somewhat hilly. The soil is clay, and in many places is covered with flint rock, ranging in size from pebbles up to six and ten inches through. Only a few streets have been sufficiently improved to be favorable to automobiling. For this reason my expenses have been heavy.

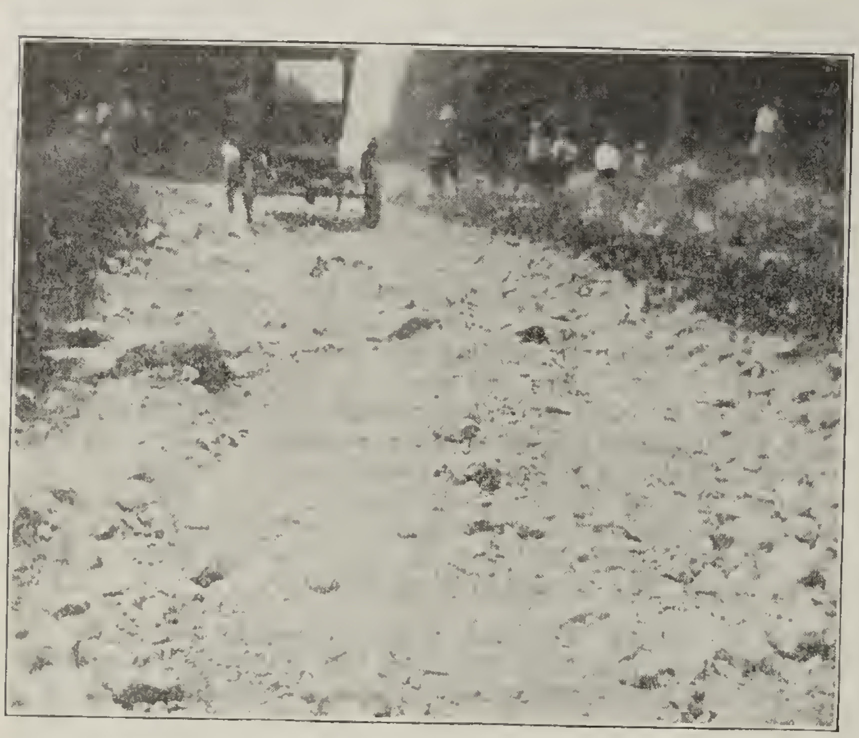

Fig. 27.—A doctor can not choose his streets as can one who motors for pleasure. Runabout (101) owned by Dr. C. E. Fulton, Springfield, Mo.

Summary of Nine Months' Expenses.

My total expenses for nine months are as follows:

254 gallons gasoline	$48.95
Oil and grease	19.15
Battery charging and dry cells	12.40
Repairs and replacements	147.95
Total for nine months	$228.45
Average expense per month	25.38
Average cost per mile	.06

As I keep the auto at home and care for it myself, no garage expenses are included. Counting 15 miles of running for each gallon of gasoline—and I have made careful observations on this point—I have driven a total of 3,810 miles at an expense of 6 cents per mile, not including the depreciation in value of the machine.

Can Not Think of Returning to the Horse.

Since becoming accustomed to my auto, I have been enabled to dispense with my horse most of the time, but I am going back to him during the winter months. The expense of motoring is almost too great for me even in good weather, and I think it would be far greater in winter. Am going to try it again next summer, however, as the time saved and the greater pleasure makes the thought of permanently going back to the horse unbearable.

I am not sure that the advantages of a four-cylinder over a one or two-cylinder engine are as great as claimed by the advocates of the former, but I have certainly not found the objection of greater complication as valid as some proclaim it to be. If I were going to buy another car I would prefer one with four cylinders—other things being equal.

I advise anyone using a four-cylinder high-speed engine not to use dry cells. It consumes them rapidly.

FROM THE MUDDY ROADS OF IOWA.

J. R. CROSS, M.D.

DES MOINES, IOWA.

Eighteen months ago I bought a high-wheel car (192), equipped with a two-cylinder air-cooled motor, 4x4, and two forward speeds. I found, however after a season's service, that the machine should have more than two speeds forward and reverse, in order to negotiate bad roads to good advantage. I had less trouble than owners of low-wheel cars with pneumatic tires, but I found that I needed a machine with more power or with a greater speed reduction in reserve for bad hills and deep mud, and also a car that would be practically fool proof and could be repaired in any blacksmith shop. I investigated about every other make of high-wheel car on the market, and even visited factories. I finally was satisfied and bought a four-cylinder, high-wheel roadster (193).

A Fool-Proof Car.

This car has front and rear wheels 40 inches in height, 1½-inch solid rubber tires; a road clearance of 20 inches; a four-cylinder air-cooled motor, developing 20 horse-power; a twin-friction transmission giving any speed ratio from 0 up to the highest—forward and reverse. It will climb steep hills on the highest gear at a good speed, and is very powerful for muddy roads. Friction transmission seems to me in every way superior to a positive drive, and the twin-friction transmission in my car enables me to handle the car over bad roads without any straining or shock. I find this car a wonderful machine. It gets under way quickly from a stand.

I urge doctors who can afford it to buy a four-cylinder machine, giving them plenty of power, as that is what they need, if they want to use their cars in all kinds of weather. I expect to have an expense of $5 a month for wear of tires and other parts.

Half as Expensive as Horses.

I think that this car is one-half as expensive to use as horses, while it will cover four times as much ground. An automobile is absolutely indispensable to a busy doctor, but it is better not to have an automobile at all unless you buy the very best on the market, as that is the cheapest in the end.

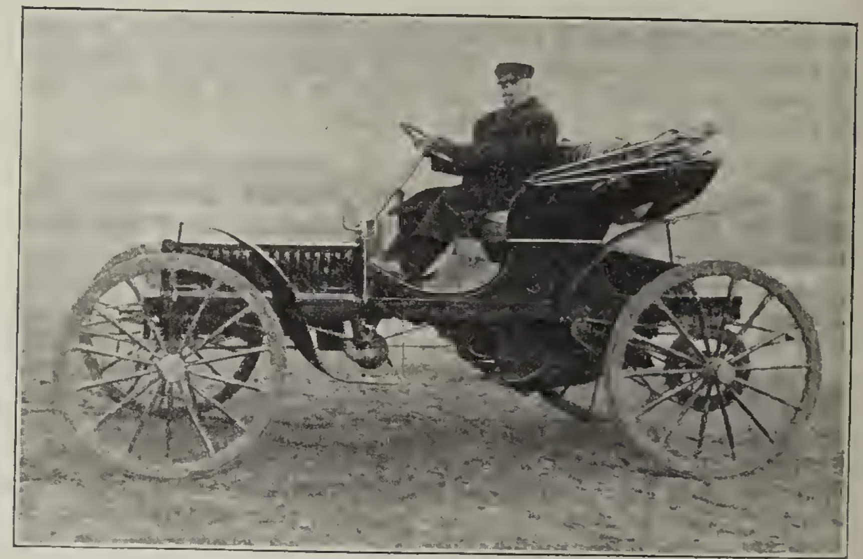

Fig. 28.—Dr. J. R. Cross, Des Moines, Iowa, just back from a country run through twelve inches of stiff mud (Auto 193).

WOULD NOT RETURN TO HORSES.

R. D. SMITH, M.D.

YERINGTON, NEV.

Last September I bought a single cylinder, water-cooled, 10 horse-power runabout (157), and have found it very satisfactory. It runs about 20 miles on one gallon of gasoline and requires from four to six hours' work a week. I find it a little more expensive than the horse, but use it much more. I save lots of time and enjoy my trips, whereas I formerly dreaded them I would not return to the use of horses if it cost twice what it does to run the auto.

WOULD NOT RETURN TO THE HORSE.

F. J. BOMBERGER, M.D.

MAPLETON, MINN.

When our roads are wet they are also so muddy and slippery that it is hard work for a team of horses to draw a buggy. We have the stickiest mud in the world, and I was afraid an automobile would be impracticable, but I was venturesome enough, after reading your first Automobile Number, to invest in a second-hand machine (199). It had a two-cylinder engine, horizontal opposed type, air-cooled and rated at 6 horse-power. Then my troubles began. Sometimes the machine would run splendidly and at other times abominably. I'd get stuck on the road, and passers-by would make remarks for my edification, but my courage failed not. To the oft-repeated question, "What's bothering you, Doc.?" I always answered, "My deplorable ignorance."

Know Your Machine.

In a short time I learned many things about gasoline engines and then my troubles ceased. I ran the machine through mud without much trouble. I was satisfied that an automobile was a practical vehicle for a physician, and then exchanged the old machine for a new one of the same type. This machine rides easy 20 miles an hour on ordinary country roads. When driving faster than this, there is a tendency to skidding, which I do not know how to overcome. The machine will climb any hill that one will find on an ordinary wagon road, and I never got stuck in the mud. I can do twice the work with the machine that I can driving a team. Two days ago I made two calls, drove 20 miles and was back to the office in two hours.

Cost of Maintenance Small.

The cost of running the machine is about 2 cents a mile. I have paid out for repairs $27. This includes a set of tires. The machine has done almost all my work since July, and I think that I shall never own a team.

Fig. 29.—"A hurry call," writes Dr. J. E. P. Holland, Bloomington, Ind. We suspect that this is a case of malingering for the benefit of the Automobile Number. Dr. Holland's companion is Dr. W. D. Martin (auto 214).

THE AUTO THE THING FOR A BUSY DOCTOR.

C. P. THOMAS, M.D.

SPOKANE, WASH.

Gas engineering is becoming more simple and more efficient every year; and high-class air-cooled cars with four cylinders, which are light on the tires, and have a reasonable clearance, are ideal for a doctor.

If a doctor is very busy, he can afford an automobile of the character described, even though he does not use it for more than five or six months a year. If, however, he has only a little business, with no likelihood of being able to increase it, the horse and buggy is cheaper.

The physician should not buy an automobile and attempt to run it without taking a good course of training in gas engineering. He should know the mechanics of his car as well as he knows the use of surgical instruments. Given that knowledge, he will have no trouble.

The automobile has come to stay, and the sooner we get in the band wagon the better it will be for us (207).

WHAT EXPERIENCE HAS TAUGHT.

F. M. CRAIN, M.D.

REDFIELD, S. D.

After using the same automobile (154) for five years in a practice extending over a large area of country, I have arrived at the following conclusions:

Fig. 30.—Safe home from a country trip through snow drifts—Dr. F. J. Bomberger, Mapleton, Minn. (auto 199.)

1. The longer the drives the more useful the auto.
2. A 10-horse power single-cylindered, water-cooled engine is more easily maintained.
3. The physician should be equipped to make all small repairs.
4. The greatest hindrance is the way one is "held up" by the manufacturers for repairs, especially in the cost of tires.

INEFFICIENT REPAIR MEN THE MAIN EXPENSE.

CHARLES S. BACON, M.D.

CHICAGO.

For two years and a half I have run an air-cooled 16 horse-power, four-cylinder car (197), with a tonneau, capable of seating five persons. For city use it has been satisfactory. When in order it does not overheat, and, because of its simplicity, it has, I believe, considerable advantage over water-cooled machines. The great difficulty with this machine, as is true of all automobiles, is caused by the ignorance and the exorbitant charge of so-called repairers. I have learned that the workmen in the shops are not mechanics at all and know practically nothing about machines, consequently they waste at least four-fifths of their time, and do much injury to the machine, and yet charge enormous prices for the swindle.

Some form of roughening the tire (198), helps to prevent skidding, but I have not found it necessary to use chains. I think chains should be forbidden in the city because of the damage they do to the streets. With care in driving they are not necessary. Every owner should learn to know his car as thoroughly as possible and to handle it himself, as much as possible. I can not conceive how anyone can do without a car when he has learned its value as a time-saver.

SUPERIOR TO THREE HORSES.

M. D. HOGE, Jr., M.D.

RICHMOND, VA.

For the doctor's use in the city the automobile is much superior to one or even three horses. A two-cylinder opposed 20 horse-power runabout of the gasoline type is the best for simplicity and economy. In the past thirty months I have run my automobile (161) a little over 10,000 miles. Since I have discarded pneumatic tires and adopted solid tires (162), my main troubles and expenses are only a disagreeable memory. My car has cost an average of $29.40 monthly. This is more than the keep of one horse, but the speed, certainty, comfort in hot and cold weather, and the exhilaration of guiding and controlling a good strong machine is worth the difference—to me.

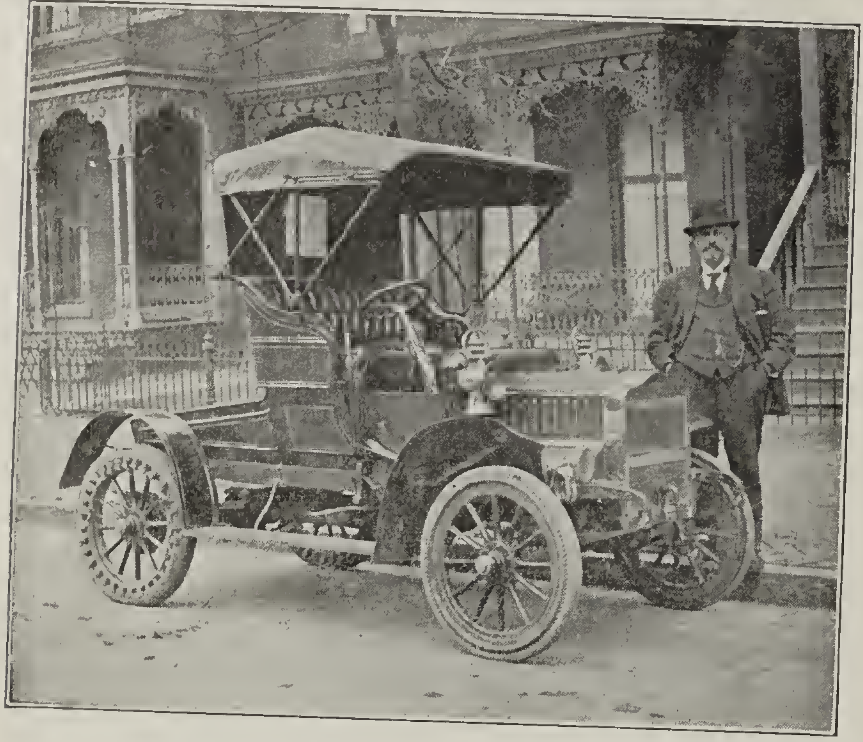

Fig. 31.—Dr. M. D. Hoge, Richmond, Va., certainly appears well pleased with his car (161).

THE AUTO WILL NOT ENTIRELY SUPPLANT THE HORSE.

R. J. CHRISTIE, Jr., M.D.

QUINCY, ILL.

Since the advent of the automobile industry in 1901 I have been a continuous user of motor cars (230) and have had experience with all kinds except the steamer. The air-cooled machine, in my experience, has been a failure, the water-cooled engine is to be preferred, even at the risk of freezing. I have operated two air-cooled cars (180, 181).

I have owned and operated one electric (182) and found it ideal except for the annoyance of recharging and the uncertainty of mileage, which practically eliminates it as a physician's proposition.

I have owned and operated one high-wheel machine (180), and at first I thought that I had obviated the ever present troubles of the pneumatic tires of the conventional type of machine, but, alas, the hope was vain. The high-wheeler is a disappointment in everything but the running gear. I have no doubt that in time, after sufficient evolution, this will be the best and cheapest rig for the doctor. Mine has cost me more for repairs than all the other machines I have owned.

I should say that a moderately priced two-cylindered car with the best tires, properly understood and judiciously used, will give the doctor the best service and least trouble.

Let no doctor think that the auto will do all that the horse will do, but he can use his machine for eight months in the year and save 50 per cent. of time. This appeals most strongly to a busy man.

SATISFACTION WITH THE AUTO.

JAMES Y. WELBORN, M.D.

EVANSVILLE, IND.

My practice is in a city of 80,000 people, the streets of which are of all kinds, from the best improved asphalt or brick to the worst of mud. The main roads in the country about are macadam, the surrounding territory being hilly to a large extent, most of these hills being from 50 to 200 feet high. My practice is scattered over the entire city, and I have some country work also. I purchased a machine, because, up to July, 1906, I had practically been killing a horse every six months.

A Good Word for the One-Cylinder Machine.

I concluded that a one-cylinder, 8-h rse power, water-cooled runabout (122), with a guarantee of 25 miles an hour (its highest speed), would be the best machine. I have used this machine almost all the time since it was purchased; I keep it in my own stable, so it does not get very good attention, and the greatest expense I have had has been due to negligence and the lack of time to study the machine. I have used it in all kinds of weather, and have gone through sloppy mud four inches deep without any trouble. I have had to put on skids but once. I generally run on high gear up all the hills, thereby gaining very much time. I have made two trips, five miles in the country, over a hilly road, in seventeen minutes. I do not choose to make such trips often, because they are too rapid to be safe. In winter an antifreezing mixture of calcium chlorid and glycerin prevented any trouble.

The expense of running the machine has been very little. I spent $39 for gasoline from July 4, 1906, to Oct. 10, 1907, and the general repairs on the machine have cost practically the same as for my horse and buggy each year. The gasoline machine gives a man much opportunity of getting his clothes dirty, and of working occasionally to adjust something; this I do not mind, but an older man might.

Not to Have an Auto Is to Waste Time.

I feel that it would be a waste of time for me to try to do without an automobile and to drive as slowly as a horse will go. I still have my horse and buggy, and ordinarily drive a little each day, but for all considerable distances I use the machine. On muddy country trips I feel safer with a horse and buggy. If roads are suitable a machine will be very practicable for any practitioner unless he is too far from a mechanic.

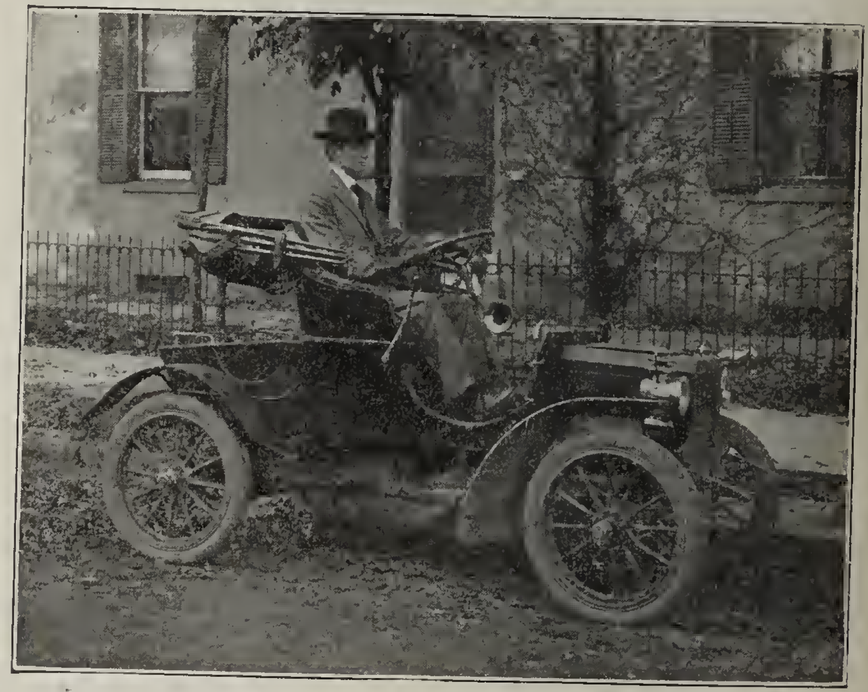

Fig. 32.—Dr. J. Y. Welborn, Evansville, Ind., says this is a satisfactory car (122).

Dr. E. H. Kessler, St. Louis: Yes, the doctor should use an automobile. It is more dignified; it is cheaper; it takes your mind from your professional cares; but you must master your machine to get the full pleasure out of it. I have found this true in the case of my car (232).

THE ZENITH OF DELIGHT AND THE NADIR OF DESPAIR.

LAMBERT OTT, M.D.

PHILADELPHIA.

I WOULD earnestly advise one who contemplates using a motor car for the first time to familiarize himself with the engine, steering gear, oiling, etc., by receiving instruction in some good school teaching this line of work. Do not attempt to run a machine without such preliminary knowledge, for if you do you have before you a painful experience and expense, and the car suffers correspondingly.

Auto Requires More Time and Expense Than a Horse.

The automobile is superior to the horse for work, but the physician must not expect to run his machine with as little attention as a horse—if he does, woe betides him in the exasperating delays and troubles that will follow. In its minimized expense an automobile is more expensive than one horse.

Ought Tos for Autos.

The autoist ought to have his own garage near the house, where in moments of leisure he can adjust and study his car. He ought to remember one axiom: Learn all about it, to be comfortable and successful.

There is no device which will entirely prevent skidding. Chains and the different tires having metal or roughened surfaces will partly prevent it.

In the beginning of your motor car career use a two-cylinder car and later a four-cylinder engine. A high horsepower engine in too light a car will soon pound itself out. A light touring car (103) with a good chauffeur is my selection.

The Auto Produces the Extremes of the Emotions.

There is nothing equal to an automobile in producing the extremes of the emotions—the zenith of delight and the nadir of despair.

It will eventually displace the horse.

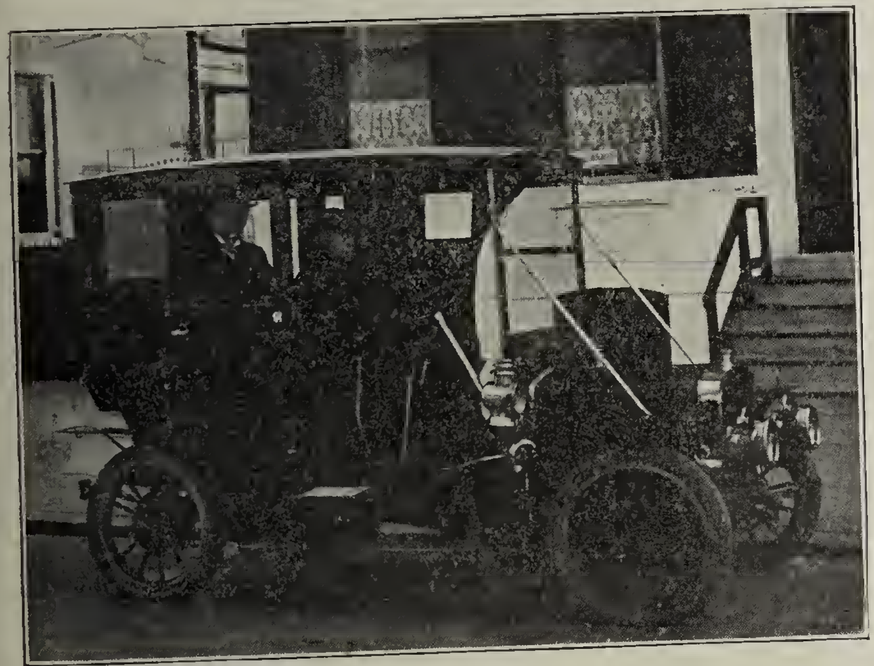

Fig. 33.—The car (103) of Dr. Lambert Ott, Philadelphia.

COMBINING PLEASURE WITH BUSINESS.

WILLIAM E. FISHER, M.D.

READING, PA.

YOUR automobile number, April 21, 1906, gave me my idea of employing an auto in my work, and I cheerfully give my experience for what it is worth. I purchased (second hand) a two-cylinder, water-cooled runabout (139) in June, 1906, and then my trouble began, especially with tires. After spending enough money on the machine and tires to more than equal the original list price of the machine, I finally got the car in good shape, and my expenses after that did not average more than $12 a month, this including gasoline and oil.

Not Simply a Business Proposition.

My idea was not to displace the horse entirely, especially in winter time. There are so many physicians who receive very little pleasure in this life, and yet leave a smaller fortune to their families. So my idea was, and is, to get some pleasure and recreation as well as a ready means of transportation when calls come at unusual hours.

I have not been disappointed in my calculations. I have received much pleasure and recreation with my small runabout, so much so that I have contracted for a four-cylinder, air-cooled car (140) for early spring delivery, when I will dispense with the horse entirely.

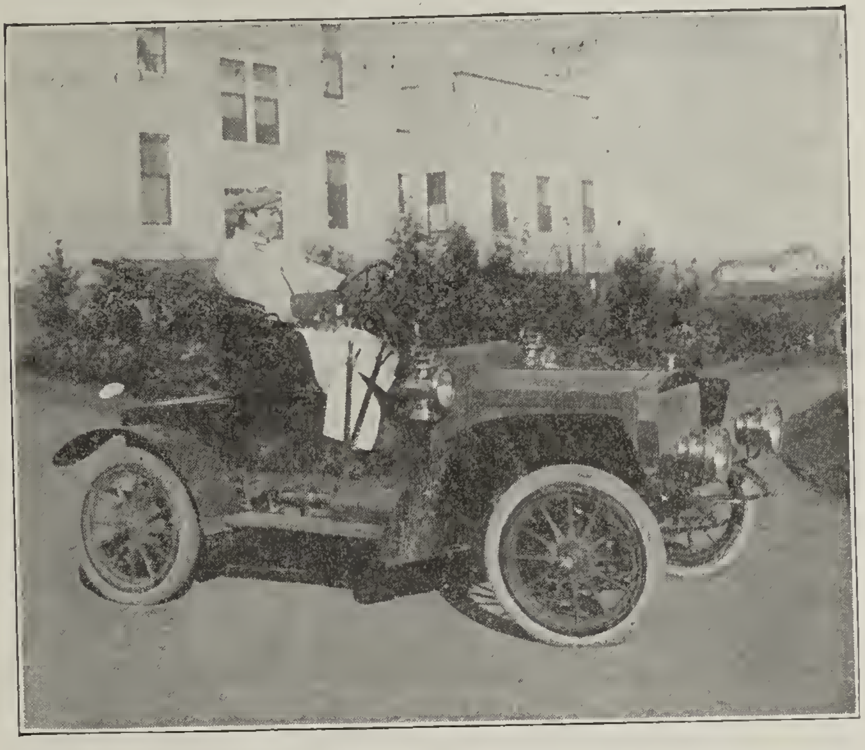

Fig. 34.—Dr. A. Aldridge Matthews, Spokane, Wash., leaving St. Luke's Hospital (auto 117).

The Care of the Car.

The car requires a considerable amount of care in cleaning, oiling, tightening bolts and looking after things generally, at least one or two hours are required daily for this work. Some weeks I had nothing to do but put in oil and gasoline, then other weeks a great deal more, especially with a poor set of tires. The work has, however, proved a great pleasure.

One of the greatest pleasures and conveniences is in making calls at a distance or at night, when with a turn of the crank one is off. Many of my patients are surprised how quickly I respond at night.

THE AUTO A NECESSITY.

A. ALDRIDGE MATTHEWS, M.D.

SPOKANE, WASH.

EACH year the automobile is becoming more and more a necessity for the medical man; after once having one, a doctor will feel very much at a loss without it. Automobiles are as far ahead of the horse and buggy as the horse and buggy is ahead of the electric car for the busy doctor.

My experience with an automobile during our winters here has not been especially satisfactory, as the roads are very muddy and much cut up by traffic, which is hard on the machine and necessitates low speed, increasing oil, gasoline, and, therefore, running expense.

Auto Twice as Expensive as Horse.

It has been my experience that an automobile kept at a garage costs just twice as much per month as does a horse and buggy; but, if the doctor has the time, and mechanical bent, he can care for his machine, keep it at his home and run it at less expense than it would cost him for his horse and buggy—but this is hardly practical for a busy doctor. I own a four-cylinder 20-horse-power runabout (117).

THE AUTOMOBILE AS A TOOL OF THE PHYSICIAN.

AUGUSTUS A. ESHNER, M.D.
PHILADELPHIA.

For a long time I turned over in my mind the question as to whether I should employ a horse-drawn or some form of mechanically propelled vehicle for making my professional visits. My objections to the former were: 1, Exposure of the animal to cold, heat and wet during long visits at hospital, dispensary or private dwelling; 2, slowness of progress, especially in making visits at considerable distances; 3, necessity of a driver or coachman. On the other hand, the automobile was in an experimental and transitional stage. I bought an electric runabout (147) that had been in use for a few months. This proved exceedingly clean and neat, but battery deterioration made it unduly expensive, and I disposed of the car at a moderate loss.

Gasoline Best Source of Power Generation.

As time wore on it became clear that gasoline was the most practicable source of power generation as applied to automobiles, and I purchased, in January, 1906, a runabout (189) that had been used a short time for demonstration purposes. This I ran for seventeen months, when I exchanged it for a later model of the same car, which I am now running.

I store my car at a nearby garage, where it is washed, gasoline, oil and water replenished, and adjustments and repairs are made as necessary. My experience of twenty-one months has been most satisfactory. The cost of maintenance is, I judge, somewhat greater than that for a single horse and carriage, but the service is in every way superior. I can cover longer distances in less time and with a zest and certainty that could not be expected from the use of a horse. I need have no compassion for a tired, thirsty, hungry overheated or chilled animal. I do not attempt tours or great distances with my runabout, but average, perhaps, 20 miles a day. I select asphalt pavements in the city whenever possible, or hard roads in the suburbs, even going out of my way to reach these as tires are thus saved as well as time, and riding is easier.

The Expense of Maintenance.

For the seventeen months that I used my first car the total cost was $925, or approximately $55 a month. This includes first cost, a top, with side curtains (indispensable), and a glass storm shield, which I would not wish to be without, and every other item of expense, such as tires, storage, repairs, gasoline, oil, batteries, repainting and insurance against fire. From this amount is to be deducted the sum allowed in making the exchange. The largest item of expense was for tires, amounting in all to $210 for seventeen months. Puncture can, however, be reduced to a minimum by having the tires well inflated, and speed is increased by the same means, although this is feasible only on smooth roads. It would be a great boon if solid tires could be used advantageously.

My motor has but a single cylinder, and I have no complaint to make on this score. It is easy to start; it runs smoothly and with ease; it climbs most hills on high gear and any hill on low gear; and it is capable of greater speed than I am permitted to use. I operate my car myself, and therefore prefer a small car for professional purposes. I really think it uneconomical to have a larger and more commodious car than one actually needs.

Some Practical Experiences.

I have used chains to prevent skidding and side-slipping, and to pull through snow and over ice, but I have discarded them largely, as they act as a drag on the car and are likewise destructive of the tires. I have also used a special tread (190), and find it serviceable until the rubber studs are worn down to the surface of the tire. There is another tread (150) which promises protection against skidding, slipping and wear. The only real safeguard is careful operating. One should never have to stop quickly on a slippery surface.

I have been able to use my car almost every day in the year, but have chosen not to take it out on severely cold days or when the snow is banked high on the streets. I have been able to run my new car on a new set of tires for more than seven months, covering a distance of about 3,000 miles, with but a single puncture, when my tires were somewhat softer than usual. The tires are still in fair condition and they look as though they might be good for an additional 1,000 miles or more. By means of a generous admixture of wood alcohol with water in my cooling apparatus, I have also been able to run in cold weather. The cost of maintaining my new car for the first seven months has been less than $20 a month.

LEARNING BY EXPERIENCE.

F. W. WILCOX, M.D.
MINONK, ILL.

I have used two automobiles in my practice. The first year I had a touring car (132), with two cylinders, 16 horse-power, chain drive, water cooled and pneumatic tire. This car is all right for pleasure, but I did not like the idea of pulling around a big touring car with three empty seats when I made professional calls. Next, you have too much trouble with pneumatic tires, too many punctures, and too much expense, still I would rather have a touring car with pneumatic tires than none. The next year I bought a car with high wheels, solid tires, air cooled, 10 horse-power (133). I have run it about 5,000 miles, at an expense of less than $20 for repairs for one year. I can run about 20 miles on a gallon of gasoline; on good roads can make an average time of 15 to 18 miles per hour. In ordinary mud about 8 miles. If the mud is very sticky or deep, I do not try to use the car, but hire a team. In this part of Illinois, where the roads are the best in the world when they are good, and the worst when they are bad, I can make about 90 per cent. of my drives with it.

The Ideal Car for the Country Doctor.

The air-cooled car will cool all right if you give it plenty of oil. The engine is only half as heavy as the water cooled, and there are no tanks and no pumps to make trouble. My personal experience is that it is a success, but should have more power. My ideal car for a country doctor is four cylinders, 20 horse-power, air cooled, with high wheels and solid tires; either the double chain or cable drive, the car to weigh not more than 1,200 to 1,400 pounds. The cost of keeping that kind of a car, including cylinder oil, batteries, gasoline and all repairs, is not nearly as much as keeping a team of horses. You can make your calls in half the time you can with a team and pick up half the price of a car in a year by being at the office more of your time.

If Your Wife Learns to Run the Auto, You Will Need Two Autos.

If you have a good car and take fifteen minutes each day to look it over carefully, to keep it well oiled and all nuts tight, you will have very little trouble and lots of pleasure in running it. If you are a married man and teach your wife how to run it you would better buy two, as you can get it only when she does not want it.

FIVE YEARS' FAVORABLE EXPERIENCE.

L. M. ALLEN, M.D.
SOUTH NORWALK, CONN.

Constant use, summer and winter, of the automobile (164) I purchased Aug. 1, 1903, has tested it fairly well, I think. It runs just as well as ever, if not better. It has run considerably more than 50,000 miles.

Where the roads are good a light single-cylinder car of good make will give give as good results as any, and the trouble and expense of upkeep will be less. Where the roads are such that more power is required, either a double or a four-cylinder car with three speeds forward will be better.

(*Automobile articles continued on page 787.*)

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Address

THE CHEMICAL CONTROL OF THE BODY.*

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LONDON, ENGLAND.

The desire of man for life, a necessary condition of existence in a healthy animal, has led him to search out by experiment the secret workings of his own body, with a view to acquiring by more perfect knowledge a measure of control over his own functions, comparable to that which he has already obtained over the forces of inanimate nature. In this way has been founded the science of medicine, the pursuit of which is the main object of the members of this society. Among the methods devised to this end, viz., the control of the functions of the body, must be classed the whole treatment of man from his youth upward; and a large part of the efforts of the medical man must coincide with those of the educationalist and the sanitarian in the endeavor to assure health by measures which affect, in the first place, the environment of man, his patient.

In the eyes of the general public, however, the office of the medical practitioner is often limited to the, for the present, less important rôle of administrator of medicines or drugs. Although this method has been the main weapon of the "medicine-man" in his fight against disease from the earliest ages, its scope is still but limited, and only within the most recent times has any attempt been made to place it on the basis of actual knowledge. The empirical character of the greater part of the treatment by drugs has proved a potent weapon in the hands of the satirist of the medical profession, and exception has often been taken to the employment of chemical remedial measures as being utterly opposed to the laws of Nature and the methods employed by her in the regulation of the body processes and the reaction of the organism against disease.

I wish to call your attention to a whole array of facts which demonstrate the unjustifiability of this attitude. As a result of recent investigations, we may assert that in the employment of drugs we are but imitating, although perhaps in a very imperfect manner, the method employed by Nature herself, and, indeed, that a large share in the wonderful co-ordination of the activities of different parts of the body, which determine their mutual cooperation for the common weal of the organism, is played by the production and circulation of chemical substances which are strictly analogous to the drugs employed during countless ages by mankind in the treatment of his diseases.

The idea that chemical factors must play an important part in the correlation of function between different parts of the body is not new, but I do not think its full significance was realized before the discovery of a very perfect and simple example of chemical co-ordination, viz., that, by means of which the activity of the pancreas is determined according to the nature or extent of processes occurring in the alimentary canal. I may, therefore, perhaps, be allowed to give you a brief account of this mechanism before treating of the numerous other instances of chemical correlation, many of which have been long known, although even now we can not pretend to a full comprehension of their significance in the body.

Among the many important discoveries of Pawlow and his school on the physiology of digestion, one of the most striking was the fact that the introduction of dilute acid into the duodenum and upper part of the small intestine provoked secretion of pancreatic juice, just as the introduction of acid into the mouth excites secretion of saliva. Thus, as fast as the acid chyme passes into the duodenum, its presence in the latter organ provokes a flow of alkaline pancreatic juice which will continue until the chyme is neutralized.

We know from the researches of von Mering, Cannon and others that so long as the contents of the duodenum are acid the pylorus remains closed, so that we have here a chain of processes determining a gradual emptying of the stomach into the duodenum and the addition to the chyme of just sufficient pancreatic juice to neutralize it and stop the action of the gastric juice and to bring about pancreatic digestion in full activity.

The "acid reflex" from duodenum to pancreas was ascribed at first by Pawlow to the intervention of a reflex arc of which the vagus was the efferent nerve. His pupil, Popielski, almost simultaneously with Wertheimer of Lille, showed that the "reflex" can be brought about after severance of all connection between the alimentary canal and the nervous system. These observers regarded the phenomenon, therefore, as brought about through a local reflex arc involving peripheral nerve centers. Bayliss and I at first accepted this interpretation. We were interested in the phenomenon as possibly showing an influence of the local nerve centers, whose action on intestinal movements we had just studied, on the chemical processes of the gut and its appendages, and we, therefore, sought to determine the conditions of the reflex more closely.

We found, however, very soon that the experiment could be so devised as to exclude any possible intervention on the part either of the central or the peripheral nervous system, and yet obtain secretion from the introduction of acid into the gut. Thus, if a loop of the jejunum be tied at two ends, and all its nervous connections severed, so that it remains attached to the rest of the body simply by the blood vessels, introduction of acid into this loop evokes a flow of pancreatic juice as marked as that obtained from the introduction of aci into a normal loop. Since the message from the gut to the pancreas, arousing its activity, can not reach it by way of the nervous system, the only possible channel left is the blood stream, and the messenger must, therefore, be some chemical substance discharged into the blood stream, and not a molecular change propagated along nerve fibers. That the messenger can not be the acid itself was easily shown by injecting acid into the portal vein, when no effect was produced.

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* Lecture delivered before the Harvey Society, New York, Jan. 11, 1908.

We see, then, that acid introduced directly into the blood has no effect, while if it be injected into a cavity separated from the blood by only the epithelial cells of the intestine it has an effect. The chemical messenger, therefore, must be something produced in the epithelial cells under the action of the acid and discharged by them into the blood stream. This conclusion was speedily realized. When we scraped off some of the epithelium, rubbed it up with acid, and injected the hastily filtered mixture into the blood stream of the animal, a flow of pancreatic juice was obtained considerably greater than any we had hitherto obtained as the result of injecting hydrochloric acid into the lumen of the intestine.

To this chemical messenger we gave the name of "secretin." In order to obtain it free from admixture with the protein constituents of the cells, the ground-up intestinal epithelium was boiled with 0.4 per cent. hydrochloric acid and while boiling was neutralized. In this way all the coagulable protein was thrown down. The filtrate was found to exert a strong exciting effect on the secretory activities of the pancreas.

This mode of preparation shows that secretin is neither a ferment nor a protein. Other experiments have shown that, while fairly stable in acid solution, it is very rapidly destroyed in alkaline solution. It is soluble in fairly strong alcohol, or alcohol and ether, but is insoluble in absolute alcohol. It is fairly diffusible through parchment paper and is not precipitated by the ordinary alkaloid precipitants. The case with which it undergoes oxidation has hitherto foiled all attempts to isolate it in a pure form, but the properties mentioned suggest that it is a body of comparatively low molecular weight, and that it ought to be possible to obtain it in crystalloid form. In much of its behavior it resembles adrenalin, the isolation of which presented at first many difficulties, but was finally successful in the hands of Takamine. This body, secretin, can be regarded as a type of a whole group of chemical messengers, which, formed in one organ, travel in the blood stream to other organs of the body and effect correlation between the activities of the organs of origin and the organs on which they exert their specific effect. For these chemical messengers we have suggested the name of "hormone," from ὁρμαω, I arouse or excite.

It may be remembered that Ehrlich divided the chemical agents which act on the organism into two classes, which we may shortly describe as the toxins and the drugs. As a type of the first class, we may instance a poisonous constituent of jequirity which has been called abrin, of castor-oil seeds, ricin, as well as the toxic products of pathogenic micro-organisms, such as the well-known toxins of diphtheria or tetanus. All these bodies introduced in minimal doses into the organism evoke characteristic effects either local or general. The specific character of their physiologic action suggests that these toxins have special affinities for one or other tissue of the body, affinities conditioned by their chemical character as well as by that of the affected organs.

In this respect they are entirely analogous to the drugs which form the main part of our pharmacopeias, and of which we may take strychnin, morphin or arsenic as types. There is, however, one marked distinction between the two groups. When repeated small injections are made of a body belonging to the group of toxins, the physiologic effect produced becomes progressively less, and it has been established that the immunity to their action which is thus brought about is due partly, at any rate, to the formation of substances in the organism which are the physiologic antagonists of the toxins and have the power of combining with and neutralizing these substances.

Thus, if the blood serum of an animal rendered immune by repeated doses of diphtheria toxin, is mixed with some of the diphtheria toxin itself, the resultant mixture, which may contain many hundred times the lethal dose of toxin, may be injected into an untreated normal animal without producing any effect. Although in the case of certain of the drugs, such as morphin, a limited degree of tolerance may be established, there is no evidence of the production at any time of antitoxic substances in the treated animal.

Now, it is evident that if a substance is to act repeatedly as a chemical messenger through the medium of the blood between one organ and another, its function would be abolished if the discharge of the chemical message into the blood stream gave rise to the production of an antibody. These chemical substances, or hormones, must, therefore, as a necessary condition of their function, belong to the class of drug substances, generally crystalline, or at any rate not belonging to the colloid class, of definite chemical composition, and in most cases of comparatively low molecular weight. Their action on the chemical basis of the protoplasm must be determined by their molecular structure, and in all probability must be ranked with the purely chemical processes, rather than with those mixed chemical and physical processes which determine the formation of adsorption compounds and distinguish the interaction of one colloid with another, as well as of toxins with the animal cell or with their corresponding antitoxins.

It is only necessary to remind one of a number of well-established correlations of function effected by the intermediation of these hormones in order to carry conviction of the very large part that they must play in the normal processes of the body. In the alimentary canal itself, the chemical correlation between intestine and pancreas does not stand alone. Thus, Pawlow showed that the secretion of gastric juice occurs in two phases, the first phase being excited through the vagus nerve by appetite, or by impulses from the mouth, while the second phase was determined by the presence of certain substances in the stomach. Edkins has shown that the secondary secretion of gastric juice is determined by the production of a hormone in the pyloric part of the mucous membrane under the influence of the first products of digestion, and that this hormone is absorbed by the blood and carried by it to the gastric glands of the fundus which are thereby excited to renewed activity.

The secretion of the intestinal glands is partly excited through the local nervous system by the mechanical stimulation of the mucous membrane. It is probable, however, that the pancreatic secretin formed in the duodenum, and perhaps other hormones produced in the intestine, have a direct action through the blood on the secretory processes of the small bowel. The simultaneous presence of bile and pancreatic juice in the duodenum, which is necessary for the full unfolding of the digestive activity of these juices, is secured by the fact that the secretin formed in the intestinal mucous membrane under the influence of the acid chyme, has a specific excitatory effect not only on the cells of the pancreas, but also on those of the liver. The postprandial rise of biliary secretion is synchronous with the postprandial rise of the pancreatic secretion, and in both cases the secretion is determined by the secretin circulating in the blood as the result of the action of acid on the cells of the duodenal mucous membrane.

It is possible that chemical factors play an important part not only in arousing the secretion of the digestive juices, but also in determining the absorptive activity of the intestinal epithelium. I do not see how otherwise we are to explain the remarkable effects on the absorption of the foodstuffs which ensue on the total extirpation of the pancreas. Whereas ligature of the ducts of this organ leaves the absorption of foodstuffs, other than fats, practically unaffected, its total extirpation diminishes by one-half the absorption both of carbohydrates and proteins and almost entirely annuls the absorption of fat.

When we pass to the other functions of the body, we find many other instances of correlation by undoubted chemical means, as well as instances in which, with our present knowledge, we can find no other explanation of observed phenomena than the assumption of such chemical means. Perhaps, the best marked case is that presented by the regulation of the respiratory movement in accordance with the needs of the organism, especially of the muscles for oxygen.

The increased depth and frequency of respiration contingent on muscular exertion are familiar to every one, and we know that the physiologic object of such changes is to secure the increased ventilation rendered necessary by the enormous rise of gaseous metabolism which accompanies muscular exercise. Even moderate work may raise the gaseous exchanges to between four and eight times their amount during rest. This increase in the respiratory movements is entirely involuntary, and may, in its earlier stages, when affecting chiefly depth of respiration, be unnoticed by the subject of them.

How is the respiratory center aroused to an increased activity which is strictly proportional to the increased metabolism of the distant muscles? A nervous path is at once excluded by the fact that hypernea or even dyspnea may be excited in an animal, after division of the spinal cord, by tetanization of the muscles of the hind limbs. Zuntz and Geppert, therefore, came to the conclusion that the exciting agent in this increased activity was some acid substance or substances produced by the contracting muscles and transmitted from them through the blood stream to the respiratory center.

The subject has been investigated lately by Haldane and Priestly. In a series of masterly experiments these observers show that the chemical messenger in this case is none other than carbon dioxid. The contracting muscle, when properly supplied with oxygen, takes up this gas and gives out carbon dioxid in direct proportion to the energy of its contractions. The carbon dioxid, diffusing rapidly into the blood stream, raises its percentage and, what is still more important, its tension in this fluid. The respiratory center differs from the other parts of the central nervous system in having developed a specific sensibility to carbon dioxid. Its normal activity is determined by the normal tension of this gas in the blood and lymph bathing the center. Diminution of the tension of this gas depresses the activity of the center, causing slackening of respiration, or even the total cessation of respiratory movements, known as apnea.

This work by Haldane may be regarded as finally deciding a question which has been the subject of debate for nearly half a century. The dyspnea, caused by the circulation of venous blood through the brain or by the deprival of the respiratory center of the means of maintaining its normal gaseous interchanges, has been variously attributed either to oxygen starvation or to carbon dioxid intoxication of the center. Haldane shows that the center is very little sensitive to changes in the oxygen tension of the blood. The oxygen tension in the pulmonary alveoli may be altered from 20 per cent. to 8 per cent. without any increase in the depth or frequency of the respiratory movements. In these circumstances the heart or circulatory system may feel the deprivation of oxygen before the respiratory center has responded to it. On the other hand, a rise of only ½ per cent. in the tension of carbon dioxid in the alveolar air, and, therefore, in the blood circulating round the respiratory center, will increase the volume of air respired 100 per cent.

This simplest of all examples of a co-ordination of two widely separate organs by chemical means may, perhaps, give us a clue to the mode in which the more complex of such correlations have been evolved. The chemical messenger is here a product of activity which is common to all protoplasm and must be excreted by the cell as a condition of its further activity. The adaptation in this case, therefore, is not the formation of a special substance which shall exert a specific influence on some distant organ, but the development in this distant organ of a specific sensibility to the common product of excretion of the first organ. We may, perhaps, assume that the more specialized messengers, which we shall have to consider in detail later, were at first accidental by-products of the selfish activity of the organ producing them, the first step in the development of a correlation being the acquisition of a sensibility to the substance in question by some distant organ.

The only other example of such a reaction, in which we know both the source and nature of the chemical messenger and the exact nature of the effects which it produces, is the suprarenal gland. Since the time of Addison we have known that atrophy of these glands in man leads to a disease characterized by the three cardinal symptoms of bronzing, vomiting and extreme muscular weakness. Most of the attempts to reproduce this disease in animals have failed, owing to the fact that death follows the excision of both glands within 24 hours; the extreme muscular weakness is certainly produced, and this is attended by a profound fall in the general blood pressure.

In 1894, Oliver and Shäfer showed that from the medulla of the suprarenals a substance could be extracted which, on injection into the circulation, caused a marked rise of blood pressure and increased strength of the heart beat. Since the publication of these observations, our knowledge concerning the nature and actions of this substance has progressed rapidly. The researches of Jowett, of von Fürth and others, have shown that the active substance is a definite chemical compound derived from pyrocatechin and having the formula: $(HO)_2.C_6H_3.CHOH.CH_2.NH.CH_3$.

Dakin has synthesized a whole array of substances which are closely allied to this body in their chemical structure as well as in their physiologic influence on the animal organism.

In order to comprehend the point of attack of adrenalin, the specific secretion of the medullary part of the suprarenal glands, we shall do well to go back to the mode of development of these organs. It was shown by Balfour that the suprarenals have in the fetus a two-fold origin, the cortex being derived from the mesoblastic tissue, known as the intermediate cell-mass, while the medulla is formed by a direct outgrowth from the sympathetic system, and consists, at first, of an aggregation of neuroblasts. In some animals, e. g., teleostean fishes, the two parts of the gland thus formed remain separate throughout life, but in the higher vertebrates the sympathetic outgrowth becomes surrounded by the cortex and the cells rapidly lose all traces of resemblance to a nerve-cell. But the medulla is genetically part of the sympathetic system, and its specific secretion, adrenalin, has an action which is apparently confined to the sympathetic system. In whatever part of the body we test the effects of adrenalin, we find that they are identical with the results of stimulating the sympathetic nerve fibers which run to that part. Thus, in all the blood vessels of the body, adrenalin causes constriction; the contraction of the heart muscle is augmented, the pupil is dilated, while the intestinal muscle, with the single exception of the small ring of muscle forming the ileocolic-sphincter, is relaxed. The action of the sympathetic on the bladder differs, as shown by Elliott, markedly in various animals; but, whatever its effect, a similar one will be produced in the same animal by the injection of adrenalin.

I have already mentioned that excision of the suprarenal bodies causes a profound fall of blood pressure, which continues until the death of the animal, and it has been stated that, when this fall is well established, it is impossible to raise the blood pressure by stimulation of the splanchnic nerve, or, indeed, to produce any effect at all on stimulation of the sympathetic nerve. Thus not only does adrenalin excite the whole sympathetic system in its ultimate terminations, but its presence in the body as a specific secretion of the suprarenal bodies seems to be a necessary condition for the normal functioning, by ordinary reflex means, of the whole sympathetic system. We are dealing here with a problem which, betraying, as it does, an intimate relationship between nerve excitation and excitation by chemical means, promises by its solution to throw a most interesting light on the nature of the nerve process and of excitatory processes in general.

Our knowledge of certain other members of this group of chemical reactions is so shadowy that a mere mention of them will suffice. As an antithesis to the vasoconstrictor action of adrenalin, we find that every organ, when active, is supplied with more blood in consequence of a vasodilatation of the vessels which supply it. In certain instances, Bayliss and I have found that boiled extracts of organs, when injected into the circulation, may evoke vasodilatation of the same organs of the animal under investigation, and we have suggested that the normal vasodilatation accompanying activity is brought about in consequence of the specific sensibility of the arterial walls to the metabolites of the organ which they supply. Too much stress, however, can not be laid on these experiments, since a more extended series by Swale Vincent has failed to give a general confirmation of our results.

The severe diabetes, which, as shown by Minkowski, can be produced in nearly all animals by total excision of the pancreas, has been held to denote the normal production in this organ of some substance which is indispensable for the utilization of carbohydrates in the body. All efforts to obtain a more exact idea of the nature of this pancreatic substance or influence have so far proved in vain. Ordinary sugar, when placed in contact with extracts of muscular tissues, undergoes oxidation, and Cohnheim states that this process is much accelerated if an extract of pancreas be added to the extract of muscle. A repetition of Cohnheim's experiments by other observers has shown that the effect is so small as to be almost accidental, and we must, therefore, regard the nature of the pancreatic influence on carbohydrate metabolism and the causation of pancreatic diabetes as problems still to be solved.

In the case of the pituitary gland we have an organ of, as yet, unknown function, but which we must regard as concerned in determining the activity of widely differing parts of the body, probably by the production of chemical substances or hormones. Pathologically, all we know is that disease of this organ is apt to be associated with overgrowth of the osseous system. As a result of physiologic experiment, we know that from the nervous part of this organ we can extract, as Schäfer has shown, a substance which, like secretin, is unaltered by boiling, and which has a specific action on the secretory activity of the kidney, producing diuresis, which can not be ascribed simply to the concomitant changes in the circulatory system. This extract, moreover, has a marked influence on the uterus. What part is played by this pituitary influence on these distant organs in the normal working-life of the body we do not know as yet.

So far the chemical adaptations which I have described have resulted almost exclusively in increasing the activity of the responding organ. We can not, however, draw a sharp line between reactions involving increased activity or dissimilation and those which involve increased assimilation or growth, since under physiologic circumstances the latter is always an immediate sequence or accompaniment of the former.

In a certain number of chemical correlations the primary effect of the hormone is increased growth or assimilation. In these cases, since the assimilative stimulus builds up the responding organ, its final effect is to increase the activity or functional capacity of this organ. Just as dissimilation brings about later increased assimilation, so increased assimilation brings about later increase of dissimilatory capacity.

The most familiar example of a chemical correlation, evoking the building up of tissues, is that presented by the thyroid gland, though the effects of the chemical substance formed by the thyroid are so widespread, and differ to such an extent according to the age of the animal employed, that a physiologic analysis of its results is still difficult to give. In the growing animal the chemical substance secreted by the thyroid evidently influences the growth of tissues, among others of the bones; and it is a familiar fact that injection or administration of thyroid to cretins will result in a restoration of the child toward normal, in increased growth of bones, and in development of various functions, including those of the brain and central nervous system. In adults, on the other hand, the most pronounced effect of injection of thyroid is increased activity of the chemical changes of the body, as instanced by the increased nitrogenous metabolism and disappearance of all overgrowth in the subcutaneous connective tissue, such as is present in myxedema. Although, therefore, the main result of thyroid treatment is to restore normal growth where such has been previously wanting, it is difficult to say whether its primary effect should be regarded as dissimilative or assimilative.

The fact that the thyroid gland can be administered by the mouth shows that the active principle is not destroyed by the gastric juice, and would, therefore, remove this from the proteid class of bodies, and would diminish very largely any probability of the hormone furnished by this gland being of the nature of a toxin. Whether it is represented by the thyroiodin, the organic iodin compound extracted from the gland by Baumann, though probable, is still unproved, and we can only conjecture that in all probability, when isolated, it will be found to belong to the drug class rather than to the toxin class. We are still quite without knowledge as to the conditions which determine the amount of active substance produced in the thyroid gland. All we know is that the activity of the thyroid, like that of the suprarenal gland, is essential to the normal development of the functions of the body. Whether we are dealing here with a constant process, or with a chemical reflex similar to those we have studied in the alimentary canal and evoked by some event affecting directly the thyroid gland, we can not say.

The largest group of correlations between the activity of one organ and the growth of others is formed by those widespread influences exercised by the generative organs on the body as a whole and on parts of the body. The effects of removal of the testes in the male animal on the growth and disposition of the individual have been known for centuries. The experiments of Shattock and Seligman show that the formation of the so-called secondary sexual characters must be due to chemical influences from the gland and not to metabolic changes set up by a nervous reflex arising from the function of sperm ejaculation.

Corresponding results have been obtained in the female by extirpation of the ovaries, double oöphorectomy before puberty, not only preventing the onset of puberty and the occurrence of menstruation, but also modifying the future growth of the whole body in the direction of the male character. It has been shown recently by Marshall and Jolly that the changes in the uterus which determine menstruation are probably due, not to ovulation, but to an internal secretion arising from the ovary.

More definite evidence of a direct influence of the ovary on the growth of the uterine mucous membrane has been furnished by the experiments of Fraenkel, as well as those of Marshall and Jolly. At the suggestion of Born, Fraenkel removed the ovaries of rabbits from one to six days after copulation, in order to decide whether the ovary exercised any influence on the growth of the mucous membrane of the uterus and its preparation for the fixation of the ovum. In every case, on subsequently killing the animal, it was found that extirpation of the ovaries had prevented the fixation of the ova. On the other hand, if the ovaries were removed on or after the fourteenth day of pregnancy, which in the rabbit lasts about thirty days, the animals went on to full time and healthy fetuses were produced.

The fact that the corpus luteum of pregnancy grows enormously during the first third of pregnancy and then diminishes in size, suggests that this hypertrophy and growth of cells are for the express purpose of influencing the mucous membrane; and Fraenkel states that destruction of the corpora lutea by means of the galvanocautery is as efficacious as is total removal of the ovaries in determining the end of pregnancy. The cells which form the corpora lutea are derived, not from connective tissue cells, but from the interstitial cells lying immediately outside the Graafian follicles. Their origin is, therefore, identical with that of the interstitial cells of the ovary, viz., from the primitive germinal epithelium.

A still more striking example of growth in response to chemical stimulation from distant organs is afforded by the mammary glands. As is well known, at birth these organs are limited to a few ducts in the immediate neighborhood of the nipple and equal in extent in both sexes. At puberty, in the human female, there is a growth of the breasts, associated with some gland growth, the main increase in size, however, being due to fat. With the occurrence of pregnancy, a true hypertrophy of the gland begins at once and continues steadily up to birth.

In the rabbit, in which we have studied the changes in the gland, it is extremely difficult to find in the virgin even a trace of mammary gland. The nipple is small and undeveloped, and on making serial sections through the nipple the gland is found to be confined to a few ducts not extending more than a few millimeters outside the nipple. No trace of secreting alveoli is to be observed. With the occurrence of pregnancy a rapid growth of the gland appears to begin at once. Five days after impregnation, when it is still impossible to find the impregnated ovum with the naked eye in the enlarged uterus, the mammary glands are marked out as small pink patches about two centimeters in diameter just under each nipple.

On microscopic section the gland is found to be made up chiefly of ducts, which, however, are undergoing rapid proliferation. The cells lining the ducts are about three deep and present numerous mitotic figures. At about the fourteenth day the whole of the front of the abdomen is covered with a thin layer of mammary tissue. Branching ducts, with proliferating epithelium, are still the predominant feature on section, but here and there, especially toward the margins of the gland, small secreting alveoli, lined with a single layer of epithelium, are to be seen. After this time the gland grows with ever increasing rapidity, so that at birth, at the thirtieth day after impregnation, the mammary glands form a layer about half a centimeter thick over the whole of the abdomen.

In the virgin rabbit it is impossible to obtain by expression any fluid from the nipples, but from the fifth to about the twenty-fifth day pinching the nipples results in the expression of a clear, colorless fluid. From the twenty-fifth day onward this fluid becomes opalescent, and during the second and third days immediately preceding birth the fluid obtained is typical milk. The appearance of milk is earlier in multiparous rabbits, and in animals where pregnancies succeed each other rapidly it may be possible to express milk throughout the whole of pregnancy.

In the primiparous rabbit termination of pregnancy at any time after the fifteenth day results in the appearance of milk in the mammary glands, a result which has also been observed in the human female under corresponding conditions. That this onset of lactation is not due to any stimuli, chemical or nervous, received by the mammary glands from the involuting uterus or ovaries is shown by the fact that it may be brought on by performing total extirpation of ovaries and pregnant uterus. The essential feature therefore seems to be in this case the removal of the growing fetuses.

In order to determine the nature of this connection, Miss Lane-Claypon and I carried out a number of experiments in which extracts made from different parts of the immature rabbit fetuses were injected into virgin rabbits. In a certain number of cases, where the injections had been sufficiently numerous, we got well-marked hypertrophy of the mammary glands similar to that observed during the earlier stages of pregnancy. From our results we came to the conclusion that the growth of the mammary glands during pregnancy is due to the assimilatory or inhibitory effects of a specific hormone produced in the body of the fetus and carried thence through the placenta by the fetal and maternal circulations. The removal of the inhibitory stimulus at the end of pregnancy determines the spontaneous breakdown of the built-up tissues, i. e., activity, which in these cells is expressed by the formation of milk.

It is probable that many other instances of chemical correlation will be revealed by future research. Already, however, an enormous material for experimental investigation is afforded by the facts I have already brought to your notice. In only two of the instances of chemical correlation do we know the chemical nature of the hormone. Future research must determine the chemical nature of the hormone in each case, as also the conditions of its formation and the part it plays in the normal chain of events or adaptations which make up the life of the animal organism.

In working out these problems we may look forward to the prospect of increasing power over the functions of the body. The whole of medical science is but a struggle for control of the processes which determine the life of man, and no field seems to me more promising than that over which we have to-day cast a fleeting glance. A knowledge of the whole field would place us in command of the means employed by Nature herself for determining the activities of most of the functions of the body, viz., drugs, or hormones, which effect their purpose and are then destroyed. It was in view of the prospective importance of this field of studies in the future work of the medical man that I have ventured to present the subject at this time.

Silver Ionization in Treatment of Urethritis.—Melun of Bucharest reports the successful treatment of chronic urethritis by irrigation with a 1 or 2 per cent. solution of silver nitrate decomposed by the action of an electric current. In his communication to the *Ann. d. Mal. Gén.-Urin.*, Nov. 15, 1907, he gives an illustrated description of the sound he uses for the purpose. It is made of hard rubber, about 9 inches long, and the size of a No. 18 Charrière sound. It is closely studded with perforations; a wire inside running to the tip of the sound is connected with a galvanic machine. He injects about 10 gm. of the fluid, closes the stopcock to hold the fluid in the urethra, and turns on the electric current, with the negative pole applied to the patient's body. The current can be gradually increased to 30 or 40 milliamperes without discomfort, and the sitting is continued for fifteen or thirty minutes. This releases the ions of silver and drives them into the tissues, curing inflammation of long standing rebellious to all other measures.

Original Articles

PASSIVE HYPEREMIA

BY MEANS OF THE CUPPING-GLASS OF BIER AND KLAPP.

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During the last few years there has been a great deal written[1] about the treatment of infections (pyogenic, tuberculous, gonorrheal, etc.) by means of hyperemia according to the methods of August Bier. American physicians and surgeons traveling abroad have had ample opportunities to see the treatment used and the striking results obtained; and, indeed, many have gone to Bier's own clinic in Bonn (now in Berlin) for that express purpose. Still we have been rather reluctant to adopt this simple, time-saving, pain-relieving, effectual remedy. There has been comparatively little written about it in English, and what has been written was mostly concerned with results and opinions as to efficacy, etc., rather than methods and technic, so that it seems wise at this time to give a somewhat brief outline of these last. At some future date the results obtained at the Johns Hopkins Hospital Surgical Dispensary will be given.

As is well known, there are two distinct kinds of hyperemia, active and passive or arterial and venous. Each has its place in the method as used by Bier, but as this paper is to deal only with hyperemia as produced by the cupping-glass (Schröpfkopf), the venous or passive form alone need be considered.

The use of the cup is not new, and Bier himself is the first to acknowledge this, making no claim to a discovery. All over the world people have been cupping inflammations, sores and the like for years, but in a crude and clumsy manner. About 1890 Bier began to use the cup in the treatment of tuberculosis, although marked success did not follow this attempt, probably, as he later says, because too much pressure was used. Thus the method fell into disuse until, some few years later, Dr. Rudolph Klapp, assistant to Bier, again tried it in the treatment of mastitis. He had seen the poor results, as far as future functioning goes, obtained by the usual method of radial and wide incision in the breast for infection. Numerous methods of treatment had been devised to avoid this, such as Bardenheuer's half-moon-shaped incision at the base of the breast and drainage from below, but none of them gave satisfactory results. Therefore, Klapp decided to try the cup, and with very happy results.

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[1] Those wishing to refer to previous publications will find the following of value:

Adams: Value of the Bier Treatment, N. Y. Med. Jour., 1906, lxxxiv, p. 336-8.

Bier: Hyperæmie als Heilmittel: also Die Behandlung akuter Eiterungen mit Stauungshyperæmie. Muench. med. Wochschr., 1905, Nos. 5, 6, 7; also Hyperæmie als Heilmittel, Montreal Med. Jour., 1906, xxxv, p. 391-9.

Bloodgood: Progressive Medicine, December, 1906 and 1907.

Bradford: The Hyperemia Treatment of Congested and Inflamed Tissues, Boston Med. and Sug. Jour., 1906, cliv, 671-674.

Breuer: The Bier Treatment by Hyperemia, Med. Rec., 1906, lxix, 290-3.

Codman: On the Bier Treatment of Infected and Septic Wounds of the Extremities, Boston Med. and Surg. Jour., 1906, clv, 434.

Klapp: Ueber d. Behandl. entzündlicher Erkrankungen mittels Saugapparaten, Muench. med. Wochschr., 1905, No. 16.

Willy Meyer: Bier's Treatment (Stauungs-hyperemia) in Chronic and Acute Surgical Infectious Diseases. THE JOURNAL A. M. A., 1907, xlix, No. 7.

Perthes: Erfahrungen bei der Behandlung des Empyems der Pleura, Mitt. a. d. Grenzgeb. d. Med. u. Chir., vol 7, Nos. 4 and 5, 1901.

Tillmans: Ueber die Behandl. durch ven. Stauung. Deutsch. med. Wochschr., Leipz. u. Berl., 1905, xxxi, 129-132.

From treating mastitis with hyperemia as induced by the cup, it was not a very far step to trying it on other infectious processes, such as furuncles, carbuncles, infected fingers, hands, toes, tuberculosis, in fact all sorts of infections. The greatest difficulty, that of so simplifying the cups as to make them easy of application, has been successfully accomplished, as will be seen by the accompanying illustrations. Cups of all sizes and shapes have been devised; they can be had to fit an infected bursa on the elbow, an abscess on the buttock or an infected great toe, and the application of one is almost as easy of accomplishment as is that of the other.

A cup of the correct size and shape to fit the part to be treated having first been selected, its edges are well greased with any kind of fat, such as vaselin. The rubber bulb is attached to the cup and compressed (fully, if the entire pressure is wished, half-way if only half is desired, etc.). If, now, the cup is held between the first finger and thumb of the left hand and the compressed bulb in the right hand, a little firm pressure against the part to be treated will serve to get the cup's edges well approximated against the skin. When this is obtained the right hand gradually releases the bulb, drawing the air out of the cup and causing the area covered to be sucked up into it. Here one must observe the most important point in the whole treatment—the patient should suffer no pain.

In this connection two factors are to be considered. First, the cup must be of such size and shape as to get entirely outside of the area of infiltration (where this can not be done some other form of treatment must be found, or, if it is absolutely necessary to try the cup, the matter of pain can be explained to the patient); second, the pressure must be regulated. The former is often very difficult to overcome; the latter is easy, consisting, as noted above, in compressing the bulb only to the extent to which pressure is desired. To neglect either is to invalidate the whole procedure.

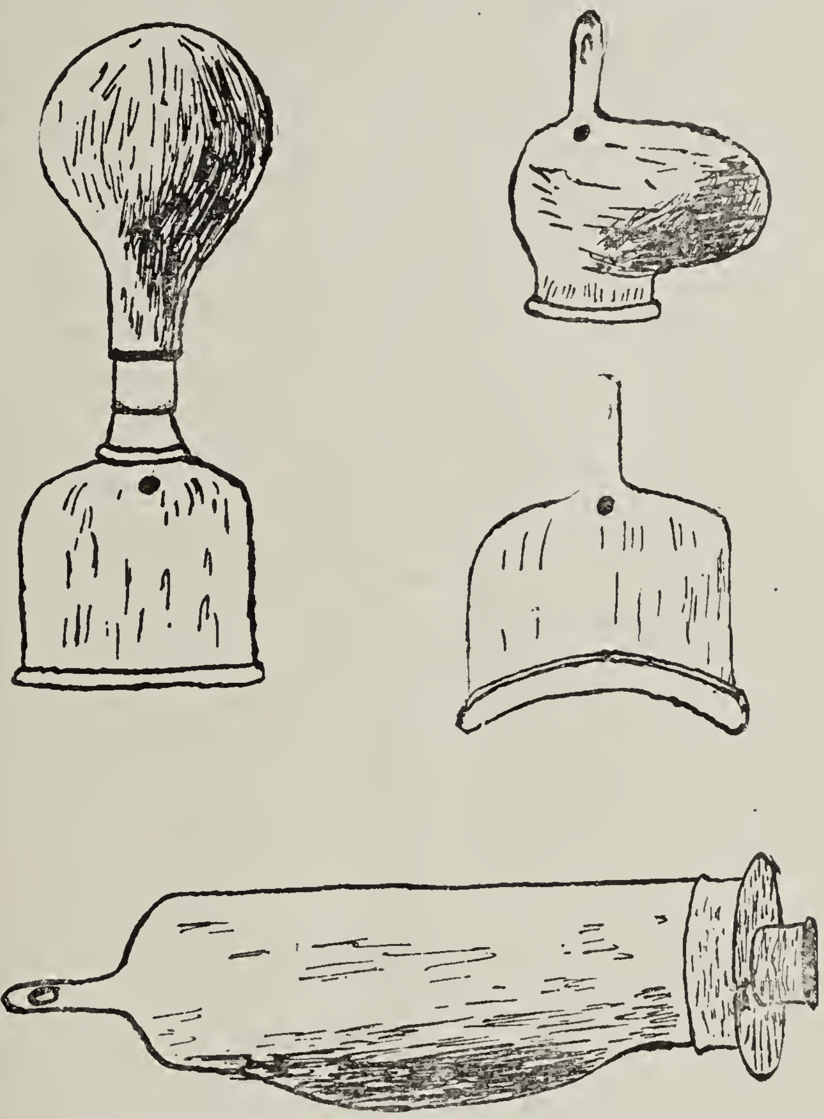
Painlessly, then, the area covered by the cup is gradually drawn up into it. According to the degree of pressure used, the skin is first faintly red, bluish red, blue, very dark blue. The bluish-red tint should always signify the limit; too much pressure, even though exerted without pain, may induce hyperemia amounting to stagnation, obviously not the end desired.

As the pressure is gradually augmented in, for example, a carbuncle (previously opened), pus will begin to ooze from the numerous pockets, accompanied by some blood, the amount of both depending on the degree of pressure used. Aside from observing the signal of color gradations, the general rule for pressure is to increase up to the point at which pain is felt and then to stop. The pus and blood will soon cease to flow, and the cup is left in place, continuing the suction for about five minutes.

At the end of this time the pressure is released and the cup removed. The exudate is gently removed with a piece of sterile gauze, wet with warm water, salt solution, boric acid or bichlorid, following which the part is bathed and left at rest about two minutes, the hyperemia and edema partly subsiding. The cup is then reapplied for five minutes, during which time a little more pus and blood exude. Two more minutes of gentle cleansing and bathing follow, after which there is another application. This alternate cupping and resting is kept up for from thirty to sixty minutes. At no time must the pressure be so great as to cause pain to the patient. One is apt to try to increase the pressure in order to draw out the remaining pus. This is a mistake, removal of the pus being incidental to the treatment, the real purpose of which is to create a hyperemia.

At the end of the sitting the part is gently bathed again; all exudate is carefully removed with sterile gauze and forceps—this means pus, clots, slough, detritus, whatever is unattached and comes away without pain or bleeding—and a simple wet dressing is applied.

The patient is instructed to present himself again for treatment on the following day. If a crust has formed, as over a sinus, it is removed carefully with a blunt instrument and the treatment instituted as on the preceding day. The pus will usually be found to decrease each day, the granulations to become healthier looking, firmer to the touch and less liable to bleed. The patient will be able to stand greater pressure without pain, the part without stagnation of the blood current, the redness and infiltration will decrease. The pus, aside from decreasing in amount, gradually loses its thick, greenish-yellow, tenacious character, getting thinner, light yellow and more easily fluent. On further treatment it becomes watery, seropurulent and finally ceases altogether, the cupping then drawing away only a few drops of pale blood serum, which little by little lessens until the part becomes dry and healing takes place.


Varieties of cups for inducing hyperemia.

Experience has shown that the first few days are the most important in the treatment; therefore, during that time cupping should be continued for from thirty to sixty minutes, always, of course, in periods of five minutes, followed by two minutes rest. Later on, as the condition improves, the length of the treatment is gradually reduced, the last one being of only five minutes duration. In very severe cases cupping may be performed twice a day, morning and evening, though this is rarely necessary. Generally the patient comes every day for the first few times, after that every other day, then every three days or every five days until cured.

A simple wet dressing is applied after each treatment. Squeezing or massaging of the part, to get out the remaining pus, is not allowable, nor is curetting. It is best also to avoid the probe, though at times its use is demanded for purposes of exploration. The use of drains in any way, shape or form is not permissible. Splints, too, are to be avoided. On the contrary, the patient should be encouraged to make use of the affected member.

Frequently patients present themselves early in the course of the infection (as, for instance, in a beginning furuncle, carbuncle, ischiorectal abscess, bubo, etc.) before localization has occurred, only the usual redness, swelling, tenderness and infiltration being present. The treatment in these cases should be instituted, as outlined above, without making an incision, because resolution sometimes follows without the use of the knife. Where, however, incision is demanded a cut 1 to 1½ cm. long is made under ethyl chlorid anesthesia and the cup is applied immediately. From day to day, as the tissue breaks down and the pus is drawn out, the hyperemia soon overwhelms the infection and resolution follows, no drainage having been used.

In cases of bone tuberculosis, sequestra are sometimes drawn out; at other times, although they are known to be present, they do not come away and are best left undisturbed, for Bier has found that occasionally they reunite with the healthy bone. Likewise, the formation of cold abscesses is not to be looked on as an untoward occurrence, but rather as a necessary phase in the course of the disease. They should be recognized promptly and the usual incision (1 to 1.5 cm.) made, after which the cup is to be used. Curetting, probing or injection of iodoform emulsion is best avoided. These increase the chances for secondary infection. Immobilization is unnecessary; on the contrary, mobilization is desirable, for it has been found that healing takes place just as rapidly, if not more rapidly, under these conditions. The difference in the end results is self-evident.

In cases of acute mastitis it is essential that the diameter of the cup exceed that of the breast by at least 1 cm. in order to avoid pain. The treatment is, in general, the same as in any other infection, although there is one difference worthy of attention. It happens at times that although the breast is engorged with milk and there is, in addition, a great deal of pus present, the large cup draws almost nothing away. Here a small cup should be applied over the nipple and incision, after the treatment, simply to draw off the pus and milk. This, quite naturally, may give rise to some pain, but is hardly necessary more than two or three times, after which drainage will be free with the big cup alone. This procedure, of course, is to be adopted only in the presence of pus. Where no breaking down of tissue has occurred, the simple cupping, without incision, may be proceeded with, as these cases often clear up in a very few days.

There are instances when prudence advises against the use of the cup and urges an immediate radical operation with drainage. We believe we have had two such cases. One was a huge mammary abscess of four weeks' duration in which the breast was twice the ordinary size, very tense and extremely tender to the touch. The other was an infection of the hand, originating in a finger, where the process was so rapid and the infecting agent so virulent that it was deemed unsafe to trust to anything but wide and deep incision with drainage, and the rubber band (another means of inducing passive hyperemia) around the upper arm.

It is wise, therefore, in this, as in any other procedure, not to be too radical or dogmatic. Undoubtedly, cases do occur where the use of the cup is positively harmful and contraindicated. At times this will be self-evident, as in the two cases just mentioned, but once in a while only a trial of the cup can lead to a decision. It goes without saying that if the process, after one or two treatments, does not at least come to a standstill, the cup should be given up. But it occasionally happens that, while there is no actual backward step, the process does not progress toward recovery. We have made it a rule in these cases that, if there has been no error in technic or other evident reason for the failure, the cup would best be discarded after about one week's trial.

The advantages claimed for this method of treatment are:

1. Relief of pain. This is one of the most striking yet inexplicable features connected with it. The throbbing, jumping, beating pain of a mastitis is often checked in one treatment with the cup—and this is true even when there is no pus and, consequently, no incision.

2. Rapidity of cure, the course of the disease being materially shortened.

3. Preservation of function. The tuberculous joints are not immobilized, healing taking place with motion, very frequently. The wide, radial incisions in the breast are not made, hence there is a minimum of scar tissue, which so often destroys the function of the gland.

4. The discarding of the drain, in itself a distinct advance.

5. Simplicity. The physician, as well as the surgeon, can use the method successfully.

THE FREQUENCY AND THE SIGNIFICANCE OF ENDOMETRITIS FROM THE STANDPOINT OF TREATMENT.

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At present it is a matter of some importance to know just how frequently the endometrium is the seat of inflammatory or other changes which require treatment. Such knowledge is especially valuable in reference to cases in which the sole pelvic lesion is supposed to be located in the mucosa of the uterus.

To those who in gynecologic practice are constantly meeting pelvic disease in its various forms the idea which is more or less prevalent concerning the part played by the endometrium in such diseases is a matter of surprise. For the truth is that the endometrium of itself is rather infrequently the seat of any pathologic alteration which would justify treatment directed to it alone. Notwithstanding this fact, the pathology and the treatment of endometritis are widely discussed subjects.

Tucker[1] first drew attention to the unwarranted consideration the subject is given in text-books. Thus in six books taken at random, twenty-seven different varieties of endometritis were described and not a single one of them was mentioned in each book.[2]

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[1] 1. Etiology and Treatment of So-called Endometritis, The Journal A. M. A., Nov. 11, 1905, page 1480.

This practice exaggerates the importance of the endometrium in the eyes of the general practitioner. In a large number of instances a chronic discharge is regarded as *prima facie* evidence of endometritis. Hunner[3] calls attention to the query so often heard: "What do you do for endometritis?"

As a matter of fact, inflammation of the endometrium occurs in all cases of gonorrhea which advance beyond the cervix, but the clinical distinction between an acute or a subacute endometritis and a beginning salpingitis is difficult and the therapy of acute cases is always rest and the application of heat or cold; never an operation or local treatment. When gonorrhea of the endometrium becomes chronic it is usually complicated by inflammatory lesions of the tubes and ovaries. A chronic uterine discharge in gonococcus cases, where the adnexa are not involved, almost invariably comes from the cervix. In neither instance is treatment directed solely toward the endometrium of any service.

Acute infection of the decidua or of the endometrium may be incident to labor and abortion. Under such circumstances it is advisable to make sure that there is no remnant of the placenta or the membranes in the uterine cavity, and then to treat the case palliatively, unless a pelvic lesion outside the uterus or in the uterine wall is demonstrable.

The class of cases in which the diagnosis and treatment of endometritis is most abused is that in which leucorrhea is the chief symptom, and no reason can be found for it by pelvic examination. It is in cases of this sort that a most careful study of the patient is required in order to find the real cause of the trouble.

What other lesions in addition to those primarily affecting the uterine mucosa may cause a persistent uterine discharge? General ill health associated with constipation and a sluggish pelvic circulation undoubtedly may induce a hypersection of the endometrial glands. In such a case the cause is general, and unless the underlying condition has persisted long enough to produce anatomic alterations in the mucosa no treatment directed especially against the endometrium will do any good.

It has been my experience that few of these cases present actual alterations in the mucosa of the uterus and can be cured by a curettement.

The cause of a leucorrhea from the uterine cavity is also sometimes found in the myometrium. Theilhaber[4] ascribes the leucorrhea sometimes observed in chlorosis to a relaxed and unhealthy uterine muscle.

What are the alterations of the endometrium which produce hypersecretion? Leaving polyps and malignant growths out of consideration, the inflammatory lesions are at once in thought. I have already indicated the two acute varieties of endometritis, gonococcus and septic. The septic form may be fatal, but it usually entirely subsides if it is properly treated. In the case of infection with the gonococcus there is little tendency for the lesion to heal, and it becomes chronic or leaves anatomic changes as a residuum of the acute infection. Both are usually associated, however, with more pronounced lesions, either in the cervix or in the tubes, and in neither event deserve treatment directed to them alone.

When consideration is paid to other forms of chronic endometritis it is necessary to digress for the moment and recite different interpretations of the word. Since the publication of Ruge's[5] paper, endometritis has been divided into glandular and interstitial forms. In the first case the anatomic change observed was in the glands, while in the latter the stroma was affected. Hurdon[6] and others refuse to accept this classification, and regard only those alterations of the endometrium in which there are active inflammatory infiltrations as endometritis. Where this is not evident, they speak of the alterations, formerly comprised under glandular endometritis, as edema of the endometrium, glandular hypertrophy, etc.

Whether this is the correct position or not does not come within the scope of this paper and makes no material difference. The question I have desired to answer is how often and under what circumstances do anatomic alterations, be they endometritis, glandular hypertrophy, or edema, of the mucosa of the uterus, occur? And a second query, which bears directly on the first, is: How often would the operative removal of the endometrium alone cure the patient?

In order to determine the clinical significance of endometritis, I have critically analyzed every case in which a histologic examination of the endometrium was made in the gynecologic department of the University Hospital. Up to Oct. 1, 1907, there were 483 specimens. They included scrapings from the uterus in 174 cases in which dilatation and curettement alone was performed; 81 cases in which curettement was done previous to an amputation of the cervix or a trachelorrhaphy, and 53 cases of retroposition of the uterus in which curettement preceded the operative measure to correct the malposition. Sections were also taken from the endometrium in 78 hysteromyomectomies for fibroid tumor of the uterus and in 60 hysterectomies for pelvic inflammatory disease. In estimating the lesions I have included under endometritis all of those alterations which Hurdon has described as glandular hypertrophy, edema of the endometrium, etc. The endometrium was classed as normal only when there was no anatomic alteration recognizable grossly or by the microscope.

The result of the analysis was as follows: Out of 174 cases of dilatation and curettement the endometrium appeared normal in 80, or a little less than half; among 81 cases of repair or amputation of a lacerated cervix the endometrium was normal in 15; in 78 hysteromyomectomies the endometrium was normal in 11; out of 60 cases of pelvic inflammatory disease the endometrium was normal in 12, and in 53 cases of retroposition of the uterus the endometrium was normal in 24. As curettement was not performed and the endometrium was not examined in any cases which did not present the indications of endometrial disease, or of malignant growth, it can be seen that the number of times alterations were found in the 483 specimens above represents the number of times a diseased endometrium was encountered in the service at the University Hospital from October, 1899, to October, 1907. There were 2,286 gynecologic patients during this time. Among them there were 337 instances of diseased mucosa, but only 94 occurred as clinical entities, and 243 were associated with more serious lesions requiring operation.

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[2] The description of so many varieties of endometritis leads to an overestimate of the importance of this disease. A multiplication of terms exists, because the affection is classified from so many different standpoints. For example, "glandular," "hemorrhagic." and "gonorrheal" endometritis may be applied to the same individual case, as one indicates the form of the disease from the histology, symptoms, or cause. The anatomic classification, or one based on the histology of the endometrium is to be preferred, because it is the simplest and because it limits the number of descriptive terms. By this means endometritis may be reduced to acute and chronic forms. The chronic are divided into glandular and interstitial. There are a few further subdivisions of glandular endometritis, but they are of interest chiefly to the pathologist, and have no especial clinical importance. It is, of course, commonly recognized, that acute endometritis is usually the result of gonorrhea or of septic infection of the endometrium. Aside from these two terms "acute gonorrheal" and "acute septic." it is difficult to indicate the histology of an endometritis by names which are descriptive of its source. There is no definite relation between the form of chronic endometritis and the cause, and this is a sufficient reason for not using the etiologic classification. It is unnecessary to point out the numerous varieties that a classification based on symptoms would entail. The terms "suppurating." "hemorrhagic." "exfoliative," "putrid," which have been used to designate certain cases of endometritis, are sufficient indications of the extent to which such a classification may be carried; the words "virginal" and "senile" as applied to this disease mean very little, and should not be used.

[3] Treatment of Leucorrhea with the Actual Cautery, The Journal A. M. A., Jan. 29, 1906, 191.

[4] Die Variationen im Bau des Mesometrium und der Einfluss auf die Entstehung von Menorrhagien und von Fluor. Arch. f. Gynäk., lxvi, i, 1.

[5] Etiologie u. Anatomie der Endometritis. Ztschr. f. Geb. u. Gynäk., v. 317.

[6] Gynecology and Abdominal Surgery. Kelly and Noble, i, p. 106.

It can at once be seen that the endometrium is diseased in no more than half of the cases in which curettement is done for a suspected endometritis. The endometrium is most apt to be affected in connection with some other lesion which requires treatment, as is evidenced by the comparative frequency with which endometritis is found associated with a diseased cervix or fibroid tumors or pelvic inflammatory disease. Even in cases of retroposition in which the patients complain of a discharge the endometrium is normal in a large proportion.

The practical conclusion to be drawn from this analysis is that one must be very guarded in promising a patient that a given uterine discharge will be cured by a curettement. Furthermore, the non-operative treatment of leucorrhea by the direct application of antiseptic or caustic solutions to the uterine cavity is almost never justified. Such a plan would, as we have indicated, be useless in half of the cases, even though none of the dangers incident to a proceeding of this sort made themselves manifest. The treatment of endometritis by intrauterine applications of formalin, so fully described by Menge[7] several years ago, can surely never find a place in the therapy of a general practitioner, and never in the hands of a gynecologist, unless the patient is under ether and the cervix has been dilated.

A chronic discharge from the uterus which is dependent on pelvic disease usually requires more than a curettement or intrauterine applications. In the case of a uterine discharge for which no pelvic origin is apparent, general tonic and hygienic treatment should be given a fair trial before resorting to curettement or to any intrauterine manipulations.

1819 Chestnut Street.

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[7] Die Therapie der chronischen Endometritis in der allgemeinen Praxis. Arch. f. Gynäk., lxiiii, 1 and 2.

Metabolism During Courses of Mineral Waters.—G. Rempicci published in the *Policlinico*, July and August, 1907, a series of researches on the metabolism during ingestion of various mineral waters. The data presented seem to show that the mineral waters have an unquestionable action on the cells, stimulating them and favoring expulsion of waste, especially the elimination of nitrogen and uric acid. This stimulating action occurs on ingestion of even a moderate quantity of the water, and it is not necessary to drink excessive amounts. The stimulating effect soon wears off, consequently the course of mineral waters should be brief, and resumed after an interval, if desired.

DELIRIUM DURING AND AFTER TETANUS.

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Serious mental symptoms of any kind rarely occur during or after an attack of tetanus. In the great majority of cases consciousness remains unclouded, judgment fairly clear, memory good and the moral sense normal, until the end or very near the end. Emotional control, when we consider that almost always the patient, if an adult, knows he is suffering from a very serious disease, is usually better than would be expected. When, then, mental symptoms do occur, three questions arise: (1) Is the abnormal mental state a mere accidental complication, merely happening at the time of the tetanus and in no way caused by it? (2) Is it due to the medication employed? (3) Is it the direct result of the exhaustion produced by the disease or a result of a secondary intoxication set up by the primary intoxication of the tetanus bacillus?

In certain of the acute infectious fevers, for example, typhoid, pneumonia and smallpox, in addition to the febrile delirium which is very common, a confusional state, followed by death, recovery, or permanent dementia, occurs frequently enough to make mere accidental coincidence impossible. The confusion is most likely due to the exhaustion from the disease, though it is possible that it may be due to secondary perversions of the chemistry of the body, caused, primarily, by the toxin of the infection. The symptoms are the same whatever acute infectious fever the patient may have had. A similar confusional state sometimes occurs during pregnancy and after parturition.

These mental sequelæ are so well known that they do not need discussion. They, and delirium during the attack, are, however, very rare during or after tetanus. I have seen delirium in only three patients in a quite large number of cases. In one case I am not sure that the mental symptoms were not caused by the bromid and chloral used; in another, I believe the previous abuse of alcohol was a large causative factor, while in the third I can find no cause save exhaustion and the influence of fever in a susceptible person.

Case 1.—The patient, a negro, 30 years old, was admitted to the Philadelphia General Hospital, June 6, 1898, complaining of stiffness of the trunk and legs, and attacks of colicky pain at the pit of the stomach, coming on about every half hour, and lasting a few minutes. His previous history had been uneventful, except that he had had gonorrhea one year before admission, and that a urethral discharge had reappeared ten days before admission. There was no history of any accident, but his feet, which were far from clean, were covered with many superficial scratches and cuts in all stages of healing. He stated that three days before coming to the hospital he noticed, on getting out of bed, that his legs were stiff, and that he could walk only with difficulty. He tried to overcome the stiffness by walking, but that made it worse. He returned to bed, and as the day passed, the rigidity became more marked. About 3 o'clock in the afternoon, the first attack of epigastric pain occurred, accompanied by great dyspnea. The next day, the rigidity of the legs was so great he could scarcely walk. By this time his back also had begun to be stiff. He did not notice any stiffness of the jaw until his admission to the hospital.

Examination on Admission.—He was a well nourished, muscular negro. His facial expression was anxious, but he showed no mental symptoms of any kind. The thighs and legs were rigidly extended. There was slight opisthotonos. The abdominal muscles were rigid. The jaw was, at this examination, free, except that whenever there was a sudden increase in the tonic spasm of the legs and trunk it also became involved. The arms were entirely free until two days later. The increase in the tonic spasm was always accompanied by sudden and severe pain, referred by him not to the recti abdominalis muscles, but to the stomach itself. He was supersensitive to touch, except on the arms; or rather a touch anywhere on the affected parts would instantly cause a severe, painful tonic spasm. He was, of course, entirely unable to walk. The pulse varied greatly. In the intervals between the paroxysms, it was full and strong, during the paroxysms weak and rapid. Physical examination of the chest revealed nothing. A yellow, creamy discharge, containing gonococci, exuded from the urethra. As a mere touch on the skin produced a paroxysm, no attempt was made to determine the condition of the reflexes.

He slept very little throughout the night, and had three very painful paroxysms, each lasting about five minutes. During the paroxysms there was marked dyspnea, the pulse was rapid, and the skin became bathed in a profuse cold sweat. The temperature ranged from 99 to 100 F. By the next morning spasmodic retention of urine came on. On the ninth day of his illness he began to be delirious. At first the delirium was very slight, and he could be recalled momentarily to himself without difficulty, but after some hours he became wildly delirious. He yelled and shouted, seemed to see fleeting objects, and paid no attention to anything said to him nor to what was going on around him. The pain from the paroxysms seemed to have increased greatly. Delirium and the tetanic spasms continued until death, on June 16. During his entire stay in the hospital, there was an irregular but gradually rising fever. For the first four days it hovered around 100 F., falling twice to normal for a couple of hours. It then hovered around 102 F., several times rising to 103.8. At death it was 102.2.

Postmortem examination was negative. Gross examination of the brain and cord showed nothing abnormal. There was no active congestion. No lesion of any kind was found in the abdominal and thoracic viscera. Nothing was found to account for the fever which must have been caused by disturbance of the nervous heat regulating apparatus.

The delirium in this case was probably caused by the fever and intense pain of the muscular contractions, as well as by the exhaustion due to the disease in a person susceptible to mental breakdown. The relation of fever to delirium is very interesting. Of course, in children it is very common for even slight fever, lasting only a short time, to produce delirium. In adults, slight fever, as a rule, causes no mental symptoms, unless it lasts many days, when delirium may occur with or without stupor. In some people, however, a very moderate fever, say of 99 or 100, may be a distinct cerebral stimulant and a higher temperature may cause wild delirium. Thus, I know a clergyman whose best sermons are those written when in the early stages of a mild influenzal attack—a disease to which he is subject. His sermons are, however, emotional and artistic rather than intellectual. I have never seen power of pure reasoning increased by fever. I know another man, a very successful worker in one of the industrial arts, who becomes mildly and, as he says, pleasantly delirious so soon as he has any fever at all. Others of my acquaintance become dull, stupid and somnolent, without any delirious stage whenever fever comes on. I am speaking of the slight transitory fever which accompanies mild ailments and not of the serious long continued fever of typhoid or pneumonia.

What it is that determines the mental effect of fever is unknown. It is not a question of mere nervousness. I have known many nervous and apparently mentally unstable women who were not affected by slight febrile attacks at all.

Case 2.—The patient, an Italian laborer, 33 years old, was admitted to the insane department of the Philadelphia General Hospital, Dec. 9, 1907, with the following history: In October, 1907, he sustained a compound fracture of the great toe of the left foot. Nineteen days after the injury he began to complain of inability to open the mouth and of great muscular rigidity. Five days later he was taken to one of the city hospitals. On admission, there were marked symptoms of tetanus, general muscular rigidity, tetanic convulsions, opisthotonos and the sardonic smile. Within two days he was given 64,000 units of tetanus antitoxin, and over 300 grains of sodium bromid. He became much better, apparently, and then relapsed and was given carbolic acid hypodermatically, and large doses of bromid and chloral.

Ten days after admission all symptoms of tetanus disappeared, and he seemed to be convalescent, but on the thirteenth day (three days after all medication had been stopped) he became violent and delirious, and had to be physically restrained. He muttered and yelled, struggled, refused food and medicine, was angry and destructive, thought the attendants and doctors were trying to poison him, and believed the roof of the room was about to fall on him. After the delirium had continued thirteen days, he was sent (Dec. 9, 1907) to the insane department of the Philadelphia General Hospital. During his stay in the other hospital bromid and chloral were used continuously and hyoscin occasionally for many days.

On admission to our wards he was stupid and confused. He improved rapidly, all medicine having been stopped, and by December 27 he showed no evidence of mental illness. He remembered the accident, and a great deal of what passed through his mind during the period of delirium. He remembered that he thought he saw people being burned and getting killed, that he heard voices saying to him, "When will you die?" "I am going to kill you," "To-morrow you shall die." He remembered being taken to the two hospitals, but could not remember when he had been taken to either of them, nor how long he had stayed in them. He realized that he had been mentally ill and that the voices and visions were the result of disease.

I feel sure that in this case the mental symptoms were in no way due to tetanus, but were the result of the heroic doses of bromid and chloral in a susceptible person.

Case 3.—The patient, a laboring man, 26 years old, was admitted to the Philadelphia General Hospital Jan. 15, 1907. He had been a hard drinker for several years, and smoked two or three packages of cigarettes daily. One year previously he had had an attack of delirium tremens. On admission he was clear mentally. He stated he had been employed in a stable and drove a mill team. He knew nothing of any wounds, but his feet had many recent scratches. On Jan. 4, 1907, he noticed some soreness of the jaws, and gradually increasing stiffness in them. After a few days he could scarcely separate the jaws. He could swallow liquids easily, but could not chew at all. Barring a slight indistinctness from inability to open his mouth, speech was normal. He could move the eyes well, but there was some tonic spasm of the orbicularis palpebrarum. He had a drawn, anxious look, but there was no retraction of the corners of the mouth. He complained of pain in the back only. His neck and arms were stiff, and though he said his legs felt stiff, rigidity was not demonstrable in them. The tendon reflexes were quicker than normal, and there was a tendency to ankle clonus on both sides. The Babinski reflex was absent. He could not void urine at will, but did so spasmodically. After a day or two the muscular rigidity extended and increased. He also became obstinately constipated and complained of epigastric pain.

Five days after admission he became surly and quarrelsome, and four days afterward began to be delirious and have visual and auditory hallucinations. He had no idea of time or place, was much confused, talked ramblingly, and complained of seeing faces and lights. He had to be restrained. He was transferred to the insane department on Feb. 1, 1907. After a week or ten days, his mental symptoms passed off and, barring physical weakness, he was well. The physical signs of tetanus had ceased a little before the time he was sent to the insane department. On Feb. 28, 1907, he was discharged well. He had no fever throughout the course of his illness. The tetanus itself was very mild.

The man was of an unstable mental type; not at all alert, emotionally very weak, had little power of self-control and was a victim of alcohol. I think any stress at all would have been sufficient to upset for the time being his mental equilibrium and in that sense the tetanus was, I have no doubt, the cause of his delirium, but I do not think it was the one specific cause needed. Any other sudden stress would have been as efficient.

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A TYPHOID FEVER EPIDEMIC FROM INFECTED MILK.

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During August and September, 1907, there occurred in Bridgeport, Conn., thirteen or more cases of typhoid fever originating from a common source. The features in connection with this epidemic which seem worthy of general consideration are: (1) The importance of investigation, on the part of health authorities, of every case of typhoid fever reported to them; (2) the desirability of examination by attending physicians of blood and excreta in doubtful cases of this disease; and (3) some facts concerning the Widal test and dissemination which are sometimes overlooked.

On September 14 I attended a patient presenting the classic symptoms of typhoid fever. Inquiry developed the fact that there were four or five cases in the immediate neighborhood, all partaking of milk from the same dairy. It has never been the custom of our local health officers to investigate the source of typhoid fever, so that, while the cases mentioned had been reported to the health board by the attending physicians, the common source of the trouble remained unrecognized.

A list was procured of cases reported to the local health authorities, twenty-seven in all, and with the cooperation of the milk inspector and the various attending physicians, each case was carefully investigated. Thirteen positive cases and two doubtful ones, out of the twenty-seven had consumed milk sold bv one dairyman. Four patients had eaten clams from a common source. Two of the four died; the other two cases ran mild courses.

Of the thirteen positive cases typical clinical manifestations were present in all; Widal reaction present in eleven; not tested in two. There was one death, eight patients were severely ill, and the remaining cases ran mild courses.

The dairyman, an ordinary vender of milk, was not a producer but a middleman, procuring his supply from no less than nine different sources within a radius of fifteen miles. Each source was carefully investigated. Histories of any illnesses in the various families and former tenants were carefully considered. Premises and methods of handling milk were inspected. Several specimens of blood and well-water were procured and examined. Results were negative in all but one instance.

George C., occupying since April 1, 1907, a rented farm ten miles distant from this city, was supplying eighty quarts of milk a day to the middleman. The cow stables were in poor condition. The outhouse and sink drain were within a short distance of the well. Well-water, without previous boiling, was used to wash the milk cans. No means were at hand to sterilize milk receptacles. Those milking the cows and handling the milk used no special precautions regarding personal cleanliness.

Mr. C.'s family consisted of himself, his mother, a younger sister and two children—a boy of 4 years and a girl of 3. Another sister had been visiting there for a month. Mr. C.'s brother, together with the latter's wife and her mother, from Massachusetts, had visited there early in the season. Three farm hands had been employed there. Two boys from Bridgeport had boarded there during July and August. The 4-year-old boy, George Jr., was recovering from a recent illness. A near-by physician had seen him once. He had not examined the boy, no diagnosis was made and, his services being unsatisfactory, a physician was called from a neighboring town. The father stated that the last-named physician pronounced the case one of typhoid fever.

The various members of the family and former employés were questioned carefully regarding previous illnesses. No history of typhoid fever or any condition resembling it could be determined. Specimens of blood were taken from each member of the family and the former employés referred to, with one exception, and were examined by a local bacteriologist of recognized ability.

The Widal test was positive in the case of Mr. C.'s mother, the 4-year-old boy and the 3-year-old girl, the latter ailing at the time but not confined to bed. A specimen of well-water showed the presence of colon bacilli.

The two boys living in Bridgeport, who had boarded at the C. farm during July and August, were next sought. The younger of the two, Charles S., one of a family of six, gave a negative Widal test, as did also the other five members of his family. The other boy, James B., aged 14, gave a most positive Widal reaction. Repeated examinations of his blood were made with uniform results. Through the cooperation of the health officer of Enfield, Mass., specimens of blood were obtained from Mr. C.'s brother, the latter's wife and her mother, and in the case of Mr. C.'s brother the Widal was positive.

Here, then, were no less than five persons who had been members of the C. family and had visited or lived varying lengths of time on the farm, whose blood responded in a positive manner to the Widal test, and some of whom were possibly excreting typhoid bacilli in both the feces and urine.

Those coming in direct contact with the milk were Mr. C., his mother and the two boys from Bridgeport. They milked the cows, stirred the milk with a stick, and drank the milk from a cup, repeatedly dipped into the cans without intermediate cleansing. Much earlier in the season the three farm hands referred to had done the milking. Mr. C.'s brother from Massachusetts and the two children at the farm had not handled the milk in any way.

Had Mrs. C., the mother, a woman of 68 years, at some remote period, suffered from typhoid fever and become a common carrier, awaiting an opportunity such as is afforded by the handling of milk to disseminate the germs of the disease? An investigation of her previous environment was made. She had lived and acted as cook and housekeeper in the following named places: a dentist's family in a neighboring town in this state; the home of a relative in Smiths, Mass.; a private family in North Adams, Mass.; a normal school in North Adams, Mass.; a small hotel in Whitingham, Vt. Replies to letters of inquiry stated that previous to, during and subsequent to her stay at these places no cases of typhoid fever or any disease resembling it had developed. This negative information rendered less probable Mrs. C.'s capacity for disseminating the disease. The two younger children, who evidently suffered a mild infection, in common with their grandmother, had, presumably, contracted it from a common source.

Investigating more carefully the case of James B., it was found that he, in common with two or three other members of his family, had suffered a year or more ago from an illness of several days duration, which was regarded as malaria. The boy's mother responded to the Widal test. The conditions about the house, just outside the city limits, were bad. The well-water contained the colon bacillus. It seems quite probable that various members of James B.'s family suffered a typhoidal infection of mild type, which was mistaken for malaria, and that James became an unconscious disseminator of the disease.

The sale of milk from the George C. farm was stopped by the proper health authorities, and after two or three weeks the epidemic ceased. For practical ends the investigation was sufficiently complete. From a scientific point of view much was left undone.

The first case in this series was reported late in August. It was two weeks or more later when the investigation was begun. It was several days later when the case which terminated in death was reported. It is possible that the immediate inspection of each case would have suggested the common source of all the cases, and thus much suffering and one fatality might have been averted.

Correspondence with thirty-five cities throughout the country, having populations approximating that of Bridgeport, elicits the fact that thorough methods of investigation by health authorities obtain in about 75 per cent. The percentage should be 100.

Many cases of typhoid fever of mild type are never recognized. The responsibility assumed by attending physicians in omitting the Widal test and blood counts in doubtful cases is not justifiable. The typhoid bacillus is regularly present in the gall bladder and may persist for weeks, months or even years. This explains why some apparently healthy persons are unconscious harborers and disseminators of the typhoid bacillus. It is thus that these individuals spread the infection and sometimes give rise to more or less extensive epidemics.

The agglutination reaction is present in about 95 per cent. of all cases. Intermittence of the reaction is common, therefore repeated examinations should be made when necessary. The idea that a few individuals enjoy a natural immunity and give a positive Widal reaction without having had typhoid has given way to the more practical one, that such persons have at some period suffered an infection which remained unrecognized.

The cases of acute or chronic jaundice and Weil's disease, presenting high agglutinative power, are doubtless due to previous typhoidal infection of the biliary tract, and resulting cholelithiasis, cholecystitis, or cholangitis. When the agglutination test is properly conducted, however, the fallacies are inconsiderable and do not seem worthy of serious consideration, with the possible exception of some cases of tuberculosis, in which, it is claimed by some, a more or less atypical reaction is found, even in high dilutions. No absolutely reliable information is at hand regarding this point.

In view of the fact that the agglutination reaction is a delicate one under any circumstances, it is quite essential that the bacteriologist employed to make the Widal test be skilful, painstaking and sincere.

In conclusion, a plea is made for more careful examination of patients, especially with reference to the Widal test and blood counts, when typhoid fever is a possibility; for more vigilance on the part of health authorities in preventing epidemics and for the employment of more skilful technic in municipal laboratories.

REMOVAL OF A SUBCORTICAL CYSTIC TUMOR AT A SECOND-STAGE OPERATION WITHOUT ANESTHESIA.*

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NEUROLOGIC REPORT BY DR. THOMAS.

Patient.—R. C., aged 32, unmarried, a teacher and farmer by occupation, was referred to the neurologic department of the Johns Hopkins Hospital Dispensary, Nov. 1, 1905, on account of the nervous symptoms which were associated with his ocular condition, by Dr. M. B. Kelly of the Baltimore Eye, Ear and Throat Hospital. He was admitted to Ward F in the service of Dr. Barker, Oct. 24, 1906, and was transferred to the surgical side for operation a month later.

Family History.—His father died of dysentery and his mother of diabetes. He had also lost two brothers and two sisters; one sister from tuberculosis, the others from acute illnesses. An aunt and uncle on his mother's side also died from tuberculosis. There was no history of tumor.

Personal History.—The patient had diphtheria at the age of fifteen, but had suffered from no other serious illness. When nine years of age he had a slight injury to the top of his head; he was not rendered unconscious, nor were any bad effects noticed. In 1892 he received a blow from a baseball bat, which fractured his nose. His habits had been excellent. He used no alcohol nor tobacco and led a hygienic life, working on a farm, studying and teaching. He denied venereal exposure, and there was nothing to suggest the possibility of infection. The patient was in excellent health up to the beginning of his present trouble.

Present Illness.—In 1895 or 1896 he began to suffer from curious nervous attacks, which came on without cause. The first attack was characterized by an odd sensation in his head, which suggested to him "the bursting of bubbles in rising dough;" at the same time there was a noticable twitching in the muscles of the left calf. There was no loss of consciousness and the seizure lasted but a few minutes. Recurrences of these attacks followed, with about a month's interval; they were very constant in character. The first intimation of their occurrence was an indefinite, nervous feeling in the head. This was associated with a tingling sensation, starting at the left knee and usually spreading up the leg on to the body, in severe attacks even to his thorax and left arm; at times, however, the sensation passed in the other direction, namely down the leg to the foot. Many of the attacks consisted simply of this sensory discharge, which might continue for several minutes, but if the sensation was of longer duration muscular twitchings were superadded. These also started in the left leg, usually in the muscles of the calf, at times in the thigh; they likewise tended to spread up the left side of the body, on a few occasions as far as the arm.

Following these seizures a peculiar numb feeling remained in the areas involved; but he said there was no actual loss of sensation except on a few occasions, when it seemed as though he had "lost his left leg and was standing on one foot." Once after his admission to the hospital he was examined directly after an attack, and no sensory loss could be objectively determined. Consciousness was nearly always completely retained, and although the patient felt nervous and badly, he could usually continue with what he was doing. During July, 1900, he had three very severe fits with loss of consciousness; and while under observation in 1906 he had three similar, though less violent, attacks. Hence, up to the time of his first operation, November 22, 1906, he had lost consciousness six times only, whereas during the ten years since the onset there had been several hundred minor seizures without loss of consciousness.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

Though nearly always in the leg, the initial sensory discharge began elsewhere on several occasions—for instance, in the left groin, or on the thorax just below the left scapula, or in the shoulder. The seizure was not uncommonly followed by profuse sweating of the leg and foot.

The patient had been subject to headaches from childhood; but they became more severe after the onset of these attacks. He suffered intensely from them for a period of three months early in the year 1903, when they showed marked periodicity, beginning about 3 o'clock in the early morning and lasting until 11. The pain, which was severe enough to require morphin, seemed to pass from one temple to the other; it was associated at first with a ringing noise. After their daily recurrence for three months, the headaches suddenly disappeared, and since then he had had no pain to speak of—that is, since May, 1903.

This period of intense headache was ushered in by definite ocular symptoms—namely, by momentary attacks of blindness, followed by diplopia for two or three days. At this time his vision failed so rapidly that in three or four months he could no longer read ordinary printing. He said there had been very little change in his sight since then, although it might have become gradually worse. He had vomited on a few occasions only, usually during an attack.

His seizures had continued over a considerable period before there was any permanent muscular weakness. In the early part of 1903, at the time of his intense headaches and loss of visual acuity, there seems to have been a period of disability of the left arm. This came on gradually, lasted for five or six months and then disappeared. Shortly after this, in July, 1903, the left leg appears to have become permanently weak and he has walked with a slight limp ever since. When the patient first came to the dispensary, in November, 1905, he complained chiefly of loss of vision, weakness of the left leg and general nervousness, and said very little of his attacks. It was only after we had seen him for some time that he began to complain of them. He was thoroughly examined on numerous occasions and the objective findings remained practically constant during the year he was under observation. A brief summary of these examinations is as follows:

Examination.—The patient was an intelligent man and gave a remarkably clear, detailed and consistent description of his seizures. Dr. James Bordley, July 1906, reported that there was atrophy of both optic nerves, due he believed to preceding choked discs. The vision was R. 7/20; L. 20/20, and there was some constriction of the visual fields, particularly for colors. The pupils were normal in size and in their reaction to light and accomodation. There was no abnormality noted in the function of the other cerebral nerves. The movements of the arms were free and the muscular strength was practically equal. The patient walked with a distinctly hemiplegic limp on the left side, and there was a slight, but definite, weakness in the dorsal flexion of the left ankle and possibly some in the flexion of the knee and hip. The left leg was appreciably smaller than the right. The deep reflexes in the arms and right leg were normal; they were exaggerated in the left leg, where a patellar clonus always, and an ankle clonus usually, could be obtained. Plantar stimulation on the left side usually led to dorsal flexion of the great toe; on the right side no response could be obtained.

Sensation seemed to be normal over the left arm and hand. It was tested repeatedly and carefully in all its qualities, particularly in regard to muscular sense and the power of recognizing objects placed in the hand. Letters cut from wood were read accurately when placed in this hand. The sensitivity of the leg and foot was tested with equal detail, without discoverable abnormality. The power of localization was usually excellent, but at times there appeared to be some slight defect; this was too inconstant, however, to be recorded. In testing the muscular sense a lever was attached to each great toe, so that very delicate movements of the joints could be made; changes of position were recognized as well on the left as on the right side. Various weights were placed on the levers and these were also equally well appreciated on the two sides. Different textures, as rubber, cloth, wood, etc., were recognized by passing his left foot over them. Objects, however, such as a nailbrush, book, etc., were not well recognized by either foot. The patient was allowed to feel raised wooden letters about 10 cm. in length, by passing the foot over them. This test was indefinite, although the answers given were more correct when using the left foot; he did, in fact, recognize several letters so placed.

Diagnosis.—It was evident that the patient was suffering from an organic lesion situated in the upper part of the Rolandic region, involving the cortex itself or lying just below it. The fact that the seizures were so largely sensory in character pointed to the post-central convolution as their place of origin; but as definite, though slight, paralysis of the left leg occurred, we were led to the conclusion either that the pyramidal fibers coming from the leg areas were also involved in the process, or else that it had implicated the anterior central convolution. The condition found in the eye-grounds, taken with the history, was sufficient to indicate the presence of a cerebral tumor; but inasmuch as the patient had had none of the general pressure symptoms of a brain tumor for three years, and as there had been no increase of the paralysis during that time, we concluded that the growth must have become quiescent. As to its character there was very little data on which to base a conclusion. Syphilis could be excluded, but the family history and the general appearance of the patient himself suggested the possibility of a dormant tuberculous process; and this was the tentative diagnosis.

First Operation.—The surgical exposure of the area which we believed to be involved is difficult and dangerous. This was explained to the patient, but as he had come to dread his attacks so greatly he was willing to take any risk and begged for the operation. After consultation with Dr. Cushing this was decided on, and the first operation was performed November 22, 1906. The interesting surgical experiences I shall not dwell on, as Dr. Cushing will deal with them. The leg area of the central convolutions on the right side was exposed and stimulated, but nothing abnormal was apparent on the surface.

After this series of operations the attacks subsided for about eighteen days, when they again recurred. They were at first slight, but through January, 1907, they became more and more severe, consciousness being lost in a number of them. After one particularly severe attack on February 7 the left arm became helpless and a slight weakness appeared in the left side of the face. A detailed examination a few days later revealed the following positive findings:

Second Examination.—There was a slight left-sided facial paresis; marked weakness of the movements about the left shoulder; nearly complete paralysis of the movements of the left elbow; practically complete paralysis of the movements of the left wrist and hand. The left leg was in the same condition as before the operation. The deep reflexes were active and about equal in both arms; they were, however, exaggerated in the left leg. Plantar stimulation of the left side gave, as before, dorsal flexion. No abnormality of sensation could be determined on the face; touch, pain and temperature were as well perceived over the left arm and hand as over the right. Muscular sense, or more properly the sense of position, was definitely affected in the left hand and wrist. The power of localization on the dorsum of the left hand was somewhat affected; this was tested in considerable detail in the endeavor to confirm the interesting findings of Russell and Horsley, but the errors showed no constancy. Large objects placed in the left hand, with the fingers closed about them, were usually recognized and correctly named. I was unable to demonstrate any noticeable change of sensation in any of its qualities over the left leg and foot.

The patient had an irregular rise of temperature, and the condition of his lungs had given the staff some anxiety; furthermore, the fact that he had proved such a poor operative subject made us hesitate to recommend further procedures, especially as it was now nearly certain that the lesion was subcortical. His condition, however, being so desperate and pitiful, Dr. Cushing operated again March 21 and 26. This second-stage operation, at which a cyst was found and removed from the upper part of the post-central convolution, was done without anesthesia. The procedure was suggested by Dr. Cushing on account of the previous difficulties of anesthetization. and its success was entirely due to his initiative and skill. He will give the details of the operation.

June 6, 1907: Since the operation the patient had not had a single attack, although he had at times felt nervous and had dreaded the onset of the seizure. The weakness of the left arm had almost disappeared and the sensation in it was quite normal. He localized touch on the dorsum of the hand accurately; was able to name objects placed in his left hand and to read the wooden letters by feeling them. His muscular sense was nearly normal. The spasticity of the left leg remained unchanged; indeed, the condition of this leg had not altered since we first saw him, now nearly two years ago.[1]

COMMENT ON THE NEUROLOGIC REPORT.

For the purposes of the present article it is inappropriate to touch on more than one or two of the interesting points which this patient's history raises for discussion. The local diagnosis offered no particular difficulty. The character of his many attacks, lasting over a number of years, was so constant, and the description given was so detailed, that one could not escape the supposition of an irritative lesion in the upper part of the Rolandic region, and the history and the condition of the eyes pointed to a process which once, for a short period of time, had produced increased intracranial pressure, followed by a long quiescence.

The nature of the lesion was not so clear, although the most reasonable belief seemed to be that there had been at some period a new growth which in 1903 had grown rapidly or possibly had had a hemorrhage into its substance and then had ceased to increase in size and had become quiescent.

When one endeavors to bring the clinical symptoms into line with the operative findings it seems remarkable that, with a tumor situated in large part in the post-central convolution and involving a considerable portion of its superior part, there was practically no objective sensory loss. I think it may be fairly said that before the first operation, even after numerous and thorough examinations, no definite objective sensory disturbance could be detected. The tests were particularly devised to estimate the power of localization and the power of recognition of objects felt. It is true that after the patient's left arm had become paralyzed (Feb. 7, 1907), subsequent to the severe convulsion of that time, there was a marked loss in the muscle sense and in the power of locating cutaneous stimuli. The errors in localizing a touch on the back of the hand varied so much, both in extent and in direction, that it was impossible to formulate any rule in regard to them.

It is interesting in this connection that at the operation nothing was found that could account for this sudden increase in the paralysis of the left arm, and one is led to wonder if it were not due to the change of the direction of the pressure brought about by the surgical procedure. That is was due to no permanent destruction of nerve tracts is shown by the fact that the motor weakness largely disappeared and the sensory loss has entirely been restored since the removal of the cyst.

The unique feature of the case, and the one which particularly justifies its presentation at this time, is the fact that it demonstrates that both dura and brain can be manipulated without causing any pain to the thoroughly conscious patient. Although we knew that the brain substance itself is insensitive to pain, we had no reason to doubt the truth of the opinion held by physiologists that the dura is a highly sensitive tissue; and I must admit being surprised when Dr. Cushing was able to incise the membrane without the knowledge of the patient.

The question whether irritation of the cortex causes pain or any other sensation has interested physiologists ever since the time of Haller. This investigator, as Sir Michael Foster[2] tells us, concluded "that the cortex of the brain must also feel, though no movement results when it is irritated." Sherrington[3] refers to the experiments of Schiff and Budge carried on about the middle of the last century to determine what parts of the nervous system gave evidences of pain when stimulated. Budge got no evidence of painful reaction from the cerebral hemispheres, including the corpus striatum. The optic thalamus gave doubtful responses. Evidences of pain were elicited from the corpora quadrigemina, and likewise below this level, unless the irritation was confined to the gray matter. Both of these investigators believed that the gray matter itself was entirely insensitive.

Since these experiments there appears to have been very little work done to determine this point, but the numerous experiments in which the faradic current was used to stimulate the cortex and in which the response was determined by muscular movements have abundantly proved that the cortex does respond to appropriate stimuli. These experiments, carried out on animals and on man, rendered unconscious by anesthesia, of course, gave little or no evidence as to the sensory response to such irritation.

We know, however, that sensory phenomena often follow irritative lesions of the cortex, the present case proving a most excellent example. Irritation of the centers for the special senses also at times gives appropriate responses; this is well illustrated by the gustatory and olfactory sensations in the uncinate gyrus group of fits, and by the subjective visual and auditory phenomena which are at times observed in diseases of the central cortex. It is, however, quite remarkable that pain is not more often complained of, even when there may be an intense sensory discharge. Our patient described the sensation as being painful in only one or two of his many attacks.

Many surgeons, as is well known, have noticed the insensitivity of the cerebral tissue during surgical dressings and occasionally during operations, and Sir Victor Horsley has called attention to the fact that profound anesthesia is only necessary during the early and late stages of an intracranial operation, namely, when the scalp and cranium are opened and when the wound is closed.

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[1] December, 1907: At the present time, six months later, he reports himself to be in excellent physical condition. He has had an occasional slight sensory aura, described as a transient numbness of the ulnar side of his left hand, followed by a momentary twitching of the little and ring fingers. The old sensation in the leg has disappeared. His weight has increased to 170 pounds. The movements of the arm are steadily improving, and he uses his hand and fingers freely. He still walks with a hemiplegic spasticity which, however, seems to be constantly lessening.

[2] Lectures on the History of Physiology, etc., Cambridge, 1901, p. 294.

[3] Shäfer's Text-Book of Physiology, 1900, vol. ii, p. 978.

Although from these things we had a right to conclude that the cortex could be manipulated without pain, it was a startling thing to see the postcentral convolution—that part of the brain which is now generally believed to be particularly concerned in the perception of sensory impressions—painlessly incised and a tumor enucleated from its depth. This was done, too, without causing the patient the least sensation of any description, though it required the cutting across and the breaking of many fibers, as well as the irritation of the gray matter. One slight seizure occurred while the cortex was being palpated but before it was cut.

It is probable that the operative stimulus was inadequate and that had we faradized the cortex we would have obtained some most interesting data. That the manipulations were accompanied and followed by no shock or observable phenomena of any kind is also of interest. If it is possible, as it seems to be, that a similar procedure can be carried out in other cases it will open up a field of investigation that has very wide limits, and it is largely for this reason that we desire to record this case at this time.

SURGICAL REPORT BY DR. CUSHING.

Well aware of the inaccessibility of the mesial edge of the paracentral convolutions, underlying as they do the lateral expansions of the longitudinal sinus (*Lacunæ laterales*), Dr. Thomas did not feel that he could strongly advise operation, nor did I undertake it without considerable misgivings. Had we been aware of the difficulties which would be experienced in giving anesthesia to the patient, and could we have foretold the vicissitudes that we were to meet, we would have had additional reasons for hesitation. It will be seen that five craniotomies were necessary before the end of his surgical history, and it may be well to take these up seriatim with a brief description of each operative stage and its various complications.

OPERATIVE HISTORY.

First Operation.—Nov. 22, 1906 (10 a. m.). Under ether anesthesia a large bone flap, whose upper margin nearly reached the sagittal suture, was reflected so as to bring the sulcus centralis (Rolandi) in the center of the exposed field. Although, as is usual in these cases, the services of an expert professional anesthetist were secured, the patient took the anesthetic execrably, breathing badly throughout its administration. The resultant cyanosis was so great that in spite of the tourniquet there was considerable venous oozing, not only from the scalp but from the diploë as well. Bleeding was particularly free from the emissary vessels betwen dura and bone, especially from those at the edge of the parasinoidal sinuses which were exposed owing to the mistake in judgment of placing the osteoplastic flap so high. The accompanying sketch (Fig. 1) shows roughly its situation.

Although I am loath to believe that a two-stage operation is desirable as a routine measure in operations for brain tumors, it seemed unwise in this particular instance to proceed, owing to the considerable loss of blood and resultant fall in blood-pressure. The opening of the dura consequently was deferred for a second sitting; the bone flap was replaced and the scalp wound closed without drainage. I confess to having felt much hesitation in thus closing the wound, inasmuch as there was some uncontrolled oozing from the dura at the superior edge of its exposed surface, where, owing to the cyanosis and passive congestion, bleeding slowly continued at a few points. Nevertheless, it was hoped that on recovery from the anesthetic, with an improved circulatory condition, this venous oozing would cease and that the pressure of the bone flap against the membrane would meanwhile suffice to occlude the bleeding points.

Realizing, however, that the oozing might continue, a blood-pressure apparatus was in constant use during the remainder of the day and night so that the systolic pressure as well as the pulse rate was frequently recorded and charted. Four hours after the operation the patient was fully conscious, conversing, and free from any intracranial discomforts.

He passed a comfortable night, sleeping possibly more than might have been expected, but not until the early morning hours was there evidence of anything unusual in his condition. At 5 a. m. his pulse, which had been about normal, dropped to the 60s; two hours later it registered as low as 54. He seemed unduly drowsy.

When I saw him at 9 a. m. it was difficult to arouse him, though when aroused he said that he felt comfortable and free from pain. His pulse continued slow; the blood-pressure had begun to rise; and there were present, even to the palpating finger, distinct rhythmic waves, not only in cardiac tension, but in pulse rate as well; these waves furthermore were accompanied by perceptible alterations in the depth of his respiration. An ophthalmoscopic examination, confirmed later by Dr. Bordley, showed a high grade of choked disc, the edema being so great, even on top of the atrophic nerve-heads, that it measured four diopters (it is to be remembered that before the operation there was no retinal edema whatsoever). Dr. Eyester, whose recent observations have thrown light on the physiology of Cheyne-Stokes respiration,[4] made at this same time some records with the Erlanger sphygmomanometer, which showed more clearly than could otherwise have been observed the characteristic rhythmicity of pulse rate, blood-pressure and respiration, which occurs when intracranial pressure is approaching Kocher's third stage of compression (Höhestadium des Hirndruckes).

On the presumption that an extradural clot had formed, preparations were made to partially reopen the wound. This measure, however, was unavoidably delayed until three hours later—namely, eight hours after the first onset of symptoms.

Second Operation.—Nov. 23, 1906, (12 noon). The patient by this time had become so profoundly unconscious that he failed to respond even to painful stimuli. He was taken to the operating room; the dressing was removed; the sutures holding the anterior edge of the incision were divided. No sooner was this done than the bone flap dislocated itself outward, separating the freshly uniting skin incision, and a large, black extradural clot, fully 3 cm. in thickness, began to extrude itself from the wound. The patient immediately regained consciousness, opened his eyes, looked up and spoke to the operator. The blood-pressure soon fell to its normal level, the vagus pulse was replaced by one of normal character and rate, and the rhythmicity of respiration disappeared, all with the definiteness of a laboratory experiment when a compressed brain has been relieved from the pressure exerted against it. The clot was scraped away; the partially reopened wound was filled with iodoform gauze; the patient was returned to his bed. He had no further pressure symptoms. In a few hours the edema had begun to leave the retinæ, and by the second day afterward the atrophic discs were again as clear as before.

The incident emphasizes the necessity, whenever there is a chance of such an extravasation after operation, of following the patient's vascular and respiratory condition with the closest scrutiny.

Third Operation.—Nov. 27, 1906. Under general narcosis the second stage of the exploration was undertaken. Chloroform was employed but the drug was taken just as badly as ether had been on the previous occasion. The tourniquet was again applied, the bone flap reelevated, and the clotted residue of the extravasated blood was scraped away from the bone and dura. The upper edge of the cranial opening was extended by rongeurs across the median line (Fig. 1) in order to expose completely the dura covering the mesial edge of the hemisphere. When this was done much difficulty was again experienced in checking the dural bleeding, which started up afresh from the parasinoidal expansions in the region of the Pacchionian granulations. The chief of these bleeding points were fully 2 cm. from the median line, showing the considerable breadth of the sinus, together with its lateral expansions at this point. As is usual, the extravasating fluid was not pure venous blood, but was mixed with cerebrospinal fluid. Fully three-quarters of an hour were expended in an effort to get the persistent oozing under full control before it was thought safe to open the dura.

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[4] Blood-Pressure Changes in Cheyne-Stokes Respiration, Johns Hopkins Hosp. Bull., 1906, xvii, 126; also Clinical and Experimental Observations on Cheyne-Stokes Respiration, Jour. of Exper. Med., Oct. 12, 1906, viii, 565.

The membrane was opened by reflecting a flap of moderate size, whose pedicle, contrary to the usual custom, was placed toward the median line. (Fig. 2) This was done so as to insure, by retraction on the reflected membrane, the best possible view under it, and, further, so as to avoid injury to the superior cerebral vessels where they leave the subarachnoid spaces and cross over the subdural space into the longitudinal sinus.

With the clean, dry cortical exposure which was finally secured the topographic features of the field were easily recognized. As shown in the sketch (Fig. 2), two large vessels (the superior cerebral anastomotic veins) ascended toward the median line across the anterior half of the exposed field. The posterior of these vessels lay, for the most part, over the sulcus centralis (Rolandi), parting from it at the superior genu to pass forward and anastomose with the more anterior of the vessels. This left exposed a small triangular space, bounded anteriorly by this large vein, posteriorly by the upper limit of the central fissure, and on the mesial surface by the edge of the hemisphere. The surface of the brain was normal in appearance; it pulsated and was no more tense than the degree of cyanosis could easily have accounted for.

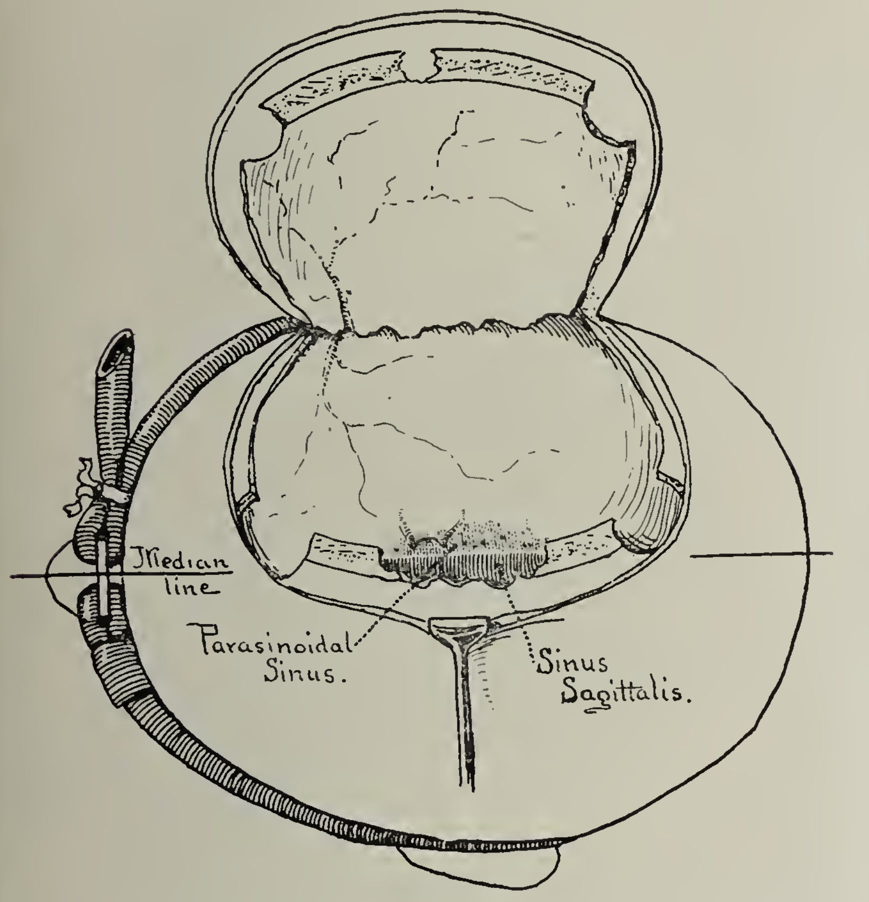

Fig. 1.—Diagrammatic view of vertex, showing situation of osteoplastic flap in relation to sagittal and parasinoidal sinuses. Additional bone removed with rongeurs from superior (bevelled) edge of cranial opening in order to expose median line.

The exposed cortex was faradized, and in this patient for the first time I succeeded in eliciting clean-cut movements in the toes, lower leg and thigh. The centers for the lower extremity, which were entirely confined to the triangular area just described, are indicated in Figure 2. It is unusual to have this inaccessible edge of the hemisphere so freely exposed as to allow of cortical stimulation.

Opposite to the superior genu, movements were elicited in the thoracic muscles (seemingly of the lower part of the pectoralis major) and also in the lateral abdominal muscles. Below the genu, movements of the shoulder, (shown by elevation and abduction and also adduction of the arm) were obtained; and from centers still further down occurred movements in the elbow (flexion) and similarly in the wrist. Posterior to the central fissure, as is invariable, no motor responses whatever could be elicited with the same strength of current as that which easily brought out movements from the precentral gyrus. These stimulation observations were made, partly to certify the topographic landmarks, partly in the hope that some abnormality of motor response might throw light on the seat of the lesion. They served merely to assure us of the physiologic competency of the pyramidal tract.

It was our hope that the expected tumor would prove to be a cortical one; but we had planned, in the absence of a surface lesion, to incise the precentral convolution in the anticipation of finding a growth underlying this portion of the cortex. I was deterred from making such an exploratory incision by the fact that the external appearances were absolutely normal; by the absence of bulging sufficient to indicate any considerable increase in cerebral pressure; by the fact that there was no palpable difference in tension between the suspected region when compared with the cortex elsewhere; and lastly by the presence of the large venous radicle which crossed the precentral convolution at the very situation where we had expected to incise it and the ligation of which might have led to serious consequences.

Considering the case a surgically hopeless one, the dura was accurately closed, the bone flap was replaced, and the scalp was once more resutured, with an anterior and posterior drain leading to the two external trephine openings.

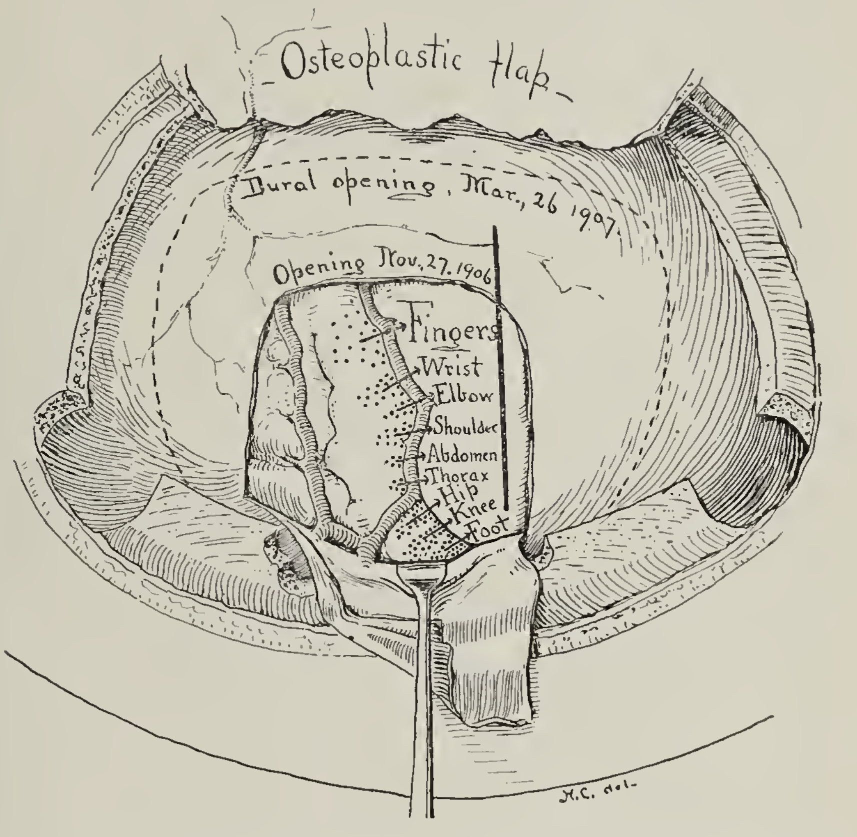

Fig. 2.—For orientation compare with Figure 1. Note comparatively small dural opening at this operation (Nov. 27, 1906). Posterior anastomotic vein lies, except at its upper end, in central fissure. Dots represent points from which motor responses were obtained. Centers for lower extremity lie above genu, which practically corresponds with point where vein leaves central fissure to pass forward. Heavy line shows situation of incision in gyrus centralis posterior made at subsequent operation, March, 26, 1907. Compare with Figure 3. (Two-thirds actual size.)

Though considerable blood was lost during the operation, it was well borne, even with the patient in a semi-erect posture. The wound healed without reaction despite its double reopening.

Postoperative Seizures.—On December 17, three weeks after this operation, the patient had his first postoperative seizure. It began, as of old, with a sensation of numbness and tingling in the left foot and leg, the sensory disturbance spreading to his thigh, abdomen and chest and reaching as high as the pectoral level. There was some jerking and twitching of the abdominal muscles also, but none in the arm or leg. There was no loss of consciousness. On December 23, another seizure of the same type occurred, and from this time on they increased in frequency and severity. During January he had a serious attack of bronchial pneumonia, which had many features suggestive of pulmonary tuberculosis; but though the sputum was repeatedly examined no tubercle bacilli were found. It was thought during this period that his intracranial symptoms might possibly have been due to a cerebral tubercle—a form of growth which could easily have explained the peculiar subsidence of the intracranial symptoms following their onset in 1896.

During this illness, early in the year, he had a number—occasionally more than one a day—of particularly severe epileptiform attacks involving the entire body and always with loss of consciousness. They were, however, invariably preceded by the same sensory aura which characterized his milder seizures. In addition to these severe fits there were a number of mild ones, in which consciousness was retained. These minor attacks were usually accompanied by profuse sweating of the left leg and foot, chiefly below the knee—so profuse in fact, as to soak the bedclothes. The sensory aura which preceded them altered its position from time to time, occasionally starting as a "nervous sensation" in the abdomen, at other times in the shoulder, or again shifting back to its former situation in the leg.

In February there appeared a progressing weakness of the left side of the body; and after one particularly severe seizure, February 7, he became almost completely hemiplegic, so that he was no longer able to sit up. From this time on, until his later operations, he was confined to his bed.

The notes in regard to his physical state at this period are included in Dr. Thomas' report. His mental condition seemed normal. He would lie quiet for hours at a time with uncomplaining patience, which might have been mistaken for lethargy had he not responded intelligently and promptly when addressed. His seeming apathy, however, may possibly have been a symptom of his intracranial lesion. He complained of no particular physical discomforts; indeed, after recovering from his bronchopneumonia he gained markedly in weight (30 pounds) and strength in spite of the frequent epileptic seizures and his hemiparesis. His constant request was that something further be attempted to put a stop to his attacks. Although the outlook from a surgical point of view promised so little, the fits were becoming so severe and so frequent that it seemed unfair to deny the poor fellow the more extensive exploration which he so earnestly solicited.

Fourth Operation.—March 21, 1907. After shaving and cleaning the head on the operating table as is our custom, chloroform was administered and the original bone flap was turned down in the scar of the previous operations. The patient again took the anesthetic in the worst possible fashion. There was extreme cyanosis and, as at the first operation, a great deal of bleeding was encountered near the median line. On exposing the dura the earlier incision of the membrane was found to have healed perfectly, there being no trace of the wound other than that made by the black points of the iron-dyed, fine, silk sutures that had been used in closing it. The dura was everywhere smooth and showed no sign of being more adherent to the skull than usual—this in spite of the extradural extravasation which had occurred before the last closure.

Owing either to the patient's cyanosis or to some alteration in intracranial conditions, the dura was found at this sitting to be under considerable tension. In view of this and also in consequence of the considerable fall in blood-pressure which had taken place, it was deemed wise, as before, to postpone further measures for a second sitting. Bleeding, as at the first operation, was so free, from the region of the Pacchionian granulations as well as from the edges of the freshly incised skull (for the old cranial incisions had become largely filled in with vascular new-bone), that a layer of gauze was placed over the dura and on this the osteoplastic flap was closed in the hope of lessening the chance formation of another extradural clot. The scalp was then sutured with a continuous Pagenstecher suture, a protective drain being left between the edges to carry into the dressings such blood as might extravasate.

The wound was dressed on the second day and the sutures all removed; there was no particular uplift to the bone flap and consequently it was presumed that there had been no extradural extravasation. Apprehensive of the effects of a second anesthetization, not only from the knowledge of the difficulties of its administration, but also because of the pneumonia which had followed the previous second-stage operation, it was determined to attempt an exposure of the brain at this time without narcosis.

Fifth Operation.—March 26, 1907. He had been given, as on all previous occasions, ⅛ of a grain of morphin and 1/100 of atropin hypodermically. When the bone flap, for this fifth time, was again reflected, contrary to our expectations a shallow extradural clot, possibly 1½ cm. in thickness, was disclosed, lying between the bone and the gauze layer. Gauze and clot were removed together from the dura. In the absence of the ether cyanosis there was but slight bleeding, and this occurred from one or two points only on the convex side of the freshly opened scalp wound. The tourniquet was not used on this occasion.

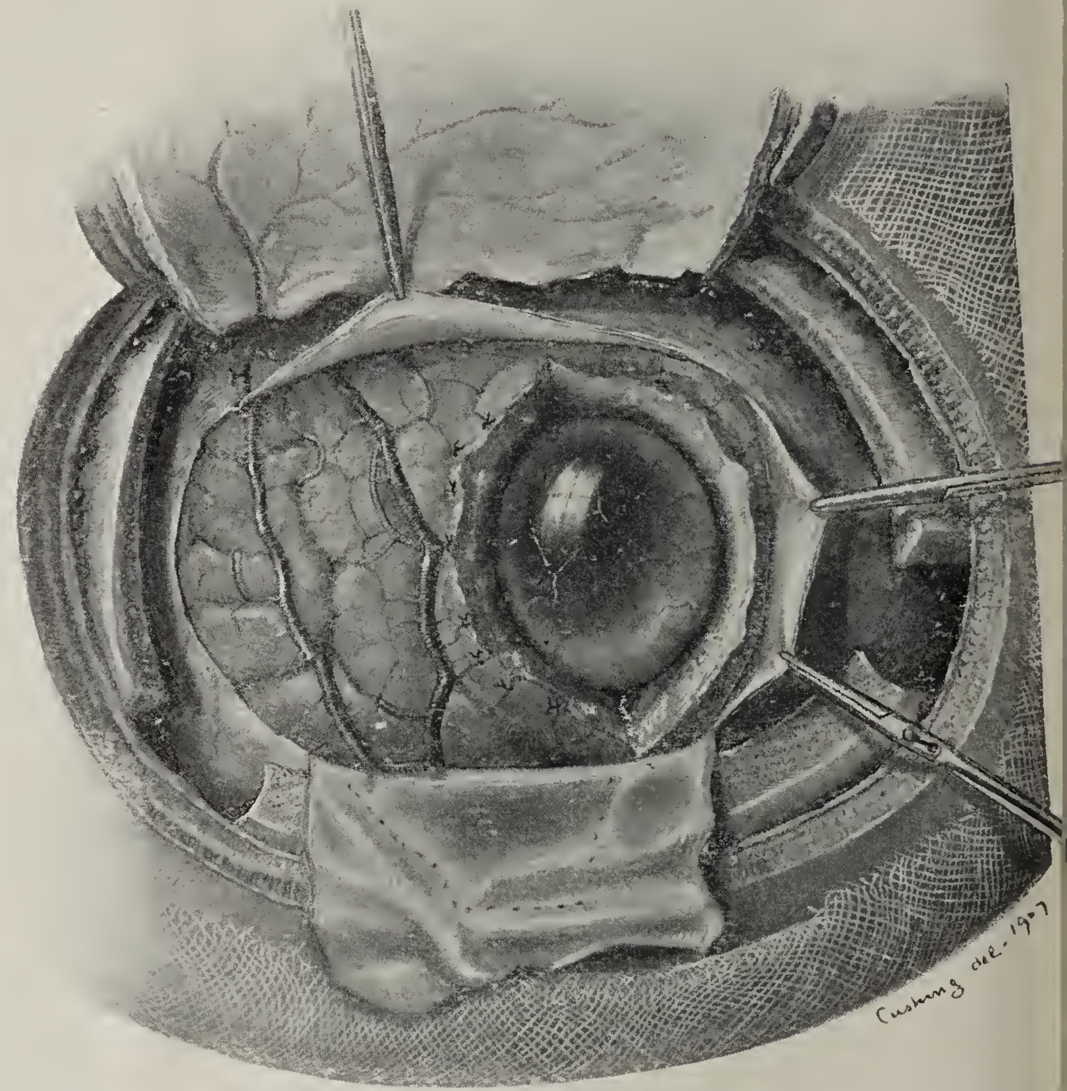

Fig. 3.—Drawing elaborated from a careful sketch made by Mr. Brödel at the time of operation; showing external cyst partially enucleated and before its rupture. Compare with Figure 2. (Three-fourths actual size.)

The dura was incised some distance outside of the omega-shaped incision previously made (Fig. 2), but in line concentric with it; that is, over a part of the cortex where we were certain not to find adhesions. On reflecting this dural flap it was found, to our gratification, that no cortico-dural adhesions had formed in consequence of the old operation except at one point where under the old incision there were two or three fine strands which were easily broken down with the blunt end of the scalpel. Except for the row of delicate, black sutures completely covered by endothelium, the under surface of the dura was absolutely smooth and of normal appearance.

The brain protruded slightly through the opening. The landmarks, previously certified by faradization, were again easily identified. As the dural opening laid bare a considerably larger area of cortex than at the earlier exposure, a better idea was given of the character of the convolutions. The precentral gyri were of a normal, pinkish color; those posterior to the central fissure, on the other hand, were distinctly yellowish. Palpation of the cortex revealed no apparent difference in tension between these areas; but as a result of this manipulation the patient had a slight epileptic attack, beginning in the left side and shoulder. This was of short duration and was unattended by loss of consciousness—indeed, the patient called our attention to it himself.

The gyrus centralis posterior was evidently flattened and of considerably more than its natural width; and it was determined to explore through the crest of this convolution. Consequently three or four pairs of fine, split, black-silk sutures were inserted so as to enclose the chief vessels which crossed the convolution. An incision was made between these sutures. There was no bleeding. About 1 cm. (3/8 in.) below the surface of the convolution the top of a thin-walled cyst came into view. By slow dissection and by enlarging the incision until finally it measured about 5 cm. (2 in.) in length, the cyst was almost completely enucleated by carefully scraping away the surrounding cerebral tissue from its smooth walls.

The patient during this entire procedure was perfectly conscious and experienced no sensory impressions whatsoever, even when the dura was incised. The extensive manipulations of the brain were absolutely without disturbing effect and gave him no subjective sensations of any sort. In order to test the sensitivity of the dura when put on tension, the edge of the incision was caught in a clamp and the membrane dragged upon; considerable momentary discomfort was caused by the resultant dislocation. At this stage a sketch (from which Figure 3 has been elaborated) of the partially dislocated cyst was made by Mr Brödel.

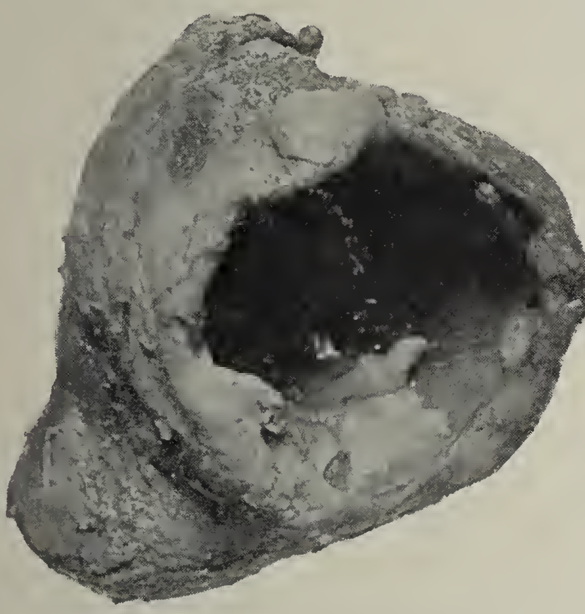

Fig. 4.—Photograph of opened cyst after hardening. (Actual size.)

Further dissection easily liberated the cyst, the base of which was possibly rendered somewhat more accessible by the evacuation of its contents. Its removal, however, disclosed the upper surface of a still larger cyst situated just beneath it. This in turn was shelled out of its bed by pushing the brain away from it, and was removed unruptured (Fig. 4). Large pledgets of absorbent cotton were frequently used to keep the cavity free of blood and to control the bleeding points. As a matter of fact, very little bleeding occurred; at one place only was there a spurting vessel, and bleeding from this was controlled by a fine ligature including the adjoining cerebral tissue.

The dura was then replaced and accurately approximated in its two layers by sutures, the cavity having been filled with Ringer's solution. The gaping hole, however, had by this time largely collapsed or become filled in by the edematous surrounding brain. The bone flap was then replaced and the scalp incision closed, a small "cigarette" drain having been introduced at one point. The placing of the interrupted fine silk sutures in the scalp on intestinal needles occasioned considerable discomfort, but this, with the possible exception of the chance sponging of the edges of the incision, was the only part of the operation which caused any sensation whatever.

The entire procedure lasted about three hours, the patient being interested, asking frequent questions and being engaged in conversation most of the time. At the end of the procedure he professed that he experienced a sensation of improvement in the arm and he certainly appeared to move it more freely than at any time since his attack of hemiplegia.

COMMENT ON THE SURGICAL REPORT.

From a purely operative aspect there are several features of this patient's history which may deserve special comment. Among them are: 1, The field of the exploration necessitated by the high situation of the lesion; 2, the occurrence of a postoperative extradural hemorrhage; 3, the absence of cortical adhesions on a second opening of the dura; 4, the association of the subcortical tumor with Jacksonian epilepsy; 5, the possible cystic degeneration of a glioma; 6, the removal of a subcortical tumor from the brain of a conscious patient at a second-stage operation.

1. *The Situation of the Exploration.*—There is no portion of the hemisphere's surface which is more difficult to freely expose than its mesial edge near the upper end of the sulcus centralis (Rolandi). The lateral expansions of the longitudinal sinus may extend out between the two layers of the dura in some cases for a distance of 2 cm. or more from the median line. Into these expansions or parasinoidal sinuses project the Pacchionian granulations, and in adult life, as is well known, these bodies, from pressure atrophy, may cause deep depressions in the skull alongside of the sagittal suture. Furthermore, emissary vessels in considerable number and of varying size pass from the longitudinal and its parasinoidal sinuses into the diploë of the overlying bone and serve to attach the membrane and skull with special firmness at these points. Hence the separation of the dura from the skull while making an osteoplastic flap in this situation is apt to be a bloody procedure, and the bleeding is apt to continue from the injured emissary vessels, particularly if there is any passive congestion or cyanosis of the head from respiratory difficulty, even though the patient be put in a fairly erect posture.

For these anatomic reasons it is, I think, particularly unsafe to attempt to make a bone flap in this situation by any of the so-called rapid methods—by electric saws or rotary drills—for these vessels are much more likely to be injured by the subcranial guard of these instruments than when the dura is separated, before the bone incision, by careful dissection through a large primary trephine opening. On two occasions (once with a Doyen saw and once with a Cryer drill) I have seen not only bone but dura incised at the same time, and should this accidental incision of the dura include the edge of the parasinoidal expansion—or worse still, the upper end of one of the cerebral veins where they enter these lateral lacunæ—a most serious complication would result.

It is preferable, I believe, whatever method be chosen for making the flap, to allow a space of 2 or 3 cm. between the midsagittal line and the upper margin of the flap. Then the mid-portion of the upper edge of the opening can be rongeured away—even across the median line—after carefully separating dura from bone and by checking the bleeding by the temporary placement of pledgets of absorbent cotton against the bleeding points.

Not only between bone and dura, but between dura and brain, are difficulties to be met with in exposing this particular field. The superior cerebral veins, especially the large anastomotic vessels which connect the Sylvian veins with the longitudinal sinus, pass upward, as they did in this case, often in the central or paracentral sulci. As they near the upper edge of the hemisphere they leave their protected position and emerging from the subarachnoid spaces bridge across the open subdural space to enter the parasinoidal expansion of the sinus. They consequently may be attached to the dura at a distance of a centimeter or two from the median line, and careless elevation of the membrane at this position may tear these vessels and lead to a free extravasation of blood which is difficult to control.

It is noteworthy that in infants, as well as in most of the lower animals, Pacchionian granulations are not to be found—and this I believe is true also for adult anthropoid apes. With the exception of the human adult, therefore, the anatomic conditions are such that the cerebral veins may be doubly ligated as they bridge across from cortex to sinus, so that the exposure of the mesial edge of the hemisphere is not difficult. It is a different matter in the case of adult man.

2. *Postoperative Extradural Extravasations.*—This is a complication which must occur from time to time to every surgeon who operates frequently by the Wagner bone-flap method for intracranial conditions. In my experience it has happened four or five times in approximately three hundred craniotomies for various conditions. One of the cases (a successful tumor extirpation) resulted in a fatality, since the pressure from the clot was relieved too late for medullary recovery to take place. The lesson was sufficient to teach the absolute necessity of the most careful postoperative observation, with a blood-pressure apparatus, of all patients after an osteoplastic operation. The phenomena are so characteristic that they should never escape detection, and a slowed pulse or a rise in blood pressure should lead to the immediate removal of the dressing and examination of the flap to see whether it has become lifted by the intracranial pressure, without waiting for unconsciousness or respiratory changes such as occurred in this case.

It is an accident which may occur even after a presumably dry closure, for the congestion which may accompany postoperative vomiting may raise the venous pressure so as to start up venous oozing from the vessels which were previously dry. Furthermore, inasmuch as the dura has already been separated from the bone during the operation, and as there is a tendency with each inspiration for the freed membrane to be drawn away from the skull and thus for oozing to be encouraged, it is easily understood how venous bleeding under these circumstances can readily lead to an extravasation larger than that which follows the traumatic rupture of the meningeal artery. In the latter case the adherent membrane must be slowly dissected away from the skull by the extravasating blood, even though under arterial tension.

It is perhaps a safe rule always to drain in these cases, and this is best accomplished by puncturing the scalp a centimeter or two outside of the upper angle of the incision and by inserting protective wicks which lead to the trephine openings. These wicks may be painlessly withdrawn after forty-eight hours. It is a great temptation, however, to close without them, and experience usually tells when it is possible to do so. Possibly 50 per cent. of osteoplastic resections can be safely closed without drainage.

3. *The Absence of Adhesions.*—It is unusual to have so conclusive a demonstration of the fact that after operative exposure of the brain there need be no subsequent formation of corticodural adhesions. On a few occasions I have had postmortem evidence pointing in this direction. These were cases in which a craniotomy with cortical stimulation had been performed and in which death had occurred some months later owing to a continuance of the primary trouble or had supervened in consequence of some intercurrent malady.

The total absence of adhesions in these cases, even along the line of dural incision, I attribute to the extreme care with which the margins of the dural wound had been approximated at the close of the operation, It is true of dura as of peritoneum that, provided the edges of the membrane are carefully united, endothelial cells will shoot across the line of incision with great rapidity; in other words, adhesions will not form unless a raw surface has been left either on the side of dura or of pia-arachnoid, or unless there has been a mild grade of infection. It is important to bear this in mind in operations conducted primarily for the purpose of freeing adhesions which have pre-existed. It is generally believed that these procedures are futile owing to the almost certain reformation of adhesions, but this I take to be no more true of the endothelial-lined spaces of the meninges than of the corresponding spaces in other serous cavities.

4. *Focal Epilepsy with Subcortical Tumors.*—The position has been taken by Allen Starr that in all cases of focal epilepsy of obscure origin the intracranial conditions should be investigated, inasmuch as Jacksonian fits are often induced by a tumor even before any general pressure symptoms are present. When such a lesion leads to irritative symptoms of this type it is usually accessible, being near the cortex and in the neighborhood of the Sulcus centralis (Rolandi).

We anticipated at the first exploration (Nov. 27, 1906), that a cortical lesion at the upper end of the precentral gyrus would be disclosed. One can not say even now that "motor-cortex" at the depth of the central fissure was not directly involved, and I know that Dr. Thomas would have been glad, had I not thought it inadvisable, to have determined this by cortical incision at the time. It was not, however, until the second exposure (March 26, 1907), which gave a wider view of the hemisphere, that the peculiar discoloration and broadening of the postcentral gyrus was evident—an appearance which led to the subcortical exploration being made behind the central fissure.

The upper surface of the cyst was found about 1 cm. below the crest of the broadened gyrus, approximately on a level with the motor centers for the arm. Although the patient's invariable sensory aura is explained by this finding, it furnishes no explanation for its variable situation. It is noteworthy that while the brain was being palpated in an effort to determine whether a growth could be thus detected, the gentle manipulation led to a slight focal attack, the twitching being limited to the contralateral shoulder and side. The patient himself called attention to it, otherwise it would have escaped notice. The subsequent cortical incision and extensive dissection led to no irritative symptoms either of a motor or sensory nature.

5. *Cystic Degeneration of a Brain Tumor.*—At the time of the operation, inasmuch as there were two separate though adjoining large cysts and a number (three or four) smaller ones which lay in the crevice between

them, it was presumed that they were of parasitic origin in spite of the rarity of ecchinococcus cysts in this part of the world. No hooklets, however, were to be found in the fluid at the time, and Dr. W. G. McCallum's subsequent report showed that the structure of the cyst wall was quite other than that characterizing old echinococcal cysts. One of the larger cysts was used for a thorough microscopic examination; the other was hardened after opening and is shown in Figure 4.

Aside from those of parasitic origin, encephalic cysts occur as the residual stage of an absorbed clot, and it is presumable that porencephalia originates in this way—namely, as the result of an extensive hemorrhage in the infant brain. After similar hemorrhages in adult life cicatrization without cyst formation is more usual.

The variety of cyst which chiefly concerns us is that found in association with a glioma, and it is difficult at times to determine just what is its pathologic relationship to the primary tumor. Hemorrhages, as we know, frequently occur in the center of these vascular growths, and the cysts may possibly represent the site of such an extravasation. It apparently is exceptional, however, for such cavities to be disclosed in the process of this formation from a clot. It is more probable that the greater number of these cysts represent degenerative processes, for it is well known that there is a tendency for all gliomatous tissues to undergo fatty changes, with resultant breaking down and liquidation, so that sharply-defined, thin-walled cysts may result. In this particular case Dr. Welch, after examining the sections, expressed the opinion that the cyst represented a completely degenerated glioma. We have been unable to find any traces of the original tumor in its walls. It is unusual for the process thus to involve the entire growth, for one commonly finds one patch at least of the wall which remains thickened and shows viable tumor cells on microscopic examination.[5]

I have had an opportunity of seeing such a cyst presumably in the process of its formation. A suboccipital exploration in a young boy revealed a large glioma involving the middle portion as well as the right lobe of the cerebellum, removal of which was deemed impossible. Palliative decompression was resorted to. Six months later, after a period of marked improvement, the child suddenly and unexpectedly expired, presumably from medullary involvement. An autopsy a few hours after death revealed a large sac the size of an orange occupying the larger part of the cerebellum, which protruded under the cervical muscles through the generous suboccipital opening. The sac contained a semifluid, brown, grumous material. No macroscopic or microscopic evidence of the original growth could be found in the cavity of the cyst wall.

Sir Victor Horsley has referred to one or two remarkable cases in his own experience in which there seems to have been a similar sequence of events, and it is possible that in a number of our patients in whom symptoms of tumor have completely subsided for a number of years after palliative or decompressive operations a like metamorphosis may have occurred. In the patient whose history we have given here it may be recalled that for some years all pressure symptoms had subsided, leaving only the focal signs of irritation due to the position of the lesion near the "sensori-motor" cortex.

If these degenerative processes may be expected to occur, even though rarely, it adds one more argument in favor of the early performance of a decompressive craniectomy in every case of brain tumor. It strengthens, furthermore, the seemingly paradoxical statement which I have frequently made, that "the cases of brain tumor which are most favorable for operations are those in which the tumor can not be localized." In other words, when a tumor occupies a silent area—provided it does not lead to hydrops ventriculorum—all the symptoms may be relieved by decompression and the growth may remain quiescent for months or years—possibly it may even regress. When, on the other hand, a tumor is localizable, this often means that it has caused sufficient damage to leave the patient more or less physically or mentally crippled even though the growth be accessible and of such a nature that it can be removed. I do not desire, however, to have these statements interpreted too literally.

6. *The Second-Stage Operation Without Anesthesia.*—Although this undertaking, as Dr. Thomas has said, was premeditated, in consequence of our previous unfortunate experience in administering general narcosis to this patient we must confess to surprise at its successful accomplishment. Contrary to all expectations, the dura proved to be insensitive to such manipulations as were necessary to freely open it. Only when it was put under tension or displacement was any discomfort occasioned; otherwise it seemed to be absolutely free from sensitivity. The conditions were similar in many respects to those which are present in the visceral peritoneum, which, according to Lennander's as well as our own observations, seems to possess no sensory nerves, pain being occasioned only when the viscera are so dislocated as to put the parietal serosa under abnormal tension.

Before this experience, knowing that the dura receives its innervation from the trigeminal nerve, we had been inclined to the belief that it was a highly sensitized membrane, and in experimental observations on the lower animals the struggling and rise in blood pressure which commonly occur when the dura is reached in the act of trephining are usually attributed to the presence in the membrane of nerves of pain.

If the results of this single clinical observation can be relied on it is presumable that the reactions observed in the experimental work are due rather to dislocation of the membrane and its forcible separation from the skull—to dragging, in other words—rather than to the effect of direct injury such as an incision would occasion.

Further investigations in this direction are necessary, and it is possible that we may have to modify, in some respects, our ideas of what it is that causes intracranial pain, just as we have had to modify our ideas of what causes visceral pain in the abdominal cavity. I had always supposed that headaches were dural in origin, for the hemispheres themselves have long been known to be insensitive, but it was a new idea to attribute intracranial discomforts to dislocation of the membrane rather than to pressure on it. Thus the headaches in cases of brain tumor may be due, likely enough, to dislocation of the falx or tentorium by the growth rather than to pressure against the mural portion of the membrane.

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[5] A subcortical cyst showing this characteristic I have recently removed from a hemiplegic patient whose paralyses have cleared up even more rapidly than they did in the patient, the subject of this report. The cyst, measuring 7 by 5 by 4 cm. (2¾ by 2 by 1½ in.) in its several diameters, was removed intact. A patch about 2.5 cm. (1 in.) in diameter and 0.5 cm. (¼ in.) in thickness, on the side of the otherwise thin-walled cyst nearest the cortex, showed glioma cells. The fluid contents of the cyst were watery, clear and of a yellowish tinge.

To open the dura and remove a cerebral growth without an anesthetic was an experience which, so far as we knew, was unique, and the principle may possibly prove to be applicable to other cases.[6]

I have always dreaded a second-stage operation in cases of brain tumor, although this method of procedure is advocated, as is well known, by the highest authorities. I believe that one reason why the complete operation at a single sitting has been found inadvisable, in the hands of many, is the undue loss of blood which occurs during the process of forming an osteoplastic flap, or of otherwise entering the skull when rapid methods are followed and no tourniquet used. Painstaking hemostasis—one of the guiding principles of all surgical work in Dr. Halsted's clinic—should be observed in cranial as strictly as in other operations, and the fact that postoperative shock is a complication which is almost never seen is doubtless attributable to this custom. Possibly owing to this I have not been impressed by the arguments in favor of a two-stage operation, and it has been my custom to open the dura and if possible to remove the tumor at the first sitting—only twice in my ten cases of successful extirpation has a second-stage procedure been employed. Thus not only are the risks of a second anesthetization avoided, but also the period of anxiety for patient, friends and physician which is inevitable when the procedure is carried out in two sittings.

If it should prove to be possible, however, to carry out the second stage of an intracranial exploration without an anesthetic this would be a stronger argument for the two-stage procedure than the mere avoidance of shock. One paramount advantage, of course, would lie in the absence of such complications from cyanosis as have been described in the case here reported.

It was truly remarkable in this patient to find that the extensive manipulations which were essential to the removal of the tumor could be carried out while the patient was perfectly conscious, was chatting and was taking a lively interest in the progress of the operation. The complete freedom from venous stasis was all the more apparent, inasmuch as so much difficulty had been experienced during the four preceding sessions.

Since this original experience another opportunity has offered itself of conducting the second-stage of an extirpation operation in similar fashion without an anesthetic, and although in this second patient, owing to the extraordinary size and deep situation of the tumor, a complete enucleation proved to be impossible, the opening of the dura and partial extirpation of the growth showed the feasibility of procedure of this kind without anesthesia even in the case of a young child.

One thing I greatly regret not having done in the final operation (March 26, 1907) on the first patient, namely, to stimulate the exposed cortex while the patient—a particularly intelligent and interested subject—was conscious. The enucleation was carried out slowly and carefully, sufficient time being taken to allow Mr. Brödel to make a sketch showing the partly exposed cyst, and it would have taken but a few moments to have gone over the postcentral parts of the field with the electrode, especially since our orientation was assured owing to the detailed faradization of the motor strip on Nov. 27, 1906. It is quite possible that stimulation, particularly of the postcentral convolutions in a conscious patient, may throw light on the somewhat obscure localization of sensory function. This, however, can only be a conjecture, for it is notable that although the incision was made down to the tumor along the crest of the widened postcentral convolution—in other words, in the middle of the supposed sensory field—the patient experienced no subjective sensations whatever. It may, of course, be a different matter when this field is faradized.[7]

[Editor's Note.—This article was read and discussed in a symposium. The discussion will appear later.]

AMERICAN MINERAL WATERS;

IN THE LIGHT OF RECENT ANALYSES.

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NEW YORK.

Bulletin 91 of the Bureau of Chemistry, United States Department of Agriculture, relates to a recent chemical investigation of American commercial mineral waters. The waters examined by the government chemists are all found in the markets of the country and are recommended to the public in virtue of certain valuable mineral ingredients they are stated to contain, or on the score of their purity and freedom from harmful substances. Included in the analyses are many of the best known springs of the United States, some of which have long held a high place in the estimation of physicians. It is proper, therefore, that the results be given wide publicity and the essential facts reviewed.

Ranged in contrast with their own tables the bureau chemists present the analyses of the waters as hitherto advertised by the owners or managers of the springs, and upon which the medical men of the country have relied in judging as to their nature and value. Of the forty-two analyses, covering the waters of as many different springs, we find that twenty-one, or exactly one-half, agree essentially with those hitherto in use; ten show very considerable variations, but admit of fairly satisfactory adjustment. In four instances the owner's analyses were not obtainable, while in the case of seven springs the differences are totally irreconcilable, in several instances entirely eliminating the spring from the class to which it had been assigned by the confiding collator of mineral water facts and figures. For purposes of critical comparison I converted the analyses of twenty of the most prominent and best-known waters in the Bureau of Chemistry list from parts per million to grains per United States gallon, to conform to the method of expression most common in this country. These analyses are ranged in parallel columns with those hitherto in vogue. For convenience, the Bureau of Chemistry tables are set down under the head of "New Analysis," the advertised analyses are referred to as the "Old Analysis."

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[6] In his Toronto address (The Technic of Operations on the Central Nervous System: Brit. Med. Jour., Aug. 25, 1906, 484) Sir Victor Horsley emphasized the fact that profound narcosis is unnecessary except at the early and late stages of an intracranial operation; and the same thing is true for most intra-abdominal procedures, little anesthesia being needed while the viscera are being handled.

[7] Once, more recently, I have had the opportunity of making a single observation in this direction. In a simple case of subtemporal decompression for an unlocalizable tumor an emissary vessel from the meningeal was injured while rongeuring away the bone, and as it was beyond the reach of a ligature the wound was temporarily packed. The dura, consequently, was not opened until 48 hours later, at which time no anesthesia was needed for the completion of the operation. After making the dural defect the exposed right temporal lobe was faradized. When the electrode was applied to certain areas of the superior temporal gyrus the patient said that he heard a ringing sound which was distinguishable from the "buzz" of the interruptor. The observation is suggestive, though it would not be safe to draw too definite conclusions from it; for the conditions were abnormal owing to tension, and his mental processes were a little dull.

CHAMPION WATER, SARATOGA SPRINGS, NEW YORK.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. C. F. Chandler, 1871. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid	0.54	Calcium fluorid	trace
Potassium chlorid	5.90	Potassium chlorid	40.45
Sodium chlorid	262.65	Sodium chlorid	702.24
Sodium sulphate	1.71	Potassium sulphate	0.25
Potassium bromid	1.16	Sodium bromid	3.58
Potassium iodid	0.01	Sodium iodid	0.23
Sodium metaborate	small amt.	Sodium biborate	trace
Sodium nitrate	trace	Sodium phosphate	0.01
Lithium chlorid	0.31	Lithium bicarbonate	6.25
Sodium bicarbonate	10.31	Sodium bicarbonate	17.62
Magnesium bicarbonate	28.32	Magnesium bicarbonate	193.91
Calcium bicarbonate	81.81	Calcium bicarbonate	227.07
Barium bicarbonate	0.69	Barium bicarbonate	2.08
Strontium bicarbonate	trace	Strontium bicarbonate	0.08
Ferric oxid and alumina	0.07	Iron bicarbonate	0.65
Mangano-manganic oxid	trace	Alumina	0.46
Silica	0.71	Silica	0.70
		Organic matter	trace
Total	392.84	Total	1195.58

The remarkable discrepancy in these analyses, especially in quantitative determinations, would appear to indicate either that the Champion Spring had materially declined in strength in the last 36 years, or that it was suffering from a heavy ingress of fresh water at the time the government samples were collected.

VICHY WATER, SARATOGA SPRINGS, NEW YORK.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. C. F. Chandler, 1871. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid	0.05	Calcium fluorid	trace
Potassium chlorid	0.43	Potassium chlorid	14.11
Sodium chlorid	86.94	Sodium chlorid	128.69
Potassium bromid	trace	Sodium bromid	0.99
Potassium iodid	trace	Sodium iodid	trace
Sodium sulphate	1.73	Potassium sulphate	trace
Sodium metaborate	trace	Sodium biborate	trace
Sodium bicarbonate	48.56	Sodium bicarbonate	82.67
Magnesium bicarbonate	3.52	Magnesium bicarbonate	41.50
Calcium bicarbonate	8.71	Calcium bicarbonate	95.52
Ferric oxid and alumina	0.18	Iron bicarbonate	0.05
		Barium bicarbonate	0.59
Calcium silicate	1.60	Strontium bicarbonate	trace
		Organic matter	trace
Silica	0.11	Silica	0.76
Lithium chlorid	0.03	Lithium bicarbonate	1.76
		Alumina	0.48
Total	151.96	Total	367.32

It will be observed that the Bureau analysis shows about 60 per cent. less solid contents than is given by Professor Chandler. The proprietor of the spring writes me that the Saratoga waters fluctuate in volume and strength during the year. It is possible that the government analysis was made from samples taken during or just after a wet season when the water was more or less diluted. The Saratoga Vichy Springs Company sends the writer an analysis bearing date of April 17, 1907, by Professor Ellery, of Schenectady, in which the total solid contents of the spring are placed at 173.90 grains per United States gallon. It would appear probable that the water has suffered more or less decline in potency since the date of the old analysis.

CONGRESS WATER, SARATOGA SPRINGS, NEW YORK.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. C. F. Chandler, 1871. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid	1.77	Calcium fluorid	trace
Potassium chlorid	19.78	Potassium chlorid	8.05
Sodium chlorid	248.65	Sodium chlorid	400.44
Potassium iodid	0.05	Sodium iodid	0.14
Potassium bromid	2.32	Sodium bromid	8.56
Sodium sulphate	0.74	Potassium sulphate	0.89
Lithium chlorid	1.89	Lithium bicarbonate	4.76
Sodium bicarbonate	36.41	Sodium bicarbonate	10.77
Magnesium bicarbonate	97.14	Magnesium bicarbonate	121.76
Calcium bicarbonate	131.03	Calcium bicarbonate	143.40
Barium bicarbonate	0.77	Barium bicarbonate	0.93
Strontium bicarbonate	trace	Strontium bicarbonate	trace
Sodium metaborate	trace	Sodium biborate	trace
Sodium nitrite	trace	Sodium phosphate	0.02
Ferric oxid and alumina	1.21	Iron bicarbonate	0.34
Silica	1.14	Silica	0.84
		Alumina	trace
Total	542.90	Total	700.90

Professor Chandler's analysis here shows an excess of 158 grains over that of the Bureau of Chemistry. Of this 151 grains is represented by sodium chlorid. The remainder is more than made up by the excess of magnesium bicarbonate and calcium bicarbonate. It will be observed that the government analysis shows some 25 grains more of sodium bicarbonate than that of Professor Chandler. The differences are not essential, and, according to a letter from the proprietor to the Bureau of Chemistry, may have been caused by fresh water finding its way into the spring at the time the government samples were taken.

HATHORN WATER, SARATOGA SPRINGS, NEW YORK.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. C. F. Chandler, 1871. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid	2.19	Calcium fluorid	trace
Lithium chlorid	2.60	Lithium chlorid	11.45
Potassium chlorid	19.28	Potassium chlorid	9.60
Sodium chlorid	425.93	Sodium chlorid	509.97
Potassium bromid	0.40	Sodium bromid	1.53
Potassium iodid	0.12	Sodium iodid	0.19
Sodium sulphate	0.24	Sodium phosphate	trace
Sodium metaborate	trace	Sodium biborate	trace
Sodium nitrite	trace	Organic matter	trace
Sodium bicarbonate	12.81	Sodium bicarbonate	4.29
Magnesium bicarbonate	114.53	Magnesium bicarbonate	176.46
Calcium bicarbonate	179.70	Calcium bicarbonate	170.65
Barium bicarbonate	0.80	Barium bicarbonate	1.74
Strontium bicarbonate	trace	Strontium bicarbonate	trace
Ferric oxid and alumina	0.55	Iron bicarbonate	1.13
Silica	0.95	Silica	1.26
		Alumina	1.13
Total	760.10	Total	888.40

The chief discrepancy in these tables is represented by the excess of magnesium bicarbonate, lithium chlorid and sodium chlorid in Professor Chandler's analysis. It may be remarked here that samples of many other Saratoga water taken from their nearest outlets, the springs being walled up at the time, all showed on analysis by the government chemists a much smaller mineral content than those of Professor Chandler's analysis. It is possible that this loss is due, as has been suggested, either to the opening up of many new springs at Saratoga, resulting in the withdrawal of a much larger volume of water than formerly, or to the abstraction from the springs of the powerful solvent CO_2 gas, for use as the carbonic acid of commerce.

TATE EPSOM WATER, TATE SPRINGS, TENN.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. T. S. Antisell, Chemist to U. S. Dept of Agriculture, 1872. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid	trace	Magnesium chlorid	0.62
Sodium chlorid	0.12	Sodium chlorid	40.27
Lithium chlorid	0.03	Iron chlorid	2.99
Potassium chlorid	0.91	Potassium sulphate	1.54
Sodium sulphate	4.38	Sodium sulphate	8.50
Magnesium sulphate	34.71	Magnesium sulphate	32.91
Calcium sulphate	76.53	Calcium sulphate	106.66
Sodium nitrate	0.02	Nitric acid	0.02
Calcium bicarbonate	20.05	Calcium carbonate	21.56
Calcium silicate	0.24	Calcium phosphate	1.14
Ferric oxid and alumina	0.23	Sodium iodid	trace
Silica	1.13	Silica	2.70
Total	138.35	Total	272.91

These analyses, both made by chemists of the United States Department of Agriculture, show considerable difference in total solid contents as well as in individual components. Of the 134 grains representing the excess of solids in Professor Antisell's analysis, 86 grains are made up of lime salts, ingredients of comparative unimportance, and 40 grains of sodium chlorid. The chief constituent, magnesium sulphate, which gives the water its name and essential characteristics, is found in the two analyses in nearly equal quantities. There is, of course, a possibility that some of the constituents of the spring have undergone alteration during the 35 years since Professor Antisell's examination.

MISSISQUOI SPRING, SHELDON, VT.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. S. Dana Hayes, 1867. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid......	trace		
Lithium chlorid.........	trace		
Potassium chlorid........	0.20		
Sodium chlorid..........	0.12		
Sodium sulphate.........	1.43		
Sodium metaborate......	trace	Total solid contents shown by Prof. Hayes' analysis, 15.75 grains. Hypothetical combinations not figured out.	
Calcium phosphate......	trace		
Sodium nitrate..........	trace		
Sodium bicarbonate......	1.06		
Magnesium bicarbonate..	4.88		
Calcium bicarbonate....	9.88		
Ferric oxid and alumina..	0.12		
Mangano-manganic oxid..	0.03		
Calcium silicate.........	0.50		
Silica	2.23		
Total	20.40	Total	15.75

According to the government chemists' report, "The two analyses do not differ more than would be expected in the case of samples taken on widely separated dates."

BEDFORD MINERAL WATER, BEDFORD, PA.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Victor G. Bloede, Chemist, of Baltimore. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid......	trace	Ammonium chlorid......	0.02
Lithium chlorid.........	trace	Lithium chlorid.........	0.22
Potassium chlorid.......	0.53	Potassium carbonate....	0.38
Sodium chlorid	0.53	Sodium chlorid.........	0.72
Magnesium sulphate.....	39.79	Magnesium sulphate.....	32.54
Calcium sulphate.......	95.34	Calcium sulphate.......	107.80
Sodium sulphate........	1.68	Sodium carbonate.......	2.04
Calcium bicarbonate....	14.81	Magnesium carbonate...	6.06
Sodium metaborate......	trace		
Sodium nitrate.........	trace		
Sodium nitrite.........	trace		
Ferric oxid and alumina.	0.17	Ferric oxid and alumina.	0.16
Calcium silicate........	3.94		
Silica	0.08	Silica	0.35
Total	156.87	Total	150.29

These analyses agree very closely, both qualitatively and quantitatively.

BUFFALO LITHIA WATER, BUFFALO LITHIA SPRINGS, VA.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. Wm. P. Tonry. Maryland Institute, Baltimore. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid......	trace	Lithium bicarbonate.....	2.25
Lithium chlorid.........	trace		
Sodium chlorid.........	0.70	Sodium chlorid.........	4.92
Potassium chlorid......	9.44	Potassium carbonate....	29.30
Calcium bicarbonate.....	6.53	Calcium bicarbonate.....	14.96
Magnesium sulphate.....	1.83	Magnesium sulphate.....	0.88
Calcium sulphate.......	27.30	Calcium sulphate.......	33.06
Sodium sulphate........	4.60	Aluminum sulphate.....	9.07
Sodium nitrate.........	0.17	Organic matter.........	trace
Ferric oxid and alumina.	0.04	Iron bicarbonate.........	0.30
Calcium silicate........	0.37	Silica chlorid	1.87
Silica	1.83	Baryta bicarbonate....	1.75
Calcium phosphate..heavy	trace	Phosphoric acid.........	trace
Sodium nitrite.........	trace	Iodin	trace
Total	43.81	Total	98.36

It must be confessed that these analyses show a wide variation. Quantitatively, the excess in the older analysis is represented chiefly by the calcium salts, aluminum, lithium and sodium chlorid. The qualitative determinations likewise present a wide divergence. The minute amount of lithium shown in the government analysis would exclude the water from the lithia group. In reply to a letter the writer is informed by the proprietors that the Bureau of Chemistry analysis having been made from samples bought in the open market, it is possible that the examiners were imposed on with adulterated or fraudulent water. Court records show that Buffalo Lithia bottles have frequently been filled with spurious water. The proprietors state that they have relied implicitly on Profesor Tonry's analysis and have had no intention to deceive the profession. An entirely new analysis made at the springs would appear desirable.

GENEVA LITHIA WATER, GENEVA, N. Y.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. A. Auchie Cunningham, F. C. S. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid......	trace		
Sodium chlorid.........	19.16	Sodium chlorid	24.54
Potassium chlorid	0.44	Potassium chlorid.......	13.40
Lithium chlorid	0.03	Lithium bicarbonate.....	10.03
Potassium iodid.........	trace	Lithium sulphate.......	4.10
Sodium sulphate........	0.16	Sodium sulphate........	17.64
Magnesium sulphate.....	33.36	Magnesium sulphate....	83.13
Calcium sulphate.......	87.01	Calcium sulphate.......	18.75
Calcium bicarbonate.....	18.89	Calcium carbonate......	35.84
Sodium metaborate......	trace	Magnesium carbonate....	16.00
Sodium nitrate.........	trace		
Sodium nitrite..........	trace	Phosphoric acid.........	trace
Ferric oxid and alumina.	0.05	Iron carbonate..........	2.15
Silica	0.82	Aluminum sulphate.......	8.75
Calcium phosphate......	trace		
Total	159.82	Total	234.33

These determinations present wide variations in the most important ingredients, viz., in the sulphates of sodium and magnesium, the carbonate of magnesium, the salts of lithium, and in iron. The Bureau of Chemistry analysis verifies that of Professor Cunningham so far as to show that Geneva is a very useful water of the sulphated-saline-calcic class, but it should no longer be denominated or prescribed as a "lithia" water.

LONDONDERRY LITHIA WATER, LONDONDERRY, N. H.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. H. Halvorson. One U. S. gallon contains: Solids.	grs.
Sodium chlorid.........	0.03	Sodium chlorid.........	0.83
Lithium chlorid.........	trace	Lithium bicarbonate.....	7.29
Potassium chlorid........	0.26	Potassium sulphate.....	0.30
Sodium sulphate.........	0.65	Calcium sulphate.......	25.13
Ammonium chlorid......	trace	Aluminum sulphate.....	5.05
Sodium nitrate.........	0.23		
Sodium nitrite..........	trace	Organic matter.........	0.00
Sodium bicarbonate.....	0.42	Potassium carbonate....	18.33
Magnesium bicarbonate..	0.41	Magnesium carbonate...	7.53
Calcium bicarbonate....	2.14	Calcium bicarbonate.....	7.29
Ferric oxid and alumina.	0.02	Iron carbonate..........	1.85
Calcium silicate.........	0.07		
Silica	0.95	Silica	1.25
Total	5.18	Total	74.85

These tables are totally irreconcilable. The Bureau of Chemistry analysis shows a smaller mineral content than is found in many ordinary drinking waters. In a recent letter to the writer the present proprietors of the spring state that they have accepted and used in good faith the analyses of Professors H. Halvorson and R. Ogden Doremus made under a former management. Recently, however, they had had reason to suspect the inaccuracy of these analyses and have not used them in their advertising. The water is now recommended and sold simply on its merits as a natural water as it flows from the spring. Londonderry may be recommended as a safe and pleasant beverage, but no physician can correctly prescribe it as a "lithia" water.

POLAND WATER, SOUTH POLAND, ME.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. F. L. Bartlett, State Assayer and Chemist, 1879. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid......	trace		
Lithium chlorid...minute	trace	Lithium	trace
Sodium chlorid..........	0.26	Sodium chlorid..	0.47
Potassium chlorid.......	0.26		
Sodium sulphate	0.30	Potassium sulphate.....	0.18
Calcium bicarbonate....	2.67	Calcium carbonate......	1.36
Magnesium bicarbonate..	0.73	Magnesium carbonate...	0.31
		Iron carbonate.........	trace
Sodium nitrate.........	0.46		
Sodium nitrite..........	trace	Organic matter	0.28
Sodium bicarbonate.....	0.25	Sodium carbonate.......	0.09
Calcium phosphate......	trace	Calcium fluorid.........	trace
Calcium silicate.........	0.42		
Ferric oxid and alumina.	0.03	Alumina	trace
Silica	1.16	Silica	1.07
Total	6.54	Total	3.76

These two analyses show a difference in total solid contents of 2.78 grains per United States gallon, 1.31 of which may be accounted for by the excess of calcium bicarbonate in the new analysis, the remainder by the minute quantities of other ingredients evidently not looked for by the older analyst. These differences are unessential and are so regarded by the government chemists. Poland remains an excellent table water of the light alkaline-calcic class.

MANITOU WATER, MANITOU, COLO.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. Elwyn Waller. One U. S. gallon contains: Solids.	grs.
Sodium chlorid	17.58	Sodium chlorid	23.94
Ammonium chlorid	trace		
Potassium chlorid	7.89		
Lithium chlorid	0.08	Lithium carbonate	0.71
Sodium bicarbonate	69.20	Sodium carbonate	40.65
Magnesium bicarbonate	27.65	Magnesium carbonate	16.68
Calcium bicarbonate	107.56	Calcium carbonate	69.08
Ferrous bicarbonate	0.33	Iron oxid	0.02
Potassium bromid..faint	trace	Potassium sulphate	10.68
Sodium sulphate	18.80	Sodium sulphate	11.14
Sodium metaborate..small	amt.		
Mangano-manganic oxid.	0.14	Alumina	0.07
Silica	2.54	Silica	2.49
Total	251.77	Total	175.47

The Bureau of Chemistry analysis evidently is made from a sample of the big Soda Spring at Manitou, and it is with Professor Waller's analysis of that spring that we have made the comparison. The later analysis shows an increase in the iron, calcium, magnesium and sodium bicarbonates, but a small diminution in lithium and sodium chlorids. The new analysis shows a slightly stronger water than does the old, but we may agree with the bureau chemists that the two analyses correspond quite satisfactorily.

DEEP ROCK WATER, OSWEGO, N. Y.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. Silas H. Douglass, University of Michigan. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid	0.01	Magnesium chlorid	10.24
Lithium chlorid	trace	Calcium chlorid	18.19
Potassium chlorid	0.40	Potassium chlorid	149.08
Sodium chlorid	112.98	Sodium chlorid	308.18
Sodium sulphate	3.32	Sulphuric acid	trace
Calcium phosphate	trace		
Calcium bicarbonate	3.08		
Magnesium bicarbonate	1.21		
Sodium nitrate	0.70		
Sodium nitrite	trace		
Sodium bicarbonate	12.58		
Ferric oxid and alumina.	0.02	Iron protoxid	trace
Silica	0.61	Silica	71.70
		Loss	1.78
Total	135.00	Total	559.17

The difference between these two analyses is very remarkable, that of the Bureau of Chemistry showing a falling off of more than 75 per cent. This great reduction is represented chiefly by sodium chlorid, 195 grains; silica, 71 grains, and potassium chlorid, 148 grains. This loss is partially compensated by the presence in the government analysis of the more useful ingredients, sodium sulphate, sodium bicarbonate and a minute quantity of lithium. The new analysis transfers the water from the saline-silicious to the more valuable saline-sodic-carbonated class of waters. In a recent letter to the author the manager of the spring states that as the government analysis was made from a sample bought in the open market he cannot vouch for its correctness. He sends an anaylsis of the spring, made in 1899, by George Archbold, A.M., M.D., Ph.D., in which the total solid contents of the water are placed at 201.67 grains per United States gallon. This analysis bears a much closer resemblance to that of the Bureau of Chemistry than to the older one of Professor Douglass.

ALLOUEZ MINERAL WATER, GREEN BAY, WIS.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. W. W. Daniels, Wisconsin State University, 1888. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid	trace		
Lithium chlorid	trace		
Sodium chlorid	1.60	Sodium chlorid	4.26
Magnesium chlorid	0.99		
Magnesium sulphate	4.27	Sodium sulphate	3.46
Calcium phosphate	trace	Calcium sulphate	0.11
Sodium nitrate	2.11	Sodium phosphate	trace
Magnesium bicarbonate	8.41	Magnesium bicarbonate	27.53
Calcium bicarbonate	18.43	Calcium bicarbonate	24.69
Potassium chlorid	0.17	Potassium sulphate	0.12
Ferric oxid and alumina.	0.07	Iron bicarbonate	0.06
Calcium silicate	1.50	Alumina	0.17
Silica	0.45	Silica and insoluble residue	1.97
Total	38.00	Total	62.37

Alllouez still may be regarded as an alkaline-saline-calcic water, although the Bureau analysis shows a marked falling off from that of Professor Daniels. The reduction is represented criefly by the bicarbonates of magnesium and calcium. It is partly compensated by the sulphate of magnesium in the new analysis.

In reply to a letter addressed to the spring company inquiring as to the possible causes of the discrepancy of the two analyses, the manager states that dishonest middlemen refilled Allouez bottles all over the country. This procedure is easily effected by replacing the crown cap after refilling the bottle. They are endeavoring to safeguard the water by covering the cap with strips. It is possible that the government chemists examined a diluted or adulterated sample.

GREAT BEAR WATER, FULTON, N. Y.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Dr. William Manlius Smith, 1890. One U. S. gallon contains: Solids.	grs.
Magnesium chlorid	0.73	Magnesium chlorid	0.47
Lithium chlorid	trace		
Potassium chlorid	0.18		
Sodium chlorid	1.01		
Ammonium chlorid	trace		
Magnesium sulphate	0.89	Calcium sulphate	0.72
Sodium nitrate	0.70	Sod. and Potass. carb.	trace
Sodium nitrite	trace		
Magnesium bicarbonate	1.61	Magnesium carbonate	1.25
Calcium bicarbonate	7.25	Calcium carbonate	3.50
Ferrous bicarbonate	0.06		
Silica	0.56		
Total	12.99	Total	5.94

This is one of the few instances in which the Bureau analysis presents a larger solid content than does that used in advertising the water. Great Bear, however, is recommended simply as a table water. It loses no caste as a result of the government examination. It may, in fact, be regarded as somewhat improved.

CROCKETT ARSENIC-LITHIA WATER, SHAWSVILLE, VA.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Prof. Henry Froehling. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid	trace	Ammonium nitrate	trace
Potassium chlorid	0.60	Sodium chlorid	1.23
Lithium chlorid	trace	Lithium carbonate	0.07
Magnesium bicarbonate	1.74	Magnesium carbonate	1.18
Calcium bicarbonate	13.46	Calcium carbonate	5.90
Sodium metaborate..small	amt.	Barium carbonate	trace
		Strontium carbonate	0.09
		Copper carbonate	trace
		Lead carbonate	trace
		Zinc carbonate	trace
		Manganese carbonate	trace
Potassium sulphate	0.17	Potassium sulphate	1.25
Sodium sulphate	3.09	Sodium sulphate	1.86
Magnesium sulphate	4.59	Magnesium sulphate	3.04
Di sodium arseniate	0.19	Sodium arseniate	0.02
Calcium silicate	0.52	Calcium sulphate	2.25
Ferric oxid and alumina.	0.06	Iron sulphate	0.04
Potassium iodid	trace	Sodium iodid	trace
Sodium nitrate	0.02	Sodium bromid	0.01
Sodium nitrite....heavy	trace	Aluminum phosphate	trace
		Aluminum silicate	0.12
Silica	2.53	Silic acid	1.29
Total	26.97	Total	18.35

The government analysis is a little stronger, quantitatively, but not so rich in a qualitative sense as that of Professor Froehling. The slight increase in lime salts in the new analysis covers the quantitative differences. On the whole, the two tables agree as well as could be expected. The Crockett water suffers no deterioration from the re-examination. The water may properly be termed a light sulphated-saline-arsenical water, but the designation of "lithia" ought to be dropped, as it would require at least 75 gallons of the water to yield one moderate dose of that drug.

BLUE LICK WATER, BLUE LICK SPRINGS, KY.

New Analysis. Bureau of Chemistry. One U. S. gallon contains: Solids.	grs.	Old Analysis. Dr. Robert Peter. One U. S. gallon contains: Solids.	grs.
Ammonium chlorid	0.13		
Potassium chlorid	7.72	Potassium chlorid	1.39
Magnesium chlorid	40.55	Magnesium chlorid	32.39
Sodium chlorid	400.43	Sodium chlorid	512.85
Calcium chlorid	10.12		
Potassium bromid	1.97	Magnesium bromid	0.24
Potassium iodid	0.01	Magnesium iodid	0.05
Calcium sulphate	27.00	Calcium sulphate	33.99
Lithium chlorid	0.43	Potassium sulphate	8.93
Sodium metaborate	small amt.	Magnesium carbonate	1.36
Calcium bicarbonate	31.61	Calcium carbonate	23.65
Sodium nitrate	0.16		
Sodium nitrite	faint trace		
Calcium phosphate	faint trace		
Mangano-manganic oxid.	0.21	Silicic acid	1.10
Ferric oxid and alumina.	0.08	Alum, lime phosphate, iron oxid	0.36
Silica	1.05	Loss.	17.72
Total	522.34	Total	634.03

It is not stated by the government chemists whether their samples were taken from the Upper or Lower Blue Lick Springs. The Blue Lick waters are all of the same class, but, as the bureau analysis resembles rather more closely the advertised analysis of the Lower springs, we have selected that for comparison. An examination was made of this water many years ago by Dr. Robert Peter, the state geologist. A careful comparison of the two tables shows a reasonably close agreement. The quantitative discrepancy of the analyses is covered by the loss in sodium chlorid in the government determinations. The Blue Lick water remains an excellent example of the sulphated-saline class.

It is now well known that mineral waters possess no mysterious or occult virtues in the treatment of disease. No mineral water will be accepted by the medical profession for alleged medicinal properties supported only by testimonials from bucolic statesmen and romantic old ladies. In these days of twentieth century exactness, it might almost be said that the most important thing about a mineral water is a trustworthy analysis. It is only by this that the practitioner is able to decide as to its merits and to prescribe it intelligently. It is, therefore, a matter of keen disappointment to learn by these new analyses how much mistaken we have been in regard to the chemical constitution of some of our best known waters. Let us not, however, be too hard on the spring proprietors. There is very little evidence pointing to intentional fraud; it can not be doubted that the present owners themselves have, in more than one instance, been deceived by analyses handed down from their predecessors. In forming conclusions in reference to the extremely unsatisfactory state of affairs developed by the Bureau of Chemistry investigations certain facts come up for consideration:

1. A great majority of the advertised analyses of our mineral waters were made many years since when methods were not so exact as they are at the present day.

2. Some mineral springs are sensibly influenced by the wetness or dryness of the season, both in strength and in volume; the greater the volume of the water the weaker it is in mineral ingredients; examinations of such springs at different stages would undoubtedly yield dissimilar results.

3. While many springs are of deep origin and show no apparent fluctuations in their rate of flow, we have no positive proof that even these have not become more or less modified in character during the long period since the old analyses were made. The subterranean aqueous current, which constitutes a spring when it reaches the surface, can not be counted on continuously to come in contact with earth strata which yield a uniform product to its solvent power. Underground streams, as well as those on the surface, are liable to change their course, and, while losing certain of their former contents, may acquire new ones.

4. The fact must not be overlooked that the government analyses were made in each case from samples purchased in the open market. It is, therefore, possible that some of the waters examined by the bureau chemists were spurious or adulterated.

5. The chemical ingredients set forth in the tables of contents of mineral springs represent hypothetical combinations only. No chemist maintains that the salts he sets down in his analysis exist in exactly that form in the water. He ascertains by his tests the various acid and basic ions existing in the water, and, as nearly as possible, in what amounts. He then reasons that they unite to form the salts which go to make up his hypothetical table of contents, which is presented as the analysis. It is hardly conceivable that any two chemists separately examining a specimen of spring water taken from its source, even at the same moment, would reach exactly the same result in stating the theoretical combinations. How much greater discrepancy might reasonably be expected in the case of analyses separated by periods of 30 or 40 years!

With all due allowance for the above considerations, however, it must be confessed that we are in a state of inexcusable ignorance regarding the chemical constitution of many of these agents. Mineral water therapeutics must remain in a backward and unsatisfactory state until this is remedied. All of our medicinal springs should be submitted to analysis at least once in ten years until we are able to arrive at a correct estimate of their potency, and whether they are gaining or losing in strength. No enterprising mineral spring proprietor, animated by a desire to put forth a reliable product, can object to the expense, repeated at intervals so widely separated. The decennial revisions of our works on materia medica and pharmacy should present a brief account of the mineral waters conforming to ethical rules, so that the medical practitioner may be in possession of as authentic and authoritative a source of information regarding these as he has in case of other therapeutic agents.

46 West Eighty-fourth Street.

Bier's Hyperemia in Bone Tuberculosis.—S. H. Westman, in *Dominion Medical Monthly*, states that this method of treatment of tuberculosis of bones and joints does not take the place of radical methods, where these are indicated, but it does lessen the frequency of severe surgical measures. In the great majority of cases it is pleasant for the patient, it relieves pain, it allows him use of the limb, it is easily applied and can be used by the physician himself, and, lastly, it affords a complete cure, with the best functional result.

THE OATMEAL DIET IN THE TREATMENT OF DIABETES MELLITUS.

JAMES B. HERRICK, M.D.

CHICAGO.

In 1903 Carl von Noorden[1] advocated the use in certain cases of diabetes of a diet consisting of oatmeal, butter and a vegetable albumin. This method of treatment is commonly referred to, briefly, as the oatmeal treatment—Haferkur. To judge from the paucity of reports from German and other clinics, von Noorden's claims for the diet are generally viewed either with indifference or skepticism. This paper will attempt to show what the diet is, the method of its use, the claims made for it by von Noorden, and how far these claims seem justified by the experience of others, including that of the writer.

The Diet.—The diet consists of 250 grams of oatmeal, 250 to 300 grams of butter and 100 grams of some vegetable albumin, such as roborat. For this latter substance, six to eight eggs—or the whites of the eggs—may be substituted. The oatmeal is cooked thoroughly with water for about two hours, the butter and eggs are well stirred in when the oatmeal is nearly "done." Or the whites of the eggs may be well beaten and stirred in after the cooking has stopped or even when the oatmeal is cold. Salt is added to suit the taste. This constitutes the food for one day for an adult. It is given in from three to eight portions, von Noorden advising feeding every two hours. He occasionally permits a small amount of clear coffee or a few sips of sour wine with some of the meals, to relieve the monotony. The oatmeal may be served as a rather thin soup or gruel, as a thicker mush or, as I have lately done, as fried mush.

Von Noorden's Claims.—The claims made are that in many cases of the severer types of diabetes, especially those in which the ordinary strict diabetic diet is failing to rid the urine of sugar, and when the persistence of the acetone bodies in the urine and the presence of suggestive symptoms make one fear that coma is impending, the use of this diet will cause a remarkable lowering in the amount of sugar passed and a disappearance of the acetone bodies. Subjectively, the patients are better. And, again, an advantage is seen in that an increased tolerance for carbohydrates develops and an amount of starchy food that before would have caused an increase in the thirst and saccharine polyuria, is now ingested without these unpleasant results, but with apparent benefit in the way of increase in weight and strength. The warding off of threatening coma and aid in establishing a carbohydrate tolerance are, therefore, the chief claims made for the diet.

Selection of Suitable Cases.—It is to be understood that no claim is made that the milder forms of diabetes, such, for example, as are commonly seen in the adult obese, are benefited. These patients may be made worse. It is in the severer forms, where emaciation, weakness, polyuria and glycosuria persist in spite of careful diet and where a study of the urinary content in acetone, diacetic and oxybutyric acids and ammonia shows acidosis with threatening coma that the diet has its greatest field of usefulness. And even here it is not to be looked on as infallible. In some cases it fails absolutely. In others it rids the urine of sugar and the acetone bodies, wards off coma, but no great degree of tolerance is established; in the most favorable cases the urinary signs of acidosis disappear, tolerance is established, and a great improvement results in the general condition of the patient. It is to be noted, therefore, and expressly emphasized, that the diet is not one for indiscriminate use, and that selection of cases and individualization is essential. Unless this is remembered not only will there be great disappointment at results but there may be harm done, milder cases being made worse.

Resumption of Ordinary Diet.—The diet is to be maintained for one to two weeks. The resumption of the ordinary diabetic diet should be gradual. If too abrupt, increase in sugar and symptoms of coma may follow. I have usually followed the plan of cutting out one of the regular oatmeal meals and substituting for it, say, a cup of broth with an egg and some green vegetable, such as celery or lettuce. The next day the oatmeal is omitted twice and a little beefsteak or fowl is allowed, with, perhaps, some salad, spinach or cabbage. Gradually the return to the ordinary diabetic diet is accomplished, enough, however, of the oatmeal being retained to furnish a fair amount of carbohydrate. Then, feeling one's way, an occasional potato is added, sour fruits and, cautiously, perhaps a little bread, the urine being watched carefully all the time and close tab kept on the weight. The patient is thus gradually brought back to a strict diabetic diet, i. e., a proteid and fat diet with an amount of carbohydrate sufficient, if possible, to guard against acidosis and yet not sufficient to produce marked glycosuria. This can be accomplished very well in some cases; in others one must be content to see the patient hold his own in weight, pass urine free from diacetic acid, though it may contain, daily, a few grams of glucose. The important point, after all, is not so much whether the patient is passing sugar in the urine, as whether there is gradually accumulating in the body an excess of acid robbing it of its alkali, acting as a toxin, and whether the output of sugar, the daily loss of energy through the urine, is compensated for by a sufficient intake of food that is properly utilized.

Now, the oatmeal diet contains in round numbers 3,200 calories, fat 2,050, proteid 400, carbohydrate 775. The diet is sufficient, therefore, for an ordinary man, not over-active; sufficient to maintain bodily functions and even to allow for some loss in the way of sugar in the urine. In fact, without the oatmeal there is, perhaps, a sufficiency of heat units.

Objections to the Diet.—Objections to this diet have been urged. In the first place, it is not, to put it mildly, over-appetizing, and there may be difficulty in getting patients to try the diet at all or to continue it for two weeks. My first experience in prescribing it was far from encouraging. A lady of about fifty, reduced in weight to sixty-eight pounds, intellectually bright and intelligent, with a diabetes of a malignant type and progressing in spite of the utmost care in the dietetic and other management, said to me, after taking one or two meals of the von Noorden diet: "Doctor, I will die before I will taste another spoonful of that oatmeal mush." I may add that she had her way about it. In general, however, I have experienced little difficulty in putting patients on the oatmeal diet and in keeping them there for from one to two weeks.

In a few instances only, an early loathing of the food has occurred or a nausea and vomiting, making it necessary to stop sooner than planned or to cut out a few of the meals, substituting some non-carbohydrate food in their place. And in some cases the addition to the oatmeal diet of a little clear coffee, sour wine or something green, like celery, lettuce or spinach, has relieved the monotony and overcome the anorexia, nausea or vomiting.

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[1] Haferkuren bei Schwerem Diabetes Mellitus, Berl. klin. Wochschr., No. 36, 1903.

A hint that has proven valuable was given me by a physician who was under my care for diabetes. He suggested that the oatmeal might be more palatable if it were made into balls like meat-balls or sausage cakes and then fried just enough to brown the outside a little; if it were, in other words, prepared after the manner of fried mush. The taste of the burnt or browned coating is rather pleasant and makes the food far more palatable than when it is served either as a rather thick mush or as a thinner soup or gruel. A little explanation to patients as to what one hopes to accomplish by the diet, thus securing their intelligent cooperation, is a valuable adjunct to the successful carrying out of the plan. It is often much more satisfactory to treat the patient in the hospital than at his home or in one's office. The objection, therefore, that the diet is intolerably unpalatable is met by care in the preparation and manner of administering the food, by securing the cooperation of the patient, as well as by the fact that experience shows that most patients can and do take this food for many days without complaint.

A second objection that the large amount of fat might increase the acetonuria is met by the clinical fact, supported by many observations, that the exact opposite happens, the amount of acetone distinctly lessens.

Again, the feeding of 250 grams of oatmeal, representing 150 grams of carbohydrate starch, would seem at first blush absolutely irrational and destined to aggravate the difficulty in every way. The answer again is that in these selected cases of the severer type the exact opposite occurs, the sugar diminishes in quantity, the acetone bodies are reduced in amount, thirst and polyuria are markedly lessened, there is an increase in weight and strength and a general feeling of well-being.

Explanation of Action of the Diet.—The explanation for all this is not easy. That a too rigid exclusion of carbohydrates may lead to acidosis and coma is a matter of common knowledge. Possibly the starch of the oatmeal may furnish the oxygen molecule that is needed for the process of oxidation by which the oxybutyric acid is converted, in turn, into diacetic acid, acetone, and finally into water and carbonic dioxid, this molecule of oxygen in the oatmeal being perhaps rather loosely bound or for some other reason easily available. The oatmeal, therefore, causes prompt increase in the oxidative process just referred to, with corresponding reduction in the acidosis with its urinary evidences.

Why sugar is not increased in amount is not known. Are all starches alike? Are the starches from rice, potato, wheat, rye, oatmeal, etc., identical chemically and structurally, and is their metabolic change in the body always one and the same chemical process? Mosse[2] accomplished remarkable results in diabetes by a potato diet; Dühring by a rice diet. Will the use of a single kind of starch or other carbohydrate be better tolerated than a mixing of the varieties? Or may it be, as von Noorden suggests, that one kind of starch, e. g., oatmeal starch, is better tolerated than another? Certain it is that in some of these cases of diabetes, undergoing treatment by the oatmeal diet, one can not indiscriminately and abruptly substitute another carbohydrate, such as cane sugar or wheat starch, for the oatmeal. A prompt rise in the glycosuria is the result. These facts suggest interesting fields for investigation along the line of physiologic and clinical chemistry. That the oatmeal does not pass through the body unchanged is shown by the investigations of Lipetz from Naunyn's clinic, to be referred to later on.

Practical Results.—Von Noorden, in 1903, had an experience with this diet in about one hundred cases, reaching the conclusions already cited. He gives the histories of five patients representing various types from the standpoint of this diet.

Case 1.—A boy of 18, on ordinary strict diet, passed daily 50 grams of sugar with acetone and diacetic acid. On the oatmeal diet the sugar disappeared, as did the diacetic acid; the acetone was represented by only the normal amount. There was an increase in weight. On gradual resumption of ordinary diet it was found that tolerance had been established, sugar not reappearing in the urine.

Case 2.—Age 20. Coma seemed imminent. On oatmeal, coma averted, sugar reduced from 100 grams daily to less than 5 grams. Gain in weight. Yet tolerance not established for sugar again present in urine when ordinary diabetic diet is resumed. Net result, averting of coma and improvement in general condition.

Case 3.—On oatmeal diet sugar greatly reduced and general condition as to strength, weight, etc., much improved, yet sugar never disappeared from urine.

Case 4.—No influence on sugar output or on acetone bodies. Tolerance not established.

Case 5.—Light case of diabetes, not tolerating oatmeal diet as well as ordinary diabetic diet. "Light cases without diaceturia, according to my experience, tolerate the oatmeal treatment poorly and show a lessened tolerance if the diet is persisted in for a long time" (Noorden).

Sigel,[3] from Ewald's clinic, concludes that the oatmeal diet is a valuable therapeutic agent. His first case is instructive.

A patient of 33 years, on a carbohydrate-free diet, passed daily 50 to 70 grams of sugar. Bicarbonate of soda did not influence the output of sugar or acetone. After a week of oatmeal the sugar was 16 grams. Then peameal was used instead of oatmeal, and the sugar rose to 74 grams. Then on ten days of oatmeal it dropped to 4 grams. The patient was then gradually brought back to the ordinary diabetic diet, containing, however, considerable oatmeal gruel. Sugar was passed in amounts varying from 20 to 40 grams a day, but there was a distinct gain in general bodily condition and the acetone bodies were absent from the urine. An interesting feature of this case, and one seeming to point toward an essential difference between the starches as found in various foods, is the intolerance of this patient for the peameal and the tolerance for oatmeal.

In a discussion of Dr. Tyson's paper, read before the Section on Pharmacology and Therapeutics of the American Medical Association, 1907, Dr. G. M. Linthicum, of Baltimore, cites a case that he had treated in which a diabetes of a malicious type, in a boy of 8 years, was checked, at least temporarily, by the oatmeal diet, though it had resisted the restricted diet and drugs.

Not all observers report favorably on this method of treatment. Lipetz,[4] from Naunyn's clinic, seems convinced, *a priori*, that there is something wrong about the paradoxical statement that such a large amount of carbohydrate as 250 grams of oatmeal can be given to a diabetic and the sugar not increase but actually disappear. He investigated to see whether the starch was absorbed, whether the patients were not in reality living solely on the fat and proteid of the diet. He convinced himself that the starch does not pass through the alimentary tract unchanged. He suggests the possibility that through intestinal bacterial action the oatmeal is changed into some form—lower fatty acids and oxyacids—that when absorbed is incapable of transformation into sugar, perhaps even in some way lowering the sugar output. An increased number of bacteria in the stool of some patients who were on the oatmeal diet favors, he thinks, this hypothesis. His practical results—the treatment, as it seems to me, not carefully carried out nor for a long enough time—are not as favorable as von Noorden's. He has seen acidosis lessen and glycosuria diminish, but finds no permanent improvement and no advantage over the ordinary diets. In coma the main reliance is placed on heavy doses of alkalies. He attributes the good results of the oatmeal treatment to the fact that in spite of a rich carbohydrate intake little or no carbohydrate is absorbed as such. Whether the absorbed products of fermentation of the carbohydrate exercise a specific action he can not decide, for he rather contradictorily remarks, he has never had a good result.

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[2] Rev. de Méd., xxii, p. 107, 1902.

[3] Berlin klin. Wochschr., No. 1, 1904, p. 19.

[4] Zeit. f. klin. Med., lvi, 1905, p. 188.

Magnus-Levy,[5] in discussing Langstein's paper, spoke rather disparagingly of this treatment, saying that in severe cases he has had none too happy results. Langstein[6] from an experience with children in Heubner's clinic has been favorably impressed with this treatment; he believes that the oatmeal diet brings about results that can not be obtained with other carbohydrate.

Mohr[7] says he is firmly convinced that with the oatmeal diet good results are often obtained. In the same discussion Hirschberg emphasizes the value of this diet in lessening acidosis, though he has seen failures because of the inability of the patient to ingest the food for any great length of time.

Personal Experiences.—My own experience with this method of treatment can not be stated statistically. An early intense skepticism as to the power of the stomach to tolerate twenty to fifty monotonous and far from tempting meals, an inability to understand the disappearance of sugar from the urine when such large amounts of starch were fed, and a failure to grasp the explanation of the paradox that the severe case is made better while the mild case is made worse by the same treatment have yielded when the trial has been made. Yet the wonder at it all still remains. Explanations as to how this is brought about are far from satisfactory. The carbohydrate that may be compared to a poison for some mild diabetics has a helpful effect on the severer forms, in which forms it would seem to have its harmful influence counteracted by some substance, perhaps the acid bodies, and these substances in turn, also toxic, have their baneful effects neutralized by the carbohydrate, i. e., they seem mutually antagonistic or antidotal.

CASE 1.—A man, 37 years of age, with neuralgic pains in his back and legs and local symptoms due to a small ischiorectal abscess, was unaware that he had diabetes. Symptomatically, the case was a mild one, there being little or no complaint of great weakness, and no known loss of weight from his normal 130 pounds. Inquiry elicited the fact that he had for several years drunk water freely, at times one or two glasses an hour, and was subject to boils. Polyuria was not noticed. Examination of the urine, Jan. 1, 1906, showed 6 per cent. of sugar in the 1,800 c.c. of urine; i. e., 108 gm.; sp. gr. 1.040; diacetic acid present. The table shows, in brief, the result of the treatment:

Date. 1906.		Diet.	Amount of Urine, c.c.	Specific Gravity.	Amount Sugar, gms.	Diacetic Acid.
January	1.	Full ward diet..........	1800	1040	108	+
January	3.	Ordinary diabetic non carbohydrate diet with two slices of bread daily...	......	......	....	....
January	7.	Ordinary diabetic non-carbohydrate diet with two slices of bread daily...	2300	1038	115	?
January	9.	Ordinary diabetic non-carbohydrate diet with two slices of bread daily...	1400	1030	98	0
January	11.	Oatmeal diet...........	......	......	....	....
January	18.	Oatmeal diet...........	1200	1032	8.4	0
January	19.	Oatmeal diet...........	......	1020	2.0	0
January	20.	Oatmeal diet...........	......	1025	1.5	0
January	21.	Oatmeal diet with meat once daily, coffee once a day; celery, lettuce and cabbage.	......	1022	1.5	0
January	22.	Oatmeal diet with meat once daily, coffee once a day; celery, lettuce and cabbage.	650	1020	0	0
January	23.	Oatmeal diet with meat once daily, coffee once a day; celery, lettuce and cabbage.	770	1015	0	0
January	24.	Oatmeal diet with meat once daily, coffee once a day; celery lettuce and cabbage.	800	1015	0	0
January	28.	Oatmeal, two or three times a day, with proteids and fats more freely.	......	......	0	....

This is one of the cases in which, though the type was apparently mild, the result of the diet was favorable. The doubtful Gerhardt reaction, it will be noted, had disappeared from the urine on the ordinary diabetic diet.

CASE 2.—Mrs. M., 62 years old, fleshy. Psoriasis for two years. First noticed thirst three years ago. Comes for treatment for constipation; mucus in stools; vague abdominal and general pains. In the oatmeal diet the sugar was reduced from 106 gms. to *nil*.

Here, again, a case of moderate severity shows a favorable result, both in the elimination of sugar from the urine and in an increased tolerance.

CASE 3.—In a male of 66 years, with a diabetes of mild type that had existed for six to seven years, the small amount of sugar, less than 2 per cent., disappeared under the von Noorden diet, but the patient left the hospital with a trace of sugar that appeared when the ordinary diabetic diet was resumed.

CASE 4.—Within a month, in a long standing diabetes of the mild type, the oatmeal diet has slightly reduced the small amount of sugar (40 gm.), but has not caused its disappearance.

In several office patients suffering from mild diabetes I have tried this plan of treatment without producing any marked effect on the glycosuria. In my cases, therefore, of the mild type, the oatmeal diet has occasionally caused a prompt disappearance of sugar from the urine and has seemed to be of service in establishing tolerance; in other cases sugar has promptly reappeared when other food has been added to the dietary, i. e., no tolerance has been established; in still other cases no impression has been made on the disease. So far, however, I have seen no evil result from the use of this diet, even in the milder cases that von Noorden classes as unsuitable for this plan of treatment.

CASE 5.—A man, aged 51 years, had passed sugar almost constantly for about three years. Thirst and polyuria had, at times, been extreme. He was greatly emaciated and very weak. Ordinary diabetic diets had been tried, but there had been little or no improvement. On the oatmeal diet, the sugar entirely disappeared in eight days, the urine became normal in amount and specific gravity. A moderate tolerance was established, so that on cautiously adding bread and potatoes to the ordinary diabetic diet no sugar appeared for a time and there was a gain of 4 pounds in weight. The patient expressed himself as feeling better than since his diabetes began. Sugar, however, appeared when a fuller diet was taken, and to-day, while the patient is able to be actively at work, he notices neuralgic (neuritic?) pains, is somewhat weak and is 8 pounds lighter than after the Noorden diet. Another oatmeal course would probably be of benefit.

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[5] Deutsche med. Wochschr., No. 12, 1905.
[6] Deutsche med. Wochschr., No. 12, 1905.
[7] Mohr in discussion of Langstein's paper. Ibid.

Case 6.—A man, of 58, consulted a surgeon, in 1903, for a carbuncle on the back of the neck. Sugar was found in the urine and only partially disappeared under a non-carbohydrate diet. This fall, 1907, the patient again returned because of a sluggish ulcer of the foot. He was weak, greatly emaciated, thirsty, and was passing 75 gms. of sugar a day. I advised the oatmeal diet, with the result that the sugar was reduced in four days to 3 grams. Mere traces were present during the next two weeks, though he was gradually brought back to a proteid and fat diet, some oatmeal and potato also being allowed.

Case 7.—In a male of 42 in the County Hospital with marked polyuria, emaciation, asthenia and excessive thirst, there was always, even under a strict diabetic diet, over 4 per cent. of sugar. On one examination the interne reported 12 per cent. Acetone and diacetic acid were present. There was, in addition to the diabetes, a complicating apical tuberculosis. The patient was losing ground rapidly. On the oatmeal diet the urine decreased in quantity from 3,800 c.c. to 2,000 c.c., and the sugar and acetone bodies disappeared. Four weeks later and after ordinary diet had been taken for several days, he succumbed to an acute pulmonary edema (acute miliary tuberculosis?).

Case 8.—E. D. M., 42 years old, an alcoholic, was admitted to the Cook County Hospital because of a foot-drop from neuritis, presumably diabetic in origin. He developed also an ischiorectal abscess that was treated surgically. Emaciation and weakness were marked, and to judge from the symptoms, diabetes had existed four months and had been progressing rapidly. The urine at one time amounted to 7,830 c.c., and sugar 313 gms. per day. Diacetic acid was abundant. On rather large doses of codein, heroin, antipyrin and bicarbonate of soda, all given at the same time, with a proteid diet, to which a little white bread was added, there was a marked improvement, the sugar being reduced to 22 gms. But in a few days it went up to 52 gms. November 6, 1907, I suggested a trial of the von Noorden diet. The urinalysis of November 9 is 2,000 c.c.; sp. gr. 1.014; no sugar. This was the first time in four weeks that no sugar had been found. For three weeks, and though ordinary diabetic diet has been resumed, there has been no sugar found, or only very small amounts. Diacetic acid has not reappeared.

Nothing has been more surprising or more gratifying than the effect of this diet in the diabetes of the young, a form notoriously hard to manage and of unfavorable course. I have seen in the last twelve months four girls under 17 years of age suffering from typical diabetes mellitus. In each case the disease had been recognized by the attending physician and a strict diabetic diet only had been allowed. Some amelioration of symptoms had followed, but there was still in each case much thirst, polyuria and glycosuria, and the patients bade fair to go the usual way of the youthful diabetic. In each instance the response to the oatmeal diet was prompt in that the amount of urine became decidedly less, its specific gravity was reduced, and in three of the cases sugar entirely disappeared for a time. Thirst was less annoying, there was a gain in strength and weight.

In one case (Case 9) the diet was poorly tolerated, nausea occurring, and I judge from the doctor's letter that there was very early a relaxation in the matter of diet and a return of all the old symptoms. The disease in this girl of twelve began suddenly, three weeks before, with extreme thirst, increased appetite, rapid loss in weight, languor. She had passed as high as one gallon of urine in a day and it was rich in sugar and of a specific gravity of 1,045. The doctor writes: "Our patient got along nicely while she was on her diet, which I have found lately was only a few days. The parents did not watch her carefully and she ate things that were forbidden." This emphasizes the fact that the determined coöperation of the patient, together with that of the friends in attendance, is extremely important in the carrying out of any dietetic régime in diabetes. This is particularly true in the case of children, who should be watched carefully. In general, the hospital is the safer place for the initiation of any rigorous diet. The first few days of strictest diet are best passed under the eye of the nurse who is cold to entreaty and unflinching in her duty.

Case 10.—T. D., a girl of 15, was brought to me by her physician, Feb. 7, 1907. Symptoms would indicate that the diabetes had existed four or five months. There was always sugar, even on restricted diet, and the thirst, fatigue and progressive emaciation, with persistent saccharine polyuria, showed that the case was progressing unfavorably. After twelve days of the oatmeal diet the doctor wrote: "To-day's urinalysis is as follows: Sp. gr. 1.012, slightly acid, no albumin and absolutely no sugar." This patient's tolerance was increased by the diet, and for a long time no sugar was present in the urine. But gradually, on the fuller diet, sugar has appeared. Nov. 25, 1907, her physician wrote that she was not doing so well. She had gained 3 pounds in weight, but was weak; the urine contained sugar and some albumin; sp. gr. 1.032, and amounted to 3,000 c.c. for twenty-four hours. The prompt response to the strict diet was, however, most gratifying. Another rigid course should now be prescribed so that tolerance may, if possible, again be established.

Case 11.—Elizabeth B., 10 years of age. Two months ago had a slight indisposition attended by a little rise in temperature, some epigastric tenderness and a faint yet distinct icterus. (Query: Was there some acute infection of the pancreas at this time?) Six weeks later she became thirsty. Her father, a physician, examined the urine and found 4,000 c.c.; sp. gr. 1.040, with a large amount of sugar. On a restricted diet the amount of urine came down to 1,500 c.c., but it had been for two weeks persistently high in specific gravity; always contained about 5 per cent. of sugar. The child was weak. She was brought to me Dec. 27, 1906. Aside from a barely palpable liver and a confirmation of the doctor's urinalysis, diacetic acid being found, the examination revealed nothing worthy of note. The oatmeal diet was begun at once. Jan. 2, 1907, she came to me again. The urine for twenty-four hours was 1,000 c.c., and contained some acetone but no sugar. The sugar had entirely disappeared after three days of the oatmeal diet.

June 14, 1907, I again saw her in the office. The report showed that no sugar had been present in the urine from January 1 to June 1. Then for three days there was a little sugar. On the von Noorden diet the sugar had again promptly disappeared. The patient looked well; weight, 70 pounds. She felt strong and was attending school. There was no nocturnal urination. The amount of urine during April and May had averaged 30 ounces. Then at the time of the reappearance of sugar the amount had run up to 48 ounces. Daily examinations had been made for six months. The diet had been the diet described in the quotation from the letter of February 25.

Nov. 20, 1907. "Yours of the 18th instant at hand, and in reply will say that Elizabeth has continued in much the same condition she was when you saw her last. Occasionally a little sugar shows in her tests, which are still made every day. The sugar, however, is never present for more than three days at any time since ten months ago. The last two times it was not present for more than twenty-four hours. She has gained 8 pounds in the last ten months and is going to school. Her appetite is quite variable, eating about one good square meal in the day. Her bowels are quite regular, color dark to light brown. Urine about 32 to 40 ounces in twenty-four hours. There has been on the average about one day in the week showed ½ of albumin on boiling; but it should never when she has a pale, tired expression, dark color under the eyes and complains only of being tired. I feel very anxious about her at such times, yet even then there is no sugar present. The tenderness over the pancreas has not returned and she never complains. Only when she has those bad days, if asked, will say she is tired. She is eating gluten bread twice a day and buckwheat cakes for breakfast, fruits and nuts as she cares for them. Meat and eggs all we can induce her to eat—no milk except cream in weak tea or weak coffee. I have never put her on the von Noorden diet but one week since you first saw her, and that was eight months ago. I feel very anxious about her at times when she looks so pale and languid."

This result is, it seems to me, remarkable. It is better than any other obtained by me in the case of diabetes in a child on other diets. One can not say that recovery has occurred; one may join with the father in hoping for it. But an amelioration of symptoms with such a marked general improvement would stamp the treatment that was efficacious in bringing about such an effect as a most valuable one.

I am sure Dr. Croftan, who also saw this patient, will agree with me in ascribing to the oatmeal treatment the sudden checking of the onward progress of the disease; and this must be one of the cases that has induced him to say[8] very aptly: "No case of juvenile or adolescent diabetes should be deprived of the benefits of the oatmeal cure."

Case 12.—M. B., aged 17 years. Thirst and polyuria noted Oct. 10, 1906. October 20 her physician found approximately 5 per cent. of sugar in the 6 quarts of urine. On a strict diabetic diet the amount was reduced to 5 pints. November 23, when I advised the use of the oatmeal diet, there were 400 gms. of sugar in the 5 quarts of the preceding twenty-four hours. Within four days the urine was reduced to 1 pint, with a trace only of sugar. Up to February, 1907, she averaged 2 to 3 pints of urine in the twenty-four hours, there being no sugar for about seven weeks. During this time she was on the more liberal diet.

On February 13, 1907, there were 52 grams of sugar in 1,300 c.c. of urine. This again disappeared on the oatmeal diet. To condense the subsequent history, usings the words of her physician, as long as she was careful about diet, she did well, sugar generally ranging from 0.5 to 2 per cent. For seven or eight weeks after the oatmeal diet was begun there was no sugar whatever. The parents insisted on her dancing in public against the protests of her physician, and grew careless as to her diet, the case finally passing into the hands of an advertiser and being lost track of, the last record, Oct. 2, 1907, showing 5 per cent. sugar in a specimen, with a specific gravity of 1.033, and containing acetone and diacetic acid in abundance.

In conclusion I would in the main confirm von Noorden's claim for the oatmeal diet. While occasionally the stomach will rebel and refuse to tolerate this food for any great length of time; while the diet is not suited to all cases, being of least avail in the milder forms; while it fails even in some of the severer types, and while no claim for a cure of diabetes can be made, this diet still remains a most valued therapeutic agent for the warding off of impending coma in the severer types of diabetes and for assisting in the establishment of a tolerance for carbohydrates. In the milder types of diabetes I have so far seen no ill effects follow its use, but the benefits have been trifling. My experience in using it in the diabetes of moderate severity has in general been favorable,it being of especial help in establishing tolerance for carbohydrates. In the diabetes of children, if employed early, it seems to exert an usually favorable influence.

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[8] Clinical Therapeutics, Second Edition, p. 130.

THE IMPORTANCE OF AN OCULAR EXAMINATION IN PREGNANT WOMEN MANIFESTING CONSTITUTIONAL SIGNS OF TOXEMIA.*

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The value of an ocular examination in renal disease and in degeneration of the blood vessel walls is now generally recognized by clinicians, and no study of a patient suspected of either of these conditions is regarded as complete without ophthalmoscopic aid. On account of the liability of pregnant women to disease of the kidneys, obstetricians not infrequently request an examination of the eye-grounds when albumin appears in the urine, and in event of changes being found there, give due consideration to them, for retinitis albuminuria gravidarum is a well recognized disease, and its prognostic and clinical importance is properly valued.

Pregnancy may, however, be complicated by a serious toxemia and the urine not show any trace of albumin. This happens when the liver, or other organ apart from the kidney, is unequal to the task put on it by the excessive tissue changes which accompany pregnancy, or when the kidneys, though diseased, have not as yet excreted albumin. This atypical and often obscure form of toxemia manifests itself in early pregnancy by pernicious vomiting; later in persistent headache, failing vision, muscæ volitantes, epigastric pain and restlessness. Repeated examinations of the urine for albumin being negative, the obstetrician is thrown off his guard, and regards the symptoms as local and of no particular import until convulsions occur.

It has been claimed by some that though the urine does not contain albumin in these latent cases of toxemia, a toxic state of the system may be diagnosed by the consequences of faulty metabolism, which may be obtained from the urine by the quantitative estimation of the urea excreted. The practical experience of one of us (Hirst), however, does not substantiate this assertion.

In the first place, it is impossible to estimate the quantity of urea ordinarily excreted in the urine which goes to the fetus; again, without an examination of all the urine, feces, and other excreta in any twenty-four hours, no accurate idea of the relative amount of urea in the urine can be formed; and finally, the amount of urea found in the urine of any patient, from day to day, varies within such wide limits that any conclusions are misleading.

Careful studies which were made on groups of patients at the maternity of the University of Pennsylvania, have indicated the unreliability of the urea test, for it was found that the urea varied from 0.1 per cent. to 3.5 per cent. in these patients, each of whom received exactly the same amount of food. Though the estimation of urea as an independent test is misleading, it is undoubtedly of value when taken into consideration with the presence or absence of albumin, as when albumin is present the urea percentage probably will be below normal; thus, in the test cases just mentioned, it was found that those patients excreting an average of 3.5 per cent., or about 35 gms. a day, were those whose urine be relied on as the sole guide to the patient's condition.

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* Read before the County Medical Society of Philadelphia.

In these doubtful cases, therefore, cases presenting vague general symptoms with negative results from urine examinations, any corroborative evidence of actual toxemia is of the greatest value. It is in this emergency and under these conditions that an ophthalmoscopic examination is particularly indicated, and it is time that obstetricians should appreciate two facts, first, that changes in the eye-grounds which have been occasioned by renal disease, and are almost certainly diagnostic of renal disease, may precede the presence of albumin in the urine; and second, that the ophthalmoscope may give evidence of disease of organs other than the kidneys which has been excited by the toxemia of pregnancy.

While the renal condition which arises in pregnancy is an acute one, it is not unlikely that chronic nephritis may have existed in many cases prior to pregnancy. An examination of the fundus under these conditions reveals in most instances disease of the retinal vessels and serves to put the obstetrician on his guard. The usual ophthalmoscopic picture of the renal disease of pregnancy, retinitis albuminuria gravidarum, is that of other varieties of Bright's disease, consisting of a well-marked inflammation of the optic nerve and retina with extravasations and hemorrhages. This form of retinitis occurs most frequently in primiparæ, though among 19 cases seen by Nettleship, the ocular inflammation occurred during the fifth or a subsequent pregnancy in no less than 14; in 4 of the remaining 5 cases it came with the first pregnancy.

The ocular symptoms of the toxemia of pregnancy other than that occasioned by nephritis have not as yet been grouped into particular types; indeed, it may be said that the ocular symptoms of toxemia and autointoxication in general, quite apart from the toxemia of pregnancy, have as yet received but little attention from ophthalmologists. Uhthoff has classified them,[1] and Elschnig,[2] de Schweinitz,[3] and others have contributed valuable papers on the subject, but the whole field is still largely unexplored. There have been, however, a certain number of cases cited of ocular lesions occurring in pregnancy without the presence of albumin in the urine, all of which manifested general symptoms which pointed to the existence of a general toxemia.

Arnold Knapp[4] recently reported 10 cases where the optic nerve and retina during pregnancy and labor showed changes which differed from albuminuria gravidarum. Of this number Knapp thought 7 were complicated by sepsis, but the remaining 3 occurred with other complications of toxemia and were attributed by him to that cause. The brief report of his cases is as follows:

CASE 1.—Patient, aged 32, had five children in a period from eleven to five years ago. She then had four abortions. She is now in the eighth month of pregnancy. Six weeks ago suffered from severe headache and vomiting. Five weeks ago the right eye became blurred, which was shortly followed by an involvement of the left, and in one week both eyes were blind. She has had no convulsions. The headache and vomiting have ceased. Urine examination shows sp. gr. 1.020; faint trace of albumin; proportion of urea nitrogen greatly reduced.

Examination.—Both pupils widely dilated and immobile; no perception of light in any part of the field. Both optic discs are white; outlines indistinct. Arteries narrow. There is some edema of the retina in the macular region. On July 20, labor was induced, and a dead child delivered. Mother died of septicemia.

CASE 2.—In preceding pregnancy there was loss of sight, becoming worse after labor for three weeks; it then improved, but there remained asthenopia. At present, in eighth month of pregnancy, there is albuminuria, blurred vision, optic nerves white and ill-defined; field normal.

CASE 3.—Primipara. Three months ago her vision was blurred for two weeks. She then had headache. Now near term the legs are swollen; the urine contains some albumin; optic nerves distinctly white; right, blurred; nasal half, swollen; left, flat; vision and field normal.

In addition to these observations, Knapp has often been impressed by the frequent appearance of pale optic nerves in women, often with normal vision, who have borne children, and he raises the query whether this may not be the evidence of some toxic influence during preceding pregnancies.

Reich has seen marked choked disc in a pregnant woman, which terminated in complete recovery, and Cohn has recorded two instances and Uhthoff four of chronic retrobulbar neuritis with central scotoma in pregnant women. Other cases have been reported[4] by Kipp, Valude, Power, Lanford, Knaggs and Ole Bull.

According to Groenouw, all diseases of the optic nerve occurring in pregnant women have much in common. Thus, as a rule, the disturbance in vision does not begin before the fourth month of pregnancy, though at times it may not appear until in the seventh to the tenth month. Valude's is the only case in which the commencement of the eye affection fell in the first month. In this instance a 30-year-old woman suffered from a visual disturbance of the left eye that was always worse during menstruation, which had dated from her first pregnancy, nine years before. In the second pregnancy the vision of the left eye became affected in the first month, perception of light and darkness alone remaining. Two months later the vision in the right eye also became affected, sinking to 1/10. The ophthalmoscope showed consecutive atrophy of the optic nerve on both sides. Labor was artificially induced, and thirteen days later vision in the right eye rose to 2/3, though that in the left eye remained the same.

Groenouw believes that the causal connection between the disease of the optic nerve in these cases and pregnancy is proved by the fact of the recurrence of the ocular affection with each pregnancy. He avers also that the origin of the neuritis can scarcely be due to uremia, on account of its slow progression, its long duration and the absence of albumin in the urine, and attributes it to an autointoxication acting similarly to that which is observed in affections of the optic nerve, such as are described by Uhthoff as occurring during labor and lactation.

Nettleship, similarly, in referring to a class of cases observed by him in whom sight failed soon after confinement, but finally returned to a greater or less degree, is of the opinion that a link, perhaps, is furnished between neuroretinitis from loss of blood, which, after all, may be in a sense toxic, optic neuritis in puerperal polyneuritis, uremic blindness and other more acute examples of albuminuric retinitis. He says that in this type of cases the condition of the fundus during the active period is unknown, but when examined some time after recovery, traces of past optic neuritis are found in some of them, though in others no visible changes remain. In none were any signs of widely spread neuritis observed, nor any hint pointing to eclampsia, though, on the other hand, they could not be explained either by flooding or obvious kidney disease.

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[1] Second Edition of Graefe-Saemisch Handb. d. Gesamten Augenheil., xxxii, 34.

[2] Klin. Monatsbl. f. Augenheil., 1905, xliii, 2.

[3] Section on Ophthalmology, American Medical Association, 1906, THE JOURNAL A. M. A., Feb. 9, 1907.

[4] Trans. Am. Ophth. Soc., xi, Part 2.

In connection with the ocular changes, which are not dependent on renal disease, it may not be amiss to record the observations of Lutz and Landesberg, who reported two cases of transient blindness occurring in icterus gravidarum.[5] Lutz' case was that of a woman, 37 years old, who fell in the eighth month of pregnancy. The patient was deeply jaundiced, and hemorrhages were scattered over her entire body. The urine was free from albumin. Both eyes were totally blind, though vision improved somewhat later. Death followed two days ofter the delivery of a dead fetus. In Landesberg's case, also, a woman in the tenth month of pregnancy, total blindness, which partially disappeared after four days, was present in both eyes. The ophthalmoscope showed nothing abnormal and the urine was free from albumin. Although the blindness in both of these cases was attributed to the jaundice, it should be remarked that jaundice other than that occurring in pregnancy does not produce transient blindness.

Teillas observed retinal hemorrhages which were remarkable for their suddenness and their copiousness in four women who were pregnant. The hemorrhage in all four instances disappeared after labor without leaving a trace or interfering with vision in the slightest. The heart and other organs appeared perfectly normal and the hemorrhages were thought by Teillas to be dependent on purely mechanical causes, and to be regarded as, in a sense, physiologic.

Retinal detachment in two pregnant women, who were sisters, has been reported by Schoeler. Albuminuria was absent, nor could the causal connection be established.

This comprises the literature of ocular changes which have been noted in women who were pregnant, and whose urine did not contain albumin. Though not numerous, many of the observations are most significant, serving to demonstrate the aid the ophthalmoscope may be in arriving at a diagnosis in obscure cases.

The diagnosis of toxemia once made, the question of saving the life of the mother must now be considered, as ocular symptoms occurring in the course of pregnancy only arise in the event of a pronounced autointoxication, and the alternative of inducing labor artificially must be weighed, the ocular examination being frequently made the crux on which the decision is rendered. Silex has considered this phase of the subject very exhaustively in so far as the ocular symptoms of renal complications are concerned, and has concluded that when retinitis develops in the first months in cases in which chronic nephritis had previously existed in a latent form, but had been set into activity by pregnancy, labor should be artificially induced at once, for not only is the life of the mother jeopardized by the renal disease, but the chances for a labor at full term are few, and blindness may ensue from a progression of the retinal disease. In the acute nephritis of pregnancy, premature delivery is advised, as he considers the prospect for sight during the progress of pregnancy as none too favorable, especially if the retinal vessels are diseased.

Randolph gives like advice, believing that labor should be induced in all cases which exhibit ocular symptoms in the first six months of pregnancy, while he counsels that those in whom symptoms appear in the last seven weeks should be carefully watched, unless the retinal lesions are very extensive.

When the ocular symptoms arise later in pregnancy the social conditions of the parents and the desire of the mother to have a child must often be taken into account, and as the bringing on of an abortion does not always improve vision, and as such women, like subjects of other varieties of Bright's disease, are apt to die before two years have elapsed, some of these cases may be permitted to come to full term. General rules of procedure are impossible, and each case must be considered separately and treated conservatively.

As the renal disease of pregnancy and the complications of retinitis do not always reappear in future pregnancies, future conceptions need not always be prohibited.

The prognosis for sight in cases in which the ocular changes have been induced by the renal toxemia of pregnancy, has been well established, Culbertson's figures recording blindness in 24.99 per cent., partial recovery of sight in 58.31 per cent., and recovery of sight in 16.66 per cent. of the cases. Silex's tables show blindness in 25 per cent., partial recovery of sight in 47 per cent., and recovery of sight in 29 per cent.

In conclusion, we desire to report a case of toxemia during pregnancy where the ocular symptoms, which were the only demonstrable signs of the disease, and the general symptoms disappeared promptly after the induction of labor. The urine was free from albumin at all times, and the general symptoms were few, and had the ophthalmoscope not revealed the malignancy of the toxemia it is probable that the labor would not have been interrupted, and it is not unlikely that the patient would have died of eclampsia.

History.—Mrs. A., aged 20, became pregnant for the first time in the second year of her married life. At ten weeks' gestation, the patient, who had always been strong, complained of an aching fulness in the back of the head. Soon after (in the fourteenth week of gestation) a slight dimness of vision was noted, especially in the right eye, and there was some soreness of the eyeballs.

Examination.—She was sent to one of us (Posey) who found the vision in each eye slightly reduced, the cause of this being a quite pronounced neuroretinitis in both eyes, more marked, however, on the right side. The edges of both optic nerves and the retina for some distance from the nerves were hazy. The blood vessels were full and tortuous, and there were a few small rounded fluffy lymph extravasations in the region of the disc. There were no hemorrhages. Although the patient's urine had been carefully and repeatedly examined by her physician after conception, and had been found negative, further studies were made of it and of the blood as well, but nothing abnormal could be found.

Treatment.—Active eliminative treatment was at once essayed, and salts, pilocarpin sweats, colon flushings, rest in bed, a milk diet, and Basham's mixture, together with a free use of water internally, that is, from eight to ten glasses daily, were tried for a week, but without relief to her general symptoms, while the ocular conditions apparently progressed. Radical measures were thought of, and after consultation, one of us (Hirst) induced labor artificially. Recovery was prompt, the general symptoms disappearing at once, the ocular changes after some weeks.

Subsequent History.—A year has now elapsed since the termination of pregnancy and conception has been carefully avoided since. The general condition of the patient, however, is still somewhat abnormal, her endurance being curtailed and her digestion weak. Though there have been no recurrences of the retinal extravasations, the retinal vessels appear unhealthy, being unduly full and tortuous, awaking the suspicion of a disease of their walls. The urine has been examined repeatedly, but nothing abnormal has been found. Her physician is inclined to ascribe the toxemia to a failure of the liver to perform its functions properly, the patient's father having died of hepatic cirrhosis, and there having been great tenderness over the whole liver until after the delivery of the fetus.

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[5] Groenouw: Graefe-Saemisch, xxvii, p. 183.

THE USE OF ANTHRACITE COAL ASH AS A SURGICAL DRESSING.*

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I desire to call attention to a by-product which can be used where frequent dressings are necessary and where the question of expense is of importance. This is the ash of anthracite coal, used in stoves and furnaces all over the country and hence readily obtainable. The ash is neutral in reaction and, on careful analysis, shows no substance which, even if applied to an open wound, would cause irritation.

The ash collected from the furnace is placed in a flour-sifter and thoroughly sifted. It will be found to fall on a sheet of paper as a soft, brownish, floury powder. This is all the preparation necessary.

A piece of old sheet or well-washed linen is cut in rectangular shape and of any desired size. The square is placed on a table and a small pile of the ash is placed in the center. The sheeting or linen is then folded over it, as in making a poultice.

Such a pad can be made rapidly, and when examined will be found soft, compact and absorbent. It can be nicely adjusted to any part of the body with adhesive plaster straps.

After an ash pad has been applied to a discharging wound for some time it becomes moulded to the part, as the ash loses its powdery consistency owing to absorption. It has then the consistence of dough and acts as a partial splint, being more comfortable than otherwise.

The ash is very absorbent but does not act as quickly as gauze. It will, however, draw pus up into the pad instead of spreading it over the skin as is so frequently the case in a gauze dressing.

The ash, though aseptic when taken from the furnace, has no antiseptic properties. This was proved by tests at the laboratories of the Worcester City Hospital.

Pads, as above described, are intended for use in cases where large gauze dressings are usually applied, namely, suppurating wounds and sinuses. The greater the amount of pus and the more fluid its consistence, the more successful the dressing. In cases where pressure is advisable, as in varicose ulcers, they will be found excellent though sometimes a trifle bulky. The discharge of the ulcer is completely absorbed and the pressure prevents local stasis.

Ash pads have been used with success and without discomfort to the patient in discharging sinuses of the neck, chest and abdomen and also in discharging abscesses in various parts of the body.

Experiments with these pads were carried on over a period of three months at Roosevelt Hospital, New York. The only complaints by the surgeons using the pads were that they were heavier than gauze, and that in cases with thick, gummy pus the discharge failed to penetrate the close mesh of the sheet. Since these experiments the pads have been used by the Worcester Society for District Nursing with satisfaction.

CONCLUSIONS.

1. In cases where gauze can not be obtained or the expense is too great, ash pads form a good substitute.
2. In freely-discharging sinuses and suppurating wounds the discharge will be well taken care of.
3. When the discharge is thick and gummy, or where weight or bulk of dressing is contraindicated, they should not be used.
4. They are particularly applicable to discharging wounds of the axilla, popliteal space and palm of the hand, because they fit snugly and tend to splint the part. They are also well suited to varicose ulcers and discharging sinuses of the abdomen.

FISTULOUS TRACTS, TUBERCULOUS SINUSES AND ABSCESS CAVITIES.

A NEW METHOD OF DIAGNOSIS AND TREATMENT BY BISMUTH PASTE.

EMIL G. BECK, M.D.
CHICAGO.

The new method of diagnosis of the above affections, employed by me since March, 1906, consists in filling the fistula or abscess cavity with a bismuth-vaselin paste and then taking a radiograph of the region affected. Bismuth, as is well known, offers great resistance to the penetration of the *x*-rays and, therefore, is a suitable material for this class of radiographic work. The shadow obtained by its use represents the true picture of the shape and ramifications of these cavities within the tissues. In some instances the most surprising and unexpected findings are detected in this way. This method of diagnosis is superior to the methods now in vogue, such as the probe, the injection of colored fluids or peroxid of hydrogen.

These radiographs have shown why some patients have not been cured even after several operations. They demonstrated the uselessness of an operation which does not remove every part of the fistulous tract. A subsequent operation done under the guidance of the skiagraph has, as a rule, proved successful. Therefore, the skiagraph has proved indispensable in the treatment of fistulous tracts.

The first case injected for diagnostic purposes suggested the use of this method of treatment, the injection of liquefied bismuth-vaselin paste proving valuable not only for diagnostic purposes, but also for curative purposes. After one injection of the bismuth paste the psoas abscess fistula (Fig. 1) which had existed nearly two years, closed up entirely and has remained so. Similar results followed in other cases:

Case 1.—Miss A. D., 4 years old, presented herself March, 1906, with a fistula resulting from a psoas abscess which had discharged pus for nearly two years, and required daily dressing. Bismuth injection for diagnosis was made April 23, 1906. The skiagraph (Fig. 1) demonstrates that the fistula extends from Scarpa's triangle along the psoas muscle up to the junction of the second and third lumbar vertebræ. There the bismuth fills out a space about three-quarters of an inch long and about one and one-quarter inches wide, right in front of the second and third lumbar vertebræ. A small cavity the size of a hazelnut is on the opposite side of the vertebral column.

The parents returned a few days later stating that for the first time in two years the fistula stopped discharging pus. Two months later the fistula still was closed and the child had no symptoms which would indicate retention of pus. Another skiagraph was made and we found that the bismuth had disappeared. It had probably been absorbed, because the parents stated that none of the material had been found on the dressing. The patient is well, the fistula having remained closed.

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* Read before the Worcester County Medical Society.

A series of cases subsequently treated by this method proved that the cure in Case 1 was not accidental, but that equally good results could be obtained in other similar cases. We have treated 14 cases: 2 cases of spondylitis and psoas abscess, 2 and 16 years duration; 1 case each of tubercular hip-joint, 16 years duration; tubercular knee-joint, 7 years duration; tubercular pelvis, 3 years duration; tubercular ulna, 6 months duration; chronic osteomyelitis of femur, open since 1899; fistula after resection of tubercular kidney, 1 year duration; abscess of lung, 9 months duration; 3 cases of rectal fistula, 2 years and 1 year and 6 months duration; 2 cases of abdominal fistula following laparotomy, 4 months and 1 year duration.

FORMULA OF PASTE FOR DIAGNOSIS AND EARLY TREATMENT.

℞.	gm.	
Bismuth subnitrate	30	℥i
Vaselin	60	℥ii

Mix while boiling.

FORMULA OF PASTE FOR LATE TREATMENT.

℞.	gm.	
Bismuth subnitrate	30	℥i
White wax		
Soft paraffin, āā	5	āā, gr. 75
Vaselin	60	℥ii

Mix while boiling.

In some cases we have added 1 per cent. formalin. It is generally believed that paraffin is not absorbed in the tissues. This applies only to hard paraffin. The soft paraffin is absorbed. This has been proved by the experiments of Drs. Kirchner and Eckstein, of Berlin, in 1905 and 1906.

Care should be taken that no water be spilled into the paste during the process of boiling, and the glass syringes must be sterilized by the dry process and the plunger dipped in sterile oil, instead of water, before charging the syringe.

METHOD OF INJECTION.

The fistula should first be dried out, if possible, by packing into its depth a strip of plain gauze, one-half to one inch wide. This gauze is removed just before the injection of the paste. The emulsion is sterilized before using, and the syringe is charged while the emulsion is hot and liquid. A glass syringe with a nozzle similar to that of a Valentine irrigating tip should then be loaded with the bismuth paste and tightly pressed against the fistulous opening; the emulsion is forced in very slowly, until the patient begins to complain of pressure. The syringe is then removed and a small gauze sponge is quickly pressed against the opening to prevent the escape of the paste until it has hardened sufficiently. An ice-bag may be applied to hasten the hardening of the material. I inject the bismuth-vaselin paste until the discharge ceases, and then use the harder preparation containing wax and paraffin, after which it usually remains closed. The injections are painless and produce no dangerous symptoms, such as hemorrhage, sepsis, embolism, etc.

The composition of these substances is subject to further experiments. There are probably substances which will prove superior to those which we have used. It is my opinion, however, that the healing does not depend materially on the particular substance as long as it is a material which is liquid when injected and rapidly solidifies after injection. The solid substance acts as a framework for the formation of healthy granulations.

Besides, it is highly probable that the bismuth, which becomes radioactive on exposure to the *x*-rays, promotes the formation of granulations on the walls of the fistulas, with which it comes in direct contact. To increase the radioactivity I have, in some cases, added strontium salicylate and exposed the patient to the *x*-rays for one or two minutes after the injection.

Later the bismuth-vaselin is absorbed and the connective tissue remains and contracts, thereby obliterating the sinus. This principle of utilizing bridgework to promote healing of suppurative processes is also applied in Bartlett's filigree, which has the disadvantage of not being absorbable. I believe that if I placed a filigree spiral into a straight fistula, it would serve the purpose of a bismuth plug. The Moorhof wax plug and the decalcified bone-chips of Senn probably act on the same principle.

The injection of iodoform-glycerin emulsion into tuberculous joints was probably a step nearer to this bismuth paste injection treatment.

Filling the cavity with decalcified bone-chips; covering the raw surfaces by skin grafts or skin flaps; the Mosetig-Moorhof plug, are some of the methods now in vogue.

Each has its merits and many cases will yield to some of these methods. But there still remains a class of cases to which none of these methods is applicable, as, for instance, a fistula following psoas abscess. Other cases, again, continue to suppurate in spite of treatment.

The habit of irrigating these chronic fistulous tracts with watery solution is more harmful than beneficial. The fluid fills up the sinuses and keeps their walls in a macerated condition, thereby preventing the formation of healthy granulations. Injection of alcohol, however, on account of its desiccating property, is permissible, providing the fistula does not communicate with hollow organs.

The bismuth paste method is applicable to all fistulas or abscess cavities, except intracranial sinuses or biliary fistulas and those communicating with the urinary bladder.

Case 2.—M. Y., aged 14; family history negative; was healthy until he was 7 years old, when he developed a painful swelling in his right knee. A cast was put on by his family physician for the purpose of immobilization. In a short time an abscess ruptured, and the boy was transferred to a hospital at Freiburg, Germany, and an operation was performed for tuberculosis of the knee-joint. He left the hospital seven weeks later with a sinus extending from the knee-joint into the middle of the tibia, and two smaller sinuses near the joint.

A short time later he returned to the hospital for another operation which, however, failed to close the sinuses, and a third operation was performed two months later, again with an unfavorable result. Professor Bruns of Tübingen performed a fourth operation. No improvement, however, resulted, and three fistulas persisted. Further treatment was abandoned.

Six years after commencement of the fistula, he came to me for treatment. A radiograph without bismuth injection was first taken. It shows the joint and the epiphyses of femur and tibia nearly destroyed, and a sequestrum is clearly visible in the tibia. I proposed resection of the knee-joint, which was rejected. I then cleaned out the knee-joint thoroughly, but the three fistulas persisted. Next Bier's hyperemia method was carried out for four months, but without result. At this time our experiments with bismuth injection were so promising that I decided to try it in this case.

The first bismuth paste injection was made Oct. 3, 1907. After three injections the sinuses became nearly closed, and the fourth injection was made with difficulty. The fistulas remained healed, the boy became stronger and gained in weight, and the pain disappeared, so that he could discard his crutches, which he had used for seven years.

Case 3.—H. A., 19 years old; clerk, with good family and personal history; was taken sick in January, 1907, with an attack of muscular rheumatism and bronchitis. Pleurisy, with effusion and empyema followed. March 19, 1907, two ribs were resected, the pus was evacuated, and drainage established. The wound closed up in two weeks, but reopened later and discharged a dark green pus of a very fetid odor.

We left out all drainage and injected the cavity daily with the bismuth-vaselin paste. The pus gradually diminished in quantity. After ten injections the wound ceased to discharge any pus and remained dry for three days. Suspecting retention of pus, I inserted a rubber tube, which passed in with some difficulty. Then I ordered the patient to close his mouth and nostrils and distend his lungs as much as possible. This brought out the material in a semi-liquid state which hardened immediately in the basin. No pus followed after all the material was forced out.

This incident indicated to me that the body temperature kept the bismuth-vaselin in a liquid state, and I therefore concluded to add wax and paraffin to it. This was done January 10, and the skiagraph shows that the cavity is nearly obliterated by the paste (Fig. 2). The fistula closed up entirely and no unpleasant symptom followed, except that during a coughing spell some of the injected material was coughed up.

Case 4.—Miss M. G., 21 years of age, was well until 6 years of age. At the age of 6 she had a pain in her right knee, which was considered to be a growing pain. It was treated with liniments. At the age of 7 Dr. Godfries punctured the hip-joint and found thick pus. She was then operated on by Dr. A. F. Buckman for tubercular hip-joint disease. The wound continued to discharge and the dressing was so painful that often an anesthetic was required during this procedure. One-half year later Dr. Godfries removed the head of the femur. Since then thirteen other operations were performed at intervals of six months. The last operation was performed by the late Professor Senn, June, 1907. The acetabulum was curetted and all necrotic bones and granulations were removed, but the fistula continued to discharge small quantities of pus, which required dressing.

Dec. 10, 1907, she came to me for treatment. The radiograph (Fig. 3) shows that the fistula originated in the acetabulum. The paste was injected every two to three days, and a 1 per cent. formalin solution was added. After ten injections the fistula ceased discharging. The next injection was made with great difficulty and only a very limited quantity of the paste would penetrate, showing that the fistula was ready to close.

Case 5.—E. S., aged 21; parents both healthy. At the age of 4 an abscess developed in his left knee, which ruptured spontaneously and a fistula remained. The physician in attendance must have discovered Pott's disease, since he put on a plaster corset, and later a brace. At the age of 7, two abscesses ruptured, one on the left side of his back and the other around the left hip. Operations were then performed, from time to time, fifteen in all, some of them quite extensive, with the final result that eight fistulas remained. In this condition he presented himself for treatment in April, 1906. The radiograph (Fig. 4) shows the enormous network of sinuses extending from the lumbar vertebra down to the knees. A surgical procedure was impossible on account of the poor physical condition of the patient. The boy was put on tonics and returned Sept. 12, 1907, for treatment.

We began with injections of bismuth, and according to the radiographs subsequently taken we find that two fistulas had healed and six remained discharging. One of these, which opens on the sacrum, discharged fecal material for about three weeks, but this has now ceased. The fistulas remaining originate in osteomyelitic bone, probably, with sequestra, and inasmuch as a surgical operation is now out of the question, we will continue with bismuth injections. The boy is in better physical condition than he has been for several years. What the final result will be is difficult to say.

Case 6.—Miss E. S., 18 years old, has had the usual diseases of childhood, but no evidences of tuberculosis. In 1904 she developed an abscess in the region of her right hip. It was incised and drained, but showed no tendency to heal. Temperature varied from normal to 104; pulse, 140. Fistula resulted and discharged until May, 1906, when she returned for further treatment. The sinus was about four inches deep, passing internally over the crest of the ilium; discharge slight. No skiagraph was taken. An operation was advised and performed by Dr. Carl Beck, May 19, 1906. The sinus was opened freely and several pockets were exposed and curetted, but no necrosis of bone was discovered. Wound was dressed daily, irrigated with sterile water, and peroxid of hydrogen; sometimes iodoform emulsion was injected. She left the hospital July 17, 1906, and while she had no fever and had gained in weight, her fistula continued to discharge pus. She returned Dec. 4, 1906, with a temperature of 102; pulse, 114.

A skiagraph of the pelvis was then taken, after the fistula was injected with bismuth paste (Fig. 5). It demonstrated the network of sinuses present, and showed the uselessness of an operation which does not explore every recess of the fistulous tract. An extensive exploration of all sinuses was performed December 12, and every sinus was scraped and packed with gauze. Temperature remained normal after operation. The wounds healed very rapidly, and bismuth paste was injected for a short time into the closing wound, and the entire process healed up. Patient left the hospital Jan. 30, 1907, in first-class condition, with fistula healed up for the first time in three years. Jan. 15, 1908, she was entirely well.

Case 7.—A. G., 18 years old, in 1907, developed a mastoiditis on the left side. He was operated on and cured. Three months later he returned with a mastoiditis on the right side. He was again operated on, and also with good results. During his stay at the hospital we accidentally discovered that he had a rectal fistula, and on inquiry we found that he had an abscess opened by his physician about three weeks before he entered the hospital. After injecting the bismuth paste a radiograph was made. Radical operation was performed Nov. 30, 1907, in the usual way, by splitting up the fistula into the rectum. During the operation I found solidified bismuth paste filling out the deepest part of the fistula. This bismuth had been in two weeks, since no injections were made two weeks previous to the operation. He made a splendid recovery.

Case 8.—Mr. M. A., 25 years of age; family and personal history negative. In the fall of 1905, he was operated on for acute gangrenous appendicitis, which was followed by a fecal fistula. A secondary operation failed to close the fistula. Although the fistula discharged very little fecal matter, it discharged pus and gas. He was then treated for six months with silver nitrate cauterization, without any material improvement. In August, 1906, bismuth paste was injected and this one injection was sufficient to obliterate the fistula. The patient presented himself a month ago (one year after the injection) with his fistula still closed.

This case demonstrates that, even if the fistula communicates with the intestine, obliteration is possible by means of the bismuth paste injection.

Case 9.—Mrs. H. R., aged 26; was operated on Jan. 7, 1907, by Dr. Carl Beck for tuberculous kidney. The right kidney was removed; it contained a number of abscesses. It required a large incision, and the ragged cavity which remained after removal was packed with gauze for drainage. After long and tedious treatment, such as irrigation, the patient improved in general health, but the fistula showed no tendency to healing, and the patient left the hospital May 22, nearly six months after operation, with very little hope that her fistula would ever close. About three months later, when our experiment with bismuth injection became encouraging, we sent for her, intending to try this method. The first injection showed that the fistula reached up to the diaphragm, about four and one-half inches in length. From September 3 until November 13 only five injections were made, and a decided improvement followed. Patient, however, did not wish to remain longer at the hospital, and returned once a week for an injection.

The case is not yet healed up entirely, since the treatment was carried out with irregularity; sometimes two weeks elapsed between the injections. A second radiograph, however, proved that the fistula is reduced about one-half, and the discharge is not nearly as great as before. Patient's general health is very much improved; gained two to three pounds a week. I have advised three injections a week.

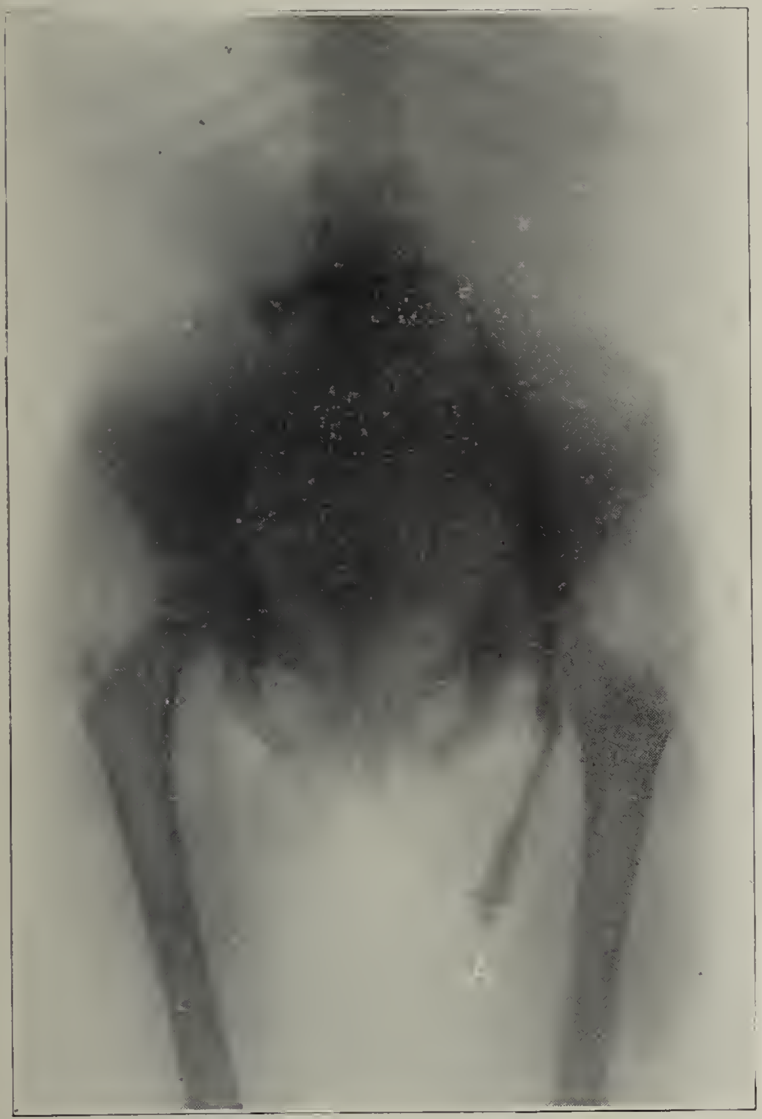

Fig. 1.—Fistula resulting from psoas abscess. Bismuth paste injected at point A.

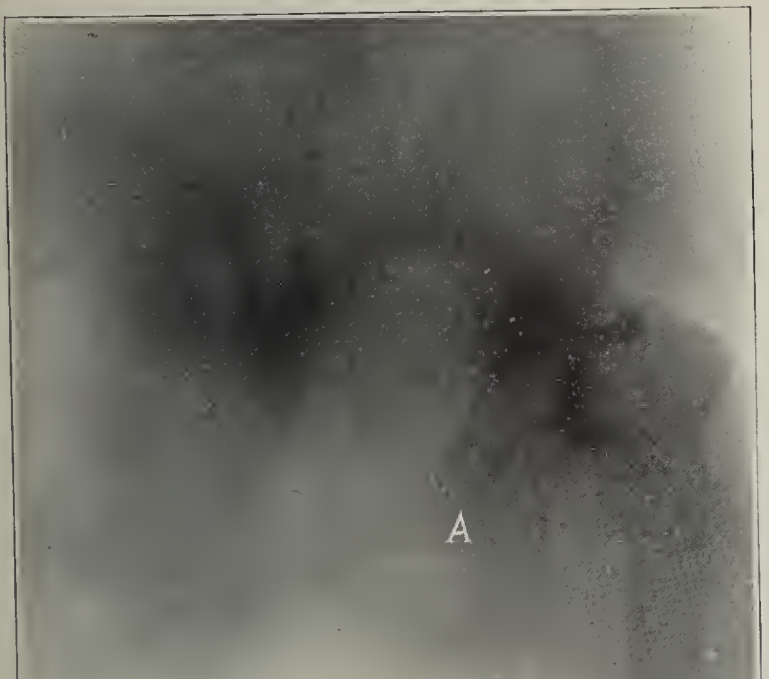

Fig. 3.—Fistula after resection of head of femur in tubercular hip. Acetabulum injected. A, point of injection of paste.

CASE 10.—Osteomyelitis of ulna. Patient, 3½ years old. Mother died of pulmonary tuberculosis two years ago; father is well. At the age of 1 year the child developed abscesses at the outer angle of both eyes, and one in front of the right ear. The child was operated on at three different times, and all wounds healed. A diagnosis of tubercular bone disease was made. At the age of 3 years, the child developed a swelling over the left forearm. This swelling was incised, pus evacuated, and a fistula has persisted ever since, requiring daily dressing.

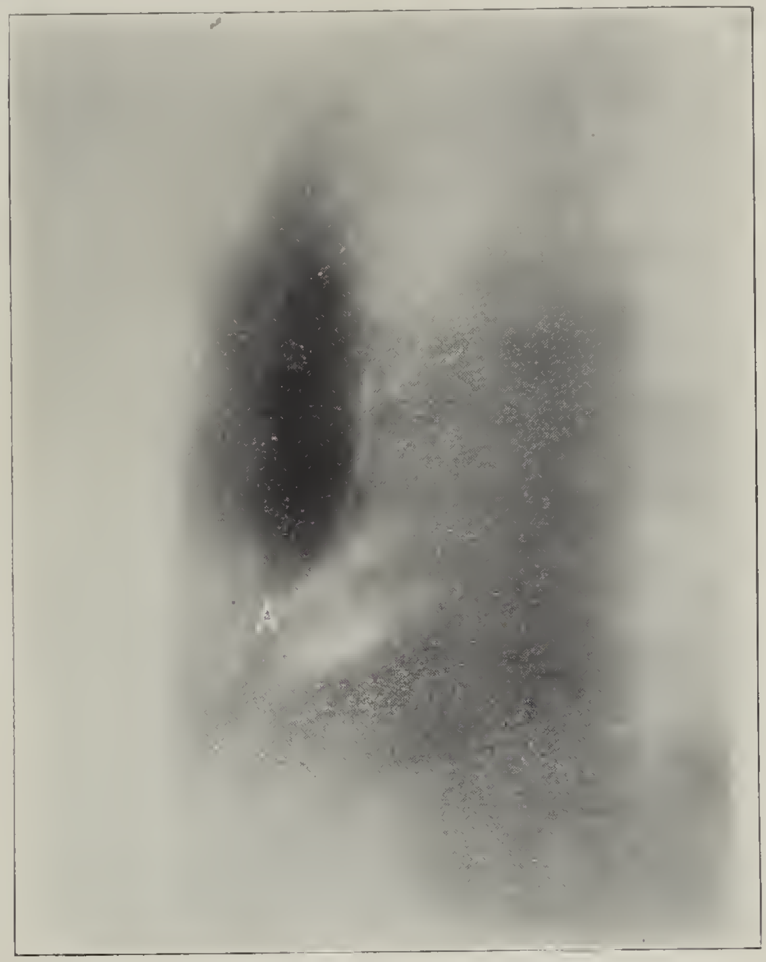

Fig. 2.—Abscess of lung, filled with bismuth paste. A, point of injection.

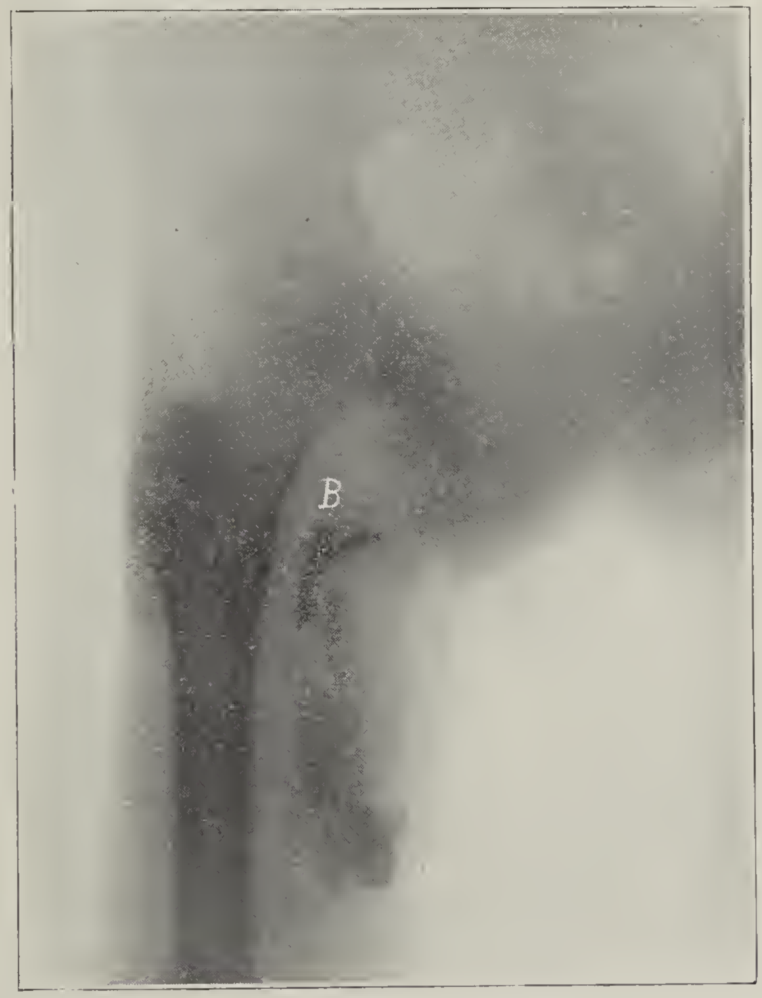

Fig. 4.—Fistula from psoas abscess. A, coin to show where injected. B, depth of fistula.

December 26, an injection of bismuth paste was made, and this one injection cured the fistula.

CASE 11.—G. B., 8 years old, was born with absence of rectum, and a colostomy was performed under general anesthesia when the baby was only sixteen hours old. During the first four years this child had two plastic operations on his rectum—the formation of an artificial rectum, and closing of a congenital recto-vesical fistula. While the result was satisfactory and the boy had control of his rectum, it was not considered safe to close up the colostomy. At the age of 7, however, it was decided to close the abdominal opening. This was done in June, 1907, but a small fistula remained for several months. Finally an injection of bismuth paste was made, after which the fistula healed and never opened again.

CONCLUSIONS.

1. A successful surgical operation on fistulous tracts depends principally on the exact knowledge of the extent and direction of the sinuses before the operation is undertaken.

2. Radiographs taken after the fistulas have been injected with bismuth paste show the extent and direction of the fistulous tract.

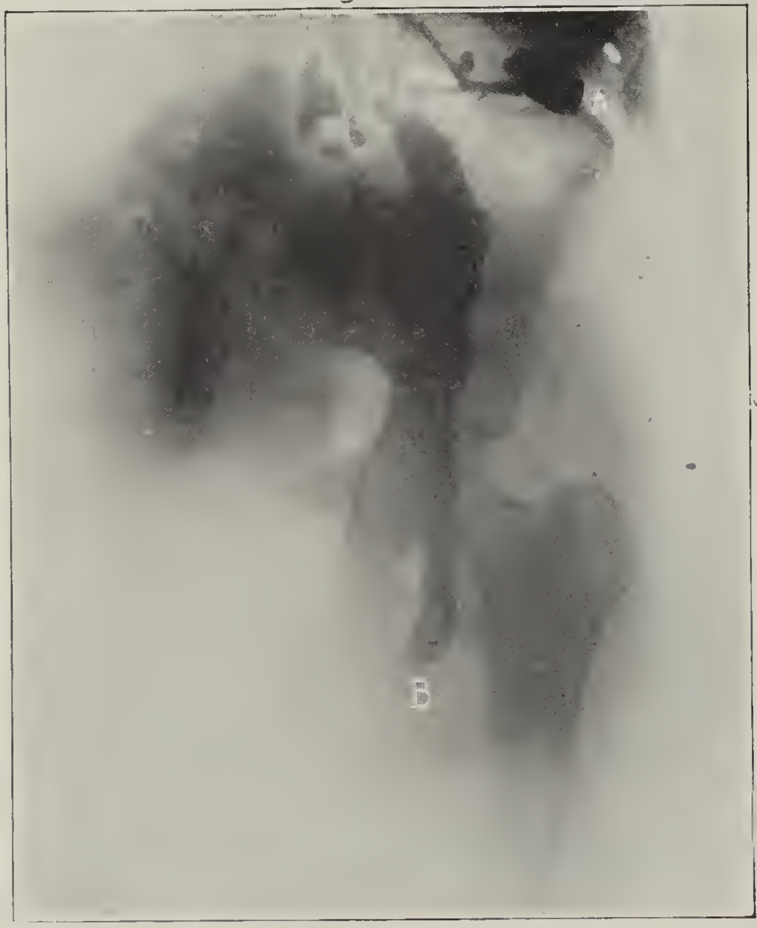

Fig. 5.—Fistulous network of tubercular disease of the iliac bone. A, opening of fistula.

3. Skiagraphs of all fistulous tracts should be taken before an operation is decided on.

4. Fistulous tracts, tuberculous sinuses or abscess cavities, including empyema, can be cured by injection of bismuth paste.

5. Cavities or fistulas should be as clean and as dry as possible before the injection of bismuth paste.

6. The bismuth paste, when mixed with wax or soft paraffin and injected in a liquid state, solidifies in the fistula and serves as a framework for new connective tissue. The paste is absorbed and the fistula obliterated.

7. Bismuth paste injection will not heal out sinuses where sequestra are present. Same must be removed before injection.

8. The bismuth paste injections are painless and produce no unpleasant or dangerous symptoms.

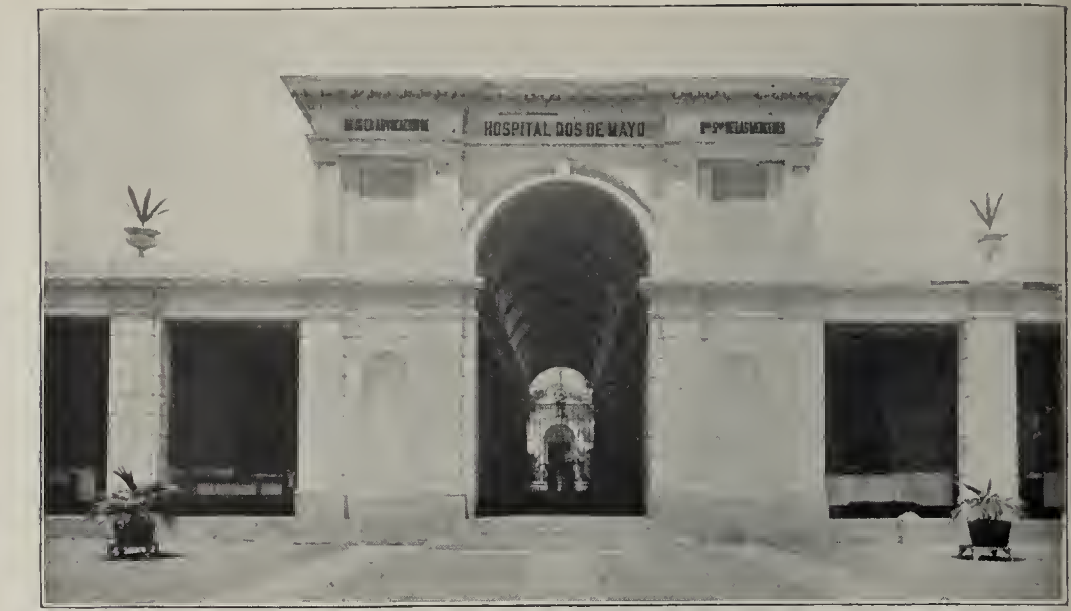

Fig. 46.—Hospital Dos De Mayo ("Second of May" Hospital), Lima.

Special Article

TRAVEL NOTES FROM SOUTH AMERICA.

THE LATE

NICHOLAS SENN, M.D.

CHICAGO.

XII. MEDICAL PERU.

(*Concluded from page 687.*)

SAINT ANN'S HOSPITAL.

The Hospital de Santa Ana is the oldest hospital in America, as it was founded in 1549 by Bishop Laaysa, the first bishop of Lima. It consists of an immense expanse of one-story buildings with open courts and connecting arched passageways. The central or main part of the building is in the form of a cross, consisting of two immense wards with high arched ceilings, which meet at the middle, so that from the center of the cross every patient can be seen in what now appears as four wards. The many arched naves and the row of wooden columns running along near the walls, show very plainly that the building was first used as a convent. There

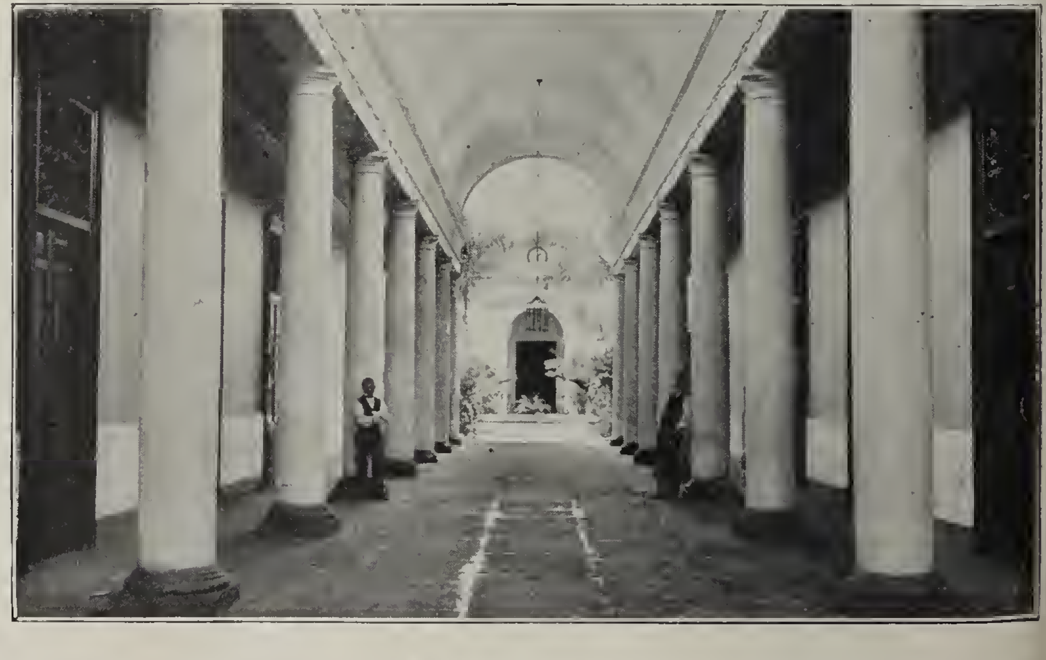

Fig. 47.—Hospital Dos De Mayo ("Second of May" Hospital), Lima; inside gallery.

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* Editor's Note.—This chapter has been delayed by the fact that the photographs were not accessible immediately after Dr. Senn's death. From Peru Dr. Senn returned to the United States by way of Panama. It is a matter of great regret that no notes can be found of any observations made by him in the vicinity of the Panama Canal—in which national undertaking we are all so deeply interested. The Journal joins with its readers in the regret that this chapter not only ends this series of articles on South America, but also is the termination of the Senn "Travel Notes," which we have been privileged to publish at intervals during a number of years, and which have so delighted our readers.

are asphalt floors throughout the entire building. The capacity of the hospital is 400 beds, and the inmates are exclusively women and female children. Adjoining the hospital is a very ancient church bearing the same name. Twenty-four Sisters of Charity of St. Vincent de Paul are in charge of the hospital, and although the building is more than 350 years old, it is kept in good repair.

At present the Lima Benevolent Society, in order to close this very old institution, is building a new hospital in accordance with the latest scientific requirements, and in the form of separate wards, each one with 40 beds, and, besides, a special department for children.

Two operating rooms of recent construction are in strong contrast with the otherwise ancient interior arrangements of this venerable building. In one of these I witnessed a splenectomy by Dr. C F. Carvallo, professor of gynecology in the medical school. The patient was a dusky Peruvian woman about 40 years of age, a multipara, who for a number of years had suffered repeated attacks of pain in the splenic region. She was quite anemic. The enlarged spleen could be felt and palpated at a point of the costal arch and the symphysis pubis, with the patient in a sitting or standing position. On lying down the spleen could easily be pushed into its natural place. The operation was performed in the presence of 13 students, all of them in linen gowns. Professor Carvallo operates under strict aseptic precautions, wearing even a face mask. The abdomen was opened in the median line, the spleen with its long pedicle was easily brought forward into the wound, when the pedicle was clamped with several long-handled forceps, the parts between them tied in small sections with catgut and the spleen removed. Not a drop of blood was lost from the pedicle. The external incision was closed in the usual way by sewing first the peritoneum, then the fascia and finally the skin. Chloroform is the anesthetic in general use. Professor Carvallo is a very careful and expert operator, and from what I saw of his work, his results in this, the oldest hospital on the American continent, must certainly be good. I saw this patient forty-eight hours later and found her doing well.

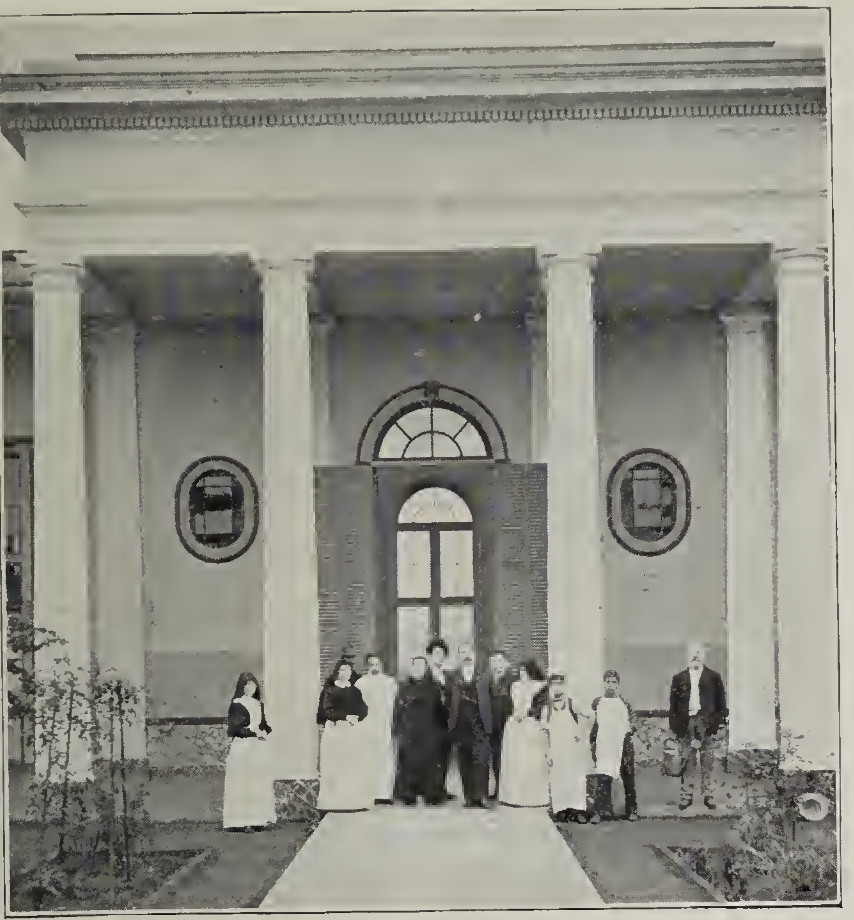
Fig. 48.—Italian Hospital, Lima.

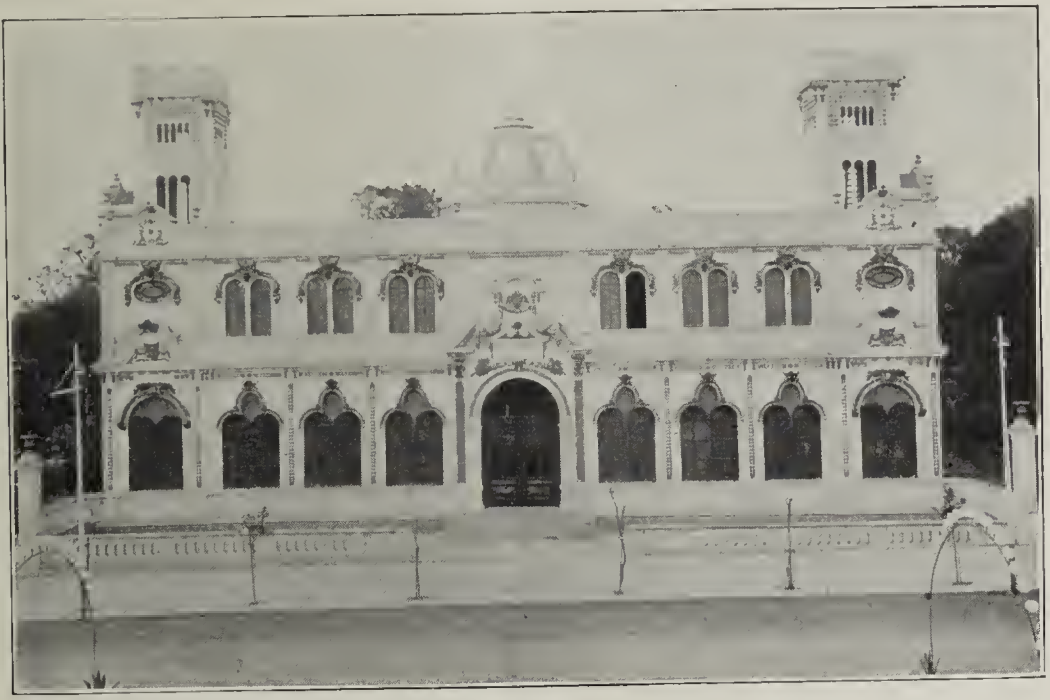
Fig. 49.—Municipal Hygienic Institute, Lima.

The faculty of the medical school forms the attending staff of this as well as of the Dos de Mayo Hospital, the combined number of patients being at least 1,000 and furnishing an enormous clinical material for the comparatively small number of students.

DOS DE MAYO HOSPITAL.

The Second of May Hospital (Fig. 46) is the largest hospital in Lima, containing 1,000 beds, although the average number of patients seldom exceeds 600. This hospital is exclusively for men. It was completed in 1875 and remains fairly well adapted for present requirements, as it has a modern operating room, and is well equipped with surgical instruments and appliances (Fig. 47). The large wards contain 54 beds each. I witnessed an operation here by Prof. G. Gastañeta on a negro for a discharging tubercular abscess in the neighborhood of the hip joint. The sinuses were laid open freely, scraped and packed with the gauze.

The operating theater is large and a glass partition separates the students from the operator. During the entire clinic the students have use only for their eyes, their ears are at rest. The tile floors, steam laundry, modern kitchen, the two excellent operating rooms, and a very good assortment of surgical instruments show that the administration and attending staff of the hospital are fully aware of the present status of hospital requirements. The hospital is in charge of twenty-four Sisters of Charity of St. Vincent de Paul.

Both of these general hospitals have resident physicians and internes and externes selected from the graduating class, who serve during the last two years of their six years' medical course.

ITALIAN HOSPITAL.

Lima has a very large Italian population, and it is constantly growing by a continuation of immigration from that country. Many of the Italians have become successful business men and hotel managers, men of wealth and influence. It is by the aid and through the influence of such men that the Italians make provisions for their countrymen less fortunate when they become affected by disease. The Italian Hospital (Ospedale Vittorio Emmanuele) (Fig. 48) was built twenty years ago. It is one of the charities of a mutual benefit society, the Societa Italiana Beneficenza e Istruzione, founded in 1862, and which has now a membership of about 1,000. Each member pays into the treasury of the society one sol (50 cents) a month, and then is entitled to free hospital treatment in case of illness. The hospital has an excellent location, and from the central court, which is a charming flower garden, the four large, one-story pavilions radiate out like the spokes of a wheel. This is the finest hospital in Lima and is well equipped. It is in charge of five Sisters of Saint Ann. The hospital has accommodations for 100 patients and has a number of private rooms for which patients pay 4 sol ($2.00) a day, and small wards in which beds cost 2 sol ($1.00) a day. The walks are paved with asphalt and all of the floors are made from the same material. Dr. E.

Campodomio is director of the hospital and in charge of the medical and ophthalmologic departments, and Dr. Ch. Milesi is the attending surgeon. Two resident house physicians, recent graduates in medicine, each receive a small salary, and are expected to serve for two years. Dr. Campodomio is an earnest, devoted and progressive physician, who devotes his whole time and services to the practice of his profession. He speaks English fluently, and is well posted in English medical literature. He has seen a number of cases of the Bolivian disease, which I have described elsewhere,[1] and believe it to be a kind of lupus, but is willing to admit that in many respects it bears no resemblance to that disease. In examining the interesting collection of pottery in the Lima Museum, I came across a piece which I am confident was intended to represent a case of Bolivian disease. The vase was undoubtedly of great antiquity, and the human face depicted on it showed to perfection the characteristic destruction of the lip and nose, and on what little remained of the lower lip, there was in the center a red spot indicating the existence of the destructive ulcer. None of the Lima physicians whom I met claimed ever to have seen cancer or appendicitis in the aborigines.

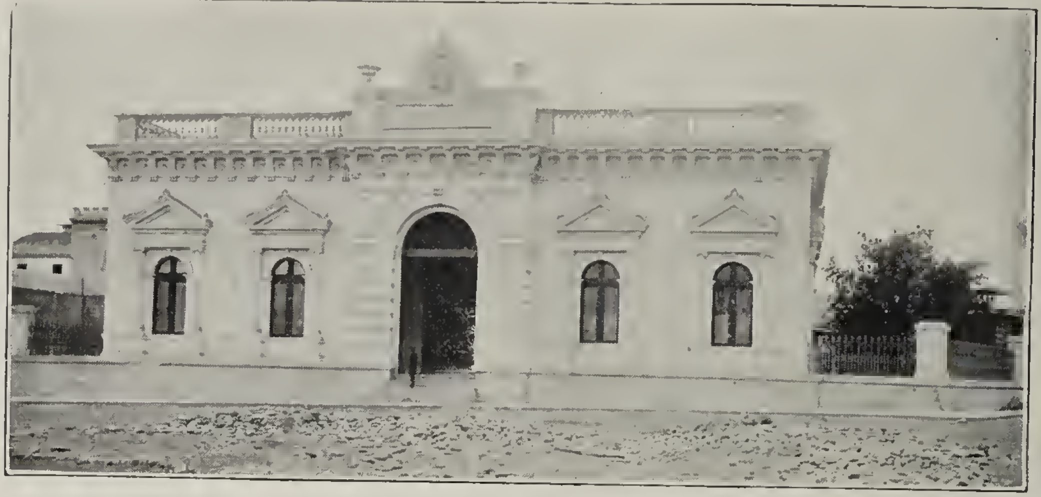
Fig. 50.—Vaccine and Serotherapeutic Institute, Lima.

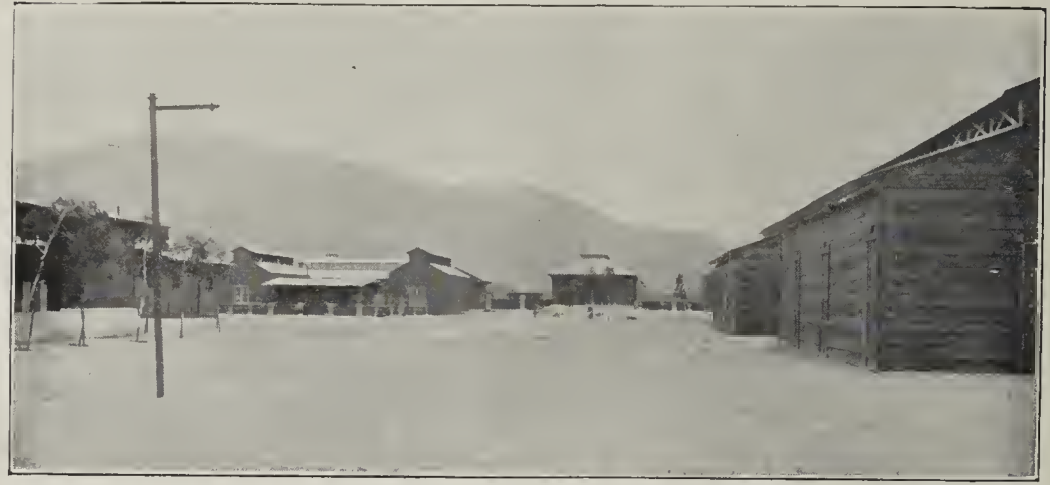
Fig. 51.—Isolation hospital for contagious diseases, Lima. General view.

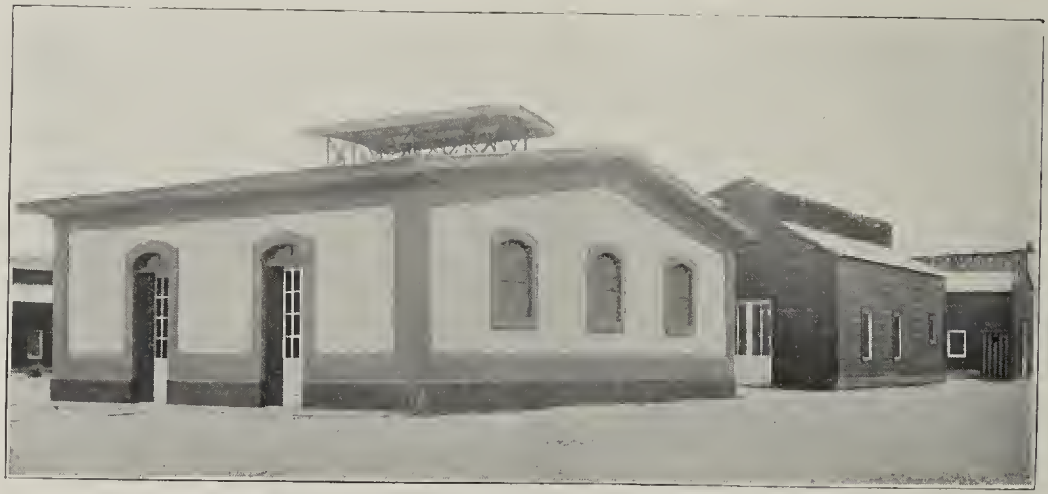
Fig. 52.—The lazaretto (pest house) and disinfecting quarters.

DR. LARRÉ'S PRIVATE CLINIC.

Dr. Larré, a bright young French surgeon, has just completed the building of a small hospital with ten beds at a nexpense of $20,000. This little hospital is perfect in every respect, located on ample grounds outside of the city limits, and on one of the suburban tramways. He will engage trained female nurses, and after the hospital has been fully equipped, will find himself surrounded by all modern conveniences, well prepared to perform the most difficult operations, and will have the assurance that his patients will recevie the necessary careful post-operative treatment.

CASA DE SALUD.

Two Italian physicians, Drs. Barazzoni and Vittorelli, have built a sanitarium in the beautiful suburb of Bellavista. With the aid of government support they intend to start what is so much needed here, a training school for female nurses. We wish this new enterprise every possible success.

LIMA ACADEMY OF MEDICINE.

Lima has about 250 practicing physicians, including two ladies. A physician with an established reputation is paid $2.50 for office consultations and $5 for visits. Fees for operations are low, and an income of $1,200 is the lot of but very few. The professors are paid $65 a month, and some of them have to depend on this meager salary for a living. They must deliver each week three lectures of one hour each.

The city has only two medical societies: the Sociedad Amante de la Ciencias, a society made up of the students and professors of the medical school, which meets every two months, and in which scientific subjects are discussed, and the Academy of Medicine of Lima, with a membership of about 30. As the latter is the only real medical society in the city, it is easy to see that the mass of the profession is left without any society attractions, or is left to shift for itself. This condition is certainly deplorable, as fraternal ties tend to unity of purpose and action.

PUBLIC HEALTH.

The Public Health Service is now thoroughly organized in Peru, and its administrative management is in the hands of the Direction of Public Health, a new branch office of the Bureau of Fomento, which was created in 1903, having at its disposal the staff and necessary elements for properly and promptly attending to the requirements of this important service in the republic. At the head of this institution is the well-known sanitarian and hygienist, Dr. Julian Arce, to whom the government has wisely entrusted its foundation, and to whose intelligence and constant application is due the rapid progress made in sanitary matters during late years. He has a strong support in Dr. Casémiro Medina, who stands next to him in the administrative work of the office, and in Dr. Francisco Graña, a most capable young physician who takes great interest in everything pertaining to the interests and work of his office. The main office of the new Bureau of Health is in the old palace, where a series of rooms has been set aside for this purpose.

The Direction of Public Health is composed of two sections: Hygiene and demography, and its dependencies are the body titular of medical men; the sanitary corps of doctors; the midwives and the vaccinators. The sanitary section, the vaccination and serotherapeutic institute; the marine lazaretto, the Lima Hospital for Contagious Diseases, and all the other lazarettos in the republic.

The titulary medical men reside in the capital of each province, and their principal duties are to watch over sanitary conditions in their several jurisdictions; give their attention to the benevolent institutions, and to decide such medicolegal questions as may be submitted to them.

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[1] The Journal A. M. A., Jan. 11, 1908, page 118.

The sanitary corps of doctors has under its charge the care of the ports along the shore, and is composed also of medical men appointed in special cases whenever situations of an urgent character arise and require more constant care and attention than the permanent officials can devote to them. The maritime sanitary defense is governed by the regulations of the sanitary police formed in accordance with the Second International Sanitary Convention, held in Washington, and for its practical working has three sanitary stations created in 1904.

The first of these has been installed in the port of Payta, and gives attention to vessels coming from the north; the second, in the port of Ilo, for all vessels coming from the south, and the third in the port of Callao, the principal seaport of the republic, for those that come directly to it. These sanitary stations have each of them the Clayton apparatus for the disinfection of vessels and cargo. They also have special arrangements ashore for the examination and disinfection of baggage, and also lazarettos, for the observation and isolation of suspicious cases, or in case of epidemics. In the ports of Salaverry, Pacasmayo, Eeten, Mollendo and others, there are also apparatus and means of disinfection for the same purpose.

The Vaccination and Sero-Therapeutic Institute is intended for the preparation and diffusion of the animal vaccine fluids, and for obtaining the preventive and curative sera for the treatment and prevention of acute infectious and contagious diseases. So far, the work of this institute has been limited to the production of bovine vaccine material, and the prophylactic and curative sera have been imported regularly from Paris. During 1905, 5,900 persons were vaccinated, and of this number the result was satisfactory in 2,693; negative in 746 and unknown in 2,461 cases. During 1905 the institute imported from Paris 100 flasks of antipest serum, 100 flasks of antistreptococci serum, 60 flasks of Behring's antidiphtheritic serum, and 30 flasks of antitetanic serum.

THE DIRECTION OF PUBLIC HEALTH.

The history of the reorganization of this important branch of the government service and many scientific articles on hygiene and sanitation are published in the official Boletin del Ministerio de Fomento, which appears about every two months, and is used as a channel through which to diffuse a more thorough knowledge of hygiene and sanitation. No. 4 of the second year's series contains a classical article on "Yellow Fever" by E. Marchoux and E. L. Simond. No cases of yellow fever have originated on the coast of Peru since the last epidemic in 1868. Compulsory vaccination in the line of coast travel has been instrumental in checking to a large extent one of the scourges of the country—smallpox.

The vigorous fight against the pest by isolation and disinfection, killing of rats and the prophylactic serum treatment have had a signal success in diminishing to a great extent the frequency of this dreadful disease, as I saw only three cases in the Isolation Hospital, and all of these patients were convalescing. Further, proper attention to water supply and sewerage, will in time make typhoid fever a less frequent disease. Those in charge of the direction of public health deserve great credit for what they have already accomplished, and the public may look with confidence to what they will undertake in the future.

THE HYGIENIC INSTITUTE.

The institution that reflects more credit on the city of Lima than any other is the Hygienic Institute (Fig. 49). It is located opposite the Permanent Exposition building, and is a magnificent two-story edifice devoted exclusively to scientific investigations and research work. It was recently founded and organized by a specialist of repute, the Italian doctor, Ugi Biffi. G. It is divided into two sections, one of chemistry and the other of bacteriology, with a chief at the head of each, and a competent staff of assistants. Much excellent scientific work has already been done, and we may hopefully look forward to this institute for new discoveries in the untrodden paths of prophylactic and curative serotherapy.

ISOLATION HOSPITAL FOR CONTAGIOUS DISEASES.

The group of admirably built wooden barracks (Fig. 51) on a large sandy lot, near the limits of the city, testifies to the farsightedness of the health authorities of Lima. Two Sisters of Charity and several helpers are in charge of the empty buildings, as only one building is now occupied by the three patients recovering from the bubonic plague (Fig. 52). But the city is ready for any emergency. Every building is ready to be occupied at a moment's notice, and preparedness means everything in sudden outbreaks of contagious diseases. Lima is prepared for emergencies of this kind, and the patients will be comfortably housed the moment they arrive. Everything is in readiness should yellow fever, bubonic plague, smallpox, scarlet fever, measles or any other contagion occur. A large disinfection plant is on the ground and ready for operation at a moment's notice.

PANAMA, September, 1907.

Clinical Notes

TWO INSTANCES OF SEVERE NON-FATAL SERUM REACTION.

A. P. OHLMACHER, M.D.
DETROIT.

The reports by Drs. Wiley[1] and Boone[2] of fatal serum accidents, and the discussion aroused thereby, prompt me to record my unpleasant experience, which, fortunately, was less tragic than those mentioned. Two cases of sudden reaction following the repeated subcutaneous injection of horse's serum, with very alarming symptoms, in two adults undergoing the serum treatment for rheumatism, are the ones in point. As both patients recovered, and since I was cognizant of the phenomenon of serum hypersusceptibility from my work in the serum laboratory, I observed the reactions with special interest, and studied the symptomatic events somewhat more critically than usual. In fact, the contingency of just such an accident had been considered, and I had tried to avert it by administering several "immunizing" injections of the serum during the first eight or ten days of what is shown by animal experimentation to be the sensitizing interval. In both instances the more common "accelerated reaction" of the serum disease, as defined by von Pirquet and Schick, i. e., urticaria, joint pains, and fever, failed to appear. Indeed, it seemed as if these more usual manifestations of serum reaction accumulated and took the form of one severe toxic explosion.

The first patient was the wife of a dentist, under the care of Dr. Carstens, in Harper Hospital, where she expected to be confined in about six weeks. Because of the woman's greatly crippled condition, resulting from a subacute polyarticular rheumatism, the attempt was made to relieve her by treatment with an antistreptococcic serum which had been extolled as efficacious in this affection. The serum was injected subcutaneously in doses of 10 c.c., one each for the first three days, then one at intervals of two or three days. On the fifteenth day after the treatment was commenced, and the occasion of the seventh injection, the accident occurred, there having been up to this time not the slightest evidence of serum reaction, and only a complaint by the patient that she could, within a few minutes after the injection, taste the "carbolic acid" (trikresol) with which the serum was preserved.

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[1] THE JOURNAL, Jan. 11, 1908, p. 137.
[2] THE JOURNAL, Feb. 8, 1908, p. 453.

The injection was performed with the usual technic, the site of that particular one being the interscapular region, with the patient sitting in bed. I had turned to hand the empty syringe to the nurse when the patient exclaimed: "Doctor, what was in that medicine?" "Do you taste the carbolic acid?" I inquired, thinking this the source of complaint. The woman's face wore a very anxious expression as she replied "No," and then with the remarks "I feel so queer! What is the matter? I can not breathe! Oh, Doctor, you have given me the wrong medicine! I am dying!" her previously pallid face became suffused, and she fell backward on the bed, breathless.

At once there appeared a most pronounced congestion of all the exposed cutaneous surfaces, and an enormous general edema by which the head, arms and legs were swollen to much increased size, completely distorting the features and causing to be overwhelmed the previously existing swellings of the affected joints. It seemed that the hands and feet were swollen to twice their size, and with the purplish congestion of the skin the woman's appearance reminded me forcibly of the bloated cadaver of a drowned person. I could feel a feeble, rapid pulse; but no effort at respiration was evident. After an interval that seemed measured by several minutes, but which, of course, was less, a gasping attempt at inspiration occurred, accompanied by a rapid recession of the edema and cyanosis, to give way to a ghastly pallor. After a few ineffectual attempts, spasmodic breathing was resumed, to be followed by moaning, inarticulate efforts at speech, opening of the eyes and gradual return of consciousness.

As soon as the woman could express herself she complained of chilliness, and speedily most severe rigors occurred. These chills, which were not allayed by artificial heat, lasted for about fifteen minutes, and while they were in progress the patient vomited several times. Following the chills the cutaneous surface took on a bright red hue and hyperpyrexia gradually developed, reaching a maximum temperature of 103 F. in about three hours. By the next morning all unpleasant symptoms had subsided, the woman expressed herself as feeling perfectly well, and for a week or two following this incident the rheumatic joints were much more comfortable.[3] Fears were entertained about the fate of the child *in utero,* but the subsequent birth of a perfectly normal infant showed that these were groundless.

In the second patient, an adult man reporting to my office for treatment, the cumulative reaction was not so severe as that just described, principally differing in that the apnea was less prolonged and consciousness not entirely lost. Further, a longer interval, perhaps two or three minutes, elapsed before the patient complained of feeling ill. But the same sudden generalized edema and cyanosis manifested themselves, with difficult breathing and a choking sensation, followed by rapid disappearance of the edema and extreme pallor, with chills and vomiting, and later by fever. Here, too, a marked relief of the rheumatic symptoms followed the serum reaction. Some ten injections of serum, first at intervals of three days, then two to four days apart, and in doses of 5 c.c. or 10 c.c., had been administered prior to the occasion in question, with no further accelerated reaction than a slight swelling and itching at the injection site, persisting for a day or two.

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[3] I might parenthetically add my belief that the occasional good results which follow the injection of horse's serum in chronic rheumatism are to be ascribed to the periodic hyperemia and edema, produced in the affected joints as a part of the "accelerated serum reaction."

SOME NEW STAINING METHODS OF WIDE APPLICABILITY.

INCLUDING A RAPID DIFFERENTIAL STAIN FOR ELASTIC TISSUE.

F. H. VERHOEFF, A.M., M.D.
Pathologist and Assistant Ophthalmic Surgeon, Massachusetts Charitable Eye and Ear Infirmary; Instructor in Ophthalmic Pathology, Harvard University.
BOSTON.

Of the numerous staining methods devised for demonstrating elastic tissue, the method of Weigert has given the most satisfactory results. Weigert's solution, however, stains connective tissue diffusely, and thus does not give the sharpest possible differentiation. It has the disadvantages also of staining celloidin deeply, of not permitting the use of satisfactory counter stains, and of giving especially unsatisfactory results when used on tissues fixed in Zenker's fluid. The method here to be described is free from these disadvantages, and gives an intense stain of even the finest elastic fibrils. The method gives good results after any of the following fixatives, namely, Zenker's fluid, formaldehyd, formaldehyd followed by Weigert's mordant for myelin sheaths, formaldehyd followed by Marchi's fluid and fairly satisfactory results may be obtained also with tissues decalcified in nitric acid. In the case of fixation in Zenker's fluid, tissues or sections should not be treated with iodin solution before staining. This, moreover, is unnecessary since mercurial precipitates are removed by the staining fluid.

RAPID DIFFERENTIAL ELASTIC TISSUE STAIN.

The staining fluid is made as follows:

Hematoxylin crystals	1 gm.
Absolute alcohol	20 c.c.

Dissolve in test-tube by aid of heat, filter, and add in order given:

Aqueous solution (10 per cent.) of ferric chlorid	8 c.c.
Concentrated Lugol's solution (iodin, 2; potassium iodid, 4; water, 100)	8 c.c.

This solution may be used repeatedly and seems to keep indefinitely.

Sections are immersed in the staining fluid for five minutes or longer, and are then differentiated in a 2 per cent. aqueous solution of ferric chlorid. The differentiation requires only a few seconds, and is completed when the connective tissue is observed to take on the color of Lugol's solution. During the process the sections should be kept in motion. In the case of celloidin sections, it is important, of course, to straighten out any edges that are folded over. To observe the stages in the differentiation, the sections may be examined in water under a low magnification. If the differentiation has been carried too far, the sections may be restained, provided that they have not been treated with alcohol.

The sections are now washed in water, followed by 95 per cent. alcohol to remove the stain of the Lugol's solution, and then are allowed to remain in water five minutes or longer. They are then counterstained in a two-tenths per cent. solution of water-soluble eosin in 80 per cent. alcohol, passed through alcohol, oil of origanum, and mounted in balsam.

By this method elastic tissue is stained black, while connective tissue, fibroglia, myoglia, neuroglia, myelin and fibrin take the eosin stain. Nuclei of normal tissues are stained faintly but distinctly; nuclei of tumors stain more intensely. Nuclear staining may be obviated by doubling the amount of Lugol's solution in the staining fluid. Degenerated elastic tissue (elacin), which stains in alum hematoxylin or in Mallory's phosphotungstic acid hematoxylin, is also stained by this method. The degenerated fibrils may be distinguished from the normal by staining less intensely and presenting more diffuse outlines.

DIRECT DIFFERENTIAL STAIN FOR ELASTIC TISSUE.

By filtering the above staining fluid through cotton and then diluting it with one volume of a seven-tenths of 1 per cent. solution of hydrochloric acid in 50 per cent. alcohol, a fairly good direct stain is obtained. It has the disadvantage, however, of staining connective tissue slightly. Sections are stained one hour or longer, washed in 95 per cent. alcohol, and counterstained as described above. Instead of eosin, van Gieson's mixture may be used as a counterstain.

DIFFERENTIAL STAINING METHOD FOR MYELIN SHEATHS.

This method which gives an intense stain, has also the advantages of rapidity and simplicity. The best results are obtained after fixation in formaldehyd four days or longer, followed by Weigert's mordant of potassium bichromate and chrome alum for four days. Results sufficiently good for most purposes, however, are obtained after fixation in Zenker's fluid, or in formaldehyd followed by Marchi's fluid. Mercurial precipitates need not be removed before staining.

Sections are placed for thirty minutes in a 3 per cent. aqueous solution of potassium permanganate. This solution may be prepared quickly if hot water is used, and if protected from the light it keeps for weeks. The sections are now washed in water and stained for thirty minutes in the staining fluid first described. They are then washed in water and differentiated in a 10 per cent. aqueous solution of ferric chlorid. The differentiation should proceed until the internal elastic membranes of blood vessels are decolorized, as determined by examining the sections in water under a low magnification. This requires one to two minutes. If it is desired to decolorize red blood corpuscles, the process may be continued longer. The sections are now washed in water, followed by 95 per cent. alcohol, for a minute or two, and allowed to remain in water for at least five minutes, preferably longer. Finally, they are counterstained in eosin and mounted in the usual manner.

RAPID METHOD OF STAINING NUCLEI.

This will be found to give results superior to those obtained with the ordinary alum hematoxylin or hematein stains, and possesses the additional advantage of being incomparably more rapid. The same staining fluid is used as for elastic tissue, except that the Lugol's solution is omitted. Successful results are obtained after any of the usual fixatives. Mercurial precipitates may be removed before staining. Sections are stained one minute or longer and then differentiated in a 2 per cent. aqueous solution of ferric chlorid. They are then washed in water and stained in eosin. or other contrast stain, in the usual manner. Old specimens, which stain feebly by ordinary methods, often take a deep stain by this method.

233 Charles Street.

ACCIDENTAL RUPTURE OF SIGMOID FLEXURE.*

FRED FLETCHER, M.D.
COLUMBUS, OHIO.

The application of external violence to the abdominal wall not infrequently causes laceration of the intestine. Rectal injuries incident to labor, pelvic operations, the introduction of foreign bodies, penetrating and punctured wounds, are not uncommon. Cases are reported in which injuries of the rectum followed the rough handling of an enema syringe, rectal bougies and the sigmoidoscope. However, I have been unable to find a case recorded in which the intestine was lacerated from the therapeutic or criminal use of compressed air. Nor did I find in a single one of the many recent text-books a mention of compressed air under an innumerable list of etiologic factors in the production of intestinal or rectal lacerations.

Van Hook has collected 28 injuries to the rectum, complicated by wounds of the peritoneum. Death followed in 20 and recovery in 6 cases. Bryant collected 20 cases of intestinal invagination treated by rectal insufflation of hydrogen gas, in 3 of which it produced a rupture of the bowel below the invaginated portion. The experiments of Senn, made on different parts of the gastrointestinal tract when in a healthy condition and removed shortly after death, proved that lacerations did not take place under a pressure of less than eight pounds of hydrogen gas, and often that it had to be increased to twelve pounds. When the rupture took place it occurred either as a longitudinal laceration of the peritoneum on the convexed surface of the bowel or as a multiple rupture from within outward at the mesenteric attachment. The former result followed rapidly, and the later slow inflation. This is in keeping with what happened in my own case.

Many factors influence the seriousness of an intestinal laceration: the location and extent of the tear and, above all, the length of time elapsing between the injury and the observation of the surgeon. Septic peritonitis usually develops within a few hours. The treatment is that of laparotomy, a repair or the resection of the injured gut, drainage and appropriate after-treatment.

The following case offers several unusual features, and is reported because of its rarity:

Patient was a male, aged 36, German, stationary engineer; height, 6 feet; weight, 185 pounds; well nourished and robust.

Personal History.—Had an attack of acute rheumatic fever three months ago, and has taken ten grains of sodium salicylate, three times daily, for a period of weeks. This is mentioned because the drug has an antiseptic value. The day of the accident was the first he had worked.

Present Trouble.—At the close of work, 4:30 p. m., May 28, 1907, he was initiated by his fellow-workmen. Two men held him in a semi-standing posture, while a third party pressed the nozzle of a compressed air apparatus used for riveting bolts, against a thin pair of overalls, directly over the external sphincter, and turned on not less than 70 pounds of compressed air. The intense pain increased the man's attempts to free himself, so that the current of air was not used for more than a second. When the "practical jokers" released their holds, the victim fell to the ground; he was unable to move, complained bitterly of pain, and showed such obvious symptoms of trouble that a physician was called, and later the patient was sent in an ambulance to the Emergency Hospital.

Examination.—I saw the patient in consultation with Dr. C. E. Blanchard, two hours and a half after the accident, when he presented the following symptom-complex: semi-sitting posture, pinched facies, and marked cyanosis from his inability to breathe. He was conscious, yet unable to talk because of the intense intra-abdominal pressure. The abdominal distension was something unusual. The abdomen was drum-like, and the abdominal wall so stretched that it actually felt thin. The labored respirations, from upward pressure on the diaphragm, made it possible to see a retraction of the chest wall at the costal insertions of the diaphragm. The thoracic percussion note was tympanitic as far as the third rib, above which it was hyperresonant. There was no dulness over the front or back parts of the abdomen, nor any evidence of external injury. The abdomen was so tight and tender that it was impossible, as it was impractical, to make a satisfactory examination.

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* Read before the Columbus Academy of Medicine, Jan. 20, 1908.

The rectum felt unusually long, was patulous and empty. The patient was unable to pass flatus. There was neither blood nor a blood-tinged discharge coming from the rectum. At this point it is well to say that on entering the hospital the patient was given a soap-suds enema, the greater part of which was retained. The temperature was 96.8 per mouth; the pulse, 120. He complained of air hunger and excruciating pain with the occurrence of each peristaltic wave. He vomited 500 c.c. of an offensive, greenish-colored material; was constantly nauseated, yet unable to eructate gas. A diagnosis of rupture of the bowel was made. He was given one grain and a quarter of morphin the first two hours after the accident, and there followed an unavoidable delay (because of his religion), so that it was 9 o'clock before an operation was undertaken.

Operation.—With the assistance of Dr. Blanchard, I opened the abdomen through the left rectus muscle below the umbilicus. On knicking the peritoneum, the escaping compressed air and intestinal gas tore the peritoneum for a distance of three inches. The force was such as to startle those present at the operation. The intestines were found collapsed, while the stomach was distended and floated low in the abdominal cavity. It was noted that the intestines, especially the small bowel, together with the mesentery, were covered with hemorrhagic spots, varying in size from a millet seed to that of a split pea. The abdominal contents were deeply injected. The intestines were eviscerated and inspected. The pelvic cavity contained a large amount of blood, feces and the enema. Several loops of the ileum were covered with a greenish exudate.

Site of Intestinal Laceration.—On drawing the sigmoid flexure upward and to the right, a six-inch tear was found extending from the (constricted) junction of the rectum and sigmoid (in front of the body of the third sacral vertebra), into and along the convex border of the sigmoid. The laceration took an oblique course; it was clean cut through the mucous and muscular coats of the bowel, while the peritoneum was ribboned throughout the entire length of the tear. The position of the laceration, the first three inches being in virtually a fixed part of gut, and an unusually deep pelvis, made the operation difficult. The intestinal tear was closed with a No. 1 chromicized catgut and enforced with several Lembert sutures. The abdomen was flushed with two gallons of warm normal salt solution, and the toilet of the peritoneum was completed by introducing a large rubber tube through the median incision for drainage. The patient was returned to bed with a pulse of 120 and placed in the Fowler position.

Postoperative Treatment.—The patient received the customary subcutaneous stimulants and reacted well. He was not transfused. It was necessary to give two doses of morphin during the first six hours. Gastric lavage was used immediately after the operation, when the stomach was relieved of its fluid contents and gas. Lavage was again practiced for distension at the end of twelve hours. He was given fluids at this time. The kidneys were active; however, no flatus had been passed per rectum, and on the second day tympanitis became troublesome. There was every evidence of a general peritonitis; the temperature was 100.5 F., the pulse 100. The nausea and abdominal distress were not relieved by lavage and he could retain no liquids. On the morning of the third day he vomited a large quantity of fecal material and continued to vomit at irregular intervals until noon. The pulse and temperature remained unchanged.

At this point it is my duty to say that I did not think it advisable to make a colostomy at the time of suturing the intestine, not alone for the reason that the descending colon was fixed, but because it was observed that when the sigmoid was dropped into the pelvis the site of the injury was well protected by direct contact with serous membrane. A colostomy would have suspended the sigmoid and permitted nothing to protect the point of leakage. Resection of the sigmoid was not considered.

Colostomy.—Three days after the closure of the intestinal tear it was evident that the obstruction was complete; he had passed no gas per rectum, and we considered it dangerous to pass a rectal tube or introduce fluids into the rectum. May 31, 1907, I made a left inguinal colostomy. The muscles were split in the usual way, and the highest part of the sigmoid pulled through and fixed (Maydl's method) with the object of making a permanent anus. The sigmoid was incised, and a long, large-sized rubber tube introduced into the descending colon and securely fastened with a purse-string suture of silk. The operation consumed 20 minutes, and the patient was returned to bed with practically no shock. The tube commenced to drain after fourteen hours, and with the passing of an immense quantity of fecal material the patient showed a marked improvement. The peritonitis subsided after a few days; nourishment was administered without disturbance, and at the end of ten days the pulse and temperature reached the normal, even though the median drainage tube discharged large quantities of pus from the pelvis. The patient's convalescence seemed well established, when, three weeks after the colostomy, he developed a right-sided pleurisy, and a week later presented the physical signs of an effusion. The daily temperature fluctuated between normal and 103 F. July 6, 1907, Dr. J. D. Dunham, Jr., saw him in consultation, and the diagnosis of empyema was confirmed by the withdrawal of 500 c.c. of pus from the pleural cavity.

Resection of Ribs.—July 8, 1907, I removed a part of the eighth and ninth ribs on a line with the inferior angle of the scapula and drained the pleural cavity with two large-sized rubber tubes. The patient's condition at this time was bad; he was emaciated; had bed sores, and was profoundly septic. However, he commenced to improve, and under forced feeding, tonic treatment and good nursing was able to leave the hospital (on foot) Aug. 30, 1907, three months after his accident.

Six weeks later the patient walked to my office; he has gained 36 pounds since leaving the hospital. However, he had an annoying cough; expectorated large quantities of purulent material, and complained of the discharging thoracic fistula. He had fair control of the artificial anus. No tubercle bacilli were found on repeated examinations of the sputum. The blood count at this time was 4,000,000 red cells, 14,500 white cells, and the hemoglobin index was 85. He was given a creosote preparation, and the cough stopped within a week. The fistula closed ten days later. The base of the right lung was then, and is now, collapsed. At the present time he complains of no pleuritic (adhesion) pains, nor of respiratory embarrassment.

Oct. 12, 1907, Dr. Wells Teachnor made a thorough examination of the rectum and sigmoid, using the colonoscope not only in the usual manner, but through the colostomy opening directly into the sigmoid. Dr. Teachnor was convinced of an observation previously made by myself, namely, that with a rectal tube introduced through the colostomy opening into the sigmoid it was impossible to force water, under considerable pressure, into the rectum, yet with the same tube introduced into the rectum, and under ordinary pressure, a good-sized stream emptied itself through the bowel onto the abdomen. This was tried many times, with the patient in every conceivable position, without success. The fingers could be made to touch when introduced into the rectum from below and the sigmoid above, the intestine intervening. Seemingly, the first few inches of the sigmoid were adherent to the left of the sacrum. No mass could be outlined.

Laparotomy for Ventral Hernia.—Dec. 3, 1907, the patient consulted me for relief from a constant backache. An examination disclosed a small-sized ventral hernia at the site of the (median) drainage tube. The protrusion was not large; was reducible, yet would account for the mesenteric pull and the backache. December 5, I opened the abdomen to the right of the old scar. The omentum was not adherent to the parietal peritoneum. The hand was introduced for an exploratory purpose into the pelvis. The commencement of the rectum and fully four inches of the sigmoid seemed fixed to the left of the sacrum. The adhesions were not disturbed. The defect in the abdominal wall was closed by dissecting two free flaps of adherent aponeurosis and peritoneum; these were overlapped transversely and fixed with mattress sutures. The patient took the anesthetic well, and had neither respiratory or abdominal postoperative disturbances. The wound healed by first intention, even despite its being occasionally soiled from the discharging anus. The convalescence was uninterrupted, except for an extensive dermatitis which followed the use of Harrington's solution while preparing the field for operation. The solution was not used for more than thirty seconds, and was removed in the usual way, with alcohol. The dermatitis appeared along the line of incision and around the colostomy opening on the third day; it was vesicular on the fourth day, and later involved the front part of the abdomen, the thorax and neck as a solid blister. The patient peeled off in a week and left the hospital 14 days after the operation.

Resection of Colon and Sigmoid Flexure.—The patient visited me Jan. 2, 1908, and insisted that I attempt an obliteration of the artificial anus. And it seemed logical that such a thing was possible, for if water could be forced up the gut it could be made to go down.

He was sent to the Protestant Hospital and put through a preparatory treatment for three days. Jan. 7, 1908, with the assistance of Drs. Helmick and Gallen, I cut loose from the abdominal wall that part of the intestine involved in the making of the colostomy (junction of the sigmoid with the descending colon). The pelvis was thoroughly explored, and with the hand posterior to the sigmoid I was unable to guide a rectal tube in a way that we could force water into the rectum. However, it was an easy matter to irrigate up the bowel. This was practiced on the operating table. After freeing the adhesions, I was able to suspend the lower part of the sigmoid, and with considerable difficulty passed a good-sized rectal tube into the rectum. It was an easy matter, with the tube *in situ*, to free the fixed part of the sigmoid and to dilate the seat of stricture. The opening seemed large enough to justify a tight closure of the abdomen, and for this reason I resected three inches of the descending colon and six inches of the sigmoid. The anastomosis was made with an extra large-sized Murphy button. In introducing the button I carried out the original idea of attaching two heavy silk strings to the button. These were fastened to the rectal tube and drawn into the rectum. The pelvis was drained with a small roll of iodoform gauze at the lower angle of the incision. The operation required less than an hour. The patient was scarcely shocked, reacted well, and required no postoperative stimulants. It was unnecessary to administer opiates.

Gas was passed, per rectum, at the end of 8 hours. After the first 24 hours he was given a liberal quantity of liquids, and voided 400 c.c. of urine. On the fourth day after the operation he passed a medium-sized fluid stool; on the seventh day he was given one-half ounce of castor oil, and on the following day was given soft diet. Suture tension necessary to close the abdominal defect caused a slight infection at the lower angle of the incision. Other than this the patient's convalescence was uninterrupted; he was out of bed on the fourteenth day. Daily traction was made on the strings attached to the button after the second week, and twenty-seven days after its introduction it was delivered without difficulty. The button was given preference over an end-to-end suture of the bowel, for the reason that, with the string attachment, I thought I could deliver the button, and, in so doing, dilate the stricture.

Dermatologic Dont's.—Don't be too hasty in a positive diagnosis—certainly not from inspecting any single portion of an eruption; many a cutaneous disorder will present very different appearances in different localities. Don't fail to examine every part affected, both for diagnostic and therapetic purposes.—Bulkley in *Therapeutic Gazette.*

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(Continued from page 123.)

BROMURAL.

Bromural $(CH_3.CH(CH_3).CHBr.CO)HN.CO.NH_2 = C_6H_{11}N_2O_2Br$, is alpha-monobrom-isovaleryl-urea obtained by the condensation of urea with brom-isovaleryl bromide.

Bromural forms small, white, almost tasteless needles which are easily soluble in hot water, ether, alcohol and alkalies, but less readily in cold water. It sublimes on heating and melts in the neighborhood of 145° C. (293°F.).

Bromural can be reprecipitated from a 10 per cent. sodium hydroxide solution with acids. The presence of bromine may be demonstrated by fusion with sodium carbonate and potassium nitrate and testing for a bromide with silver nitrate solution. On heating the alcoholic solution of Bromural with sodium ethylate for several hours on the water bath, sodium bromide will precipitate. If this is filtered off and the filtrate evaporated, a crystalline mass will remain which can be recrystallized from water. This is dimethylacrylic acid, melting at 280° C.

If 1 gram bromural is boiled for about 1 minute with 10 per cent solution of sodium hydroxide, ammonia obtained from the urea will be given off.

If the hot liquid is then cooled, acidified with nitric acid and extracted with ether, on evaporating an oily fluid will remain. 1-brom-isolvaleric acid, which has the specific odor of valeric acid.

The biuret reaction can not be obtained. On melting bromural and adding concentrated sodium hydroxide solution and copper sulphate, no color reaction will take place.

Actions and Uses.—Bromural is a nerve sedative which is claimed to produce sleep without markedly affecting the circulation or respiration. All action by bromural is said to cease after from three to five hours. In many cases, however, the sleep caused by the preparation continues beyond the limits of its action. It is claimed to be useful as a nerve sedative and for the purpose of inducing sleep in functional nervous diseases. Bromural does not produce the desired effects in cases of insomnia where pain, cough, angina pectoris and excitement or delirium exist.

Dosage.—As a nerve sedative 0.3 Gm. (5 grains) three times daily, as a soporific at bedtime 0.6 Gm. (10 grains) which dose may be repeated if needful during the night, after the action of the first dose has ceased.

Bromural is supplied as a powder and also in tablets of 0.3 Gm. (5 grains) each.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany. (Knoll & Co., New York. Merck & Co., New York). U. S. patent applied for. U. S. trademark No. 61,165.

ELIXIR BUCHU, JUNIPER AND ACETATE POTASSIUM, P.-M. Co.

Each 4 Cc. (1 fluidram) is said to represent buchu .6 Gm. (10 grains), juniper berries, uva ursi, of each .3 Gm. (5 grains) and potassium acetate .2 Gm. (3 grains).

Dosage.—4 Cc. (1 fluidram) to 8 Cc. (2 fluidrams) with considerable water three or four times a day.

Prepared by the Pitman-Myers Co., Indianapolis. Not copyrighted or patented.

(To be continued.)

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[*For other information see second page following reading matter.*]

SATURDAY, MARCH 14, 1908.

THE GENESIS OF GALLSTONES.

Certain recent work on this subject seems to be of sufficient importance to deserve critical comment. Nearly fifty years ago Thudicum originated the theory that gallstones were formed by the precipitation of cholesterin and certain calcium compounds as a result of the bile becoming acid. This acidity he believed was due to decomposition of the bile on long standing or to a hypersecretion of mucus. Since this was long before the discovery of bacteria, decomposition was considered purely a chemical change and hence the theory was known for years as the chemical theory.

Naunyn especially has given us much information on the subject of the formation of gallstones, and to-day his classification and explanation of their origin have come to be generally accepted. According to him inflammation plays a most important rôle and is usually the beginning of the process. This is nearly always due to an infection with either colon or typhoid bacilli producing a desquamative cholangitis. The bacteria and the epithelial cells form suitable nuclei on which the various constituents of gallstones are deposited. These constituents are chiefly cholesterin (in some instances nearly pure) and calcium salts of bile pigments; also there are usually more or less carbonate and phosphate of calcium and small amounts of bile salts, soaps, fats, etc. Now the important process and the one chiefly in dispute is the origin of the cholesterin and the calcium pigments. Only a very small amount of cholesterin occurs in normal bile and this is not increased in disease. Naunyn and his school, therefore, were led to believe that this substance was not a product of an abnormal liver secretion or an abnormal general metabolism but arose from the disintegration of the desquamating epithelial cells analogous to the manner in which it is supposed to be formed in secretions of inflamed bronchi, in pus and necrotic tissues. There can be little doubt but that some at least of the cholesterin is formed in this way.

As to the origin of the calcium pigments which occur largely as the higher oxidation products of biliverdin and bilirubin, namely bilihumin and bilifuscin, it is probable that the presence of proteid in the infected secretion causes their precipitation and not an excess of calcium. Naunyn suggests that bacteria may play a part in the oxidation of these substances.

Kramer[1] has recently made some observations which perhaps will modify somewhat Naunyn's ideas rather than fundamentally change them. Naunyn did not attribute the formation of cholesterin to the bacterial decomposition of the pure bile itself. Kramer, by inoculating bile, to which broth had been added, with colon and typhoid bacilli, and allowing the decomposition to go on for several weeks, observed the precipitation of all the constituents of gallstones, namely cholesterin, calcium salts, bile pigments, etc., and masses of bacilli. After several months, these substances became firmly packed in the bottom of the tube so that they resembled soft "gallstones." He believes, therefore, that gallstones are formed by the direct decomposition of bile by bacteria in a way exactly analogous to the formation of phosphatic urinary calculi in the urine by bacteria.

This, however, does not exclude the origin of some of the cholesterin in the degenerating epithelial cells, as it is not justifiable to assume that all of the cholesterin arises from the decomposition of bile alone.

The work of Baldwin[2] on the relation of infectious diseases to gallstones recently commented on in these columns shows that the desquamation of cells in infections generally is very considerable, and the cholesterin may be seen in the cells even before desquamation has occurred. It is possible that a part if not all of the cholesterin that Kramer observed separating out in decomposing bile may have had its origin in the epithelial cells of the bile tract. It may also be noted that Kramer was preceded in his observations by Gerard,[3] who two years ago observed in the test tube the precipitation of cholesterin from bile inoculated with colon and typhoid bacilli while sterile bile did not show this decomposition.

Lichtwitz[4] has recently attempted to explain the observations of Gerard and Kramer on a physicochemical basis. He believes that in this way the formation of all the constituents of gallstones both in the test tube and in the gall bladder may be most satisfactorily explained. Briefly, he considers that certain of the colloids and chemical constituents of bile have positive charges and that certain others have negative charges of electricity, and by the reaction of these substances under certain conditions, such as an acid medium, the various constituents of gallstones are precipitated.

THE SANITARY RESPONSIBILITY OF PUBLIC CARRIERS.

In times like these, when corporate responsibility is becoming more of a fact and less of a form, it seems worth while to call attention to a phase of responsibility sometimes ignored. We refer to certain relations that corporate organization and operation bear to the public health. Some kinds of hygienic responsibility, to be sure, have been frankly accepted. It is generally recognized that the welfare of both large and small groups of employés is worthy of consideration. In certain manufacturing establishments the concern of employers for the health of their employés has been manifested in a variety of effective measures. Elaborate provision is made for exercise, for bathing, for suitable recreation, for wholesome food and for other influences known to diminish susceptibility to infectious diseases and to metabolic derangements. No one can doubt that such far-sighted action reaps its own legitimate reward in the increased economic efficiency of the body of employés. But it is possible to look at the question in a still broader way. Wholly apart from the demand that the men and women that are employed in various occupations be not compelled to work under unnecessarily unwholesome or dangerous conditions, there remains the duty of corporations toward the general public.

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[1] Jour. Exp. Med., 1907, p. 314.
[2] Jour. Biol. Chem., 1908, p. 213.
[3] Compt. rend. Soc. biol., 1905, p. 348.
[4] Deutsches Arch. f. klin. Med., 1907, xcii, p. 100.

We do not propose to touch here on the harmful adulteration of foods or the unscrupulous peddling of drugs and nostrums, on the careless handling in the preparation of bread or meat or clothing, or on the reckless mismanagement of railway and street car systems. These forms of corporate responsibility are to some degree before the public and are in a way to be dealt with by more or less effective legislation.

A somewhat different and less generally regarded aspect of responsibility appears to be involved in the assumption of control by public carriers over the food and drink of the traveling public. When a steamship or railroad company undertakes to furnish transportation over a considerable distance and for a considerable period, it should be the case that reasonable facilities are provided for maintaining the health of the passengers in transit. It does not follow that a corporation should be absolved from responsibility because in the past it has given little heed to sanitary matters.

We are impelled to these reflections by a startling instance of ignorance or neglect recounted on another page of this issue.[1] While complete and officially verified facts are not before us, it seems clear from the correspondence here printed that the crew and passengers of the steamer *Northwest,* running between Buffalo and Duluth, suffered last August from a severe and extensive outbreak of typhoid fever. The cases were of unknown origin, but were evidently contracted on shipboard. The occurrence was taken up with commendable promptitude by the Buffalo Academy of Medicine, as related in our correspondence, and it is to be hoped that a thorough official investigation will be made. We would emphasize especially, in this connection, the importance of insuring some sort of efficient control over the food, and particularly over the water supply of travelers. There is too much reason to believe that the nature of the fluid used to fill drinking water tanks on railway trains, steamships and public buildings, is generally left to the discretion of some subordinate, unwatched, and it may be uninstructed, employé. Is it the custom, for example, of the leading railway systems to prohibit the filling of water tanks at stations and in terminals where the public water supply is notoriously bad? Is any control whatever exercised over these matters, and if so, by whom and in what manner? If explicit instructions are given, some responsible official should see that they are carried out.

On a steamship proper supervision of the sanitary quality of drinking water, milk supply, food supply and health of the ship's company is of particular importance since travelers are exposed, without remission or way of escape, to whatever deleterious influences may exist. We trust the disastrous outbreak of typhoid fever on the *Northwest* will be thoroughly investigated and will at least serve the purpose of pointing out the grave sanitary responsibility assumed by public carriers and the necessity of meeting this responsibility by expert inspection and control.

DR. WILEY AND TAINTED NEWS.

A few days ago the newspapers of the United States came out with scare headlines announcing that Dr. Harvey W. Wiley had entered the alcohol controversy in a somewhat unconventional manner. He was credited with saying that "the man who never takes a drink is a 'mollycoddle.'" That a man in Dr. Wiley's position should have thus gratuitously insulted a large body of intelligent people seemed strange to those acquainted with the chief of the bureau of chemistry. As those familiar with his printed works know, he speaks in no uncertain tones on the evil effects of alcohol, and his alleged pronunciamento, therefore, was the more surprising.

After the reported statements had led to a furore of criticism it developed that Dr. Wiley had made no such remarks as those credited to him, nor any that could be so construed. In a signed statement given out by him, here is what he actually did say: "I said that I believe the general effect of alcohol on mankind is wholly bad; that it is bad even in small quantities; that if distilled beverages, such as whisky, brandy and rum, have any good effects, they are due to the fact that the aromatic and fragrant substances therein stimulate the digestive secretions and thus overcome, to a certain extent, the bad effect of the alcohol which they contain. I said further, that I am in theory a prohibitionist, but that there are practical difficulties in the way of prohibition and that the better plan would be to abolish the saloons, and that if people want to drink distilled beverages they should do so quietly at their homes and with their foods, and not in saloons. *I made no reference whatever in my address to the term 'mollycoddle,'* nor did I suggest or advise young men to drink liquor of any kind, but said that it was always bad."

Knowing the present temper of certain interests toward the chief of the bureau of chemistry one is tempted to believe that the false report that was given such wide publicity was another specimen of what Samuel Hopkins Adams calls "tainted news." It is a notorious fact that certain sophisticators of food-stuffs and exploiters of nostrums would give much to see Dr. Wiley's place filled by some one less strenuous in the exposure of frauds. Doubtless this canard was a part of the campaign now being made by the scared liquor interests against the oncoming wave of prohibition sentiment. That the report, which could do so much to harm Dr. Wiley's reputation as a careful observer, was given such prominence in all the great city dailies, while his denial was accorded a most inconspicuous place in the same journals, admits of but one of two possible explanations: Either the false report fulfilled the requirements for sensationalism in "yellow" journalism, or it was sent out with the object of prejudicing public opinion against its alleged author.

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[1] THE JOURNAL A. M. A., this issue, page 894.

ULTRAFILTRATION.

In recent researches in experimental pathology there is perhaps no one mechanical device that has been of more importance than the various forms of fine-pored filters of unglazed porcelain or similar substances. Their power to hold back bacteria while permitting substances in solution to pass through has been of inestimable value in permitting us to secure bacteria-free substances, uninjured by sterilization with heat or other violent means, and also in providing a means of separating bacteria from their products. So, too, investigators studying diseases of unknown etiology have first of all sought to obtain some ideas as to the approximate size of the infectious agent, by determining through what sort of a filter the virus will pass. In this way, we have learned of several diseases produced by organisms that pass through fine porcelain filters, including hydrophobia, yellow fever, rinderpest, and foot and mouth disease of cattle; and the inference is that the unknown causes of these infections must be smaller, at least in certain stages of their development, than ordinary bacteria. Furthermore, the composition of many complex fluids seems to be altered in passing through these fine-pored filters, enzymes being more or less reduced in strength, and absorption of various colloidal substances often being a prominent effect. In view of the importance of these filters to the experimenter, therefore, any new device is of much interest, and may well be of great importance in helping us along in our researches.

Nothing more important has been recently produced in the way of mechanical appliances applicable to pathologic research than the method of filtration devised by Dr. H. Bechhold[1] of Ehrlich's laboratory and designated as "ultrafiltration." The principle is simply that of infiltrating an ordinary form of filter with some colloidal substance that can be hardened, such as gelatin or collodion, and forcing through under pressure the fluid that is to be filtered. By modifying the nature and the concentration of the colloid used, filters can be obtained with almost any sized pores desired, and so it is possible to modify the means to the end with great success. The results already obtained with these filters suggest immense applicability in many fields of research. For example, a filter can be so prepared that it can separate two different colloids from one another, when they can be separated only with difficulty by chemical means. It is possible to filter even so soluble a protein as hemoglobin and to obtain a clear, uncolored, watery filtrate. The different fractions of peptones and albumoses obtained in protein digestion, and which ordinarily are only separable by means of the unsatisfactory "salting out" process, can be separated from one another equally as well by merely using suitable filters. Filters can be made to separate crystalloidal substances from colloids, and thus replace the time-consuming process of dialysis by a rapid filtration method, without the usual excessive dilution of the diffusate. Obviously, pathogenic agents of different sizes can be separated from one another by this method.

Undoubtedly, this device of Bechhold's will find great application not only in purely scientific and technical investigations, but also in those immediately concerned with medical problems. One result already obtained has much therapeutic interest, as it concerns the important studies that are being made in Ehrlich's laboratory in the attempt to secure non-toxic antiseptics suitable for intravenous administration. Among the substances prepared for this purpose were some of great bactericidal power, inhibiting the growth of diphtheria bacilli in dilutions of one part in half a million of bouillon culture, and at the same time not very toxic to the animal organism. However, when it was attempted to cure infected guinea-pigs by injecting many times the amount of antiseptic necessary, according to theory, to destroy all the bacteria in them, absolutely no success was obtained. Experiments then showed that diphtheria bacilli in blood serum are by no means so readily killed as those suspended in bouillon, and the question arose as to whether or not the inefficiency of the drug in the serum and in the living animal depends on its being bound in the serum, or on the more favorable environment that serum affords the bacteria. To solve this question, the ultrafiltration method was called into use, and it showed that the antiseptic is bound by the serum and thus rendered inactive. Consequently, the experimenter learned that in devising antiseptics for intravenous use he must not only consider the antiseptic power and the freedom from toxicity, but he must also seek to find some means of rendering his antiseptic less prone to combination by the serum; at the same time the ultrafiltration method gives him a ready means of determining in his experiments how effectively he is accomplishing this last named object.

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[1] Ztschr. f. physikalische Chemie, 1907, lx, 257.

THE NERVOUS AND MENTAL DISEASE MONOGRAPH SERIES.

Any one who has done any research in medical literature, or has sought to build up a working medical library, will appreciate the probable value of such a series as that of "Nervous and Mental Disease Monographs,"[1] the first issue of which has just appeared. The majority of text-books are soon out of date and out of place in one's library, and the same is true to a considerable extent with the "systems" and "hand-books" that appear from time to time. The journals, serials and special treatises are the publications that make up the really valuable part of a medical library, and to many workers the latter are practically more valuable and convenient when separate than when appearing as special articles in cyclopedic works, as many a book collector has learned by actual experience, when desiring to dispose of them. There would seem, therefore, to be a useful future for this literary venture; it will certainly be welcomed by a certain class of medical readers—the neurologists—and even a much wider circle is among the probabalities. The idea apparently is to include in the series not only monographs on special subjects of neurology, but also handy compendiums of the specialties. Such a one is the first issue, "Outlines of Psychiatry," by Dr. W. A. White, of the Government Hospital for the Insane, Washington, D. C. It is a neatly printed volume of 232 pages, giving a concise general view of mental disorders, beginning with a brief psychologic introduction, followed by chapters on the definition of insanity, its classification, a simple, but modern system being adopted, the general symptomatology, mainly psychologic, and one giving what would seem to be a useful scheme for the examination of insane patients. These are followed by chapters on the several types recognized in the classification. The descriptions are clear and fairly full, notwithstanding their brevity; elaborate illustrative case histories and references are omitted. The succeeding volumes announced to appear in the near future are: "Studies in Paranoia," by Drs. Gierlich and Friedman, and "Ibsen, the Apostle of the Psychopath," by Dr. Jelliffe, the chief editor of the series. There is ample room in our medical literature for such a series as this, and perhaps more in the specialties of neurology and psychiatry than in some others.

THE POSSIBILITY OF BRAIN SURGERY WITHOUT ANESTHESIA.

It has long been recognized that the brain substance is, in great part at least, insensitive to pain, but not that this lack of sensibility is shared by the dura. In fact, this envelope of the brain has been commonly credited with a special sensitiveness to irritation and with being the chief active factor in the local pain production of cerebral disease. The statement by Thomas and Cushing in this issue of THE JOURNAL[1] that the whole operation of incision and reversion of this membrane and the cutting down to and shelling out of a subcortical cyst could be carried out without any apparent inconvenience to the conscious, unanesthetized patient is a rather striking one that may be of decided value in future cases of brain surgery. The fact that momentary discomfort was produced by experimental tension of the dura is significant, however, and may, as Cushing says, lead us to modify our ideas as to what causes intracranial pain, as we have already had to modify those regarding the cause of visceral pain in the abdominal cavity. The fact that he has had a similar experience in another second-stage extirpation, without anesthesia, of a cerebral tumor in a child, indicates, so far as one other case can, that this insensibility to pain is the rule and is not due to special conditions existing in a particular case. Operations on the brain are always attended with more or less risk, and the added complication of the effects of powerful anesthetic drugs does not make them less perilous. Surgery of the brain is working near the supreme centers of life and, with all our recently-gained knowledge of the cerebral functions, we are yet in the dark as to many of its important mechanisms and their variations in individual cases. The cortex of the hemispheres is the controlling center of the organism and its extensive manipulation may produce unexpected effects, such as the stoppage of respiration that sometimes embarrasses operations in this region. The anesthetic, however, may be a serious disturbing factor — anesthesia is itself a functional lesion and not always a trivial one. Hence the desirability of avoiding its employment when possible. If Dr. Cushing's experience is found to be the rule, and this appears probable, it would seem that a decided advance has been made in brain surgery. Second-stage operations without anesthesia, unless they are found to possess disadvantages not now apparent, would seem decidedly preferable to the single operation with its risks of cyanosis, respiratory paralysis, etc., which may have been due to the anesthetic. The omission to use faradization of the exposed post-central convolution in this conscious patient was perhaps regrettable, as it could hardly have done any harm and some facts of interest might have been observed. In future cases such tests, with the patient's full consent, will certainly be advisable and may develop, as Dr. Thomas remarks, some most interesting data.

ALABAMA BOARD OF HEALTH TO EDUCATE THE PEOPLE.

The evident tendency in the direction of public education along hygienic and sanitary lines has received another striking illustration in the case of the Alabama State Board of Health, which, during January, held a series of conferences on public health and sanitary questions in the larger cities throughout the state. The conferences were open to the public as well as to physicians, clergymen, municipal officers and teachers. Dr. W. H. Sanders, the state health officer, in the circular announcing the series of meetings, says: "Face to face meetings of all persons officially concerned in protecting the public health and a full interchange of views will unquestionably promote harmony and cooperation among such officials, of which conservative action the people will be the grateful beneficiaries. . . . Meetings of the kind contemplated have not hitherto been held in this state. The opportunities that lie before such gatherings for accomplishing good are practically boundless. No long addresses will be delivered, but after a few five-minute talks from physicians in explanation of our public-health system the floor will be open to any persons who may wish to be heard." The educational value of such meetings held under the auspices of the state board of health, at which the people can present any supposed complaints or criticisms and can learn the facts on hygienic matters from an authoritative source, must be apparent. Again the fact is emphasized that only through education and enlightenment can progress come.

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[1] Journal of Nervous and Mental Disease Publishing Company, 64 West Fifty-sixth Street, New York.

[1] Page 847.

BACTERIA OR ALGÆ.

It is a matter of at least academic interest to physicians to learn that Professor Dunbar,[1] as the result of an elaborate study continued over a considerable period of time, has come to the conclusion that bacteria are simply a form in the life stages of the algæ instead of being a special separate type of lone vegetable organisms. He took a pure culture of a single-celled alga, one of the *Palmellasia,* and by modifying the culture medium by the addition of various substances, acids, alkalies, or traces of copper salts, he observed other organisms, chiefly bacteria, but occasionally moulds or yeasts, and even spirochetes, appear in the culture. The appearance of these last-named organisms in such conditions would seem to throw light on their true position in the organic world, for they have not usually been classed among the members of the vegetable kingdom, though their position among the protozoa has been questioned. That is, of course, should there be no error in observation or method in Dunbar's experiments, and *Nature,* in its comments, seems to credit them with special care and accuracy. The assumption of a possible explanation of the appearances by Bastian's heterogenesis will hardly be generally accepted. We know so little of the natural history of these low organisms that by themselves show so few tangible characters other than their chemical and pathogenic properties, that Dunbar's findings seem rather striking and possibly even epoch-making in their way. They will undoubtedly be thoroughly tested by bacteriologists, and if confirmed, may even develop some practical importance. There may be more pathogenic possibilities in the "green mantle of the standing pool" than we are inclined at present to admit.

A SANE OPINION OF VIVISECTION.

It is refreshing to read the sensible remarks by Mrs. Cadwalader Jones, president of the woman's auxiliary of the S. P. C. A. at a recent meeting in New York City, and to see that, although she regrets the commotion it has caused, she has the moral courage to face the opposition she has aroused. Humane societies will not find that emotional exaggerations and misrepresentations will be profitable to their really meritorious objects in the long run; no good cause can afford to be supported by reckless misstatements. It would be well if all philosophic organizations were led by like sensible counsellors. The great surgeon, Nicholas Senn, who has just passed away, and to whom we owe no small share of the knowledge that has made some of the most brilliant achievements of modern surgery possible, said many years ago that no one is fit to attempt abdominal surgery on man who had not prepared himself by operations on the lower animals; and it is still safe to say that no new operation should ever be tried without prior assurance of its usefulness and practicability from animal experimentation. In fact, the question resolves itself into this: Are we to learn to help our fellowman by experiments on him or on less valuable lives? The charge that vivisection for the benefit of our race "annihilates the sense of mercy" hardly calls for refutation. We need not go so far as to admit with Mr. Cable's Dr. Sevier that the true philanthropist must be cold-hearted, but he can do no good by self indulgence in useless emotionalism. Such sentimentalism that can not bear to look on what seems like pain can do nothing to alleviate it and is all the while the cause of far more human and animal suffering than all the animal experimentation for legitimate physiologic or surgical purposes that ever has or will be done. The physiologist and surgeon are not necessarily hard hearted, much less delighting in cruelty, and the wholesale charges against their humanity are positively immoral.

Medical News

GEORGIA.

Atlanta's Board of Health.—The Board of Health of Atlanta has organized for the year with the following medical members: Dr. Bernard Wolff, president and Drs. William B. Armstrong, William L. Gilbert, secretary, and Cyrus W. Strickler.

State Board Appointments.—The governor has announced the appointment of Drs. Francis M. Ridley, La Grange, and Dr. Isham H. Goss, Athens, as members of the Allopathic Board of Medical Examiners, Dr. Ridley succeeding himself and Dr. Goss succeeding Dr. William D. Travis, Covington.

The Grady Hospital Trouble.—The contest between the Atlanta College of Physicians and Surgeons and the Atlanta School of Medicine for equal representation on the medical staff of the Grady Hospital has been settled by the city council by the adoption of a rule permitting bedside instruction. Both schools are said to be satisfied, the Atlanta School of Medicine obtaining a parity of professors on the hospital staff and the Atlanta College of Physicians and Surgeons securing the privilege of allowing its students bedside instruction in the wards of the hospital.

Medical Society Elections.—At the annual meeting of the Georgia Medical Society, held in Savannah recently, Dr. Thomas J. Charlton was elected president; Dr. Jabez Jones, vice-president; Dr. John K. Train, secretary; Dr. William W. Owens, treasurer; and Dr. John A. Crowther, librarian, all of Savannah.——The Fourth District Medical Society was organized at Columbus March 5, with the following officers: Dr. Charles L. Williams, Columbus, president; Dr. M. M. Hallum. Carrollton, vice-president, and Dr. Charles A. Dexter, Columbus, secretary-treasurer. The meetings of the society will be held semi-annually.

ILLINOIS.

Millikin Entertained in Bloomington.—Dr. Daniel Millikin. Hamilton, delivered an address March 5, before the McLean County Medical Society, Bloomington, on "The Historical Value of the Work of the Physician." Dr. Millikin, while in the city was the guest of Dr. and Mrs. John L. Yolton, who gave a dinner in his honor before the meeting of the society, at which twenty-four guests were present.

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[1] "Die Entstehung von Bakterien, Hefen und Schimmelpilzen aus Algenzellen," published by R. Oldenbourg, Munich and Berlin: Nature, Feb. 13, 1908.

Communicable Diseases.—Smallpox is reported to be very prevalent in Genoa.——Smallpox in mild type is said to be so prevalent in Lacon that the schools and churches have been closed and public gatherings have been forbidden.——Several cases of supposed smallpox have been reported at Flora.——An outbreak of scarlet fever is reported at Iroquois, for the second time in three weeks.——The public schools, halls and churches of Henry have been closed by the board of health on account of the prevalence of scarlet fever.——An epidemic of scarlet fever at Genoa has made it necessary to close the schools and churches.

Chicago.

Physicians' Club.—The Physicians' Club of Chicago and the Chicago Medical Society, at their joint dinner March 13, discussed the "True Situation in Regard to the Administration of State Institutions."

Interne Examination.—The reorganized staff of St. Joseph's Hospital announces that a competitive examination for interneships in that institution will be held March 20, at 8 p. m., at the hospital, 360 Garfield Avenue, under the supervision of the staff.

Deaths of the Week.—During the week ended March 7, 669 deaths were reported, equivalent to an annual death rate of 16.10 per 1,000. The deaths numbered eight less than during the previous week and 19 more than for the corresponding week of 1907. Chief among death causes were: Pneumonia, 100; consumption, 88; heart diseases, 49; nephritis, 48; violence (including suicide), 46; influenza, 20; diphtheria, 16; typhoid fever, 15; scarlet fever, 11; whooping cough, 5, and measles, 1.

Communicable Diseases.—There were reported to the health department during the week ended March 7, 491 cases of contagious diseases, or 18 fewer than were reported during the previous week. Of these 105 were of diphtheria, an increase of 4; 110 cases of scarlet fever, an increase of 13; 156 cases of measles, a decrease of 16; 24 of typhoid fever, a decrease of 17; 14 of whooping cough, a decrease of 9, and 52 of chickenpox, a decrease of 14. Three new cases of smallpox were discovered and sent to the Isolation Hospital. None of the three patients had been vaccinated.

The Pasteur Institute.—From the time of the inauguration of the Chicago Pasteur Institute, July 2, 1890, up to Dec. 1, 1907, 3,130 patients received the anti-hydrophobic treatment. Of these 2,779 persons had been bitten by dogs, 102 by cats, 109 by horses, 28 by skunks, 6 by wolves, 36 by cows, 12 by calves, 2 by burros, 4 by coyotes, one by a rat, 4 by mules, 6 by pigs, 2 by sheep, and 38 were infected by hydrophobic human beings. Of the individuals treated 1,685 were persons bitten by animals ascertained to be rabid by microscopic examination of the brain or inoculation test or by the death of persons or animals bitten by the same animal; 1,109 had been bitten by animals recognized to be rabid by symptoms shown in life, and 336 had been bitten by animals strongly suspected to be rabid. Seven deaths have been reported, equivalent to a mortality of 0.22 per cent. Of the 7 individuals who abandoned the treatment, 2 were subsequently taken with hydrophobia and died.

KENTUCKY.

Health Officers Ask Appropriation.—The health officers of the various cities in Kentucky, at a meeting held in Frankfort February 18, recommended an increase in the appropriation made by the state for the maintenance of the State Board of Health from $5,000 to $25,000.

The Jefferson County Society.—The Jefferson County Medical Society, at its meeting March 9, held a symposium on "Abortion and Miscarriage." At the business meeting a vote was taken on the proposition to assess each member $1 annually for the support of the Jefferson County Medical Library. ——A field day has been set aside by the society, when the various committees appointed by the president will work for new members. The society now numbers 260 members, and an effort will be made to make it 400 on this field day.——A milk dinner is projected by the milk commission of the society, the distributor of certified milk and dairymen interested, at which milk in some form will be served with each course. Drs. Henry L. Coit, Newark, N. J., president of the American Association of Medical Milk Commissions, and founder of the certified milk idea, and Dr. Otto P. Geier, Cincinnati, will be the guests of honor on the occasion.

MAINE.

Medical Mayors.—In 3 out of 11 cities in which elections recently took place, physicians were elected mayors. In Ellsworth, Dr. Frank F. Simonton; in Saco, Dr. Harry A. Weymouth (re-elected), and in Waterloo, Dr. Luther G. Bunker (re-elected).

Bequests.—By the will of Hiram P. Oliver, Bangor, the Eastern Maine General Hospital is bequeathed 225 shares of the capital stock of Morse & Co., 48 shares of the Orono Pulp and Paper Company, 43 shares of the Union Iron Works and 10 shares of the Noyes & Nutter Manufacturing Company. After the payment of certain bequests two-fifths of the residue of the estate is devised to the Eastern Maine General Hospital.

MARYLAND.

Baltimore.

Trimble Lectureship.—A plan has been formed to found a lectureship in the Medical and Chirurgical Faculty of Maryland in honor of the late Dr. Isaac R. Trimble, and subscriptions for this purpose are requested. Drs. L. McLane Tiffany, Charles O'Donavan, John Ruhräh, Hiram Woods, Frank Martin and William S. Thayer, and leading citizens are in charge of the movement.

The Eudowood Hospital.—The work on the addition to the Eudowood Hospital for the accommodation of advanced cases of tuberculosis will soon be started. Already $17,000 has been raised by public subscription, and the directors will ask the legislature for $15,000 additional. This provides the $30,000 needed for maintenance, and will enable the directors to secure the $25,000 for the construction offered by Mr. Victor Bloede.

Cocain Sellers.—On February 28 the police arrested four negroes and one white boy on the charge of peddling cocain in the northwestern section of Baltimore.——Edward Blanco, colored, was convicted in the police court February 20, charged with selling cocain and is said to have been sentenced to pay a fine of $50.——Rebecca Harris was fined $50 and costs for the first offense, $10 and costs for the second offense, and committed to jail on the third offense, charged with furnishing and peddling cocain without a physician's prescription.

Eddyist Bill.—United States Senator Pinckney Whyte appeared before the Maryland senate committee on sanitation in behalf of the Eddyists, and urged that it would be unconstitutional to forbid them by law to charge for their services, without previously having passed the State Board of Medical Examination. The bill has already passed the house, and it is believed that it will pass the senate. Senator Whyte claimed that the bill jeopardized religious liberty, and he proposed that this amendment be incorporated in the bill: "Nothing in this act shall be construed to prohibit the practice of the religious tenets or general belief of any church whatsoever, not prescribing medicine or administering drugs."

Personal.—Dr. William D. Booker, who has been ill with pneumonia, and Dr. William F. Lockwood, who has been ill with diphtheria, are both improving.——Dr. T. Kubo, of the Imperial University, Tokyo, Japan, who has been in Baltimore for a year, pursuing postgraduate gynecologic work under the direction of Dr. Kelly, left March 3 for London, where he will continue his studies.——Dr. Frank D. Gavin, superintendent of the Church Home and Infirmary, has resigned after thirty-four years' service.——Dr. William K. Brooks, head of the biologic department of the Johns Hopkins Hospital, who is ill in the hospital, is reported to be doing well.——Dr. Henry Barton Jacobs leaves for Europe March 25.——Dr. John Broaddus Watson has been elected professor of experimental psychology in the Johns Hopkins University to succeed Prof. George M. Stratton, who has been recalled to the University of Chicago.

MASSACHUSETTS.

Cocain Sellers.—On February 24 Joseph McGovern, Boston, is said to have been fined $50 in the Municipal Court for selling two bottles of catarrh cure which contained cocain. On failure to pay his fine he was committed to jail.——On the arrest of Ernest Kelly and Frank Mullen, both of Lynn, February 29, charged with selling cocain, twenty bottles of catarrh cure, containing a large percentage of the drug, were found on the accused.

Bequests to Hospital.—By the will of the late Charles H. Dalton $15,000 is bequeathed to the Massachusetts General Hospital, Boston, of which Mr. Dalton was formerly president.

Personal.—Dr. Charles B. Porter, Boston, is visiting in Pasadena.——Dr. and Mrs. John F. Welch, Quincy, are taking a trip to Florida.——Dr. John D. Churchill has been elected a director of the Jordan Hospital, Plymouth.——Dr. Eugene A. Darling, Cambridge, has been appointed assistant professor of hygiene at Harvard University.

MISSOURI.

St. Louis.

Section Election.—On February 18 the section on urology of the St. Louis Medical Society of Missouri elected the following officers: Chairman, Dr. Bransford Lewis; vice-president, Dr. Eugene A. Scharff; secretary-treasurer, Dr. Hartwell N. Lyon, and editor, O. Le Grand Suggett.

Personal.—Dr. and Mrs. Horace N. Spencer are expected to return from Central America next week.——Dr. Frank L. Henderson has gone to Europe.——Dr. Henry L. M. Wolfner is spending his vacation in Central America.——Dr. Henry A. Geitz has returned from Florida.——Dr. Rutherford B. H. Gradwohl was thrown from his carriage March 7, in a runaway accident, and painfully injured.

Tuberculosis.—The St. Louis Society for the Relief and Prevention of Tuberculosis has had a bill introduced in the Municipal Assembly providing for the appointment of a commission to investigate and recommend means for the control and elimination of tuberculosis. The bill has already passed the house of delegates, and it is believed the council is favorably disposed toward it. The commission will be composed of nine members, to be appointed by the mayor, who will work without pay. The only expense will be clerical and incidental, and for that purpose an appropriation of $2,500 is asked.——The society has arranged with the San Carlos Opera Company to give three performances in their benefit, March 13 and 14.

NEW JERSEY.

Bequests.—By the will of the late Charles E. Wood, Washington, D. C., provision is made for the establishment of a sanatorium at Atlantic City, to cost about $300,000.

Personal.—Dr. Mortimer Lampson, Jersey City, has been appointed warden of the Jersey City Hospital.——Dr. Daniel M. Stout, Berlin, is reported to be seriously ill with heart disease.——Dr. Henry B. Rue has resigned as member of the Hoboken board of health.

Physicians Organize.—At a meeting of the physicians of Millville, February 14, the Millville Medical Association was organized, with the following officers: President, Dr. John W. Wade; vice-president, Dr. Cornelius S. Franckle; secretary, Dr. Ralph R. Charlesworth, and treasurer, Dr. F. Vernon Ware.

Additions to Hospital.—Several additions have been made to the Cooper Hospital, Camden. In addition to wards, the new portion contains a diet kitchen, an *x*-ray room, a pathologic laboratory and two operating rooms complete with sterilizing, anesthetizing and recovery rooms, with surgeons' dressing rooms and a special room for nurses.

Internes' Examination.—An examination to fill two vacancies on the resident staff of Christ Hospital, Jersey City, will be held April 4, at 1 p. m., at the hospital, 176 Palisade Avenue. The term of service is eighteen months and internes are furnished board and rooms. Intending candidates should make application to the secretary, Dr. H. J. Bogardus, secretary of the medical board, 176 Palisade Avenue, Jersey City.

Vital Statistics for February.—During the month of February there were reported to the bureau of vital statistics 3,528 deaths, an increase of 147 over the previous month. Pneumonia caused 516 deaths, an increase of 105 over the previous month, and 72 over the corresponding period of 1907. Pulmonary tuberculosis caused 91 deaths more than the previous month, and other diseases of the respiratory system caused 275 deaths, 90 more than the monthly average for the year. Chief among death causes were: Pneumonia, 516; diseases of nervous system, 434; tuberculosis, 422; diseases of the circulatory system, 420; nephritis, 220; diseases of the digestive system, 174; cancer, 126; diphtheria, 67; infantile diarrhea, 52; scarlet fever, 50; typhoid fever, 39; whooping cough and cerebrospinal meningitis, each 24; suicide, 22, and measles, 11.

NEW YORK.

Another State Institution.—A bill has been introduced into the legislature appropriating $188,000 for the purchase of a site for the new Eastern New York Asylum for Epileptics.

A Gift for Rosary Hill Home.—A patron of this institution for incurable cancer patients at Hawthorne has given sufficient money to construct a sun parlor for the women. The large entertainment hall, given by the same benefactor, has just been completed.

For Crippled Children.—A proposition is before the legislature for the establishment of a home for crippled children at Rochester, using property formerly occupied as a correctional asylum. As the state has a home for crippled children at Haverstraw, it is suggested that the capacity of this institution be increased, as it has already more applicants than it can accommodate.

Report on Sewage Plants.—The State Department of Health has completed its investigation of the sewage disposal plants in the state. More than 50 plants were examined and fully described as regards construction, operation and management. The department encouraged the construction of these plants by refusing to grant permits for the discharge of raw sewage into the waters of the state. There are already about fifty plants in the state, the oldest being at Brewster, established in 1893. The department proposes to keep these plants under observation, and by systematic analyses of the raw sewage and effluent, the value of the plants in connection with the variation in construction, and the character of the sewage may serve as a guide to municipalities contemplating the construction of plants.

New York City.

School for Deaf Mutes.—A day school for deaf mutes, under control of the city, will be opened about April 1. There will be accommodations for 250 pupils. There are classes for crippled children and fifty classes for mentally defective children, but as yet nothing has been done for the blind.

Hospital Report.—The annual report of the German Hospital and Dispensary shows that 4,852 patients were treated at the institution in 1907, and 581 were visited at their home by members of the hospital staff. During the year the hospital became the absolute owner of the building and grounds. The expense of the hospital for the year was $216,724.

Contagious Diseases.—There were reported for the week ended February 29, 451 cases of tuberculosis, with 204 deaths; 1,554 cases of measles, with 39 deaths; 924 cases of scarlet fever, with 39 deaths; 373 cases of diphtheria and croup, with 44 deaths; 45 cases of typhoid fever, with 9 deaths; 20 cases of whooping cough, with 1 death; 16 cases of cerebrospinal meningitis, with 8 deaths, 181 cases of varicella, making a total of 3,563 cases, with 344 deaths.

PENNSYLVANIA.

Bequests.—By the will of the late William B. Scott the Bryn Mawr Hospital and St. Christopher's Hospital, Philadelphia, will each receive $25,000.

Quarantine Raised.—The quarantine placed on the Keystone State Normal School at Kutztown on account of the presence of scarlet fever, has been raised.

Diphtheria Closes Schools.—Owing to the prevalence of diphtheria in Johnstown the Conemaugh health board has ordered that all schools, churches, theaters and other public places be closed until further notice.

Mercer Hospital Changes.—After a meeting between the board of trustees of Mercer State Cottage Hospital and Dr. J. Clayton Weidman, superintendent and surgeon-in-chief of the institution for 13 years, the latter was succeeded on March 3 by Dr. Paul T. Hope of Mercer as surgeon-in-charge, and Miss Helen Hunt was elected superintendent.

Health Appropriation Decreased.—At a meeting of the Chester council March 2 the annual appropriation for the bureau of health of $4,050 was decreased to $2,250. This deduction of $1,500 was made in order to dispense with a city bacteriologist. The physicians of Chester, however, are very anxious to have the city bacteriologist retained.

Philadelphia.

Benefits.—The net proceeds of the twenty-eighth annual charity ball amounted to $7,200. The managers have given to each of the following charities the sum of $1,800: The maternity department of the University of Pennsylvania, gynecologic ward of Jefferson Hospital, Rush Hospital for Consumption and Allied Diseases and the Children's Hospital.

Hospital Reports.—The report of the Presbyterian Hospital for February shows that 192 new patients were admitted; total number treated, 401; 173 discharged, and 1,669 treated in the dispensary.——The Howard Hospital during February treated 113 accident cases; put up 3,613 prescriptions; treated 611 new dispensary patients, and admitted 60 patients to the hospital.——The Charity Hospital shows in its February report treatment of 315 medical cases, 231 surgical cases, 40 eye cases and 66 cases of ear and throat.

Personal.—Dr. J. Madison Taylor acted as toastmaster at the annual banquet of the Princeton Club, March 5.——Dr. H. W. Wiley, Washington, D. C., addressed the Pennsylvania, New Jersey and Delaware Wholesale Grocers' Association at their annual banquet, held in this city March 5, on "Pure Food Laws and Their Proper Enforcement."——Dr. A. Maverick, recently an interne in St. Mary's Hospital, has sailed for Europe.——Drs. Charles W. Burr and Reginald C. Allen are conducting psychopathic clinics at the Orthopedic Hospital and Infirmary for Nervous Diseases every Thursday afternoon.

Health Report.—The total number of deaths reported for the week ended March 5 aggregated 571. This is an increase of 9 over the number for the previous week and a decrease of 84 from the corresponding week of last year. The principal causes of death were: Typhoid fever, 9; measles, 7; scarlet fever, 5; pertussis, 5; diphtheria, 17; tuberculosis, 73; cancer, 23; diabetes, 24; apoplexy, 17; heart disease, 86; acute respiratory diseases, 109; enteritis, 19; hepatic cirrhosis, 6; appendicitis, 7; Bright's disease, 41; congenital debility, 13; suicide, 3; accidents, 9, and marasmus, 7. There were 244 cases of contagious disease reported, with 30 deaths, as compared with 244 cases and 45 deaths reported in the preceding seven days.

SOUTH DAKOTA.

New Health Journal.—The executive staff of the Chamberlain Sanitarium, Pukwana, has undertaken the publication of a new monthly magazine, to be called the *South Dakota Health Journal.*

Personal.—Dr. Arthur H. Tufts has resigned as health officer of Sioux Falls.——Dr. A. F. Toohey, Beresford, has returned after a trip abroad.——Dr. George H. Cornell, Sioux Falls, who recently went to California for his health, writes that he has been much benefited by the change.

State Board Election.—The State Board of Medical Examiners at its annual session elected Dr. Alonzo A. Cotton, Vermillion, president, and Dr. Hiram E. McNutt, Aberdeen, secretary. Drs. Harry S. Graves, Hurley; Leslie G. Hill, Watertown; Frank S. Howe, Deadwood; Frederick W. Freyburg, Mitchell, and Joseph M. Walsh, Fort Pierre, make up the remainder of the board.

Society Meeting.—The Aberdeen District Medical Association, at its annual meeting in Aberdeen, elected the following officers: Dr. Henry J. Rock, Aberdeen, president; Dr. J. Gemmill Chichester, Redfield, vice-president; Dr. Merlin C. Johnston, Aberdeen, secretary; Dr. William E. Clark, Frederick, treasurer; Dr. E. Jay Clemons, Aberdeen, censor; Dr. D. Elmer Arnold, Aberdeen, delegate to the state medical association, and Dr. D. J. Carson, Faulkton, alternate.

Communicable Diseases.—The schools of Brookings have been closed by order of the board of health, on account of the presence of diphtheria.——The State Board of Health has ruled that as the only safe and sure prevention of smallpox is vaccination, and that as quarantine under such circumstances is unscientific and is of no avail in preventing the spread of the disease, quarantine be removed from premises occupied by smallpox.——The epidemic of smallpox in Sioux Falls is said now to be almost at an end.

TENNESSEE.

Society Meeting.—At the annual meeting of the Hickman County Medical Association, held at Centerville, Dr. K. I. Sutton, Centerville, was elected president; Dr. J. W. Thompson, Centerville, vice-president, and Dr. John S. Beasley, Pinewood, secretary-treasurer.

Staff for Day Nursery.—Dr. James D. Bridges has been appointed attending pediatrist and orthopedist; Dr. J. H. Eugene Rosamond, assistant pediatrist and orthopedist; Dr. Robert G. Henderson, dermatologist; and Dr. William L. Simpson, ophthalmologist, otologist, rhinologist and laryngologist to the Day Nursery, Memphis.

Commmunicable Diseases.—Maryville is said to be threatened with an epidemic of cerebrospinal meningitis. Four deaths have already occurred and several cases are reported.——An epidemic of measles and influenza is reported from Robeson Fork section, near Lynnville.——Measles is reported to be epidemic at Yokely.

Personal.—Dr. Jack S. Dye, Chattanooga, has been appointed surgeon to the Alabama Great Southern Railroad, vice Dr. George A. Baxter, deceased.——By a fire in the office and residence of Dr. Benjamin D. Bosworth, Knoxville, February 17, damage amounting to $1,000 was caused.——Dr. Henry Berlin, Chattanooga, has returned after five months abroad.——Dr. Henry P. Coile has been appointed a member of the Knoxville board of pension examining surgeons.

TEXAS.

Epidemic Diseases.—Travis reports an epidemic of influenza.——The smallpox epidemic at Burke is almost subsided, no new cases having been reported for 20 days.——Influenza is the prevalent disease, and has already caused a number of deaths.

Physician Admitted to Bail.—Dr. J. Q. Spradlin, Dallas, charged with murder in connection with the death of John D. Rogers, whom he is said to have assaulted, because he refused to pay a bill for professional services, was admitted to bail on the sum of $1,000, February 11.

Communicable Diseases.—The state health officer has served notice on the officials of Montague County that if prompt measures are not taken to prevent the spread of smallpox they will employ strong measures to protect the state's interest.——Smallpox of mild type is reported northwest of Marion.——On February 16, the British steamship *Crispin* arrived at Galveston from South America and was placed in quarantine, with 2 positive cases of yellow fever, and a report that 5 cases had occurred during the voyage. On February 18, 2 deaths occurred. There have been no new cases since that date.

WASHINGTON.

Tuberculosis Hospital.—It is announced that about $50,000 has been subscribed for the establishment of a tuberculosis hospital at Seattle.

Convicted of Violating the State Law.—Aubrey T. Dodson, Spokane, on February 25 is said to have been found guilty of violating the state medical law. This is said to be the second conviction of this individual.

Smallpox.—Several cases of smallpox are reported from Kerriston.——An epidemic of smallpox is reported at Clearbrook.——Smallpox is reported to be prevalent in Spokane.——Owing to the prevalence of smallpox in Custer and Enterprise the schools have been closed.

Personal.—Dr. Phillip Frank, North Yakima, has been elected president of the State Board of Health.——Dr. Edwin L. Kimball, Spokane, has been appointed a member of the State Board of Health.——Dr. James B. Eagleson, Seattle, has been appointed a delegate to attend the meeting of the Council on Education of the American Medical Association.——Dr. Alfred J. J. Helton has been appointed health officer of North Yakima, vice Dr. Thomas Tetreau.

VIRGINIA.

License Tax Bill Repealed.—The lack of a constitutional vote of 51 members for the passage of the bill March 4, defeated the measure, which provides for the repeal of physicians' license tax.

State Board of Health Bill.—Sixty members of the house on February 25 voted for the passage of a bill to establish a state board of health, outlining its duties and fixing its powers, and carrying with it an annual appropriation of $40,000.

Accused Physician Discharged.—Dr. Aristides Monteiro, Richmond, arrested several months ago on a warrant, charging him with alleged malpractice, was discharged February 22 on the admission of the commonwealth's attorney that the state could not make its case without the testimony of a witness who had left the jurisdiction of the court.

Colored Medical Society Election.—The Richmond Medical Society at its annual meeting, February 23, elected Dr. J. Alexander Lewis, president; Dr. J. C. Carper, vice-president; Dr. Oswald B. H. Bowser, recording secretary; Dr. Albert A. Tennant, assistant secretary; Dr. Harrison L. Harris, corresponding secretary, and Dr. Robert E. Jones, treasurer.

Communicable Diseases.—An epidemic of measles has broken out at the State Normal School, Farmville, where there are said to be 50 cases, and several deaths have occurred.——Smallpox is reported to be prevalent near Danton, Orange County.——Failure of the physicians of King George County to agree regarding the epidemic of smallpox in the northern part of the county has caused a spread of the disease. There are now said to be 50 cases.——In Stafford County an eruptive disease, which is said to be smallpox, is reported.

GENERAL.

Yellow Fever.—One new case of yellow fever was found at Santa Clara, Cuba, in a soldier, February 22, and one case was reported from Santiago February 20.

Appropriation for Hospital.—Representative Dalzell of Pennsylvania, on February 29, introduced, by request, a bill authorizing the creation of a tuberculosis fund of $600,000, to be disbursed by the Secretary of the Treasury, for employing experts to inquire into the methods of treating tuberculosis and to "investigate all questions relating to said methods, and the development and improvement of said methods with a view to ascertaining and publishing the best available methods of treatment for the disease."

Cholera in the Philippine Islands.—During the week ended January 11, there was an increase in the number of cholera cases in Manila, there being a total of 45 cases with 35 deaths, and the prevalence of the disease is still increasing. During the latter part of the week, cholera commenced to attack persons better nourished and housed. During the week there were 45 cases and 43 deaths in the town of Mariquina, which is situated on the banks of the river, above the intake from which the water supply of the city of Manila is obtained.

The Flea and Rat Question.—The surgeon general of the Public Health and Marine-Hospital Service has made a request for fleas for identification and for information relative to local species of fleas and rats. This request is made to the officers of his service and to health officers and physicians in general. Physicians are invited to cooperate with the bureau by furnishing such information as they may have or may be able to obtain respecting the species of fleas and rats found in their respective localities, and to secure and forward to the hygienic laboratory of the Service specimens of fleas for identification. All specimens should be collected in small vials of alcohol, using no cotton within the vial. Special care should be taken that each vial represents but a single host species, and is accompanied by full data; host, locality and collector. Fleas should be collected immediately after the death of the host. Probably the most important collections of fleas that can be made are of those species actually found on plague or leprosy patients or on lower classes of human beings in the more sordid surroundings, especially near wharves or docks.

Mexican Notes.—Drs. Eduardo Liceaga, José Terres, Manuel Toussaint, and Octavio Gonzales Fabela have been appointed a commission by the National Medical Academy to decide on the merits of the theses on typhus fever submitted to that body, and have summoned some of the authors of theses to give additional information regarding experimental questions. The commission will then report on the work and will decide whether any of the theses presented are sufficiently worthy to receive the $10,000 prize offered by the government.——Pneumonia is reported to be almost epidemic in the City of Mexico. During November 235 deaths were reported, and during December 338.——The organization committee of the Fourth Medical Congress has decided to hold the next meeting of the congress in the City of Mexico in 1910. The congress will discuss matters of national interest, such as typhus fever, malarial fever, leprosy, yellow fever, smallpox and mal de pinto, a skin disease prevalent in southern Mexico.——The authorities of Torreon are preparing to erect a hospital to cost about $100,000.——The bacteriologic and other laboratories of the Civil Hospital, San Luis Potosi, will be completed in a very short time.

Railway Surgeons Meetings.—At the first session of the Joint Surgical Association of Illinois Central, Yazoo and Mississippi Valley and Indianapolis Southern railroads, held in Memphis, Tenn., February 27 and 28, the following officers were elected: President, Dr. John E. Owens, Chicago; vice-presidents, Drs. David G. Murrell, Paducah, Ky., and W. Battle Malone, Memphis, Tenn.; secretary-treasurer, Dr. Charles B. Fry, Mattoon, Ill.; and executive committee, Drs. John E. Owens, Chicago, James H. Letcher, Henderson, Ky., Henry C. Fairbrother, East St. Louis, Ill., Eugene J. Johnson, Yazoo City, Miss., John P. Lord, Omaha, Neb., and R. E. Friebaugh. At the close of the business meeting, the members of the association presented a silver punch bowl to Dr. Owens, Dr. William F. Grinstead, Cairo, Ill., making the presentation speech.——At the annual meeting of the Association of Seaboard Air Line Railway Surgeons, held in Tampa, Fla., February 18, 19 and 20, the following officers were elected: Chief surgeon, Dr. Joseph M. Burke, Petersburg, Va.; president, Dr. Louis S. Oppenheimer, Tampa, Fla.; vice-presidents, Drs. Jarvis G. Dean, Dawson, Ga., Hillary M. Wilder, Charlotte, N. C., and Emmett H. Terrell, Richmond, Va.; secretary-treasurer, Dr. Jarrett W. Palmer, Ailey, Ga.; and executive committee, Drs. James R. Rogers, Raleigh, N. C.., Southgate Leigh, Norfolk, Va., John W. Corbett, Camden, S. C., John M. Blair, Monroe, N. C., and John W. Miller, Cross Hill, S. C.

Coming Meetings.—The American Society of Tropical Medicine will hold its fifth annual meeting at the Johns Hopkins Hospital, Baltimore, March 28, under the presidency of Dr. James M. Anders, Philadelphia, whose address will be on the subject of "A Brief Review of the Year's Progress in Tropical Medicine." Dr. Joseph McFarland, Philadelphia, will present a memoir of the late Major James Carroll, surgeon U. S. Army; Dr. R. H. von Ezdorf, New Orleans, will give his report as delegate to the Third International Sanitary Convention of American Republics; Captain Bailey K. Ashford, assistant surgeon U. S. Army, will speak on "Puerto Rico as a Field for Research in Tropical Medicine," and Dr. Richard P. Strong, Manila, will discuss "Vaccination Against Plague." At the afternoon session there will be a symposium on the prophylaxis of malaria, at which Dr. William H. Thayer, Baltimore, will speak on "Quinin Prophylaxis"; Captain Charles F. Craig, assistant surgeon U. S. Army, Fort Leavenworth, Kan., on "Mechanical Prophylaxis," and Prof. L. O. Howard, Washington, on "Mosquito Extermination," after which Dr. Judson Daland, Philadelphia, will present a paper on "Strongyloides Intestinalis in Philadelphia," and Dr. Solomon Solis Cohen, Philadelphia, will recount his "Twenty Years' Experience with the Hypodermic Use of Quinin with Urea Hydrochlorid in Malarial Infection, with Remarks on the Thirteen to Fourteen Days' Cycle of Freedom Produced by a Single Injection." There will be an exhibition of pathologic specimens in the laboratories of the Johns Hopkins Hospital, and a dinner is to be given in the evening.——The eleventh annual meeting of the American Gastro-Enterological Association will be held in Chicago, June 1 and 2, under the presidency of Dr. John P. Sawyer, Cleveland, Ohio.——The next annual meeting of the American Orthopedic Association will be held June 4, 5 and 6 at the Chicago Beach Hotel, Chicago

CANADA.

Annual Health Report.—The eleventh annual report of the Board of Health of British Columbia showed smallpox present during the year in nine centers—38 cases in all, in every instance imported from the United States. The comparison with the state of Washington, which had 1,100 cases, speaks well for the prompt action of British Columbia's health officer. Dr. Fagan, the secretary, said that bubonic plague did not secure a footing in British Columbia in 1907. Diphtheria was responsible for 14 deaths out of 98 cases reported. He recommended that the Dominion government establish a laboratory for the supply of sera. Dr. Fagan also recommended that school teachers be qualified to impart instruction in sanitary science.

Canadians Regret Senn's Death.—At a recent meeting of the Ottawa Medico-Chirurgical Society, resolutions, moved by Sir James Grant and seconded by the president, Dr. John L. Chabot, were adopted, setting forth the loss sustained to the medical world by the death of Dr. Nicholas Senn. The resolutions stated that "few men have contributed more toward the high status of science in the neighboring Republic than Senn, who, as an original thinker, occupied a unique position, and his contributions cover a wide range in surgery and literature. What Syme was to Scotland, in surgery, Senn was to America." . . . "A nobler profession there is not in the world, and few have left a more remarkable record than Senn." . . . "The members of the Ottawa Medico-Chirurgical Society desire to express their profound sympathy with the profession of Chicago in the great loss sustained by the death of Dr. Senn, possessed of a kindly and sympathetic spirit and absolute honesty of purpose."

A Tuberculosis Conference.—At a tuberculosis conference held in Toronto, March 4, by the National Sanitarium Association, the governor general presided and delegates were present from 44 municipalities and 17 counties of Ontario. Unanimously a resolution was passed asking the Ontario government to increase materially its annual grants toward stamping out tuberculosis in the province. Mr. W. J. Gage, the father of the National Sanitarium Association, which has done such excellent work in this line in Ontario, stated that the 30,000 deaths from tuberculosis in Ontario in the past ten years, represented about 120,000 cases always in existence in the province. In the past seven years there had been a decrease of 15 per cent. throughout the province from this disease—a condition which is encouraging. A special delegation from this conference asked the government that the grant for the maintenance of consumptive patients be increased from $1.50 to $5 a week. Premier Whitney promised that his cabinet would give this question more than ordinary consideration.

FOREIGN.

Cholera at Mecca.—The *Public Health Reports* state that cholera is raging among the pilgrims at Mecca as well as at Djeddah, where the deaths have lately averaged over 400 a day.

Carnegie's Gift to the Koch Endowment.—Andrew Carnegie has extended his munificence to Germany, and has just given to the Koch Endowment Fund $125,000. This brings the total of the fund to date to $200,000

Hospital for Foreign Cholera Patients in Egypt.—Consul-General Iddings reports that the Egyptian government will equip and administer in Cairo a hospital for the reception of foreign patients suffering from cholera, in case the disease appears.

Registration of Mentally Defective Individuals in Germany.—A recent decree orders registration by name and community of all individuals known to be insane or mentally defective and idiots, living outside of the state institutions, whether in their own families or elsewhere.

Women Medical Students in France and Germany.—It is stated that 150 women are taking medical courses in Germany and 600 in France. There are about 100 women physicians in Paris, most of them employed in an official capacity in the private schools or in the government post or telephone service, etc. A number of women physicians have been appointed medical officers for passenger boats on the Mediterranean.

The French Society for Tropical Pathology.—Notwithstanding all the work that has been done in France and its colonies in the study of tropical diseases, there has been no organized effort in this line. This gap has been recently filled by the founding of the Société de pathologie exotique. Laveran is the president of the new society, which has made the Pasteur Institute its headquarters. Here Laveran has long had a modest laboratory at his disposal, and is busily at work now on trypanosome affections.

LONDON LETTER.

(*From Our Regular Correspondent.*)

London, Feb. 29, 1908.

Successful Prosecution of the Vendor of Tucker's Specific for Asthma.

Mr. A. Q. Tucker, the British agent for the sale of Tucker's Specific for Asthma, who, as reported in a previous letter, recovered $5,000 damages from the *Lancet* for stigmatizing his business as fraudulent, has been prosecuted under the pharmacy act for selling a bottle containing certain poisons, to wit, cocain and atropin, bearing the words, "Nathan Tucker, M.D., Specific for Asthma, Hay Fever and All Catarrhal Diseases of the Respiratory Organs" and not labeled with the word "poison" and the name and address of the seller. Analysis showed that the bottle contained 3.6 grains of cocain and 0.91 grains of atropin to the ounce. A penalty of $25 and $26 costs was imposed. The *Lancet* gives the details of a case of alleged cocain poisoning from the use of this preparation. A married woman, aged 36, had been suffering for some time from asthma. A physician was called before she died and he discovered symptoms of cocain poisoning and refused to give a certificate of death. At the inquest it was shown that she had been taking the Tucker preparation for about two years.

Damages Recovered from a Quack for Fraudulent Misrepresentation.

The following case marks a new departure in the struggle against quackery, for it appears to be the first in which damages have been obtained against a quack for fradulent misrepresentation. Though the law has thus been shown to furnish a remedy against the misrepresentation of the quack, strange to say, it does not appear to have been used in this way before. At Manchester a woman sued "Dr. Hall's Hygiene Company" for damages sustained by reason of the defendant falsely holding himself out as a qualified medical man, competent to cure cancer, and by fraudulent misrepresentations inducing the plaintiff to consult him instead of a qualified medical man; also for damages for injuries sustained by the defendant's negligence and want of skill, and for the return of fees paid. The defendant advertised himself by means of pamphlets and lectures as specially qualified to deal with diseases of women, including tumor and cancer of the breast. The plaintiff consulted him about a swelling in her breast about the size of a marble, wishing to know if it was cancer. He examined it and said, "No; this is not cancer, but congestion. I will give you remedies which will dissolve it." He ordered her to foment the breast and prescribed ointment, herbs and mixtures. The swelling increased and he then prescribed abdominal baths, olive oil and almond oil. The swelling spread to the armpit, and he prescribed fomentation with poppy heads, cayenne pepper and vinegar. After a year's treatment the swelling and pain was so great that the patient consulted a physician who advised immediate operation. An extensive operation was performed, but the disease was too advanced for more than temporary relief. The patient may live for six months. The jury awarded her $3,000 damages.

Another Victim of the X-Ray.

In a previous letter the case of Mr. Hall Edwards, the *x*-ray specialist of Birmingham, was reported. Dermatitis accompanied by warts developed on the backs of his hands. He has suffered from intolerable pain for five years, for which all treatment has proved almost useless. The malady assumed a malignant form, especially on the left hand, from which it spread up the arm. Sleep can be obtained only by means of opiates. Examination under the *x*-rays showed that the bones had become diseased and amputation of the forearm a little below the elbow was performed. Unfortunately, the condition of the right hand is so bad that it is feared that it may share the same fate. The case is a very sad one, for Mr. Edwards is in the prime of life—49 years of age. On the introduction of the *x*-rays he took up the subject with great enthusiasm and was one of the pioneers in Great Britain. Indeed, the first operation in which use was made of the *x*-rays—removal of a needle from the hand—was performed by the aid of a photograph taken by him. He was radiographer to the Birmingham General Hospital and the Queen's and Orthopedic and Spinal hospitals. At the time of the South African War he volunteered his services. He organized a complete field equipment which rendered invaluable service, and on his return first noticed the signs of dermatitis in the form of warts. It seems that his devotion to the soldiers was the culminating cause of his malady. At that time the use of gauntlets, leaded glass screens and other devices for protection from the *x*-rays had not been introduced. Undeterred by his terrible affliction, he has continued his work. His case has aroused widespread sympathy, which will probably take the practical form of raising a testimonial on his behalf. He intends to continue practice with the help of an assistant.

The Influenza Epidemic.

Influenza is still prevalent in London. The deaths directly due to the disease jumped to 84 from 34, 32 and 35 of the previous three weeks.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

Vienna, Feb. 20, 1908.

Action for Damages Against a Gynecologic Clinic.

A woman, who for some time had been an in-patient in Professor Schauta's gynecologic clinic, has instituted an action for damages, alleging injuries to her spine caused by means employed to produce artificial respiration after syncope from anesthesia. An abdominal operation was done under chloroform anesthesia; when well under the influence of the anesthetic, syncope occurred and artificial respiration and other means had to be employed to resuscitate the woman. She was discharged from the clinic apparently well a few days later, and after a few days' stay at home she noticed that something was wrong with her spine, the mischief, in her opinion, being due to the means employed to revive her. She demanded $10,000 damages from the professor, whom she held responsible for the operation, and his first assistant, Dr. Burger, who operated on her, and charged them both conjointly with the clinic. At the hearing of the case, Professor Schauta disputed his personal responsibility, claiming that the first assistant at a clinic is fully responsible for all operations performed by him. The previous history of the patient showed that she had been treated for various tuberculous lesions for several years, including tuberculosis of the cervical spine, and it was claimed that a traumatic origin of the spinal trouble complained of could not be supposed, since the nature of the constitutional disease explained the symptoms. Under the weight of this evidence the woman thought it best to withdraw the charge unconditionally.

A New Epidemic Act in Austria.

As at present in Austria there is no legal means of enforcing the isolation of a person ill with an infectious disease, the chiefs of the sanitary department have prepared a bill which will shortly be brought before the house of commons. At the same time the present rules for disinfection have been modified in so far as compulsory disinfection of lodgings has been restricted to diphtheria, variola, scarlatina, erysipelas, plague, cholera, pertussis, parotitis and rubeola. Rooms inhabited by a tuberculosis patient must be disinfected before being occupied by anyone else. All the above-mentioned diseases must be reported as well as trachoma, puerperal fever, lyssa, or rabies, trichinosis, and recurrences and diesases brought on by the consumption of the meat of animals that had swine pest. A feature of the new bill is a provision for paying physicians for each notification.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are **NOT** exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

The Influence of Diet on the Liver.

Dr. Chalmers Watson, Edinburgh, writing in the *Lancet*, Oct. 12, 1907, describes the condition of rats' livers after the animals were given different diets. The percentage of weight of the liver in meat-fed rats was, as a rule, considerably greater than in the control bread-and-milk fed rats. From the examination of the livers of meat-fed rats and those of bread-and-milk only fed rats and those of rats which had not been in captivity and hence were supposed to have eaten varied nitrogenous foods, it seemed proved that the meat-fed and the naturally fed rats had much larger livers than the bread-and-milk fed rats. The average liver weight of the meat-fed rats was 6 grams, while the average liver weight of the bread-and-milk fed rats was 4 grams.

From these experimentations it may be advisable to put a patient with enlargement of the liver from a cause other than tumor on a bread-and-milk diet.

Psoriasis.

Dr. Kanoky, Kansas City, (*Dietetic and Hygienic Gazette*, January, 1908), discusses the treatment of this disease. If the diseased areas are thick and indurated, he advises scraping off the scaly tissue with a sharp curette. "The patches should then be thoroughly scrubbed with hot water (rendered alkaline by the addition of borax or sodium carbonate) and the liniment of soft soap, using a stiff bristle nail brush."

When the disease is mild and the scaly patches are few in number and the parakeratosis is slight in degree, he obtains good results from the following:

℞.

	gm.		
Chrysarobini	1	or	gr. xv
Liquoris guttæ perchæ (N. F.)	10		ʒiiss

M. et Sig.: Apply at night, with a camel's hair brush.

In a few days the resulting inflammation causes increased desquamation.

When the psoriatic patches are completely denuded of scales he advises the use of a white precipitate ointment such as:

℞.

	gm.		
Hydrargyri ammoniati	1		gr. xv
Phenolis	2|50	or	
Balsami peruviani	2|50		āā, gr. xl
Petrolati albi	45		℥iss

M. et Sig.: Apply at night, rubbing in well.

When the disease is severe, especially in regions where there is usually marked thickening, Kanoky says that nothing is more reliable than Dreuw's ointment. "Care, however, must be taken not to apply it over too large a surface at one time." The formula is:

℞.

	gm.		
Acidi salicylici	10		ʒiiss
Chrysarobini	20		
Olei rusci (Oil of birchwood)	20	or	āā, ʒv
Saponis mollis	25		
Petrolati	25		āā, ʒvi

M. et Sig.: "Rub in well, with a stiff brush, for five evenings. Then take hot baths on three sucessive evenings, using applications of olive oil in the meantime (to soften the skin). Repeat if necessary."

"When there are patches of psoriasis on the face or scalp only the white precipitate ointment should be used, as the chrysarobin is likely to give rise to severe erythema and edema in these regions."

Of all internal remedies Kanoky finds arsenic the most trustworthy, and advises the "Asiatic pill" which is as follows:

℞.

	gm.		
Arseni trioxidi	|25		gr. iv
Piperis	2|50	or	gr. xl
Pulveris gentianæ compositi			
Glycerini āā q. s.			āā, q. s.

M. et fac pilulas 100.

Sig.: Commence with one pill before each meal, and increase one pill every second day until the full physiologic effect is secured. Then decrease one pill a day every second day.

There is no chemical or pharmacologic reason why this preparation of arsenic should be any more valuable than any other preparation. The very fact, as Kanoky states, that the average person may take more arsenic in this manner than in any other way shows that the pills do not readily dissolve and the arsenic does not get into the system. In pushing arsenic for physiologic effect either very soluble tablets or a liquid preparation, as Fowler's solution, should be the preparation selected. It is not a question of how much arsenic a patient can take before getting physiologic effect; it is a question of obtaining the physiologic effect, and if one drop of Fowler's solution will do as much as two or three of the "Asiatic pills," it simply shows that the "Asiatic pills" are not absorbed. Also, arsenic should be given after meals, and not before. Hence the best preparation is:

℞.

	c.c.		
Liquoris potassii arsenitis	25	or	fl℥i

Sig.: One drop, in water, three times a day, after meals.

Increase this dose one drop a day, viz., give four drops the second day, five drops the third, and so on, until the physiologic action is in evidence, that is, until any of the following symptoms appear: Pain in the stomach, nausea, vomiting, diarrhea, reddened eyelids, or puffing under the eyes in the morning. Any of these symptoms should cause the arsenic to be stopped for a day or two and then begun at a smaller dose than that which caused the effect. Also the urine should be frequently examined for albumin and blood.

Kanoky says that the effect of arsenic is not only curative, but prophylactic as well, and it should be repeated at intervals long after the attack has subsided.

If arsenic fails to produce satisfactory results, he advises the use of potassium or sodium iodid.

He states that thyroid extract sometimes exerts an almost magical influence in this disease. It should be remembered that the dose of thyroid should not be large; a small dose should be taken for a considerable length of time to cause beneficial systemic results. Large doses, or even medium doses long continued, may cause serious disturbances.

℞.

	gm.		
Glandularum thyroidearum siccarum	2	or	gr. xxx

Fac capsulas 20 (dry).

Sig.: A capsule, with water, three times a day, between meals.

"In stubborn, obstinate psoriasis the *x*-ray and chromotherapy may be used with advantage."

Shampoo Mixtures.

As a physician is occasionally asked to prescribe something for use as a hair tonic or to cleanse the scalp, and is likely to refer the patient to a druggist or to advise some proprietary preparation because he knows of no suitable formula, the following may be of service:

LIQUID EGG SHAMPOO.

Soft soap	2 ounces
Whites of	4 eggs
Potassium carbonate	1 ounce
Tar water	1 pint
Glycerin	2 ounces
Orange flower water, enough to make...	2 ounces

Beat the whites of the eggs into a froth while gradually adding the tar water. Dissolve the soap in a mixture of glycerin and six ounces of orange flower water. Mix the two solutions and make up to two pints with orange flower water. —*Druggists Circular.*

Also:

Transparent soap	4 ounces
Glycerin	2 ounces
Whites of	3 eggs
Tincture of green soap	1 ounce
Oil of rosemary	45 minims
Oil of rose geranium	30 minims
Water, enough to make	2 pints

Melt the soap in twelve ounces of water, add the glycerin and stir until cool; then add the green soap and the oils. Mix the whites of the eggs with eight ounces of water and stir into the soap mixture. Shake well, let stand for twenty-four hours, and strain through flannel.—*Druggists Circular.*

Massage Cream.

Especially at this time of the year, physicians are frequently asked to prescribe massage or face creams, and the following forms may be used:

GREASY CREAM.

Cacao butter	2 ounces
Lanolin	2 ounces
Hard paraffin	4 ounces
Soft paraffin	8 ounces
Rose water	4 ounces

"Melt together the fats, and when the mixture begins to congeal, beat in the rose water with an eggbeater, continuing the beating until the cream has set."

NON-GREASY CREAM.

Casein, moist	1 pound
Glycerin	3 ounces
Oil of rose geranium	30 minims
Boric acid	90 grains
Eosin	enough

BATH POWDER.

Sodium bicarbonate	8 ounces
Tartaric acid	6 ounces
Rice flour	16 ounces
Oil of rose geranium	enough

Chilblains.

℞.	gm.			
Camphoræ	1	50		gr. xx
Balsami peruviani		50		gr. vii
Olei amygdalæ dulcis	10		or	ʒii
Adipis lanæ hydrosi				
Aquæ rosæ	āā 25			ʒvi

M. et Sig.: Use externally.

Arsenic.

Arsenic as a medicament has done more harm than it has ever done good, because the symptoms of its bad action are many times hidden and slow in development, hence have not been noted.

The acute signs of overdosage with arsenic, as gastrointestinal disturbances, epigastric pain, puffing under the eyes, and reddened eyelids, are well understood, but late symptoms of overuse of arsenic as disturbances of the kidneys and a breaking down of the red blood corpuscles (although at first and in small doses, so-called tonic, arsenic will increase the number of red cells) are not noted.

The puffing under the eyes in the morning in patients taking arsenic is doubtless due to irritation of the kidneys, and careful examinations of the urine in patients taking large doses of arsenic or in whom small doses have been long repeated, will frequently show albumin, often blood, and finally even severe kidney disturbances.

Large doses of arsenic given hypodermatically for anemia or leukemia can not only cause the above harm, but can cause multiple neuritis.

The conclusions to be drawn from the above are: If arsenic is given, it should be given in small doses only, and during its administration the urine should be carefully watched. When it is deemed best gradually to increase the dose to the point of physiologic symptoms, it should be given in solution, and best in the liquor potassii arsenitis, or Fowler's solution, and the dose should then be increased no faster than one drop a day, not one drop a dose.

When a small dose of arsenic is desired for its stimulant and probably tonic action, the trioxid of arsenic may be given in soluble tablet, or in pill or capsule, after meals, combined with quinin, iron or strychnin, any one, or all, if desired.

It is a mistake to believe that chorea, chlorosis or anemia can not be well treated without arsenic, and if careful discriminating observations are made it will be found that arsenic as a tonic may be omitted without loss in any tonic treatment.

Chancroidal Bubo.

Dr. Henry H. Morton, Brooklyn, N. Y. (*Medical Record*, Jan. 25, 1908), advises for this condition immediate rest in bed and warm applications; he believes that resolution will take place as readily with warm applications as with applications of ice. He finds injections into the enlarged gland of antiseptic solutions, such as nitrate of silver, phenol or bichlorid of mercury, to be useless. Sometimes an alcohol wet dressing, either gauze wet with pure 95 per cent. alcohol and allowed to evaporate slowly by being covered with perforated rubber tissue, or a dressing of alcohol one part and water two parts, rather tightly covered with rubber tissue or oil silk, are of advantage. Morton finds tincture of iodin applications of no value as an absorbent.

As soon as fluctuation develops, he changes the warm applications to hot ones to hasten the breaking down of the gland, and after it is thoroughly broken down he makes a small incision with a double-edged knife and evacuates the pus; then a 10 per cent. iodoform glycerin emulsion is injected into the cavity.

The injection is made three times at the first sitting, the first two injections being allowed to run out, the last one being retained. The wound is then bandaged over night with fomentations of a solution of the acetate of aluminium. [The strength of the solution is not mentioned. The National Formulary recognizes a liquor alumini acetatis of 7.58 per cent.]

The next day the contents of the bubo are squeezed out and the iodoform injection is again made three times as before. The gland is then bandaged and left undisturbed for five or six days. At the end of that time, in the great majority of cases, the bubo is healed, and the patient requires no further treatment.

Morton believes that improper treatment of the chancroid is often the cause of the bubo. He does not believe in cauterizing the sore with nitrate of silver, believing that the effect of this caustic is superficial and produces a crust which allows the specific organism, Ducrey's bacillus, to migrate to the inguinal lymph glands

Pharmacology

FRUITOLA.

A Fake Remedy for Gallstones.

West Elkton, Ohio.

To the Editor:—A neighboring practitioner has been giving treatment for gallstones, his patients paying him $50 if they pass any stones. I think the remedy he uses is sold under the name of "Fruitola." The patients are said to pass hundreds of gallstones after using it. Have you any account of the stuff? I think the concretions, which pass without pain, are soft and float when fresh. I believe that olive oil is the bulk of the remedy.

A. W. Y. Conarroe.

Answer:—Fruitola is a "patent medicine" which is alleged to have the wonderful power of relieving appendicitis or any intestinal inflammation without an operation. It is also said to be a system-cleanser, to remove gallstones and to cure all stomach trouble. Dr. E. E. Flagg of Mooreland, Okla., writes us that he has obtained identically the same results with large doses (2 ounces) of olive oil.

When olive oil was suggested for the treatment of gallstone colic, it was noticed repeatedly that after its administration the patient passed a considerable number of small lumps which were supposed to be gallstones. Chemical examination of these concretions showed, however, that they mainly consisted of soap which had been produced by the digestion of the oil. This observation has since been made use of by nostrum manufacturers to convince physicians and their patients of the efficiency of their preparations in securing the expulsion of gallstones. A simple examination will usually show the true nature of these bodies, since they disintegrate readily when stirred in water. It is probable that they consist of fecal matter mixed with the mass of soap.

The value of olive oil in painful affections of the gastrointestinal tract is well established and there is much clinical evidence to its soothing action in cases of gallstones, but the physician should not be misled into supposing that he has secured the elimination of a large number of gallstones because the patient passes a large number of lumps of soap, and he should be equally cautious in admitting the claims of the nostrum manufacturers that their remedies secure the passage of gallstones unless he has the opportunity to examine and test the stones for himself.

"ETHICAL SPECIALTIES."

Pullen-Richardson's Nostrum Nomenclature a Display of Verbal Pyrotechnics.

Dr. F. O. Young, Lexington, Ky., sends us a pamphlet put out by the Pullen-Richardson Chemical Company, of St. Louis, with the laconic comment: "This is the largest 'bunch' I have ever known one house to get out." The "bunch" referred to is a list of:

ETHICAL SPECIALTIES FOR THE PRACTICAL PHYSICIAN.

Here they are, or at least some of them:

Acigestine.
Alkagestine.
Alkamenthine.
Boromenthyline.
Bromofloine.
Broncodine.
Buchurine.
Calciodine.
Ferrocin.
Glycogine.
Hemarobin.
Ironidine.
Manacaline.
Paskoline.
Petrolidine.
Pinastrin.
Thebaline.
Turpoline.

To relieve the monotony of "ine" endings we have such as:

Casenol.
Necodol.
Picadol.
Phospholax.

Hypnotics.

Probably in no other department of therapeutics can there be found such a contrast between methodical application of science to the discovery of new remedies and the haphazard, unscientific methods by which their clinical value has been determined than in the discovery and use of hypnotics. While the production of these remedies has been made possible by most careful experimentation and the intelligent application of chemical theory, their use has been determined largely by blind dependence on the interested statements of the manufacturers and by hasty trials made in all sorts of cases, without any systematic determination of the special cases to which they are best adapted. This fact is emphasized in a review of progress in this field by A. Homburger. (*Med. Klinik*, Nov. 3, 1907.)

In hypnotics the relation between chemical constitution and physical properties on the one hand and pharmacologic activity on the other has been so carefully worked out that certain laws can be formulated by which it can generally be predicted in what direction the hypnotic power of a certain substance will be modified by a change in its chemical constitution.[1]

In marked contrast to a systematic working out of a scientific basis for the preparation of new remedies in the chemical laboratory is the fact that the clinical application of these remedies, introduced under proprietary auspices, has been without plan, empirical and confusing.

As Homburger says: "Very soon after the introduction of a new preparation there is sure to be a genuine flood of articles in medical journals, to the effect that the remedy has shown itself reliable and relatively harmless, and presents a gratifying addition to our therapeutic resources; 'gratifying' means in this connection merely that a new possibility for aimless changes in remedies is greeted with a feeling of relief."

These communications, whose object is to popularize the product for commercial reasons, afford no basis for a just estimate of the value of the remedy and its special indications and contraindications, and give no warning as to the need of caution in its administration.

Homburger further calls attention to the fact that the more reliable of these reports proceed, as a rule, from the insane asylums, and concern a class of cases in which the condition of mental excitement gives the indication for a class of remedies different from that which is needed for the insomnia which is frequently encountered in general practice. In his opinion, hypnotics are indicated in two distinct classes of cases, in which two equally distinct classes of drugs should be used: In the first class, the mentally excited insane person, or the restless individual suffering from physical disease must be put to sleep to avert danger to the physical organism, and in this class derivatives of the alcohol and chloroform groups, such as chloral or paraldehyd, which are easily absorbed and act quickly, are indicated. In the second class, the power to sleep, which has been temporarily or periodically reduced, must be restored. This may be accomplished by improving the hygienic conditions, regulating the diet, physical therapeutics, or, as a last resort, the temporary use of drugs. Of these, the difficultly soluble compounds of the sulphone and urea groups—trional, veronal (diethylmalonylurea) and bromurol (alpha-monobrom-isovaleryl-urea) are the most suitable. The smallest dose necessary to secure sleep of normal length should be administered, and the dose should be gradually diminished as the power of sleep returns. In general, the effective dose is smaller than is generally assumed. Much depends on proper administration so as to secure the ready absorption of the remedy.

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[1] The following principles are laid down by Homburger:

Substances which are active as hypnotics are soluble in oils and in the fatty constituents of the nervous system, and they must be somewhat soluble in water and in the body fluids generally to permit of their absorption and conveyance to the nerve centers.

The hypnotic power of a substance corresponds to the partition coefficient of its solubility in oil and water, which means its solubility in oil divided by its solubility in water. The higher its partition coefficient the greater its hypnotic power.

In bodies belonging to the same class as alcohols, etc., the compound with the least branched carbon chain has the strongest hypnotic power, and the one with the most divided carbon chain has the weakest. The introduction of the halogen elements, chlorin or bromin, into the molecule increases hypnotic strength, while the introduction of hydroxyl groups weakens it. In all these cases the partition coefficient varies with the hypnotic power. In general, with some exceptions, the introduction of additional radicals of the higher alcohols, such as ethyl or propyl, increases the hypnotic power, and this increase is accompanied by a rise in the partition coefficient; but this rise sometimes fails to occur, and then the expected increase in the hypnotic power is not observed. This is well illustrated by the effect of the introduction of ethyl groups into the sulphone derivative of methane. Sulphonal (now official as sulphonmethanum), containing two methyl groups and two ethylsulphone residues, has a comparatively low partition coefficient and weak hypnotic power; the introduction of ethyl in place of one methyl group forms trional (now official as sulphonethylmethanum), which has a higher partition coefficient and greater hypnotic power. The substitution of a second ethyl group for the last methyl group forms tetronal (diethylsulphondiethylmethan), but in this case the partition coefficient as well as the hypnotic power becomes less, indicating a limit to the increase in hypnotic power by the introduction of the higher alkyl groups.

Similar illustrations may be given of the application of chemical principles to synthesis of new hypnotics, by which such remedies as hedonal, veronal and bromural have been obtained.

Hypnotics may be divided, chemically, into three great groups, viz.: The chlorinated alcohols and aldehyds, the sulphones and the derivatives of urea and other amino compounds. Therapeutically, the last two groups appear to be closely allied.

The careful and methodic establishment of the indications for the individual hypnotics offers to the therapeutist a field, the cultivation of which may yield results as brilliant and as certain as the scientific synthesis of these remedies has been. Meanwhile we should remember that the first reports of a new remedy are sure to be interested and somewhat biased, and that they should study the remedies they already have with a view to determining their exact indications and manner of use rather than adopt the newest untried proprietary in the market. Our present armamentarium contains satisfactory remedies for the symptomatic treatment of most diseases.

Formula of Godfrey's Cordial.

Midland, Texas, Feb. 24, 1908.

To the Editor:—We are anxious to know the formula of "Godfrey's Cordial." Particularly, we want to know if it contains any opium, as we think that we have had a case of poisoning from this preparation in a baby two days old.

W. W. Lynch and John B. Thomas.

Answer:—Various formulas for "Godfrey's Cordial" have been published from time to time, and in the past the product sold under this title was liable to vary in composition. Now "Godfrey's Cordial" is given in the National Formulary as a synonym for "Mistura Sassafras et Opii," and under the Food and Drugs Act, articles now sold under this name must correspond in composition to the National Formulary preparation, the formula of which is:

	Metric.	Apothecaries.
Oil of sassafras................	1 c.c.	m. xv
Tincture of opium (U. S. P.)...	35 c.c.	fl℥i
Alcohol	50 c.c.	fl℥iss
Potassium carbonate	8 gm.	gr. cxv
Molasses	325 c.c.	fl℥x
Water, a sufficient quantity to make	1,000 c.c.	fl℥xxxii

Mix the tincture of opium with the alcohol in which the oil of sassafras had previously been dissolved. Dissolve the potassium carbonate in about 500 c.c. (or 16 fluid ounces) of water, mix this with the molasses, then add the mixture first prepared, and lastly, enough water to make 1,000 c.c. (or 32 fluid ounces). Allow the mixture to become clear by standing, then pour off the liquid portion and preserve it for use.

Four c.c. (1 fluidram) contain about 0.12 c.c. (2 minims) of tincture of opium, corresponding to about 0.013 gm. (1/5 grain) of opium.

Average dose: Infants, 0.65 c.c. (10 minims).

Jayne's Expectorant.

Newspapers recently chronicled the death of a child in Cincinnati from an overdose of a "patent medicine." We communicated with the coroner, who kindly sent us a copy of the verdict. After recounting in the usual fashion the name, age, etc., of the deceased, the verdict goes on to state:

> The testimony shows that this child had been troubled with a cough for the past five years; that he had always been quite pale and had slept a great deal. The statement is also made that in this family JAYNE'S EXPECTORANT had been used for all the children.
>
> This proprietary remedy has on its label the statement that each fluid ounce contains 15 per cent. of alcohol and one and one-fifth grains of opium. The single dose of this remedy given in this case could not have caused the child's death, but there is no doubt that the continued use of the remedy containing opium, even in a comparatively small dose, is harmful, and especially so to infants and children.
>
> The pale color and the drowsiness can be accounted for by the prolonged use of opium, and the attention of parents can not be too strongly called to the danger of the use of such remedies for children as those that owe their efficacy to this drug. Otis L. Cameron, Coroner.

Correspondence

Dissemination of Literature on Alcohol.

Hartford, Conn., March 4, 1908.

To the Editor:—During 1907 over 200 papers, lectures and pamphlets were published in Europe and America, presenting different phases of alcoholism and inebriety, purely from a scientific point of view. Many of the authors complained that these papers were not widely read and were practically lost, because they did not reach medical men interested in the subject. The Federation Bureau of this country, organized nearly two years ago, with the object of collecting and disseminating all facts concerning the alcoholic problem, in connection with the International Bureau of Europe having the same purpose, proposes to secure a list of medical men and scientists interested in the scientific study of the alcoholic problem. This list is to be made available for authors and students who write on this subject and wish to address a special audience of physicians, not only to increase their interest, but to stimulate farther studies of the subject. Such a list will enable the bureau to extend its work of accumulating facts from the most reliable sources, and to keep both authors and readers in close touch with all that is done. This is a practical effort to group and concentrate the experience and observation of medical men and make them acquainted with what is being done in the scientific study of the alcoholic phenomena. All physicians who are interested in the scientific literature, research work and studies of medical men at home and abroad, are urged to send their names and addresses so as to be registered and receive copies and abstracts from authors and persons who may wish to have their work examined and read by interested parties. As chairman of the board of directors of the Federation Bureau I urgently request all physicians interested in this subject to send me not only their own names, but lists of reputable physicians who would care to receive some of the most important literature coming from the press and to hear what is said in the scientific world concerning this problem. T. D. Crothers, M.D., Chairman.

Tuberculosis in Ireland.—According to *Public Health Reports* of the U. S. P. H. and M.-H. Service, the movement for the prevention of tuberculosis in Ireland has received an additional impulse by the holding of a tuberculosis exhibition in Dublin, similar to those that have been held in this country. Statistics show that the death rate from tuberculosis in Ireland has been increasing while in England and Scotland it has been remarkably lessened by sanitary measures. In 1864 Ireland stood lowest of the three countries, the rates being 2.4 per 1,000 living, against 3.3 for England and 3.63 for Scotland. In 1905 the order was changed so that England had a rate of 1.6, Scotland 2.1 and Ireland 2.7. The explanation for this may be looked for in the depletion of the country of its able and healthy men by emigration, an increased percentage of those less well able to withstand the attacks of disease being left among the residue and partly by the fact that emigrants who have contracted the disease in other countries have come home to die. The great suffering from tuberculosis in Ireland has been among the poor. Prevention there includes the same measures as elsewhere, such as segregation, improved housing, control of milk and meat supply, and of unhealthy trades, better school accommodations for children, and material aid to those families which are unable to provide for themselves the proper means of prevention and treatment. The great desirability of tuberculosis dispensaries is urged in a letter from the Countess of Aberdeen, written on behalf of the Women's National Health Association to the joint committee of the Meath Hospital and County Dublin Infirmary. She suggests that the clinical hospitals of Dublin devote a morning once a week to the exclusive treatment of consumptive patients.

Miscellany

The Sanitary Responsibilities of Public Carriers.

[Editor's Note.—We have been asked by the secretary of the Buffalo Academy of Medicine to publish the following correspondence which is self-explanatory.—Ed.]

Buffalo Academy of Medicine.

To Surgeon-General Walter Wyman, U. S. Public Health and Marine-Hospital Service.

Typhoid fever is increasingly frequent among the passengers and employés of the steamers sailing on the lakes.

An extensive and dangerous epidemic of enteric fever prevailed among the passengers and crews of the S. S. *Northwest*, the facts being as follows:

The S. S. *Northwest* is a passenger boat of the Northern Steamship Company, plying between Duluth and Buffalo. About the first of August cases of typhoid fever appeared among the passengers and employés, the sick being landed at Buffalo, Detroit and Duluth. For a period of about three weeks at each stopping place patients were removed from the steamer. Many of the passengers were taken ill after leaving the boat and were cared for at their homes or at various hospitals. The condition of affairs grew so serious that on August 17 the steamer was inspected by the health office of Buffalo.

The milk was found to be foul, the drinking water contained the colon bacillus, and parts of the boat were in an insanitary condition. The vessel was supplied with ordinary lake water, possibly drawn from the polluted Detroit or Buffalo rivers. The cause of the disease is believed by the health office of Buffalo to be contaminated water.

The total number of cases of typhoid fever originating on the *Northwest* is not accurately known, as the cases are widely scattered through the country—at Buffalo, Detroit, Duluth, New York, Louisville, Auburn, Niagara Falls, Hamilton, Dunkirk, Helena, etc., but it is believed to be about 200. Half the crew was sick. As a result of the epidemic there were many fatalities. The calamity is the most terrible of its kind known in the history of lake navigation.

No inspection of the boat was made by the Marine-Hospital Service at this time, nor was any attention paid by your service to the catastrophe on the *Northwest* until Dr. Irving M. Snow and Dr. Allen Jones, and Hon. D. S. Alexander of Buffalo made a statement to Dr. Wyman and asked the U. S. Marine-Hospital Service to investigate the prevalence of typhoid fever on the vessels of the lakes, and especially to report on the conditions existing on the steamer *Northwest* in August, 1907. We are informed that the U. S. Marine-Hospital surgeons are now collecting data on the subject. In pursuance of your orders, Dr. Carmichael of Buffalo asked the officials of the *Northwest* to furnish him with a complete list of the passengers and employés of the *Northwest* for the season of 1907. This request was refused by the officials of the corporation owning the boat.

A mere tabulation of statistics of the marine hospitals will not suffice. We believe that a thorough investigation will show an alarming state of affairs.

Nearly all the lake vessels use water drawn from any location convenient at the time. The water of the great lakes, particularly Lake Erie, is increasingly contaminated by the drainage of great cities—Detroit, Buffalo, Cleveland, Ashtabula, Toledo, Sandusky, etc. Typhoid fever is endemic at Niagara Falls.

In the interest of justice and for the protection of the enormous number of tourists, sailors and other citizens concerned in the lake commerce, we ask that the epidemic of typhoid fever on the steamer *Northwest* be reviewed by skilled specialists with legal powers. As an official of the U. S. Marine-Hospital Service has been refused access to important documents by the officials of the Northern Steamship Company, we therefore, petition you as chief of the U. S. Marine-Hospital Service to appoint a legal board of inquiry with experts and attorneys to investigate the epidemic of typhoid fever on the *Northwest* in August, 1907, with power to subpena witnesses, to compel the Northern Steamship Company to produce its list of passengers and employés, to give in detail the various stopping places, locations at which drinking water was pumped, source of the milk supply, condition of the staterooms, cabins, quarters of the crews, plumbing, storage places for food, to ascertain if the boat was properly inspected by the United States officials and the officials of the steamer.

We also particularly urge that the health of each passenger and employé of the *Northwest* be ascertained by correspondence or direct inquiry so that an accurate list of patients and of fatalities may be compiled for your information.

We also request you to consider the advisability of a federal law compelling all steamers on the great lakes to serve distilled water to their passengers and employés.

Treasury Department.

Washington, D. C., Nov. 20, 1907.

Dr. Allen A. Jones, President, and Dr. Harry R. Trick, Secretary, Buffalo Academy of Medicine, Buffalo, N. Y.

Sirs:—I beg leave to acknowledge receipt of your communication, in behalf of the Council of the Buffalo Academy of Medicine, transmitted to me by the Hon. D. S. Alexander and inclose herewith a copy of a letter this day addressed to him by myself which explains itself.

I desire, through you, to thank the council for the communication, which so forcibly sets forth the importance of this matter, and as stated in my letter to Mr. Alexander I am giving the matter most earnest administrative attention and hope to be able soon to inform you of the action taken.

Respectfully, Walter Wyman, Surgeon-General.

Treasury Department.

Nov. 20, 1907.

Hon. D. S. Alexander, House of Representatives, Buffalo, N. Y.

My Dear Sir:—I beg leave to acknowledge receipt of your letter of November 12, received here on the 14th, enclosing a resolution passed by the Buffalo Academy of Medicine "respecting the increase of typhoid fever among passengers and employés sailing on the Great Lakes."

Recognizing the great importance of this subject, immediate attention was given by the Bureau to your former letter of October 4, and reports have been required of the medical officers located in the various ports on the Great Lakes. These reports are now being received, tabulated and summarized, to establish ground for radical action in the matter. The inquiry relates not only to statistics of the marine hospitals, but of the cities on the Great Lakes in which they are located.

I am writing to the council of the Buffalo Academy of Medicine, assuring them that the matter is now receiving administrative action, based on the valuable suggestions made by them and the medical officers who are submitting their reports.

Respectfully,

Walter Wyman, Surgeon-General.

Buffalo Academy of Medicine.

Buffalo, N. Y., Jan. 7, 1908.

Dr. Walter Wyman, Surgeon-General, U. S. Public Health and Marine-Hospital Service, Washington, D. C.

Sir:—Allow me to express the thanks of the council of the Buffalo Academy of Medicine for your prompt and courteous reply to our recent communication regarding typhoid fever on the Great Lakes.

We desire to give this subject the greatest possible publicity, and I have been instructed to forward a set of these resolutions to the principal medical society in each port of call along the Great Lakes, and if agreeable to you, to publish these resolutions and our correspondence in The Journal of the American Medical Association.

May I ask if your investigation has yet developed anything that you consider worth reporting at our next meeting?

Again thanking you for your kindly cooperation, I remain,

Yours respectfully, Harry R. Trick.

Treasury Department.

Washington, D. C., Jan. 27, 1908.

Dr. Harry R. Trick, Secretary, Buffalo Academy of Medicine, Buffalo, N. Y.

Dear Doctor:—I desire to acknowledge the receipt of your letter of the 7th instant, requesting information as to whether the investigation of typhoid fever on vessels engaged in interstate traffic has thus far been productive of definite results.

In reply, you are informed that this question has received attention in my annual report for the fiscal year 1907, which is now in the hands of the public printer. It is stated that, while the investigation has not as yet been completed, sufficient facts have already been established to demonstrate the necessity of Federal surveillance over these vessels engaged in interstate traffic to prevent their disseminating this infectious disease. At the same time, the Bureau has received reports from its officers showing the probability of the same conditions prevailing to some extent on railway passenger trains engaged in interstate traffic.

It is shown that regulations can be made under the interstate section of the quarantine law of 1893 for the prevention of the spread of this disease from one state to another. There is, however, no penalty accompanying this section of the said law, and the addition of another section to the law has been recommended for penalties for violation of the regulations made thereunder. This matter is now receiving active attention.

In reply to the further statement contained in your letter as to the desirability of publishing the resolutions adopted by your society and the subsequent correspondence relating thereto, there appears to be no reason why this should not be done.

Respectfully, W. Wyman, Surgeon-General.

The Paralysis of the Skin in Grip.—R. Hessen says in regard to the grip that it is a scourge wielded by Nature to punish people for their systematic maltreatment of their skin, for influenza deserves more than any affection the appellation of "skin disease." It paralyzes the skin and renders it incapable of functioning. The skin of a patient with influenza is unable to perform the slightest tasks imposed on it; it is unable to tolerate or adapt itself to the least change in temperature, and, if it works at all, it wavers between chilliness and profuse sweating. For these reasons every effort should be made to refrain from imposing work on the skin, and it should be kept enveloped in warm air, as is possible only in bed. In his article on the subject in the *Goldenes Buch der Gesundheit* he adds that there is another means to get rid of influenza if applied early in the game. Alcohol drives the blood to the skin, and consequently, when the typical pains in the sacral region and the tendency to sweat indicate that grip has seized the individual, if he is willing to drink brandy freely he will wake up the next morning with a "morning after" headache, but his grip will be gone.

Cancer a Disease of Later Life.—Many noted medical men are of the opinion that cancer is essential a disease of advancing years. Dr. G. Sims Woodhead, pathologist to Cambridge University, England, in connection with this aspect of the question when delivering a lecture recently said: "A gradually rising cancer mortality such as presents itself to every medical officer of health, must, apparently be considered in connection with the observation that cancer is a disease of advancing years, and that as the 'expected' length of life gradually increases, that is, as preventive medicine plays its part in prolonging life, we must for the present, at any rate, until we understand more about the etiology and treatment of this disease, expect to have some corresponding drawback in the form of a higher cancer death rate,—simply cancer is a disease of late life."

Syphilis of the Lung.—O. Jaime relates the history of a woman of 26 who had had hemoptysis twice and had coughed and expectorated for more than half a year. Her voice was clear, the general appearance good and temperature normal. Auscultation revealed a softening lesion in the middle of the right lung, but no tubercle bacilli were found in the sputum, which was examined three times. Eight years previously the patient had taken a defective course of treatment for syphilis and mercurial treatment was at once instituted, with favorable results. In his communication on the subject in the *Revista de Med. y. Cir.*, September 25, Jaime warns against administering potassium iodid in such a case as it would favor local congestion and expose to danger of renewed hemoptysis. His experience has shown that an old syphilitic gumma in the lung may resemble in every respect a tuberculous process, undergoing cheesy transformation, finally becoming infiltrated with lime salts, and healing. He has observed cases of inherited syphilis in which the lesions in the bones had been assumed to be of a tuberculous nature, when a few injections of mercury would have cleared up the diagnosis and cured the lesions without the mutilating operations which have been undertaken.

THE ABBOTT ALKALOIDAL COMPANY.

Modern High Finance and Methods of Working the Medical Profession.

FOREWORD.

We have heretofore called attention to the wildness and unreliability of the claims made by the Abbott Alkaloidal Company for some of its products. This week we shall discuss some of the methods this company has adopted in building up and conducting its business. What follows, in brief, indicates:

That the president of the Abbott Alkaloidal Company has used, and is now using his position as a member of the medical profession as a commercial asset.

That the company is publishing what purports to be a medical journal devoted to the medical sciences and to the interests of medical practitioners, but which, to all intents and purposes, is a house organ devoted to the interests of the company and to the advertising of its products.

That the president and the vice-president of the company, though engaged in commercial lines, are members of medical societies and use this membership in medical meetings to advance the interests of their firm.

That the same officers, for the same reasons, flood the reading pages of medical journals with so-called original articles which are but thinly veiled advertisements.

That by glowing promises the company has induced physicians to become financially interested in its business and thus users and promoters of its products.

The Abbott Alkaloidal Company and Its Journal.

The distinguishing feature of the company is the manufacture and advocacy of "alkaloids" or "active principles" (although many of its products are neither "alkaloids" nor "active principles," not a few being typical nostrums), their use being sometimes designated by it as "alkalometry." This system has been developed by it into a cult or sect, so that some of its advocates speak of "practicing alkalometry," or of themselves as being "alkaloidal physicians." Neither of the members of the firm is an active practitioner of medicine; at least, neither of them is recognized by other physicians in the neighborhood as being in very active practice.

To advance its interests the firm—or rather a related firm, the Clinic Publishing Company—publishes a journal, now called the *American Journal of Clinical Medicine*, and formerly known as the *Alkaloidal Clinic*, a name which, while less pretentious than its present one, is more indicative of its true character. In every department the fact stands out that, no matter what may be its assumed mission, its real *raison d'être* is the exploitation of the various products of the company. This is not surprising when it is found that the editorial staff is composed of those directly interested in the company. It would, indeed, be strange if, in such a journal, the therapeutics recommended were not tainted with commercialism.

Evidence of the commercial element is to be found in every department from the editorial pages to those devoted to "queries." In the latter department the freest rein is given to booming the company's products. "Nuclein" (Abbott) is advised in the medication of a case of "neglected syphilis;" "Cactin" (Abbott) is recommended in "cardiac hypertrophy," and "Sanguiferrin" (Abbott) may be indicated in a "marked case of malassimilation." "Carbenzol" (Abbott) and "Carbenzol Soap" (Abbott) are recommended in a skin eruption which a correspondent thinks may be "smallpox, Cuban itch or impetigo contagiosum"—and, incidentally, the precision of the therapy is equaled only by the accuracy of the diagnosis.

Not only do some of the products of the house appear to be indicated in practically every disease, but the advertising pages announce that there is a text-book of "Alkaloidal Therapeutics" by the president and vice-president of the company, as well as a book on practice—"Alkaloidal Practice;" there is also a "Guide to Alkaloidal Medication" by Dr. Shaller, who manages the "Little Mattie Mining Company," another of Dr. Abbott's investment schemes. Thus the company is equipped to furnish not only the theory, the principles and the practice, but also the drugs for their application—truly a veritable *multum in parvo* for the physician. The *American*

Journal of Clinical Medicine is the only periodical in the country, issued as a scientific medical journal, for which a regular subscription price is charged, whose real function appears to be to promote the sale and use of the products manufactured by its owners. Its only prototype was the *Medical Brief* in its earlier and palmier days.

Commercializing Membership in Medical Societies.

No one will dispute that it is unbecoming to use one's professional relations and associations as a means of commercial aggrandizement. Making capital of religious connections, utilizing membership in a fraternal organization for commercial benefit, turning club affiliations into a financial asset—all such practices are justly held in the contempt they deserve. There devolves, too, on members of all learned professions an obligation, implied rather than expressed, to refrain from using the profession for commercial gain, and in the profession of medicine this principle constitutes one of its most hallowed traditions.

As physicians, Drs. Abbott and Waugh have attended society meetings; as pharmaceutical manufacturers they have utilized such meetings to give publicity to their products. This fact has usually been kept carefully in the background; at least, the promotion of their business, in most cases, has not been carried on openly. Medical societies have tolerated in Drs. Abbott and Waugh what they would not have tolerated for a moment in those who are frankly and openly commercial men. These two men, the president and vice-president, respectively, of this pharmaceutical concern and devoting practically their whole energies to it, who are not in active practice, in the accepted meaning of the term, have attended more medical society meetings within the past year than any other two physicians in the country. In many instances, not only one, but two, three and even four members of the firm have attended meetings. In one instance, that of an Illinois medical society meeting, Drs. Waugh, Abbott, Eppstein and Lanphear were present and openly advocated the use of an Abbott product, the three former being members of the company, the latter an attaché. It is remarkable that in only one instance did the members of a society recognize the true object for which these "invited guests" were present.[1]

We know of no reason why the president and the vice-president of the Abbott Alkaloidal Company should have had the courtesies in this regard extended to them simply because they are physicians, any more than the president of the Eusoma Chemical Company, of the Organic Chemical Company, or of the Reed & Carnrick Company, all of whom are physicians and some of them members of medical societies. Suppose these gentlemen should make a practice of attending medical society meetings and of taking part in discussions, improving every opportunity to extol their products, how long would it be before a justly indignant and outraged profession would inform such intruders that a medical society was not the place in which to secure gratuitous advertising?

Commercializing Medical Literature.

DR. ABBOTT'S LITERARY FECUNDITY.

While the president of the Abbott Alkaloidal Company is not in active practice, he has been most liberal in giving the profession his experiences, for he has contributed more original articles to more medical journals than any other man in the country. He has not hesitated to enlighten our profession on all kinds of subjects, nor has he been particular regarding the journals he patronized—regular, homeopathic and eclectic, all were favored by him. We give below a partial list of the articles that appeared under his name during the year 1907. As there are many journals not received at this office, we have no means of knowing the sum total of his contributions to medical literature. The list does not include his articles that appeared in his own journal, nor his productions that were published as "reading notices" or in "publishers' departments," nor do they include communications in the "correspondence" departments, and there were many of these, for no opportunity for such advertising has been neglected.

LIST OF ORIGINAL ARTICLES BY DR. W. C. ABBOTT PUBLISHED IN 1907.

Title of Article.	Publication.
Why Drugs Are Neglected.	Woman's Med. Jour., January.
Solanin, A Useful Remedy in Epilepsy.	Merck's Archives, January.
Bronchiectasis.	Denver Med. Times, January.
Therapeutic Points.	Colo. Med. Jour., February.
Preventive Medicine.	Medical Bull., February.
Abnormal Perspiration, Drug Indications.	Toledo Med. and Surgical Reporter, March.
Scarlet Fever, Therapeutic Pointers.	Medical Times, March.
Importance of Vasomotors.	Jour. Ark. Med. Soc., March.
Tonsilitis.	Amer. Med. Compend, March.
Tonsillitis (different from preceding).	Illinois Med. Bull., April.
Pruritis Ani.	Dominion Med. Monthly, April.
Vomiting; Its Therapeutics.	Chicago Med. Times, April.
Asthma; Its Therapeutics.	Kansas City Med. Rec., April
Hyoscin Anesthesia.	Toledo Med. and Surgical Reporter, April.
Gallstone.	Lancet-Clinic, April 20.
Sunstroke.	Jour. So. Car. Med. Assn., April.
Exudatious.	Wis. Med. Jour., April.
Roseola; Drug Applications.	Central States Med. Monitor, April.
Syphilis; Its Therapeutics.	Medical Bull., May.
Therapeutic Means for Relief of Spasm.	St. Louis Med. Review, May 18.
Cataract.	Amer. Med. Compend, June.
Diet and Common Sense in Treatment of Dropsies.	Diet. and Hyg. Gaz., June.
Treatment of Boils.	Amer. Med. Jour., June.
Mosquito Inhibition.	Texas Med. Jour., June.
Plea for the Average Doctor.	Chicago Med. Times, July.
Iodin.	Atlanta Jour.-Rec. of Med., July.
Phthisis—Drug Applications.	Vermont Med. Monthly, August.
Treatment of Typhoid Fever.	Carolina Med. Jour., September.
Hyoscin-Morphin Anesthesia.	Chicago Med. Rec., September.
Infection of Steno's Duct.	Columbus Med. Jour., September.
New Anesthetic and Forceps.	Medical Times, September.
Pleurisy—Drug Indications.	Dominion Med. Monthly, October.
Phlebitis—Drug Treatment.	Amer. Med. Jour., October.
What is a Dose?	Toledo Med. and Surg. Reporter, October.
Rheumatic Arthritis.	Denver Med. Times and Utah Med. Jour., October.
Remittent Fever — Therapeutic Suggestions.	Med. Bulletin, November.
Rheumatic Fever — Therapeutic Hints.	Amer. Med. Compend, November.
Urinary Ailments.	Texas Med. Jour., November.
Worms.	West Virginia Med. Jour., November.
Influenza.	Southern Med. and Surgery, November.
Amenorrhea Therapeutics.	Southern Clinic, November.
Puerperal Convulsions.	Cleveland Med. and Surg. Reporter, November.
The Therapeutics of Ozena.	Albright's Office Practitioner. December.
Scrofula: Its Therapeutics.	Medical Summary, December.
Rectal Affections: Some Therapeutic Suggestions.	Carolina Med. Jour., December.
Use of Opium in Preference to Its Derivatives.	Journal of Inebriety, December.
Modern Treatment of Pneumonia.	Kansas City Med. Record, December.

These are original articles that have appeared in medical journals as the productions of one man during a single year; by a man who for years has been out of active practice and busily engaged in commercial lines![2]

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[1] This was at the meeting of the Kentucky Valley Medical Association last June, for which Dr. Waugh had secured an invitation to read a paper. Instead of the paper—an unwritten one, by the way—being a calm unprejudiced presentation of scientific fact, it proved to be but an exaggerated panegyric on the company's product, H-M-C (Abbott). Nor was this all; Dr. Abbott himself, though uninvited, was present to do what service was possible in the interest of the house. It happened that the physician who had been asked to open the discussion considered that he was present for the purpose of discussing a scientific question and not tacitly to aid in advancing the interest of a business firm. He questioned, therefore, the propriety of placing on a "scientific program the name of any such manufacturer's agent." Another speaker suggested that the American Medical Association button on the lapel of Dr. Waugh's coat was conspicuously out of place at that time. The result was a most interesting discussion, though one such as the gentlemen from Chicago had not expected. The full report of this meeting was published in the *Kentucky State Medical Journal* for October, 1907.

[2] Besides being president of the Abbott Alkaloidal Company and the Clinic Publishing Company, Dr. Abbott is president of the Tengwall File and Ledger Company, now known as the Tengwall Company, and it is alleged, controls the business. Recent developments show that he was vice-president and the controlling spirit of the Ravenswood Exchange Bank. He was, if he is not now, actively interested in a certain silver mine in Colorado, and also in selling stock in this mine to physicans.

He has certainly established a record unapproached by any of the other great leaders of our profession. Is there any explanation of such unparalleled literary fecundity? Examination of the forty-eight articles listed above shows that at least two-thirds of them advocate the use of some product of his company. Is there any causal relation between these facts? Has any other pharmaceutical promoter been given the use of the reading pages of so many journals? How much has been saved to the Abbott Alkaloidal Company in advertising bills through the fortunate professional connections of its founder and president?

WAUGH AND LANPHEAR ALSO.

Nor is this productiveness limited to the president of the company. While we have not attempted tc compile statistics on the subject, a cursory glance at the journals which come to this office leads us to judge that the number of veiled advertising articles published by the vice-president of the company—Dr. Waugh—who also is not regarded as being in very active practice—does not fall far behind that of the president. The same might be said of the articles written by another attaché of the company, Dr. Emory Lanphear, whose many effusions during the past year were chiefly devoted to exploiting the firm's "new" proprietary anesthetic.

OTHER WRITERS FOR THE COMPANY.

There are some lesser stars who deserve mention, one of them being Dr. W. T. Marrs of Peoria Heights, Ill., a physician who is afflicted with the testimonial habit. Up to September, 1907, Dr. Marrs distributed his literary contributions somewhat indiscriminately, having written testimonials of the "original article" type for the following products: Antikamnia, Bromidia, Neurilla, Thigenol, Ecthol, Chionia, Arsenauro, Kennedy's Pinus Canadensis, Peacock's Bromids, Veronal, Phenoseptine, Cactina Pillets and Papine! In the fall of 1907 Dr. Marrs evidently experienced a change of heart as since September of that year he has with commendable regularity written of the virtues of the Abbott preparations, especially recommending in his series of articles Saline Laxative (Abbott), W-A Intestinal Antiseptic, Calcalith, Calcidin, Neurolecithin, Salithia, and H-M-C (Abbott), to say nothing of write-ups on the use of alkaloids in general.

Another light in the Abbott firmament is Dr. R. J. Smith of Schenectady, N. Y., to whom President Abbott refers as an "enthusiastic follower of *Clinic* teachings" and one whose "enthusiasm is not the unhealthy product of the fanatic." To this last statement one is willing to subscribe after reading a few of Dr. Smith's literary gems; there seems to be nothing fanatical about the matter—nothing is to be read between the lines. Dr. Smith is partial to Calcidin (Abbott), Hemorrhoidal Astringent (Abbott), W-A Intestinal Antiseptic (Abbott), H-M-C (Abbott), Bulkley's Uterine Tonic (Abbott), Anticonstipation Granules (Abbott), Saline Laxative (Abbott), Dolor-pyrine and Glycero-magnesium Suppositories (Abbott). Dr. Abbott says: "Dr. Smith is not afraid to pass the good word along." Evidently not!

As illustrating the close telepathic relationship that exists between the various members of the alkaloidal cult the following is of interest: In different medical journals, separated geographically by half the width of the continent, there appeared, almost simultaneously, three articles under the common caption: "Query—What Pharmacopeial Preparations Should be Kept on Hand by the General Practitioner?" Each article was by a different author. This in itself would have been a coincidence sufficiently startling to have warranted investigation by the Society for Psychical Research. On reading these articles, however, one was struck with the fact that all three men recommended alkaloids, and in two cases Abbott's alkaloids in particular. Still further research disclosed the fact that the authors were our old friends Smith and Marrs and a Dr. James Burke of Manitowoc, Wis. This latter gentleman is known as another versatile writer on the subject of alkaloids in general and Abbott's products in particular. The coincidence thus vanishes and we have instead the very prosaic fact that the Abbott Alkaloidal Company "presses the button" and certain individuals "do the rest."

Two other men, whose connection with the company is not generally known, are Drs. G. H. Candler and E. G. Paxton, both of whom are reported to be on the staff of the company at Ravenswood. Neither is, or was two months ago, a licensed practitioner of the state in which he lives, and neither, therefore, is engaged—at least, legally—in the practice of medicine. Yet the articles by these individuals appear in various medical journals from time to time, giving advice to active practitioners in the management of their patients. And the reader is not informed that they are connected with the company. The average reader, of course, unless he takes a large number of journals, is unable to see the relationship between these various "original" papers and is led to believe, as is intended, that such recommendations of the products are spontaneous and unsolicited.

The fact remains that each month during the past year a flood of pseudo-scientific articles—written by those directly or indirectly connected with the company and in the interests of its products—has appeared in the various medical journals of the United States, which were as clearly advertising matter as though printed on the cover with display heads. We believe we are not exaggerating when we say that the Abbott Alkaloidal Company secured more of this kind of advertising during the year 1907 than all the other pharmaceutical and proprietary medicine houses in the country put together. We are not referring to the occasional contributor in active practice, who gives his actual experience or honest opinion, but to the class of writers described above.

Whether the fact that the Abbott Alkaloidal Company spends thousands of dollars in advertising its products in the various journals that carry these "original article" testimonials has any bearing on this matter we do not know. Candidly we believe not but rather that the majority of editors of medical journals have not appreciated how they are being "worked" by this company.

The Profit-Sharing Method.

The plan by which pharmaceutical firms are attempting to secure the cooperation of physicians through profit-sharing, to which we have referred on two previous occasions, is double-acting: The doctor supplies money to help run the business and at the same time—and this is more important—lends his patronage and cooperation in creating a market for the products. Nothing will so successfully secure one's support and cooperation in promoting a project, or product, as having a financial interest therein. This is an axiom in business affairs. A physician would be more than human if he resisted the temptation to favor the products of the firm in which he was interested or to say a good word for that firm if necessary. This profit-sharing scheme is another of the methods used by the Abbott Alkaloidal Company to secure the patronage of physicians.

With most extravagant and optimistic promises not only as to their safety, but also as to the profits connected with the proposition, this company for over two years has been offering to physicians what it calls "Guaranteed Participating Cooperative Bonds." As presented in their advertising literature, the investment is most attractive, as the following quotations will show:

> "Every dollar put into each series will earn and receive exactly what my (our) dollar earns and receives in the same series for they go in exactly on the same basis—a genuine, unqualified, participating cooperation. We pay you 6 per cent., we take 6 per cent., and then divide the remainder evenly with you, dollar for dollar—a normally probable average, *if we pull together*, [Italics not in original.—Ed.] of 10 per cent. or more during each five-year period and your money refunded at the end of each five years, or on thirty days' notice, at any time, if you need it. Doctor, this is as sure as the sun, as safe or safer than a bank and a money-maker according to the work we all put in. We're 'rustling' as usual. Will you help?"
>
> "These bonds, in five-year series, are guaranteed both as to safety of principal and interest at 6 per cent. . . .
>
> "These bonds are not only guaranteed as above, but each series is *participating* during its five-year period, every dollar of your investment sharing in the profits

> of the period exactly on the same percentage basis as our own investment. . . . .
>
> "We take all the risk and admit you on an even percentage basis with ourselves. What better do you want? What safer insurance could you have? What more could you ask for? Do you want it? . . . .

To those who were using the company's products or who had confidence in the firm, the temptation to invest certainly has been great. According to the advertisements, these "bonds" have all the advantages of absolute security and safety that attaches to guaranteed bonds, both as to principal and interest, and in addition the speculative possibilities that lie in ordinary stocks. An ideal investment, certainly, and one in which many physicians may have invested, not thinking of the ethical side of the question. How many, of course, we do not know. We have been informed that one of the officers of the company stated last fall that there had been over $125,000.00 worth of these "bonds" sold. In any event, there appeared in the Chicago *Tribune* of Feb. 12, 1908, and in other papers at about the same time, a statement by Mr. Cleveland, chairman of the depositors' committee of the Ravenswood Exchange Bank (of which more later), to the effect that the company

"owed among other items $100,000.00 on personal notes of $100 or thereabouts, held by 1,000 physicians throughout the country."

Suppose there are only 1,000 physicians who invested, what does it mean? A prominent physician wrote last fall:

"Dr. Abbott told me while at Atlantic City that the bond proposition he was offering the profession was **the greatest cooperative scheme ever offered, that it made an agent of every doctor who purchased a bond.**"

Undoubtedly this is a correct statement of fact. As bearing on this idea, read this:

> "Do you want to make an investment that is safe and that *you can help to grow?* If so, use the application blank as indicated, agree thereon to do exactly what you can and will do—*do your part* and we'll do ours." [The italics are ours.]

Very suggestive, certainly. *You* can help to make the business grow. And what will the harvest be? Read the answer in this quotation:

> "And the result? Let 1,000, 5,000, 10,000 earnest, honest doctors *pull together*, day by day, month by month and year by year *for the common good* and the result will answer the question." [Italics ours.]

There can be no misunderstanding as to what is meant. "Pull together for the common good." How? By giving the Abbott Alkaloidal Company your money to put into its business and by prescribing and pushing its products. Grand scheme—for the Abbott Alkaloidal Company.

THE "BONDS" ARE NOT BONDS.

There is another and more practical aspect to all these profit-sharing schemes than that of morals or ethics: Will it pay? Is the stock a good investment? Are the bonds safe, or are the people offering them telling all the facts? This is a business proposition. How many physicians looked into this particular "bond" business to see what they were buying? How many examined the so-called "bond" to learn what was the "guarantee" that was so prominent in the advertising literature, what security was back of it? We submitted one of the bonds to our attorney, who on October 9, rendered the following opinion:

From such examinations, and assuming that the blank spaces for name and sums and signature are duly filled out, *we are of the opinion that the so-called bond would not in fact be a bond guaranteed as that term is understood by investors.*

1. The bond is not negotiable. It is expressly made non-transferable, hence it lacks one of the prime requisites of an investment bond. In other words, it is not a bond which can be sold or pledged as other corporation bonds can be, and would therefore be of no market value.

2. A bond issued by a private corporation, to be of any value as a marketable bond, as the word "bond" is usually understood, should be secured on real or personal property of adequate value. This bond does not purport to be secured in any such manner. *It is of no greater value than a simple unsecured promissory note for an equal amount.*

3. It is designated as a "guaranteed 6 per cent. coperative bond," but it is evident that the term "guaranteed" as so used is calculated to mislead, for there is no guarantor named. As the term "guaranteed" is ordinarily used as to bonds and negotiable instruments, it means that some person or corporation of greater financial ability than the maker of the bond guarantees the payment of the interest and principal at maturity. There is here no such guarantor. The word "guaranteed" by the maker of a bond adds nothing whatever to the simple promise to pay interest.

4. Apparently the term "guaranteed" as used in the so-called bond means that the Abbott Alkaloidal Company, if solvent and able to pay when interest matures, will pay interest at 6 per cent. per annum quarterly in cash, but if the Abbott Company should fail there is no one else who can be called on to pay the interest in default.

5. The coupons attached to the bond and designated "Special Annual Cooperative Profit-sharing Dividend Coupon" will entitle the holder to a "special profit-sharing dividend" as soon after Oct. 1, 1905 and 1906, as the annual account has been completed to determine the amount of such dividends and the same has been declared and fixed by the board of directors.

The account may show losses instead of profits, and it may never be completed so as to determine the dividend, or such dividend may never be declared and fixed by the board of directors. Therefore the so-called coupon is of no present value.

Thus, these "bonds" are simply unsecured notes, nothing more. If the company prospers, they will be paid. Really, they are not as good as ordinary notes, for notes can be sold or transferred; these "bonds" can not. So far as we can learn there seems to be no limit to the number that may be issued, so that the amount of "security" behind each "bond" is exceedingly uncertain.

It is possible that the statements in the advertising literature, some of which we have quoted above, regarding the safety of these "bonds" were honestly made; that the company intended to carry out the proposition and fulfill its promises in every particular—if it could. But is it giving physicians "a square deal" (to use the term so constantly employed by the company) to call these unsecured notes "guaranteed profit-sharing bonds" to convey the impression that they are absolutely safe? Was it honest for Dr. Abbott to make definite, positive promises which he or his company might not be able to carry out?

"DOCTORS FOR DOCTORS, AND FOR EVERYBODY A SQUARE DEAL."

The above is the title of a circular signed "Dr. W. C. Abbott," sent out last October. It is illustrated with pictures of the plant, including the one in course of erection. There is also an application blank for the "Guaranteed Cooperative Profit-Sharing Bonds (series three)." It is a most "fetching" advertisement of the "bonds." The last sentence, which stands out by itself, is:

"Our interests are mutual, push 'em along."

It contains such sentences as these: "A provision for 'the rainy day' that will beat the bank—positive safety, honorable treatment, a square deal—genuine reciprocity." And there stands out in heavy black letters

"And every dollar goes into buildings and equipment, increasing your already ample security."

The sentence just quoted can be read in only one way, and that is that the money received for the "bonds" is to go into buildings and betterments.

ABBOTT TRANSFERS PROPERTY TO OWN ACCOUNT.

Now, what about the property in which it is alleged so much money has been placed? What about the building into which the money from these bonds was to go? And what about the "security" back of the bonds? The pictures in the recent circulars advertising the "bonds" show three buildings—one in course of construction. These buildings are on land in Ravenswood that has a frontage of approximately 238 feet, with a depth of 163 feet. When the "bonds" were first issued, Oct. 1, 1905, the records show that all this property—the 238 feet—was in the name of the Abbott Alkaloidal Company. But the records also show what the advertisements do not show, viz., that on May 10, 1906, 168 of the 238 feet frontage was transferred by the Abbott Alkaloidal Company to W. C. Abbott, the deed being signed by Wallace C. Abbott, its president, and Louis P. Scoville, its secretary, and to-day, March 4, 1908, it is still in his name. The records also show that a mortgage of $30,000.00 was put on the property after it was transferred to Dr. Abbott, and that this mortgage is at present unsatisfied. On this property, now in Dr. Abbott's own name, there is a four-story modern building, completed about a year ago, and also a frame building. The four-story building is occupied by the Clinic Publishing Company and its printing plant, and by the Tengwall File and Ledger Company, corporations in which Dr. Abbott is said to be the principal stockholder.

It will be noted, therefore, that, according to the official records, all the property that is described in the advertisements and illustrated in the circulars is not now in the name of the Abbott Alkaloidal Company, but that the greater portion of it is in the name of Dr. Abbott himself.

PROPERTY IN NAME OF ABBOTT ALKALOIDAL COMPANY.

The records show 70 feet of the 238 still in the name of the Abbott Alkaloidal Company. On this land is a building in course of construction. The records also show that in December, 1907, a claim for a mechanic's lien was filed by a building company for $31,000.00 still due it under its contract with the Abbott Alkaloidal Company. This building, it is said, is to cost, when completed, between $75,000.00 and $80,000.00. If there are no outstanding claims against this building, other than the mechanic's lien above mentioned, then we can estimate that there has been paid on it not to exceed $50,000.00—the amount is probably much less. So far as we can learn through the records this is the only real estate and buildings owned by the Abbott Alkaloidal Company.

WERE THE BONDHOLDERS CONSULTED?

The first series of "bonds" bear the date of Oct. 1, 1905. It was six months after this that the transfer of the property was made. Can Dr. Abbott claim that he is giving physicians a "square deal" when after these "bonds" were issued he had the larger part of the real estate of the company, which gave the "bonds," transferred to his personal ownership, thus taking away from the company the most staple of its assets? Can Dr. Abbott explain to physicians who trusted him—who bought "bonds"—his idea of a "square deal" to doctors? Does this come under his classification of "Doctors for doctors," or is it more appropriately classified as "Dr. Abbott for Dr. Abbott?" If it was so easy for him to have that asset transferred to himself, would it not be equally easy to transfer all the assets of the company, and if so, what "security" will be left for the bondholders? In this "square deal" where he has the control of everything, and the best part of the real estate has been transferred to him, who is the guarantor of the "bonds"? Does Dr. Abbott make any personal guarantee? Oh, no. The only place in which we have seen such a guarantee is in the advertisements. It is the Abbott Alkaloidal Company that promises to pay, and no one else stands behind that promise if the company should fail to meet its obligations.

Undoubtedly Dr. Abbott, with his monumental assurance, would reply that he himself will guarantee the "bonds" issued by the Abbott Alkaloidal Company, that he will make good the promises, and that it does not matter in whose name the property is held. This is all very good so far as it goes, but verbal promises have little weight in a court of law. To be of any legal value they must be in due form and signed by the individual making them.

FAILURE OF THE RAVENSWOOD EXCHANGE BANK.

Of direct interest relative to this bond proposition is the following: On Nov. 12, 1907, the Ravenswood Exchange Bank failed, owing its depositors over $400,000.00. The chief officers of this bank proved to be: President, L. P. Scoville (secretary of the Abbott Alkaloidal Company); vice-president, Wallace C. Abbott (president of the Abbott Alkaloidal Company); W. F. Waugh (vice-president of the Abbott Alkaloidal Company), was a director; in other words, the bank proved to be an Abbott Alkaloidal Company bank, and appears to have been run by the officers of that company. Dr. Abbott has been referred to in the newspapers as the leading spirit of the institution. It later developed that the bank was not incorporated, but was simply a partnership concern. It is now in the hands of a receiver.

According to the report of the depositor's committee, made December 5, "Dr. Abbott and his institutions" owed the bank $81,000.00, and as endorser or guarantor Dr. Abbott's "fixed and contingent liabilities aggregate approximately $101,000.00" (including the $81,000.00). Besides this, Scoville, the secretary of the Abbott Alkaloidal Company and the president of the bank owed the bank $7,500.00, and Dr. Waugh, also connected with both institutions, was indebted to it to the extent of $1,500.00. As against this the Abbott Alkaloidal Company had on deposit some $14,600.00.

According to statements made by Mr. Cleveland, chairman of the depositors' committee, in the Chicago *Tribune* for February 12, the Abbott Company, "owed among other items, $100,000.00 on personal notes of $100 or thereabouts, held by 1,000 physicians throughout the country." The notes here referred to are the so-called "guaranteed participating cooperative bonds".

On the first of March, according to reports, the amount of indebtedness of Dr. Abbott and the Abbott Alkaloidal Company had been reduced to between $65,000.00 and $70,000.00.

STOCK NOW OFFERED TO PHYSICIANS.

Were it not for what follows we should not have referred to this bank business. It will be remembered that the bank failed November 12; that Dr. Abbott knew the bank's financial condition and its relation to him and to his company, as well as the condition of this company at the time the following letters were sent out. Bearing this in mind, the proposition contained in these letters is astounding. The first was typewritten and evidently a personal letter, and was forwarded to us by the person to whom it was sent.

St. Louis, Jan. 14, 1908.

Dr. ——————.

Dear Dr.:—I know you have some money to invest and so write you to say that if you so desire I can secure a block of preferred stock of the Abbott Alkaloidal Company of Chicago. This stock is limited to $500,000. *Last year it paid 9 per cent. interest; and there was a net profit of $110,000* to put into new buildings, etc. While this stock is *guaranteed* to pay only 7 per cent. per annum I feel so sure it will pay the best of any safe investment in this country that I am putting every dollar I can spare into it. If you want some let me know immediately about how much and I will arrange the matter for you. Very truly yours,

Emory Lanphear.

The following is from a circular gotten up to imitate a typewritten letter, the name and date being inserted with a typewriter:

St. Louis, Mo., Feb. 5, 1908.

My dear Dr.:—I have a quiet tip for you: The Abbott Alkaloidal Company of Chicago (a close corporation, owned very largely by Dr. Abbott, its founder and manager), is incorporated wholly and is operated solely "by doctors for doctors," among whom are some of the largest users of alkaloidal granules and tablets in the world. They have put a very large amount of money into their present plant and equipment, and are realizing annually large profits from their investment. But by reason of the enormous outlay of money in constructing and equipping new buildings (which when completed will be among the finest in the world devoted to this kind of business) and to afford an amount of capital adequate to their unprecedented growth, they are now reincorporating on a basis that will permit them to sell a limited amount of 7 per cent. preferred-participating stock to other doctors who desire a safe and profitable place for their savings.

This "preferred" stock, and its dividends, is preferred as to all of the profits and assets of the company; it is likewise participating in excess profits and always paying 1 per cent. better than the "common," all of which, with the responsibility, is held by Dr. Abbott and his immediate associates; so, by investing at this time you will have not only safety (it's the best thing I know) but the certainty of a large profit on your investment.

There is nothing speculative about this stock. Personally I have gone the limit, taking $1,000 worth, 10 shares, at par. On an earning basis it is now well worth 110 to 125. I would gladly take more, but Dr. Abbott has "stuck the stake" here and his "stakes" don't pull up. While at this time the demand for The Abbott Alkaloidal Company's products, for want of room and working capital actually exceeds their ability to supply it, the great work long done by Dr. Abbott and his associates is only just *beginning* to produce the golden harvest that will result. The NET profits of the company for the past year (this, as well as the fact of this stock offerind is *strictly confidential—absolutely so!*) were well in excess of ONE HUNDRED THOUSAND DOLLARS. With more capital this can be largely increased pro rata in a few months, and the possibilities of the future are beyond computation.

As it is proposed to sell only $200,000 of this preferred stock, your early attention to this letter is advised. If you are interested in the proposition let me know at once, say to what extent, and on my request to Dr. Abbott, who privileges me privately as above, subscription blanks will be sent you from Chicago. Subscriptions are payable either in full or one-half down and one-half in sixty days, certificates to be issued when final payment is made. It would be my advice to accept the latter proposition as it will perhaps enable you to take a little more than you would be able to carry on the other plan. Very cordially yours,

Emory Lanphear.

It will be noticed that the letter and circular do not agree. According to the circular, the net profits were well in excess of one hundred thousand dollars, whereas the letter says: "Last year it paid 9 per cent. interest; and there was a net profit of

$110,000 to put into new buildings, etc." Was it an omission in leaving out the 9 per cent. dividend in one, or was it a typographical error in putting it in the other?

It will be observed that the preferred stock is to be limited to the very modest amount of $500,000.00; but so far as we have been able to learn there is no limit placed on the "Guaranteed, Participating, Cooperative Bonds," unless it be the capacity of the printing press to turn them out and the number of foolish doctors to take them in. In this regard the preferred stock will have an advantage.

The important point overshadowing all others is that in spite of the fact, as revealed by the failure, that Dr. Abbott and his company were most seriously in debt, in spite of the fact that the physicians of the country had already contributed a very large sum—$100,000.00 to $125,000.00, possibly more—by investing in the bonds of the company, in spite of the fact that the greater part of the property of the Abbott Alkaloidal Company had been transferred, in spite of all this, an attaché of the company, evidently with the consent, and at the instigation, of its president, Dr. Abbott, now appeals to physicians to invest in the stock of the company, setting forth as an inducement that this stock is "the best of any safe investment in the country." Is comment on this necessary?

THE PROFITS COME FROM THE DOCTOR.

During the past eighteen months—it may be the revenue from the sale of "bonds" to doctors making it possible—the Abbott Alkaloidal Company has been advertising in medical and drug journals in a most extensive manner, its advertising being in excess of any other pharmaceutical firm. As a result of this advertising campaign its business has been increasing, and with this increase in business has naturally come enlarged profits. Dr. Abbott recently has stated that if he were given time he could liquidate his indebtedness from the profits of the Alkaloidal Company. And here it should be explained that Dr. Abbott's business enterprises ramify in directions other than his business with the medical profession. Which of these enterprises is responsible for his present financial condition and that of his Alkaloidal Company we do not know. It seems, however, that while the losses are not chargeable to his medical business, yet his business with the doctors is expected to recoup all.

THE ETHICAL ASPECT.

We have enlarged on the financial aspect of this "bond" business, but the main thought must not be lost sight of. After all, the ethical, the professional, side of this wretched profit-sharing business is of more importance. It is not a question of whether or not these "bonds" will ever be paid, or whether there will be much, little or no profits to the individual investor. The demoralizing, the degrading influence of this profit-sharing in the manufacture and sale of medicines by physicians is more important than any financial loss. If he would stop to think, no physician who has due regard for his duty to the public would place himself in a position in which his own financial interests might warp his judgment as to what is best for those who place themselves in his hands. Dollars are like butterflies that flit from flower to flower, but self-respect, that attribute which stamps man a man, is to him as the scent is to the rose. The butterflies may come and go, but the odor of the rose remains. The main question, therefore, is not whether the dollar which has been invested in these bonds or in this stock will return with others, but whether with the departure of that dollar goes one's self-respect.

Most of the above matter was practically ready and would have appeared last November or December had not the bank failure occurred. It was then laid aside, as we felt unwilling to add to the difficulties of the company or its president. Recent developments, however, have made it unnecessary to withhold longer the facts we present regarding the various and peculiar methods of the company. Since part of these methods involve the advancement of money by physicians, it seems only just and fair that the medical profession should be informed regarding the financial affairs. The facts are known locally, since they have been published in the local press, but they are not known to the doctors of the country, who, under the circumstances, are the ones vitally interested.

Why do we devote so much space to this concern? What is the motive? The same that has prompted us to expose fraud in connection with the nostrum business; that has led us to enlighten the medical profession regarding the various ways in which it is being exploited; and that has caused us to give publicity to facts which physicians ought to know, and which they can not know unless they are enlightened by the journals that represent them. The Journal is performing the function of one representing a profession; that is, it is enlightening the members of the profession it represents regarding matters of vital interest to the individual and to the profession as a whole.

Book Notices

Hospital Training-School Methods and the Head Nurse. By Charlotte A. Aikens, Associate Editor of the *National Hospital Record.* Cloth. Pp. 260. Price, $1.50. Philadelphia: W. B. Saunders Co., 1907.

This book should be of value to head nurses, especially to those filling such positions for the first time. An excellent outline is given of the curriculum for a course in nursing and all points in hospital management are dealt with.

Primary Nursing Technic for First-Year Pupil Nurses. By Isabel McIsaac, Graduate of the Illinois Training School for Nurses; Formerly Superintendent of the Illinois Training School for Nurses; Honorary Member of the British Matron's Council. Etc. Cloth. Pp. 197. Price, $1.25 net. New York: The MacMillan Company, 1907. All Rights Reserved.

Miss McIsaac's long experience as superintendent of the Illinois Training School for Nurses makes this work of unusual interest. While the book will not take the place of the better known text-books of nursing, it should prove a valuable addition to the pupil nurse's library. The language is simple and the subjects are dealt with in a practical manner.

Surgical Applied Anatomy. By Sir Frederick Treves, Bart, G.C.V.O., C.B., LL.D., F.R.C.S., Consulting Surgeon to the London Hospital. Fifth Edition. Revised by Arthur Keith, M.D., F.R.C.S., Examiner in Anatomy, Royal College of Surgeons, England and University of Leeds. Cloth. Pp. 640, with 107 Illustrations. Price, $2.25. Philadelphia: Lea Brothers & Co., 1907.

Since the first edition, in 1883, of this little pamphlet, familiar to all students of anatomy and surgery, the field of surgery has been vastly enlarged. The successive editions of this manual have grown in proportion. The present edition, revised by Arthur Keith, contains 622 pages, each full of valuable and practical information regarding the anatomy of the body. The book has been carefully revised throughout and much new matter added. It is better printed than the earlier editions and the illustrations are more numerous.

Ophthalmia Neonatorum. By Sydney Stephenson, M.B., C.M., Ophthalmic surgeon to Queen Charlotte's Hospital, London. Cloth. Pp. 258. London: George Pulman & Sons, Ltd., 1907.

This is the Middlemore prize essay given by the British Medical Association during the past year and is the most complete monograph on the subject in any language. Destructive ophthalmia of the newborn can not be too often or too thoroughly considered, either from the medical or lay standpoint. When one remembers that about one-third of all blind people owe their misfortune to early ophthalmia and that the disease is, in the great majority of instances, preventable, these facts stand as an arraignment of our profession and indicate a neglected duty which it is incumbent on us to perform. In such a crusade Mr. Stephenson's admirable work will be of great assistance. He proceeds in seven chapters, devoted to the etiology, symptoms, diagnosis, prognosis, prevention and treatment of infection, to discuss the matter extensively. The practical surgeon will perhaps be most interested in the section beginning with page 158 and headed "Prevention." In this chapter are discussed the relative merits of the various preventatives of the ocular infection—silver nitrate (in all percentages), silver citrate, argentamin, protargol, argyrol, formalin, alcohol, boric acid, corrosive sublimate—1-4000, etc. In his summary Stephenson shows that the 1 per cent. solution of nitrate of silver and mercuric chlorid 1-4000 have been most proficient in preventing ophthalmia, as they are free from anything approaching serious irritation, and, he adds, "these harmless remedies should be applied to the eyes of every baby born in a public institution, whether it be a maternity hospital or a poor lying-in department."

As is well known, this subject is now being extensively discussed and agitated in this country, especially by a committee of the American Medical Association under the chairmanship of F. Park Lewis, but it would be well to repeat with Mr. Stephenson what he has properly termed "the principal supplemental measures:" the obligatory notification of the disease; the instruction of medical students and of midwives in the disease; the education of the public as to the dangers of ophthalmia in babies; the appointment of an ophthalmic surgeon on the staff of every maternity hospital; the keeping and, if possible, the periodical publication, of records with regard to ophthalmia in all public institutions; the gratuitous distribution of an efficient solution for prophylaxis.

A decided distinction is very properly made between nongonococcal ophthalmia and the severer form. It ought to be remembered that the latter almost invariably declares itself on the third day after birth and is, without exception, accompanied by swollen lids, and a more or less purulent discharge. Surely these three symptoms are easy enough to remember. In the prognosis of ophthalmia neonatorum one should bear in mind quite as much the condition of the baby's nutrition as of the virulence of the local disease. Disturbances of the nursing mother's health may also exert a prejudicial influence on the outcome of the infant's ophthalmia. This book is replete with cited cases, contains a complete list of the literature and has a useful and satisfactory index. Inasmuch as a volume of this description appeals quite as much to the obstetrician as it does to the ophthalmologist it should have a wide sale among all classes of medical men.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending March 7, 1908:

Banta, W. P., asst.-surgeon, advanced to the rank of captain, Feb. 18, 1908.

Van Dusen, J. W., asst.-surgeon, now on leave of absence at Norwalk, Ohio, will proceed on or before the expiration of said leave, to Ft. Crook, Neb., for duty.

Scott, G. H., asst.-surgeon, relieved from further duty at Ft. Duchesne, Utah, and assigned to permanent station at Ft. Logan, Colo.

Mabee, J. I., asst.-surg., ordered to report in person on Tuesday, March 24, 1908, to Lieut.-Col. Geo. H. Torney, deputy surgeon-general, president of examining board, Presidio of San Francisco, for examination to determine his fitness for advancement.

Birmingham, H. P., surgeon, now on duty as medical inspector Army of Cuban Pacification, will report in person to the commanding general of that Army for duty as chief surgeon, relieving Lieut.-Col. Blair D. Taylor, deputy surgeon general.

Taylor, B. D., deputy surgeon-general, relieved from further station at the Army and Navy General Hospital, Hot Springs, Ark., and on his relief from duty as chief surgeon, Army of Cuban Pacification, will proceed to Atlanta, Ga., and report to the commanding general, Department of the Gulf, for duty as chief surgeon of that department.

LeGarde, L. A., deputy surgeon general, on arrival in the United States will procced to Denver, and report in person to the commanding general, Department of Colorado, for duty as chief surgeon of that department.

Dickenson, C. F., contract surgeon, ordered from the Presidio of San Francisco, to Fort Barry, Cal., for duty.

Tignor, E. P., dental surgeon, relieved from duty at Ft. DuPont, Del., about April 10, and ordered to Ft. Schuyler, N. Y., for duty.

Gunckel, G. I., dental surgeon, left Ft. Oglethorpe, Ga., and arrived at Jackson Barracks, La., for duty.

Hussey, S. W., dental surgeon, left Ft. Lincoln, N. D., and arrived at Ft. Yellowstone, Wyo., for duty.

Craig, E. J., dental surgeon, ordered from Ft. Mackenzie, Wyo., to Ft. Robinson, Neb., for duty; granted leave of absence for ten days.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 7, 1908:

Hull, H. F., P. A. surgeon, commissioned P. A. surgeon from April 12, 1907.

Wheeler, L. H., P. A. surgeon, commissioned P. A. surgeon, from April 22, 1908.

Gardner, J. E, medical inspector, ordered to the Marine Recruiting station, Boston.

Thompson, J. C., surgeon, ordered to report at Washington, D. C., to the secretary of war, for special duty.

McDonell, W. N., P. A. surgeon, detached from the Naval Recruiting Station, Chicago, and ordered to the *Hancock*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended March 4, 1908:

Foster, M. H., P. A. surgeon, leave of absence granted for 2 months and 11 days, from Oct. 9, 1907, amended to read 2 months and 9 days:

Earle, B. H., P. A. surgeon, granted leave of absence for 5 days, from March 2, 1908:

Scofield, R. B., asst.-surgeon, granted leave of absence for 3 days, from Feb. 23, 1908, under Paragraph 191, Service Regulations.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for 5 days, from Feb. 26, 1908.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 6, 1908:

SMALLPOX—UNITED STATES.

Arizona: Bisbee, Jan. 26-Feb. 10, 5 cases.

California: Los Angeles, Feb. 1-15, 16 cases.

District of Columbia: Washington, Feb. 8-22, 26 cases.

Illinois: Chicago, Feb. 8-15, 5 cases; Danville, Feb. 16-23, 1 case; Springfield, Feb. 13-20, 12 cases.

Indiana: Elkhart, Feb. 15-22, 5 cases; Indianapolis, Feb. 9-23, 4 cases; La Fayette, Feb. 10-24, 2 cases; Muncie, Feb. 8-22, 2 cases.

Kansas: Kansas City, Feb. 15-22, 12 cases; Topeka, Feb. 8-15, 1 case; Wichita, 7 cases.

Kentucky: Covington, Feb. 8-15, 2 cases; Georgetown, Feb. 21, 5 cases; Lexington, Feb. 8-22, 2 cases.

Louisiana: New Orleans, Feb. 8-22, 22 cases (19 imported).

Maryland: Baltimore, Feb. 15-22, 2 cases.

Massachusetts: Melrose, Feb. 8-15, 3 cases.

Michigan: Saginaw, Feb. 8-15, 6 cases.

Minnesota: Winona, Feb. 8-22, 3 cases.

Missouri: Kansas City, Jan. 24-Feb. 14, 25 cases, 2 deaths.

Montana: Butte, Feb. 4-18, 3 cases.

North Carolina: Charlotte, Feb. 8-15, 3 cases.

North Dakota: Fessenden, Feb. 22, 3 cases.

Ohio: Cincinnati, Feb. 14-21, 14 cases; Dayton, Feb. 8-15, 1 case.

Pennsylvania: Marion, Jan. 20, 1 case; Pittsburg, Feb. 8-15, 1 case.

Tennessee: Knoxville, Feb. 15-22, 4 cases; Memphis, Dec. 21-Feb. 8, 10 cases; Nashville, Feb. 15-22, 5 cases.

Virginia: King Williams County, Feb. 18, 2 cases; Richmond, Feb. 8-15, 5 cases.

Washington: Spokane, Feb. 8-15, 16 cases; Tacoma, 1 case.

Wisconsin: La Crosse, Feb. 8-22, 15 cases.

SMALLPOX—FOREIGN.

Brazil: Bahia, Dec. 28-Feb. 1, 113 cases, 1 death; Para, Jan. 18-Feb. 1, 8 cases, 3 deaths; Rio de Janeiro, Jan. 19-26, 24 cases, 14 deaths.

Canada: Winnipeg, Feb. 1-15, 6 cases.

Cape Colony: East London, Jan. 11-18, 1 case, 1 death.

China: Hongkong, Dec. 4-11, 14 cases, 12 deaths; Shanghai, Jan. 12-19, 2 cases, 14 deaths.

Egypt: Cairo, Jan. 21-28, 1 case; Suez, Dec. 31-Jan. 14, 3 cases.

France: Brest, Jan. 25-Feb. 8, 3 cases, 1 death; Paris, 21 cases, 1 death.

Great Britain: Edinburgh, Feb. 1-8, 1 case; Leith, Dec. 25-Feb. 8, 6 cases, 3 deaths.

India: Bombay, Jan. 14-28, 23 deaths; Calcutta, Dec. 28-Jan. 11, 11 deaths; Madras, Jan. 18-24, 3 deaths.

Italy: General, Jan. 31-Feb. 6, 57 cases.

Japan: Kobe, Jan. 18-Feb. 1, 1,792. cases, 603 deaths; Nagasaki, Jan. 19-26, 2 cases; Osaka, Jan. 25-Feb. 1, 204 cases, 134 deaths; Tokyo, Feb. 4, present; Yokohama, Jan. 25-Feb. 4, 46 cases, 10 deaths.

Manchuria: Dalny, Jan. 18-25, 3 cases.

Mexico: Aguascalientes, Feb. 2-16, 4 deaths; Monterey, Feb. 9-16, 1 death.

Russia: Moscow, Jan. 18-Feb. 1, 76 cases, 24 deaths; Warsaw, Nov. 16-Dec. 14, 75 deaths.

Spain: Denia, Jan. 25-Feb. 8, 12 cases, 1 death; Valencia, Feb. 2-9, 18 cases, 2 deaths.

Turkey: Constantinople, Jan. 27-Feb. 9, 9 deaths.

YELLOW FEVER.

Brazil: Manaos, Jan. 18-Feb. 1, 6 deaths; Para, Jan. 25-Feb. 6, 51 cases, 30 deaths.

Ecuador: Huigra, Feb. 4-11, 4 deaths.

Venezuela: Ciudad Bolivar, Jan. 1-31, present.

CHOLERA—INSULAR.

Philippine Islands: Manila, Jan. 4-11, 45 cases, 35 deaths; Mariquina, 45 cases, 43 deaths.

CHOLERA—FOREIGN.

India: Bombay, Jan. 14-21, 1 death; Calcutta, Dec. 28-Jan. 11, 86 deaths; Rangoon, Jan. 11-28, 4 deaths.

PLAGUE—INSULAR.

Hawaii: Hilo, Feb. 24, 1 case.

PLAGUE—FOREIGN.

Brazil: Bahia,, Dec. 28-Feb. 1, 6 cases, 4 deaths; Rio de Janeiro, Jan. 19-26, 5 cases.

China: Hongkong, Dec. 28-Jan. 4, 1 case, 1 death.

Egypt: Alexandria, Jan. 19-Feb. 6, 1 case, 1 death; Provinces: Assiout, Jan. 25-Feb. 6, 7 cases; Fayoum, Jan. 29-Feb. 1, 2 cases; Gurgeh, Feb. 4-6, 20 cases, 18 deaths; Minieh, Jan. 28-Feb. 2, 2 cases, 4 deaths.

India: General, Jan. 4-11, 3,719 cases, 2,833 deaths; Bombay, Jan. 14-28, 47 deaths; Calcutta, Dec. 28-Jan. 11, 29 deaths; Madras, Jan. 11-24, 6 deaths; Rangoon, Jan. 11-18, 10 deaths.

Japan: Osaka, Jan. 18-25, 4 cases, 5 deaths.

Turkey: Bagdad, Dec. 28-Jan. 18, 126 cases, 24 deaths.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

LIABILITY OF CHARITABLE INSTITUTIONS FOR INJURIES TO PATIENTS.

To the Editor:—Have you records of any cases against charitable institutions in which damages have been assessed for patients being burned with hot water bottles? This hospital is being sued by a patient who received a large burn from a hot water bottle. She was not a charity patient. A. E. D.

Answer.—According to the decision of Second Appellate Division of the Supreme Court of New York (Wilson vs. The Brooklyn Homeopathic Hospital), a charitable institution acting as a hospital, having used due diligence in selecting a surgeon, is not liable for his negligence in operating on a patient who pays only for his board and attendance and not for the surgeon's services. (The Journal, Oct. 8, 1904, p. 1085.)

In Hewett vs. Woman's Hospital Aid Association, it was held by the Supreme Court of New Hampshire that the hospital, although a charitable institution, was liable to its servant, a nurse, for failure to perform its duty in informing her of the contagious character of a disease in a patient she was required to nurse. The charitable character of the institution did not relieve it from the liability for negligence to its employés. (The Journal, Nov. 10, 1906, p. 1592.)

The Kansas City Court of Appeals holds in Adams vs. University Hospital that funds devoted to charity can not be diverted to other objects, and hence that a hospital devoted to charitable treatment of the sick can not be held liable either for the negligent acts of its servants or for negligence in selecting them. The fact that it also treats certain patients for pay is held to make no difference. Numerous cases are cited as authorities for these contentions. The case on which this decision was rendered consisted in a claim for damages for injury by the negligent application of a hot water bottle. (The Journal, March 30, 1907, p. 1135.)

A decision by the Supreme Court of Utah tends to support the view that if a pay hospital treats a patient gratuitously it still owes him a certain duty. (The Journal, April 27, 1907, p. 1458.)

The Supreme Court of Illinois holds that a city is not liable for the negligence of its servants in case a hospital is established for charity or in pursuance of the desire to benefit its citizens as an exercise of police power. (The Journal, Nov. 23, 1907, p. 1801.)

The Court of Appeals of Georgia holds, in Medical College of Georgia vs. Rushing, that public eleemosynary institutions are liable for the torts of their agents, the same as business corporations, if they have any property or are in receipt of any income not exclusively devoted to public charity out of which a judgment against them can be satisfied. Where a hospital holds itself out for the treatment of the sick, whether this treatment be given as a gratuity or is to be paid for, the implication arises that such treatment will be performed in a skilful manner, and such hospital will be liable for unskilful or negligent treatment of the patient. The question whether a patient is a charity patient or the institution is paid for his treatment, the court says, does not change the rule of liability if, under the law, this class of institutions is liable at all. (The Journal, Jan. 4, 1908, p. 70.)

HOW TO FORM AN ANTITUBERCULOSIS SOCIETY.

Butler, Mo., March 2, 1908.

To the Editor:—We are trying to organize an antituberculosis Society. How shall we proceed to carry out our project?

E. N. Chastain.

Answer.—Every community ought to have such a society, the range of whose activities will depend on the importance the disease plays in the community. For smaller towns, an educational campaign, with lectures on the cause and nature of tuberculosis and the distribution of printed literature will be sufficient. Eventually, also, with headquarters where, at stated hours, advice can be given to poor consumptives and their families. It is important that the membership of such a society consists of both laymen and physicians (men and women), and that it cooperates with other medical and charitable institutions.

Tuberculosis, although a germ disease, is dependent in its progress on external factors which lower the resistance of the body to infection. Against these external factors unfavorable environment, noxious occupation, crowded, ill-ventilated, dirty dwellings, faulty nourishment and bringing up of children and lastly against indiscriminate spitting, the campaign of such a society must be directed. A well-delivered lecture or a talk in a family where one member is afflicted with the disease, will be of infinitely more value than a pamphlet distributed broadcast. It is especially in the infected family that much good can be accomplished, but not only by directing all the attention to the diseased member, but especially to the other apparently unaffected members, among whom, as we know well by experience, the disease is particularly prone to spread. The direction of this work ought to be put into the hands of one individual, preferably the office of secretary of the society, and as soon as a plan of action has been adopted, the employment of a special visiting nurse can not be urged enough for the practical work in the families.

The next step might be the formation of a special dispensary, as the medical center of the campaign, and finally, when much experience has been gained, the building of a curative institution, a health camp or a sanatorium ought to be attempted. A perfected system of home assistance will do more toward stamping out the disease, than the most beautiful sanatorium, which concentrates all its efforts on the treatment of the one already diseased.

Dr. Livingston Farrand, the secretary of the National Association for the Study and Prevention of Tuberculosis, United Charities Building, 105 East 22d Street, New York City, will give every assistance in the organization of local societies on request.

BOOKS ON PRACTICAL DIAGNOSIS AND TREATMENT.

Unfortunately the reply to Dr. Bicknell's inquiry on this subject (The Journal, Feb. 29, 1908, page 710), with a portion only of the list, was, through an oversight, published prematurely. The following books, the copy for which was overlooked, should be added thereto:

Allen, C. W.: "The Practitioners' Manual, A Condensed System of General Medical Diagnosis and Treatment." W. Wood & Co., New York. Net, $6.00.

Boston, L. N.: "A Text-Book of Clinical Diagnosis." Second edition. Saunders, Philadelphia, $4.00.

Butler: "Diagnostics of Internal Medicine." D. Appleton & Co., New York. Subscription price, $2.00.

Emerson, C. P.: "Clinical Diagnosis." Lippincotts, Philadelphia. Net $5.00.

Greene, C. Lyman: "Medical Diagnosis." Second edition, recently published. Blakiston Son & Co., Philadelphia. Net, $3.50. Contains a section on opsonic theory and technic.

Hare, H. A.: "Practical Diagnosis." Fifth Edition. Lea Bros. & Co., Philadelphia. Net, $5.00.

Musser, J. H.: "Medical Diagnosis." Fifth Edition. Lea Bros. & Co., Philadelphia. Net, $6.50.

Sahli, Prof. Dr. H., Edited by Kinnicutt, F. P., and Potter, N. B.: "Diagnostic Methods of Examination." From fourth German edition. Saunders & Co., Philadelphia. Net, $6.50.

Simon, Charles E.: "A Manual of Clinical Diagnosis by Microscopic and Chemical Methods." Fifth edition. Lea Bros. & Co., Philadelphia. Net $4.00.

Vierordt and Stuart: "Medical Diagnosis." Fourth revised edition, translated from fifth German edition. Saunders & Co., Philadelphia. Net, $4.00.

GERMAN-ENGLISH DICTIONARY.

Kewaunee, Wis., Feb. 28, 1908.

To the Editor:—Please refer me to a good German-English dictionary.

W. M. Wochos, M.D.

Answer.—For general use one of the most satisfactory German-English and English-German dictionaries is Adler's, published by D. Appleton and Company, 436 Fifth Avenue, New York, at $1.50 for the abridged and $5 for the library edition. A satisfactory German-English dictionary for medical terms is that of Lang and Abrahams, published by P. Blakiston's Son & Company, 112 Walnut Street, Philadelphia, at $4. An invaluable work for one who reads much foreign medical literature is the National Medical Dictionary of Dr. John S. Billings, which contains the medical terms of five languages in a single alphabetical sequence. This is published by Lea Brothers & Company, 706 Sansom Street, Philadelphia, at $12. Further comments on translating appeared in The Journal, Jan. 5, 1907, p. 70; July 22, 1905, p. 253; and Dec. 16, 1905, p. 1896.

LITERATURE ON ACROMEGALY.

Hot Springs, Ark., Feb. 29, 1908.

To the Editor:—Please refer me to the latest work on acromegaly, and the use of thyroid or pituitary extracts in that disease. I am conversant with all that is in the text-books, but if there are any recent articles I should like to see them.

A. J. Edwards.

Answer.—There is very little on this subject in recent literature. The following articles have appeared in the last two years:

Pel, P. K.: Familial Occurrence of Acromegaly and Myxedema, with Syphilis, *Berl. klin. Wochschr., xlii,* No. 44 *a.*

Barrett, A. M.: Spinal Cord Degenération in a Case of Acromegaly with Tumor of the Pituitary Region. *Amer. Jour. Med. Sci.,* February, 1906.

Bleibtrein, L.: Case of Acromegaly in which the Hypophysis was Found Destroyed by Hemorrhage. *Münch. med. Wochschr.,* iii, No. 42.

Perry, J. C. P.: Peculiar Form of Acromegaly Possibly Resulting from Injury, *British Med. Jour.,* Dec. 30, 1905; abstracted in The Journal, Jan. 27, 1906, p. 308.

Garbini, G.: Function of the Hypophysis, *Rivista di patologia nervosa e mentale,* 1906; abstracted in The Journal, July 7, 1906, p. 36.

Osborne, O. T.: Therapeutic Uses of Thyroid Preparations, The Journal, Nov. 3, 1906, p. 1475.

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ISOLATION OF THE BACILLUS PARALYTICANS.

Independence, Iowa, Jan. 28, 1908.

To the Editor:—Can you tell me where I can procure any articles which contain the technic used by W. Ford Robertson, of Edinburgh, in isolating the *Bacillus paralyticans?* Any information will be greatly appreciated.

George Donohoe.

Answer.—W. Ford Robertson discusses the rôle of bacterial intoxication in paresis in *Review of Neurology and Psychiatry,* 1906, pages 73 and 258. His work is reviewed by Spiller in *Progressive Medicine,* 1907, iii, page 260. *Bacillus paralyticans* is a diphtheria-like bacillus and it is not decided whether it is merely an attenuated genuine diphtheria bacillus or a distinct microbe. Like others, Robertson finds it frequently in the alimentary, respiratory and other mucous tracts of persons not affected with general paresis. In white rats the bacilli are said to produce motor weakness, incoordination, dyspnea and drowsiness. Much remains to be done before any final conclusions are permissible.

PICRIC ACID IN BURNS.

Lincoln, Ill., Feb. 23, 1908.

To the Editor:—Will you give me the consensus of opinion among surgeons regarding the value and efficiency of solutions of picric acid in the treatment of burns?

H. G. Hardt.

Answer.—It can hardly be said that there is a consensus of opinion as to the treatment of burns, but as will be seen from an article on this subject in the department of Therapeutics in The Journal, Sept. 7, 1907, page 863, mixtures containing picric acid have a large number of advocates. It is usually claimed that this treatment relieves pain, but C. E. Tennant, in a letter to The Journal, Nov. 16, 1907, page 1692, states that in his experience it caused excruciating pain.

COMPOSITION OF TRITICA.

Evanston, Ill.

To the Editor:—What is the composition of tritica? Has it any greater value than fluidextractum tritici? I find that it is used to a considerable extent and that those who are using it are under the impression that it contains one or more drugs.

Henry B. Hemenway.

Answer.—Tritica is a preparation of triticum repens which was formerly made by the Searle and Hereth Company, Chicago. It appears to have differed from the fluidextractum tritici (U. S. P.) only in that the aqueous extract of the drug was evaporated in a vacuum.

Triticum repens, or couch grass, is regarded as of value simply for its local sedative action on the genitourinary tract. It is the least stimulant of its class and is considered by some a valuable sedative in cases of irritable bladder, cystitis, urethritis, etc. The fluid extract may be prescribed in doses of a fluidram every three hours in five or six ounces of water; the alcohol in the fluidextract is, to a certain extent, objectionable on account of its irritating properties. The remedy may be employed very freely, and preferably in the form of a decoction or tea. A good method of prescribing it is as follows:

℞. Tritici ....gm. 250| or ℥viii
Divide in partes 8.

Sig.: Boil the contents of one package (one ounce) for fifteen minutes in a covered vessel with a quart of water, strain, and drink the tea as desired.

HORACE FLETCHER AND HIS WRITINGS.

Key West, Fla., Feb. 24, 1908.

To the Editor:—I am interested in your editorial "Diet and Health," Dec. 14, 1907, in which you mention the dietary habits of Mr. Fletcher. Can you give me his address and the titles of any of the books which he has written, as I should like to read more of his experience and experiments?

G. R. Plummer.

Answer.—Mr. Fletcher's residence is Palazzo Saibante, Canal Grande, Venice, Italy; his American address is care of James P. Reilly, Battery Place, New York. The titles of some of his works are as follows: "The A. B.-Z. of Our Own Nutrition;" "The New Menticulture; or the A B C of True Living;" "The New Glutton or Epicure; or Economic Nutrition;" "Happiness as Found in Forethought Minus Fearthought;" "That Last Waif; or Social Quarantine." All the foregoing are published by Frederick A. Stokes Company, 333 Fourth Avenue, New York, at $1 net. "Optimism—a Real Remedy," is published by A. C. McClurg & Company, 221 Wabash Avenue, Chicago, at 75 cents.

WHEN MAY THE GONORRHEIC MARRY?

Chicago, March 7, 1908.

To the Editor:—The answer to the query "When may the gonorrheic marry?" in The Journal, March 7, 1908, p. 791, gives the usual rules for hunting the gonococcus in the urethra and prostate, and exhibits the usual neglect of the possibility that this bacterium may persist in the seminal duct proper, after it is no longer discoverable in the urethra. The contents of the seminal duct and vesicle should be examined for the gonococcus in all cases—and they are numerous—in which the infection has reached the vesicles. These contents may be obtained through the natural nocturnal emission, more reliably than through digital massage of the vesicles.

W. T. Belfield.

WINTER CHOLERA OUTBREAKS DATA WANTED.

Escanaba, Mich., Feb. 29, 1908.

To the Editor:—Any information as to local outbreaks of what has been termed, "winter cholera" will be appreciated by

O. C. Breitenbach, M.D.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of February, 1908:

ALABAMA.

Kimbrough, J. A., Thomasville.
Murray, M. W., New Decatur.
Tisinger, L. F., Eufaula.
Weed, W. A., Republic.

ARIZONA.

Nichols, H. A., Cochise Co.

ARKANSAS.

Weimar, Robert, Hot Springs.
Woods, R. P., Altheimer.

CALIFORNIA.

Congdon, Maria, Pasadena.
Davies, B. C., Monrovia.
Easterday, G. S., Watsonville.
Forister, G. W., Pomona.
Friedman, W. L., Oakland.
Fuller, Hulbert, Ocean Park.
Hayden, T. M., Fresno.
Syer, W. H., Anaheim.
McReynolds, R. P., Los Angeles.
Miller, J. J., San Jose.
Phillips, T. P., Santa Cruz.
Porter, E. E., Watsonville.
Smith, T. H., Pomona.
Stockwell, G. N., Ventura.

COLORADO.

Bradburn, Geo. A., Center.
Daniel, J. H., Merino.

CONNECTICUT.

Allyn, G. S., New London.
Cronin, W. D., New London.
Girouard, J. A., Willimantic.
MacLean, D. R., Stamford.
McLarney, T. J., Waterbury.
Pendleton, C. E., Hebron.
Simonds, C. E., Willimantic.

DISTRICT OF COLUMBIA.

Adams, R. D., Washington.
Rhett, H. J., Washington.

GEORGIA.

Cooke, V. C., Atlanta.

HAWAII, H. T.

Haida, K., Honolulu.

ILLINOIS.

Balcke, W. A., Cropsey.
Bernhardi, C. O., Rock Island.
Biesenthal, Max, Chicago.
Black, S. M., Georgetown.
Bonnett, J. Y., Le Roy.
Bradley, M. M., Chatham.
Brinckerhoff, J. J., Minooka.
Brubaker, Ora G., Mt. Morris.
Cato, J. B., Hutsonville.
Coultas, R. J., Mattoon.
Dorsey, M. F., Streator.
Dostal, F. E., Chicago.
Dunn, D. W., Du Quoin.
Ehresmann, J. J., Carrollton.
Evans, D. J., Galesburg.
Fara, F. J., Chicago.
Fisher, G. C., Chicago.
Fitzgerald, D. H., Chicago.
Gansevoort, A., Chicago.
Gardner, G. A., Chicago.
Groth, F. W., Chicago.
Hardin, C. E., Trimble.
Henderson, F. H., El Paso.
Horner, E. H., Olney.
Lewis, C. M., Bridgeport.
Lobdell, Effie L., Chicago.
Lycan, R. S., Paris.
MacDowell, G. A., Chicago.
Maxwell, J. C., Sterling.

McGovern, J. H., Annapolis.
Miers, Edward, Des Plaines.
Mitchell, J. M., Oblong.
Morf, P. F., Chicago.
Newlin, LeRoy, Robinson.
Overmass, S. E., Chicago.
Palmer, F. A., Morris.
Roe, J. B., Oregon.
Ryerson, E. A., Kenilworth.
Schrader, J. F., Bridgeport.
Scruggs, J. B., O'Fallon.
Secker, W. V., Evanston.
Simpson, B. J., Chicago.
Trotter, G. S., Dundas.
Tweedy, J. R., Oroville.
Webster, E. M., Chicago.
Whitacre, H. N., Carbondale.
Wilkin, W. E., Oblong.
Williams, J. S., Jerseyville.
Woolston, W. J., Chicago.

INDIANA.

Anglin, G. W., Warsaw.
Benham, J. W., Columbus.
Gillespie, C. E., Crothersville.
Groman, H. C., Hammond.
Harris, C. E., Bloomington.
Kyte, H. R., Seymour.
W. R. Mattox, Terre Haute.
Shaley, F. W., Terre Haute.
Stroube, C. N., Roachdale.

IOWA.

Bigelow, C. T., Oxford.
Cottle, C. C., Marshalltown.
Murphy, H. W., Denver.
Teufel, J. C., Buffalo.
Thompson, O. P., Sumner.

KANSAS.

Barney, L. F., Kansas City.
Jones, Z. G., Tonganoxie.
Menninger, C. F., Topeka.
Romeo, Pasquale, Scammon.
Thompson, W. O., Dodge City.

KENTUCKY.

Ashbrook, W. A., La Center.
Blythe, Vernon, Paducah.
Carrick, J. C., Lexington.
Ehrich, W. S., Louisville.
Fultz, C. H., Vanceburg.
Gibson, W. H., Lerose.
Lowry, S. M., Elfton.
Slocum, H. J., Eagle Station.
Smith, J. T., Garmaliel.
Sphire, D. S., Moalyville.
Stubblefield, J. P., Corydon.
Wallace, Lew, Beard.
Wilcox, G. S., Willard.
Willis, P. T., Cromwell.

LOUISIANA.

Hanson, J. D., Donaldsonville.

MAINE.

Haley, J. Robert, Kennebunk.
Ober, F. R., Northeast Harbor.

MARYLAND.

Downey, J. W., Jr., Baltimore.
Hayes, R. B., Baltimore.

MASSACHUSETTS.

Chandler, C. L., Fitchburg.
Fuller, E. P., Lawrence.
Greenwood, S. E., Templeton.
Hanscom, Sanford, Somerville.
Hartman, Gustave, Lynn.
Hussey, E. J., Holyoke.
Lawlor, R. H., Methuen.
Littlefield, G. C., Webster.
McGillicuddy, J. T., Worcester.
Seaver, E. P., Jr., Nantucket.

MICHIGAN.

Bonine, J. Gordon, Cassopolis.
Fought, C. L., Erie.
Fralick, F. J., Greenville.
Gordon, G. G., Detroit.
Lake, C. N., Detroit.
Little, E. W., Belding.
Monroe, D. J., Elkton.
Patterson, A. E., Plymouth.
Zumstein, F. E., Detroit.

MINNESOTA.

Fogarty, C. W., Browns Valley.

MISSISSIPPI.

Deanes, S. R., West Point.

MISSOURI.

Duckett, T. H., Milford.
Hiller, F. B., Kahoka.
Hughes, H. S., St. Louis.
Neuhoff, F., St. Louis.
Saxl, Ernst, St. Louis.
Van Hoefen, S., St. Louis.

NEBRASKA.

McGirr, J. I., Beatrice.

NEVADA.

St. Clair, Raymond, Reno.

NEW HAMPSHIRE.

Kean, M. E., Manchester.

NEW JERSEY.

Boysen, T. H., Egg Harbor City.
Kent, M. M., Trenton.
Stern, Arthur, Elizabeth.

NEW MEXICO.

Hammer, W. J., Silver City.

NEW YORK.

Alger, E. M., New York City.
Appley, J. D., Binghampton.
Brown, H., Beattie, Yonkers.
Conley, J. A., Penn Yan.
Cunningham, W. P., New York City.
Drake, B. F., New Rochelle.
Easton, F. E., Syracuse.
Floersheim, Samuel, New York City.
Ford, W. E., Utica.
Garrigue, Evelyn, New York City.
Glück, S. A., Brooklyn.
Graham, H. F., Brooklyn.
Gray, B. H., New York City.
Halsey, R. H., New York City.
Heyman, M. B., Central Islip.
Hunt, C. F., New York City.
Hyams, Benno, New York City.
Janeway, T. C., New York City.
Johnson, G. V., Schenectady.
Johnson, G. Q., Ardsley.
Lawrence, G. A., New York City.
Léon, A. M., New York City.
Lysaght, Ellen, Brooklyn.
Maxson, S. C., Utica.
McClellan, E. S., Saranac Lake.
Moe, R. W., Peekskill.
Rau, L. S., New York City.
Robinson, Daisy M. O., New York City.
Rossi, F. G., Utica.
Santer, R. A., Schenectady.
Smith, F. T., Troy.
Wade, H. A., Brooklyn.
Whiteside, M. J., Rochester.
Wyeth, G. A., New York City.

NORTH CAROLINA.

Hiatt, H. B., Clinton.
Love, B. E., Ridgeville.
Patterson, J. F., New Bern.

NORTH DAKOTA.

Chambers, C. L., Bismarck.
Myklestad, Nils, Williston.

OHIO.

Beane, B. F., New Paris.
Bonnell, G. H., Jersey.
Breese, E. S., Dayton.
Broughman, S. A., Dayton.
Cadwallader, Mary E., Dayton.
Coy, M. E., Dayton.
Frazier, S. S., Kunkle.
Good, Harman, Dayton.
Heistand, H. L., Donaldsville.
Hendren, S. E., Dayton.
Holliday, B. W., Cleveland.
Hornung, F. G., Hamilton.
Hyer, A. A., Moons.
Iddings, G. S., Cleveland.
Jacoby, C. W., Morrall.
Lane, A. H., Dayton.
Lichliter, D. C., Dayton.
Marsh, H. H., Seven Mile.
McGuffin, George, Pettisville.
McLaughlin, Thad., Springfield.
Montgomery, J. S., Huntsville.
Moses, Katherine R., Cuyahoga Falls.
Mosshammer, J. C., Dayton.
Odell, Samuel, Swanton.
Prather, W. F., Dayton.
Sander, E. J. C., Steubenville.
Sater, P. M., Hamilton.
Sellers, C. P., Zanesville.
Seward, I. E., Springfield.
Sharkey, T. D., Hamilton.
Smith, R. R., East Liberty.
Steinfeld, A. L., Toledo.
Straver, W. A., Steubenville.
Turnbull, Rosa C., E. Liverpool.
Yungblut, A. A., Cincinnati.

OKLAHOMA.

Anderson, R. M., Shawnee.
Reichley, E. J., Lambert.

PENNSYLVANIA.

Behan, R. J., Pittsburg.
Bethel, J. P., Philadelphia.
Boulton, Eleanore F., Philadelphia.
Cheesman, Le Roy H., Pittsburg.
Hall, Bret Harte, Bradford.
Hilliers, J. W., West Middlesex.
Hunter, R. J., Philadelphia.
Kilgore, F. D., Harrisburg.
Krebs, Adolph, Pittsburg.
Lyon, Edward, Williamsport.
Lynn, R. B., Sayre.
McCausland, W. S., Duquesne.
McCormick, E. L., Irwin.
Mead, R. K., Sagamore.
Newton, E. A., Philadelphia.
Skilling, M. J., Philadelphia.
Stauffer, C. C., Harrisburg.
Tomlin, A. N., Philadelphia.
Walters, B. F., Jr., Philadelphia.

RHODE ISLAND.

Magill, W. H., Providence.
Nestor, M. J., Providence.

SOUTH CAROLINA.

Turner, W. P., Jr., Coronaca.

SOUTH DAKOTA.

Burleigh, G. H., Lane.
Potter, G. W., Redfield.
Staley, F. H., Clear Lake.

TENNESSEE.

Abernathy, B. F., Danville.
Abernathy, C. A., Pulaski.
Burger, T. O., McMinnville.
Finley, R. H., Jellico.
Griffin, R. W., Tiptonville.
McClain, H. T., Mooresburg.
Sory, B. B., Cedar Hill.
White, G. R., Nashville.

TEXAS.

Hudgins, D. H., Forney.
Mayo, S. L., Cedar Creek.
Perry, M. O., Allen.
Shankle, W. M., Chilton.
Tappan, J. W., El Paso.

UTAH.

Kirtley, H. P., Salt Lake City.

VIRGINIA.

Atkins, W. V., Blackstone.
Brooks, Vernon, Portsmouth.
Bunting, C. H., Charlottesville.

WASHINGTON.

Griswold, W. S., Seattle.
Hunt, John, Seattle.
McClure, C. E., Seattle.
Thomas, Bert, Walla Walla.

WEST VIRGINIA.

Baker, J. A., Shirley.
Derby, A. P., Fayetteville.

WISCONSIN.

Andrews, M.P., Abbotsford.
Cleary, J. H., Kenosha.
Hinke, G. A., Milwaukee.
Mason, V. A., Marshfield.
Robinson, H. A., Kenosha.
Ruckle, W. M., Grand Rapids.
Spalding, J. B., Kenosha.
Thompson, G. E., Kenosha.
Van Westrienen, Roit, Kenosha.

Marriages

Joseph Farley, M.D., to Miss Lilian E. Lumley, both of Philadelphia, February 26.

George S. Dilmore, M.D., Philadelphia, to Miss Sarah Hall Mines of Camden, N. J., February 26.

John Charles Bridgman, M.D., Radcliffe, Iowa, to Miss Gertrude Tennant of Burnside, Iowa, February 12.

S. M. Kaufman, M.D., Detroit, Mich., to Miss Clara Enushensky of Galt, Ont., January 14.

Albert Faller, M.D., Cincinnati, Ohio, to Miss Hortense Gimbel of St. Louis, Mo., February 24.

John A. Longmore, M.D., Brooklyn, N. Y., to Miss Lillian Llewellyn Dagleish of Ottawa, Ont., February 26.

Robert M. Culler, M.D., assistant surgeon, U. S. Army, Fort Monroe, Va., to Miss Anne E. Loser, at Philadelphia, February 12.

Deaths

Daniel Bennett St. John Roosa, M.D. New York University Medical College, New York City, 1860; a member of the medical societies of the State and County of New York; interne in the New York Hospital; for three months assistant surgeon of the Fifth New York Volunteer Infantry during the Civil War; later surgeon of the Twelfth New York Volunteer Infantry; professor of ophthalmology and otology in the University of the City of New York since 1866; and for a time occupant of the same chair in the University of Vermont, Burlington; president and professor of ophthalmology in the New York Postgraduate Medical School and Hospital; for two years president of the American Otological Society; once president of the International Otological Society; member of the American Ophthalmological Society; and corresponding member of the Medico-Chirurgical Society of Edinburgh; died suddenly at his home in New York City, March 8, from heart disease, aged 69.

Dudley D. Saunders, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1856; New York University Medical College, New York City, 1856; a member of the American Medical Association; professor of physical diagnosis and clinical and forensic medicine in the Memphis Hospital Medical College; a surgeon in the Confederate service during the Civil War; a veteran of four yellow-fever epidemics in Memphis; died at his home in that city, February 24, from pneumonia, after a short illness, aged 72.

Ebenezer Nye Hutchinson, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1848; a director of Union Theological Seminary for many years, and secretary of the Board of Trustees of the General Assembly of the Presbyterian Church of the South; who had not practiced for several years; died at his home in Charlotte, N. C., January 30, from senile debility, after an illness of one week, aged 80.

Hal C. Wyman, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1873; a member of the American Medical Association, Detroit Academy of Medicine and Michigan Surgical and Pathological Society; surgeon to the Detroit Emergency Hospital; president of, and professor of surgery in, the Michigan College of Medicine and Surgery, Detroit; once a member of the Michigan State Board of Corrections and Charities; widely known as a surgeon and writer on surgery; died at his home in Detroit, March 9, from pneumonia, after a brief illness, aged 55.

Vesta Delphene Miller, M.D. Boston University School of Medicine, 1891; of Needham, Mass.; a member of the American Medical Association and Gynecological Society of Boston, and president of the Woman's Auxiliary of the New England Baptist Hospital; for ten years professor of gynecology and pediatrics in her alma mater; died in Eliot Hospital, Boston, February 25, from diverticulitis, aged 64.

John P. Probasco, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1869; a member of the American Medical Association; a veteran of the Civil War; from 1889 a member of the board of education of Plainfield, N. J., and since 1894 president of the board; consulting surgeon of the Muhlenburg Hospital; died suddenly from heart disease at his home, February 25, aged 65.

Alexander Spear McClean, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1842; a member of the Massachusetts and Hampden District medical societies; said to have been the oldest practitioner in Springfield, Mass.; town doctor of Springfield in 1848; later city physician and member of the school board; died at his home, from cerebral hemorrhage, February 22, aged 86.

Augustus F. F. Ferguson, M.D. Michigan Homeopathic Medical College, Lansing, 1872; a member of the City Council of Lansing; a member of the legislature from 1889 to 1891; superintendent of the poor of Ingham County for several years; died at his home in Lansing, February 23, from valvular heart disease, after an illness of more than a year, aged 60.

Levi Jewett, M.D. New York University Medical College, New York City, 1857; Medical Director of the G. A. R. for the Department of Connecticut; assistant surgeon of the Fourteenth Connecticut Volunteer Infantry during the Civil War; died at his home in Cobalt, Conn., January 3, from pneumonia, after an illness of six days, aged 73.

Joseph Y. Mangum, M.D. University and Bellevue Hospital Medical College, New York City, 1898; a member of the New York Academy of Medicine and lecturer on surgery in the New York Polyclinic; died at his home in New York City recently, aged 33, and his body was sent to his old home in North Carolina, February 26.

Charles Francis Fitzgerald, M.D. College of Physicians and Surgeons in the City of New York, 1898; a member of the American Medical Association and an alumnus of and assistant surgeon in St. Vincent's Hospital, New York City; died in that institution, February 27, from heart disease, after a brief illness, aged 33.

Charles Woodhull Eaton, M.D. Hahnemann Medical College and Hospital of Chicago, 1879; New York Homeopathic Medical College and Hospital, 1878; chief medical director of the Des Moines Life Insurance Company; died at his home in Des Moines, February 27, from pneumonia, after an illness of three weeks, aged 52.

William Henry Giberson, M.D. Jefferson Medical College, Philadelphia, 1896; of Beverly, N. J.; a member of the Medical Society of New Jersey and Burlington County Medical Society, was struck by a train at Beverly, February 28, and died the next day, aged 40.

Warren Newton Davis, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1872; a member of the American Medical Association; a pioneer practitioner of Wardner, Idaho; died in Los Angeles, Cal., where he had gone for his health, February 18.

A. B. Collins, M.D. Vanderbilt University Medical Department, Nashville, Tenn., 1900; a member of the Medical Association of the State of Alabama and Lamar County Medical Society; died at his home in Kennedy, Ala., February 24, from pneumonia, aged 35.

Webster W. Wynn, M.D. University of Buffalo (N. Y.) Medical Department, 1855; post surgeon at Dixon, Ill., during the Civil War; and for half a century a practitioner of that city; died at his home from paralysis, after an illness of four days, February 28, aged 78.

Charles W. Sonnenschmidt, M.D. Georgetown University, School of Medicine, Washington, D. C., 1867; a veteran of the Civil War; died at his home in Washington, February 28, from heart disease, from which he had suffered for several years, aged 76.

Francis M. Holden, M.D. Medical School of Harvard University, Boston, 1884; who practiced medicine for only a short time, afterward becoming a stock broker in Philadelphia; died suddenly in Paris, France, February 28, from heart disease, aged 50.

William Frederick Heald, M.D. Dartmouth Medical School, Hanover, 1869; a member of the Massachusetts and Middlesex District medical societies; superintendent of Cutter Retreat, East Pepperell, Mass.; died Nov. 13, 1907, after a long illness, aged 64.

Rufus Asaph Crittenden, M.D. University of Vermont, Medical Department, Burlington, 1871; a member of the Massachusetts and Essex District medical societies; died recently at his home in Haverhill, Mass., after an illness of six years.

Daniel F. Greenwald, M.D. Jefferson Medical College, Philadelphia, 1885; a member of the American Medical Association; died at his home in Philadelphia, February 26, from nephritis, after an illness of more than three years, aged 55.

Alexander Theriot, Jr., M.D. Medical Department of the University of the South, Sewanee, Tenn., 1900; of Lockport, La., died in the Touro Infirmary, New Orleans, February 19, from an accidental gunshot wound of the abdomen, aged 30.

William F. Kramer, M.D. Hospital College of Medicine, Medical Department, Central University of Kentucky, Louisville, 1903; died from pneumonia at his home in Lynnhurst, Louisville, February 23, after an illness of ten days, aged 39.

Charles A. Ring, M.D. University of Buffalo (N. Y.), Medical Department, 1878; a retired practitioner of Appleton, N. Y., was found dead at the home of his brother at Olcott Beech, N. Y., February 28, from heart disease, aged 53.

John Henderson Coverly, L.R.C.S. and L.R.C.P. Edinburgh, Scotland, 1865; a member of the medical societies of the State of New York and County of Kings; died at his home in Brooklyn, February 25, after a prolonged illness, aged 65.

Zeno E. Beenblossom, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1881; of Oklahoma City, Okla.; secretary of the State Live Stock Sanitary Commission; was shot and killed, February 18, in a quarrel, aged 52.

Amos S. Jones, M.D. Albany (N. Y.) Medical College; surgeon of the Forty-first Wisconsin Volunteer Infantry during the Civil War; died suddenly at his home in Dayton, February 23, from cerebral hemorrhage, aged 77.

Benjamin Smith Nichols, M.D. Vermont Medical College, Woodstock, who retired from active practice in 1851; president of the Pomona, California, Land and Water Company; died at his home in Pomona, January 26, aged 83.

John M. Galphin, M.D. Medical College of Georgia, Medical Department University of Georgia, Augusta, 1845; of Beech Island, S. C., died from paralysis at the home of his daughter in Talatha, S. C., Sept. 3, 1907, aged 86.

Lewis Carpenter, M.D. Medical College of Indiana, Indianapolis, 1879; Missouri Medical College, St. Louis, 1885; of San Francisco, Cal., a veteran of the Civil War; died at Indio, Cal., February 20, after a short illness.

James C. Ball, M.D. Eclectic Medical University, Kansas City, Mo., 1904; of Kansas City; died at Wesley Hospital, Kansas City, February 28, from injuries received in a street-car accident the day before.

E. Hudson Sammons, M.D. Rush Medical College, Chicago, 1880; a member of the American Medical Association; died at his home in Chicago, March 5, from heart disease, after an illness of ten days, aged 58.

William W. Doxey, M.D. Medical Department, University of Nashville, Tenn., 1862; for many years a practitioner of Anderson, Tenn., died at the home of his daughter in Nashville, February 22, aged 75.

Rufus M. Elliott, M.D. Rush Medical College, Chicago, 1860; for 25 years a practitioner of Mackinaw, Ill.; died at his home in Pekin, Ill., February 15, from pneumonia, after an illness of one week, aged 70.

Maximilian Gilbert, M.D. University of Berlin, Germany 1883; Frederick William University Berlin, Germany, 1884; formerly of Chicago; died at his home in Milwaukee, February 28, aged 51.

F. L. Stephens, M.D. Louisville National Medical College, Medical Department of State University, Louisville, 1887; of Mart, Texas; died at the home of his brother in Mexia, Texas, February 21.

Thornbury Bailey Bartlett, M.D. Eclectic Medical Institute, Cincinnati, 1879; died at his home in Mount Clare, W. Va., February 25, from paralysis, after an illness of more than a year, aged 72.

Lucy H. A. Brown, M.D. Cleveland (Ohio) Homeopathic Medical College, 1882; died at her home in Providence, R. I., February 14, from kidney disease, after a protracted illness, aged 66.

H. Jerningham Boone, M.D. University of Maryland School of Medicine, Baltimore, 1844; for many years a practitioner of Buckeystown, Md.; died at Weverton, Md., February 22, aged 87.

Adolph P. Bernhardt, M.D. National Medical University, Chicago, 1901; a member of the Illinois State and Chicago medical societies; died at his home in Chicago, February 21, aged 41.

Richard J. Gibbons, M.D. Homeopathic Medical College of St. Louis, 1875; of Kansas City, Mo.; died suddenly from heart disease, on a street car in Kansas City, Dec. 13, 1907, aged 65.

James S. McMurray, M.D. Medical College of Indiana, Indianapolis, 1870; died at his home in Frankfort, Ind., February 25, from acute nephritis, following an attack of erysipelas.

William Darlington King, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1884; died at his home in Bellefield, Pittsburg, Pa., from pneumonia, February 18, aged 47.

John McMaster, M.D. C.M. Trinity Medical College, Toronto, 1904; *x*-ray specialist in the Toronto General Hospital; died in that institution February 20, from septicemia, aged 49.

Joseph Greer, M.D. Tulane University of Louisiana, Medical Department, New Orleans, 1869; a Confederate veteran; died at his home in Alvin, Texas, February 19, aged 64.

Stanislaus P. O'Brien, M.D. Medical School of Harvard University, Boston, 1907; died at his home in Centralville, Mass., February 27, after an illness of two weeks, aged 26.

Fred J. Bradd, M.D. Medical Department, Victoria College, Toronto, Ont., 1888; died in his home at Petersboro, Ont., Dec. 23, 1907, after an illness of about a week.

James J. Rowe, M.D. Eclectic Medical Institute, Cincinnati, 1858; died at his home in Abingdon, Ill., February 29, from paralysis, after an illness of five years, aged 76.

George F. Milne, M.D. Toronto University, Medical Faculty, 1905; of Fort Lupton, Colo.; died recently in St. Luke's Hospital, Denver, after a short illness, aged 27.

James A. Williamson (License W. Va., 1881), a member of the state legislature in 1864-1865; died at his home in Parkersburg, W. Va., February 29, aged 90.

Arthur C. Green, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, 1880; died at his home in Los Angeles, Cal., Nov. 21, 1907, aged 57.

David D. Stevens, M.D. Eclectic Medical College of the City of New York, 1878; died suddenly from heart disease at his home in New York City, Nov. 19, 1907.

William A. Zellars, M.D. Medical College of Georgia, Medical Department, University of Georgia, Augusta, 1878; of Palmetto, Ga.; died Nov. 8, 1907, aged 70.

James Surman, M.D. California Medical College, San Francisco, 1882; died suddenly in his room at Portland, Ore., from aortic aneurism, February 24, aged 66.

Ben B. Scott, M.D. University of Louisville (Ky.) Medical Department, 1868; a retired practitioner of Campbellsville, Ky., died at his home, January 16.

William Stuart Ross, M.D. Eclectic Medical Institute, Cincinnati, 1858; died at his home in Madisonville, Ky., February 26, from heart disease, aged 78.

William H. Semple, M.D. Medico-Chirurgical College of Philadelphia, 1897; died at his home in Philadelphia, February 27, from tuberculosis, aged 43.

Harvey C. Morey, M.D. Rush Medical College, Chicago, 1854; a retired practitioner of Gilroy, Cal.; died recently at his home in that place, aged 81.

A. Parker Smith, M.D. College of Physicians and Surgeons in the City of New York, 1878; died at his home in New York City, January 20.

Orin D. Childs, M.D. Cleveland University of Medicine and Surgery, 1867; died at his home in Akron, Ohio, March 2, aged 67.

William Bettridge, M.D. Trinity Medical College, Toronto, Ont., 1855; died at his home in Strathroy, Ont., Oct. 15, 1907, aged 79.

Louis J. Adams, M.D. Jefferson Medical College, Philadelphia, 1857; died at his home in Evansville, Pa., Dec. 8, 1907, aged 53.

James S. Alford, M.D. Rush Medical College, Chicago, 1878; died at his home in Zionsville, Ind., February 26, aged 60.

John S. Peaslee, M.D. Albany (N. Y.) Medical College, 1874; of Schodack Landing, N. Y., died February 7.

Deaths Abroad.

C. F. Petersen, M.D., professor of surgery at Kiel, died February 18, aged 63. He was assistant to Esmarch during the Franco-Prussian War and at Kiel, and in 1874 founded the surgical polyclinic which was later incorporated with the university. His works are mostly on surgical subjects.

J. Friedrich A. von Esmarch, M.D., the eminent German surgeon, and inaugurator of the "First Aid" or *Samaritaner* movement in Germany, died at Kiel, February 23, aged 85. He has written numerous works on military surgery and hygiene. His first communication on the subject of the now familiar "Esmarch bandage" for controlling hemorrhage was published in 1873. He served in the various campaigns in which Germany took part, and was physician general during the Franco-Prussian War. As a privat docent and professor he was connected with the Kiel university from 1849 to his retirement in 1899. He has been heaped with honors at home and abroad. His second wife was Princess Henrietta of Schleswig-Holstein, aunt of the emperor. A statue was unveiled with much ceremony in 1905 in his native town, Tönning. He leaves a son, Erwin, who has been professor of hygiene at Königsberg and later at Göttingen, since 1891, and is now 53 years old.

Medical Economics

Medical Organization in Australia.

The *Australasian Medical Gazette* for Dec. 20, 1907, contains an address by Prof. H. B. Allen, the retiring president of the Victorian Branch of the British Medical Association, showing the condition of medical organization in the antipodes. After reviewing the history of the Medical Society of Victoria and its final union with the Victorian Branch of the British Medical Association, and emphasizing the advantages gained by such a union, Dr. Allen outlines the work of the society for the future. He says:

> The necessity for full organization of the medical profession needs no demonstration. The average income of the medical man in Great Britain is now estimated at between £220 to £250 ($1,100-$1,250). In Ireland matters have become so bad that a viceregal commission has been appointed, and a suggestion to establish a national medical service, and thus secure an approach to adequate remuneration, with a retiring allowance, has been approved by the State Medicine Section of the Royal Academy of Medicine, and by the Irish Medical Association and by the Council of the British Medical Association. In Austria the income tax returns [which from all reports are not reliable data.—Ed.] show that one-third of the 9,000 registered practitioners receive less than £50 per annum; that 555 earn from £300 to £500 per year, and that only 300 earn more than £500 per year. The main causes of such disastrous conditions seem to be abuse of public hospitals, abuse of the medical benefit system of societies and other associations, the growth of medical associations, by which medical men in distress allow themselves to be farmed out by others, the activity of the prescribing chemist, the prodigious sale of proprietary medicines, and the general prevalence of quackery. In London it is said that in 1877 one in four of the population received free medical service, while in 1904 the proportion was approximately one in two. In England and Wales the proportion of the population dying in public institutions has nearly doubled within forty years, while in London it has more than doubled and has reached nearly 35 per cent. of the population. In Germany more than one-third of the population belongs to sick-clubs. The position of the profession is not so bad in Australia, but conditions that make for evil are undoubtedly present.

Evidently the physicians of Australia are facing many of the problems which confront us here. We have the advantage of the experience of the medical profession in Germany, Austria and Great Britain, where the fraternal society and medical club has been among the leading factors in the degradation of the physician from an economic standpoint. As pointed out in the consideration of contract practice,[1] there is no justification either in economics or sociology for such organizations.

Medical Fees.

Dr. S. M. Hohf, in the *Journal of the Minnesota State Medical Association*, February 15, states that the physician is the best judge of the value of his services, and that this fact has been admitted by the courts, but that he is often lax in exercising this prerogative, with the result that at the present day the medical profession is the poorest paid of all professions, and that the expense involved in education and equipment and the responsibilities assumed are entirely out of proportion to the amount charged. The family doctor is the most important factor in this consideration, because he constitutes the most numerous, as well as the most neglected class. Therefore, "if the profession is to make a common stand for better compensation, it must be for the sake of the general practitioner." Dr. Hohf assigns the following reasons for existing conditions:

1. The physician's time and thoughts, both during his college course and during active practice, are so occupied with his work that the business side is neglected.
2. The character of the physician's work almost invariably leads him into irregular habits of living.
3. The average physician's work is exclusive and prevents him from coming into intimate contact with other practitioners and so knowing that his financial circumstances are common to the profession.

He estimates that the minimum expense of the general practitioner in country practice, if he maintains a home, will amount to about $2,000 per year, and that in localities where office work is done for 50 cents per call and country work for 50 cents per mile, it is impossible to earn and collect sufficient to support him properly. It is, consequently, impossible for him to keep up with progress in the medical profession and to equip himself properly for work. In order to maintain his standing in the community, to do postgraduate work at stated intervals, and live as becomes his profession, it is necessary that the average physician's cash income, not what he books, but what is actually collected, should be about $4,000 per annum. An underpaid medical profession is a danger to a community, as physicians who barely make a living are not able to equip themselves properly or to acquire any more technical knowledge than they possessed at the time of graduation.

Dr. Hohf gives, in detail, the plan proposed by the committee of the Eighth District Medical Society, which includes a fee bill, not obligatory but suggestive, and representing the concensus of opinion of the physicians of the district.

The Value of the County Medical Society to the Profession and the Public.

In the *Journal of the South Carolina Medical Association*, January, Dr. C. G. Croft discusses this subject. In distinguishing between the practice of medicine as a profession and the following of a trade, Dr. Croft quotes from Professor Faunce of Brown University:

> In two respects the medical profession deserves recognition and regard over all other callings in life. It has always insisted that the practice of medicine is a profession and not a trade. Trade is an occupation for livelihood; profession is an occupation for the service of the world. Trade is occupation for the joy of the result; profession is occupation for the joy in the process. Trade is occupation where anybody may enter, and is taken up temporarily until something better offers; profession is occupation with which one is identified for life. Trade makes a rival of every other trader; profession makes one the cooperator of his colleagues. Trade knows only the ethics of success; profession is bound by lasting ties of sacred honor.

Dr. Croft thus sums up the benefits of the county society:

1. It increases the knowledge of medicine in written books, medical journals and society proceedings.
2. It broadens the member's knowledge of his fellows and brings about a more kindly feeling.
3. It reveals the physician to himself, and substitutes modesty for arrogance and conceit.
4. It is a crucible for refining his studies, his observations and his thinking, thus increasing his practical value.
5. It aids in developing his power to teach his fellow-workers, his patients and the public to think logically, write clearly and speak fluently.
6. It gives him a chance to work for all his fellow practitioners and thereby attain the largest individual growth.
7. It creates an atmosphere of kindliness necessary for the older practitioner's richest life.
8. It gives the member a friendly alliance essential for the rounding out of the most perfect professional life.

County Societies and Their Ideals.

Dr. F. M. Pottenger, in the *Southern California Practitioner*, January, discusses county medical organizations, stating that in the plan of reorganization the county society has become a most important body and can no longer be considered an exclusive organization. What it has lost in exclusiveness, however, it has gained in widened scope and has now become the common meeting ground for all reputable practitioners of medicine, a place for the promotion of good-fellowship and mutual interest, and for the origin of measures for the public welfare. The county society, as the judge of the fitness of members, should exercise a spirit of liberality, admitting all graduates in medicine who are honorable members of the profession, regardless of the school from which they graduated, provided they are willing to ignore the differences of sectarianism. The county society is a school where weak members may be kept in line and aided in the honorable practice of medicine. Dr. Pottenger recommends the establishment of branches of the county society in outlying towns of the county where the local physicians are not able to attend the main society meetings. Work done during the past year included agitation in securing the present California medical practice act, a campaign against illegitimate pharmacy, opposition to the repeal of the compulsory vaccination law, securing through its pure food committee an improved quality of food and dairy products for the citizens of Los Angeles County. The society took an active part in the cleaning and distinfection of Los Angeles as a preventive measure against bubonic plague. A committee on public hygiene has been appointed to inaugurate a campaign of public education through the press. This society, one of the largest and most active in tne west, has certainly established a good record for the past year and gives promise of increased usefulness in the future.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

Fifth Month.

Third Weekly Meeting.

Splenomedullary Leukemia.

Symptoms: Insidious onset, early symptoms, hemorrhages, enlarging spleen, circulatory and nervous symptoms.

Blood Changes: Number of white cells.. Ratio of reds. Myelocytes, eosinophiles, "polymorphous blood." Number of red cells, nucleated forms.

Treatment: Roentgen ray. Exposures (length and location). Immediate and remote results. Hygienic treatment. Internal treatment. Arsenic, physiologic and therapeutic actions. Bone marrow preparations.

Lymphatic Leukemia.

Pathologic Anatomy: Glands usually involved, physical appearances, microscopic changes. Lymphoid structures usually involved. Changes in liver, leukemic nodules. Changes in kidneys. General distribution of nodules.

Diagnosis: Clinical history, arrangement of enlarged glands. Blood changes. Lymphocytes, other forms of whites. Reds, number, nucleated.

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[1] The Journal, Dec. 14, 1907, p. 2028.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Maine Board of Registration of Medicine. State House, Augusta, March 17-18. (Note change of place from Portland.) Secretary, Dr. William J. Maybury, Saco.

Rhode Island State Board of Health, Room 313, State House, Providence, April 2-3. Secretary, Dr. Gardner T. Swarts, Providence.

Georgia Eclectic Board of Medical Examiners, Atlanta, April 4. Secretary, Dr. Charles H. Field, 235 Capitol Ave., Atlanta.

Arizona Board of Medical Examiners, Phoenix, April 6-7. Secretary, Dr Ancil Martin, Phoenix.

Utah State Board of Medical Examiners, Salt Lake City, April 6-7. Secretary, Dr. R. W. Fisher, Salt Lake City.

Colorado State Board of Medical Examiners, Denver, April 7. Secretary, Dr. S. D. VanMeter, 1723 Tremont Place, Denver.

Minnesota State Board of Medical Examiners, St. Paul, April 7. Secretary Dr. W. S. Fullerton, 214 American National Bank Building, St. Paul.

California State Board of Medical Examiners, San Francisco, April 7. Secretary, Dr. Charles L. Tisdale, 1879 Sutter St., San Francisco.

Idaho State Board of Medical Examiners, Cœur d'Alene. Secretary, Dr. W. F. Howard, Pocatello.

Montana State Board of Medical Examiners, the Capitol, Helena, April 7. Secretary, Dr. W. C. Riddell, Helena.

North Dakota State Board of Medical Examiners, Grand Forks, April 7-9. Secretary, Dr. H. M. Wheeler, Grand Forks.

Florida Regular Board of Medical Examiners, Ocala, April 13-14. Secretary, Dr. J. D. Fernandez, Jacksonville

New Mexico Board of Health and Medical Examiners, Santa Fe, April 13-14. Secretary Dr. J. A. Massie, Santa Fe.

Arkansas Homeopathic Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. V. H. Hallman, Hot Springs.

Arkansas Eclectic Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. A. J. Widener, Little Rock.

West Virginia State Board of Health, Parkersburg, April 14-16. Secretary, Dr. H. A. Barbee, Point Pleasant.

Illinois State Board of Health, Northwestern University Building, Chicago, April 15-17. Secretary, Dr. J. A. Egan, Springfield.

Appointments to Pennsylvania Examining Boards.

On February 11 Governor Stuart announced the following appointments on the several boards of state medical examiners:

Medical Society of Pennsylvania.—Winters D. Hamaker, Crawford; M. P. Dickeson, Delaware.

State Homeopathic Medical Society.—Joseph C. Guernsey, Philadelphia; William A. Stewart, Allegheny.

State Eclectic Medical Society.—William Rauch, Cambria; C. M. Ewing, Dauphin, the latter to succeed J. M. Lowther, Somerset, whose term has expired.

Chicago College Not in Good Standing.

In The Journal of February 15, page 551, we included in a list of colleges, which we stated had been declared not in good standing, the Reliance Medical College, a night school of Chicago. A protest being received from the president of that college, we wrote to the secretary of the State Board of Health of Illinois for further information. In his reply he says: "While the college is not in good standing with the board, it has not been 'declared' not in good standing—in fact, no action has yet been taken on the college."

Plan for a Merger of Medical Schools in Georgia.

In the general movement for the establishment of stronger colleges which are better equipped to teach modern medicine and which will insist on a better preliminary requirement, the South is clearly doing its part. The University of Texas and Tulane University have made great strides; the Medical College of Alabama has become more closely united with the University of Alabama, and now word comes that a merger of the three schools of Georgia into one strong medical college, to be the medical department of the University of Georgia, is contemplated. This merger should be materialized and the school thus formed should have the backing, moral and financial, not only of the state but also of the medical profession.

Oregon January Report.

Dr. Byron E. Miller, secretary of the Board of Medical Examiners of the State of Oregon, reports the written examination held at Portland, Jan. 7-9, 1908. The number of subjects examined in was 15; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 53, of whom 20 passed and 33 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
California Med. Coll.	(1906)	75.4
Northwestern Univ. Med. School	(1906)	86.1
Rush Med. Coll. (1901) 80.7;	(1902)	78.8
College of P. and S., Chicago	(1907)	83.3
Sioux City Coll of Med	(1898)	78.2
Drake University	(1904)	86.5
University of Michigan	(1906)	79.1
University of Minnesota	(1904)	75
Creighton Med. Coll.	(1906)	81.5
Cornell University	(1905)	82.1
University of Oregon	(1907)	77.4, 77.8
Hahnemann Med. Coll., Philadelphia. (1877) 76.6;	(1900)	79
Jefferson Med. Coll	(1907)	79.3
University of Virginia	(1907)	77.2
McGill University, Montreal	(1900)	75.1
University of Toronto, Ontario	(1907)	78.2
University of Munich, Germany	(1903)	75.1
FAILED.		
Northwestern Univ. Med. School	(1907)	69.2
Bennett Coll. of Ecl. Med. and Surg	(1906)	69.4
Keokuk Med. Coll., Coll. of P. and S	(1907)	64.5
Kansas Med. Coll. (1895) 57.8;	(1905)	71.6
University of Louisville (1895) 65.9;	(1907)	59.9
College of P. and S., Baltimore	(1901)	67.5
Maryland Med. Coll	(1904)	59.2
University Med. Coll., New York City	(1887)	45.3
Hamline University	(1904)	54.6
University of Missouri	(1893)	59.4
Barnes Med. Coll (1903) 68;	(1906)	35.1
Ensworth-Central Med. Coll	(1900)	56.4
Eclectic Med. Inst., Cincinnati	(1887)	50.9
Willamette University.	(1907)	52.8, 60.1, 60.7, 65, 65.2, 65.4, 67.8, 69.7, 70.4, 71.4, 73.8.
University of Oregon (1905) 53.7, 57.9;	(1907)	70.8
Jefferson Med. Coll	(1905)	59.9
University of Nashville	(1895)	33.1
Laval University, Quebec	(1904)	67.7

Colorado January Report.

Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, Jan. 7, 1908. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 70. Forty-eight applicants were licensed at this examination, eleven of whom passed the examination, and thirty-seven were registered on presentation of satisfactory credentials. It is also reported that three candidates failed at the October (1907) examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Northwestern Univ. Med. School (1906) 78.1;	(1907)	71.5
Denver and Gross Coll. of Med. (1906) 82;	(1907)	71.1, 75
Indiana Med. Coll	(1906)	76
Louisville Med. Coll	(1905)	79.5
Barnes University	(1900)	73.5
Lincoln Med. Coll	(1897)	71.3
Omaha Med. Coll	(1902)	70.1
University of Munich, Germany	(1903)	72 5
REGISTERED ON CREDENTIALS.	Year Grad.	Total Number.
Rush Med. Coll (1882) (1903)	(1905)	3
Northwestern Univ. Woman's Med. School	(1890)	1
Hahnemann Med. Coll., Chicago	(1881)	1
College of P. and S., Chicago (1895) (1903)	(1904)	3
Northwestern Univ. Med. School (1875) (1894)	(1897)	3
Dunham Med. Coll	(1900)	1
University of Louisville (1879)	(1907)	2
Louisville Med. Coll	(1906)	1
Tulane University of Louisville (1903)	(1904)	2
University of Michigan	(1906)	1
University Med. Coll., Kansas City	(1906)	1
Barnes Med. Coll	(1899)	1
Kansas City Hahnemann Med. Coll	(1905)	1
Beaumont Hosp. Med. Coll	(1899)	1
Omaha Med. Coll	(1892)	1
Bellevue Hosp. Med. Coll	(1877)	1
New York Med. Coll. and Hosp. for Women	(1895)	1
University of Buffalo	(1891)	1
University and Bellevue Hosp. Med. Coll	(1904)	1
University Med. Coll., New York City	(1888)	1
Med. Coll. of Ohio	(1906)	1
Willamette University	(1902)	1
Woman's Med. Coll. of Pennsylvania	(1895)	1
Hahnemann Med. Coll., Philadelphia	(1895)	1
Jefferson Med. Coll (1895) (1897)	(1907)	3
University of Pennsylvania	(1901)	1
Vanderbilt University	(1905)	1
FAILED AT OCTOBER, 1907, EXAMINATION.		
Sioux City Coll. of Med	(1902)	58.1
Creighton Med. Coll	(1907)	69.3
Lincoln Med. Coll	(1898)	46

South Dakota July, 1907, and January, 1908, Reports.

Dr. H. E. McNutt, secretary of the South Dakota Board of Medical Examiners, reports the written examinations held at

Sioux Falls, July 10-11, 1907, and at Mitchell, Jan. 8-9, 1908. The number of subjects examined in was 11; total number of questions asked, 90; percentage required to pass, 75.

At the examination held in July, the total number of candidates examined was 16, of whom 13 passed and 3 failed. Thirteen reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
George Washington University	(1907)	81.5
College of P. and S., Chicago	(1907)	83
American Coll. of Med. and Surg.	(1905)	82.7
Rush Med. Coll	(1891)	75
Bennett Coll. of Ecl. Med. and Surg	(1906)	75
Northwestern University Med. School	(1906)	85.2
Indiana Med. Coll	(1907)	92.2
College of P. and S., Baltimore	(1888)	79
Tufts Coll. Med. School	(1901)	91.1
Washington University, St. Louis	(1904)	80
University of Nebraska	(1897)	82.2
Cleveland Med. Coll	(1894)	79.7
Woman's Med. Coll. of Pennsylvania	(1905)	84.3

FAILED.

College.	Year. Grad.	Per Cent.
Bennett Coll. of Ecl. Med. and Surg	(1906)	61
Washington University, St. Louis	(1901)	71.4
Barnes University	(1905)	69

LICENSED THROUGH RECIPROCITY.

College	Year Grad.	Reciprocity with.
American Med. Miss. Coll	(1900)	Wisconsin.
Northwestern Univ. Med. School	(1906)	Minnesota.
National Med. University	(1905)	Iowa.
Rush Med. Coll	(1901)	Wisconsin.
University of Iowa	(1904)	Iowa.
Drake University	(1901) (2, 1904)	Iowa.
Sioux City Coll. of Med	(1903) (2, 1906)	Iowa.
Hamline University	(1905)	Minnesota.
University of Minnesota	(1907)	Minnesota.

At the examination held in January the total number of candidates examined was 29, of whom 26 passed and 3 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
American Med. Miss. Coll	(1905)	84.3
Rush Med. Coll.	(1881) 75; (1901) 76.3; (1902) 81; (1904)	89
Northwestern Univ. Med. School	(1898) 81.5; (1905) 89.6; (1907) 78.5, 80.3, 92.	
College of P. and S., Chicago	(1907)	83.4
Hahnemann Med. Coll. and Hosp., Chicago	(1907)	80.1
Bennett Coll. of Ecl. Med. and Surg	(1904)	87.8
University of Iowa	(1905) 83; (1907) 81, 82.5,	85.8
Sioux City Coll. of Med	(1906) 78.4; (1907)	83.4
Keokuk Med. Coll	(1907)	76.7
College of P. and S., Baltimore	(1882)	76.9
Tufts Coll. Med. School	(1905)	86.4
University of Minnesota	(1907)	79.1
Washington University, St. Louis	(1901)	82.7
Albany Med. Coll	(1895)	75
Cleveland Univ. of Med. and Surg	(1897)	78.2

FAILED.

College.	Year. Grad.	Per Cent.
Sioux City Coll of Med	(1906)	68
Barnes University	(1905)	70.2
University of Toronto		*71.2

* Year of graduation not given.

Vermont January Report.

Dr. W. Scott Ray, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Montpelier, Jan. 14-16, 1908. The number of subjects examined in was 13; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 15, of whom 13 passed and 2 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Maryland	(1906)	78.4
Tufts Coll. Med. School	(1903)	80.1
College of P. and S., Boston	(1907)	79.1
University of Vermont	(1905) 83.9; (1906) 81.1, 82.1, 78.4; (1907) 76.6, 76.9, 77, 84, 84.7.	
McGill University, Quebec	(1906)	91.1

FAILED.

College.	Year. Grad.	Per Cent.
College of P. and S., New York	(1895)	72.9
Queen's University, Ontario	(1906)	74.1

The following questions were asked:

ANATOMY.

1. Describe the bony pelvis and state what bounds the cavity of the true pelvis above. 2. How is Poupart's ligament formed? What purpose does it serve? 3. Name the muscles of the abdomen and give the origin, insertion and action of any one of them. 4. What structures pass through the foramen magnum? 5. Give the relative position, from without inward, of the structures contained in Scarpa's triangle. 6. Give the origin, course, distribution and function of the second pair of cranial nerves. 7. Name and bound the ventricles of the brain. 8. Describe the pleural membrane and give its relations. 9. Describe the male urethra. 10. What structures are inclosed within the broad ligaments of the uterus?

HYGIENE.

1. Name the impurities in water that may cause diarrhea. 2. What hygienic precautions should be taken in treating a case of tuberculosis? 3. Give the best method of frying meat and fish, and the reason for your opinion. 4. Tell how to make a beef tea that will be nutritious. 5. Mention and describe the diseases of animals that are communicable to man, and state the means that should be employed for the prevention of these diseases in man.

PHYSIOLOGY.

1. How are cells reproduced? 2. What are the functions of epithelium? 3. How is cartilage nourished? 4. What are the differences between arterial and venous blood? 5. What physiologic process takes place in the capillaries? 6. Give the function of the epiglottis. 7. What are enzymes? 8. How would digestion be affected were the ductus communis choledochus obstructed? 9. Give the physiology of urine excretion. 10. What is the function of the brain membranes?

BACTERIOLOGY.

1. Describe the two most common pyogenic bacteria, and name the bacteria found in erysipelas, cellulitis and pyemia. 2. What bacteria are likely to be mistaken for the tubercle bacillus, and how may this error be avoided? 3. Describe ptomains, and name three sources of ptomain poisoning. 4. Give a detailed description of Widal's test in typhoid fever. 5. Write twenty lines on serum therapy, and name diseases in which it has been employed successfully.

CHEMISTRY.

1. Define elementary and compound matter. 2. What do groups of atoms represent? What is their chemical notation termed? 3. What are normal, acid, basic and double salts? When one molecule, each, of hydrogen and chlorin unite, what is formed? 4. State composition, formation and properties of ammonia. How are nitrates formed in nature? 5. What are the properties of urea? Why do urates form deposits in joints and cartilages?

MATERIA MEDICA AND THERAPEUTICS.

1. Give preparations, alkaloids and physiologic action of nux vomica. 2. In what diseases would you prescribe arsenic? Name three preparations of same, with dose of each. 3. Name a drug useful as a vasodilator; vasoconstrictor. Give indications for its use. 4. Give the dose of apomorphia; give the therapeutic uses for same. 5. Write a prescription for the following: Lithemia, dysuria, chorea. 6. Mention the incompatibles of digitalis. When, in your opinion, is digitalis contraindicated? 7. Name three preparations of the following drugs and indications for their use: Glycyrrhiza, cinchona, camphora. 8. Give child (1 year) and adult dose of acetanilid, morphin, hyoscin. 9. For what conditions would you prescribe the following: Cantharides, capsicum, belladonna, strophanthus? 10. What are the therapeutic uses of the mineral acids?

PATHOLOGY

1. Describe the blood picture in pernicious anemia. 2. What are the microscopic findings in locomotor ataxia? 3. Compare the kidneys macroscopically in chronic parenchymatous and chronic interstitial nephritis. 4. Give the morbid anatomy of diphtheria. 5. What are the pathologic changes occurring in diabetes mellitus?

PRACTICE.

1. Discuss the prophylactic treatment of typhoid fever. 2. Mention the different types of diphtheria and give treatment. 3. Give prognosis in pulmonary tuberculosis. 4. What is the symptomatology of leprosy? 5. How would you treat a case of gonorrheal arthritis? 6. What course may gallstones pursue? 7. Write a short article on Addison's disease. 8. Name the valvular heart lesions in the order of their frequency of occurrence. 9. How would you manage a case of diabetes mellitus? 10. What may vertigo indicate?

LEGAL MEDICINE.

1. Give a medical definition of insanity. 2. What is atelectasis? Its effect on the newborn? 3. Of what use is a medical examination in life insurance? 4. What constitutes rape? Give medical evidence. 5. Give medical evidence that a child was born at term.

SURGERY.

1. How is suppuration developed? 2. Give causes, symptoms and treatment of osteomyelitis. 3. Name the varieties of ulcer. 4. Name the varieties and general symptoms of fracture. 5. How would you reduce a dislocation of the hip? 6. Give indications for tracheotomy and how performed. 7. Give symptoms of vesical calculus. 8. Give causes, symptoms and treatment of synovitis. 9. Give causes, symptoms and treatment of phlebitis. 10. Describe in detail an operation for hemorrhoids.

OBSTETRICS.

1. (*a*) Name the internal generative organs in the female. (*b*) Give brief description of each and (*c*) functions of each. 2. (*a*) Describe the phenomena of menstruation. (*b*) State the changes that occur in the uterus during menstruation. 3. (*a*) Describe the fetal circulation. (*b*) What changes occur at birth? 4. Give (*a*) probable and (*b*) certain signs of pregnancy. (*c*) Give Hegar's sign and method of eliciting it. 5. (*a*) State three of the most common conditions that might be mistaken for pregnancy. (*b*) Give differential diagnosis. 6. Give (*a*) etiology, (*b*) symptoms, (*c*) treatment of albuminuria of pregnancy. 7. Give (*a*) principal causes of postpartum hemorrhage, and (*b*) treatment. 8. (*a*) What conditions justify the induction of premature labor? (*b*) How should it be performed? 9. (*a*) Give symptoms of puerperal fever. (*b*) How would you guard against it, and (*c*) how treat it if it does occur? 10. Give (*a*) diagnosis of a breech presentation, and (*b*) management.

GYNECOLOGY.

1. Give (*a*) causes, and (*b*) treatment of pruritus vulvæ. 2. Give (*a*) etiology, (*b*) symptoms, and (*c*) treatment of acute cystitis. 3. Give (*a*) etiology, (*b*) symptoms, and (*c*) treatment of prolapse of the uterus. 4. (*a*) Name the most common causes of sterility in woman, and (*b*) state what can be done to overcome them. 5. (*a*) Give differential diagnosis between early pregnancy and a small fibroid tumor. (*b*) How would you replace a retroverted uterus?

Society Proceedings

COMING MEETINGS.

Association of American Medical Colleges, Cleveland, March 16-17.
Medical Society of the Missouri Valley, Lincoln, Neb., March 19-20.
Medical Association of District of Columbia, Washington, April 2.

TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA.

Tenth Annual Meeting, held at Charlotte, N. C., Feb. 18-19, 1908.

The President, Dr. Stuart McGuire, Richmond, Va., in the Chair.

The meeting was attended by more than 200 physicians, including a number of invited guests from Baltimore, New York and Cincinnati. Sixty-four applications for membership were received.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Albert Anderson, Raleigh, N. C.; vice-presidents, Dr. R. C. Bryan, Richmond, Va.; Dr. J. E. Stokes, Salisbury, N. C.; Dr. W. P. Timmerman, Batesburg, S. C.; secretary-treasurer, Dr. J. Howell Way, Waynesville, N. C.; judicial council, Drs. E. G. Williams, Richmond; A. L. Crowell, Charlotte; A. E. Baker, Charleston.

Charleston, S. C., was selected as the next place of meeting.

President's Address.

Dr. Stuart McGuire reviewed the origin and growth of the association, which now has over 230 members. He referred to the value of membership in this and similar organizations, and pointed out that for this reason the claim made by some that there are too many medical societies can not be defended successfully. In addition to the educational and professional advantages accruing from membership, there are the equally important social and personal benefits to be derived by attending meetings. It brings together men who live in the same community, but for various reasons see little of each other.

Inebriety.

Dr. S. R. Crowell, Charlotte, advocated the establishment by the state of a sanatorium for indigent inebriates, on the hypothesis that the habit is a disease. He said that it is useless to appeal to the will of a man when there is no will to appeal to.

The Public Relations of the Medical Profession.

Dr. Charles A. L. Reed, Cincinnati, pleaded for a larger participation in public affairs, particularly by physicians, but devoted the major portion of the address to a discussion of society, in general, and the medical profession as a typical social group, to show the duty of these groups in respect to legislation. He said that physicians ought to take a more prominent part in public affairs. He referred to the influence physicians had exercised in molding public affairs in this country, and insisted that it is their duty to give to the public that assistance which their special knowledge can bring to bear on the solution of important public problems.

Epilepsy.

The subject for the annual debate, a feature of the meetings of this association, was "Epilepsy." The discussion was participated in by Dr. Hodges, Richmond, Va.; Dr. J. P. Monroe, Davidson, N. C., and Dr. T. P. Whaley, Charleston, S. C.

Tuberculosis.

Another subject which came in for very full discussion was tuberculosis. In this connection the following papers were read: "The Out- and Indoor Treatment of Tuberculosis," by Dr. Paul Paquin, Asheville, N. C.; "Modes of Infection in Tuberculosis," by Dr. Silvio Von Ruck, Asheville, N. C.; "Tuberculosis in Children," by Dr. Charles A. Julian, Thomasville, N. C.; "A Further Report of Tuberculosis Cases from 1898 to 1906," by Dr. J. A. Burroughs, Asheville, N. C.; "The Stomach in Tuberculosis," by Dr. L. G. Pedigo, Roanoke, Va.; "Tuberculinum in Pulmonary Tuberculosis," by Dr. Paul Ringer, Asheville, N. C.; "Creosote, Cod-Liver Oil and Ichthyolated Emulsion Compound in Tuberculosis," by Dr. John Roy Williams, Greensboro, N. C.; "Renal Tuberculosis," by Dr. LeGrand Guerry, Columbia, S. C., and "Tuberculosis of the Uterus and Its Adnexæ," by Dr. A. E. Baker, Charleston, S. C.

Dr. L. F. Barker, Baltimore, read a very interesting paper on "Recent Studies in Typhoid Fever."

Many other interesting papers were read, helping to make the meeting a very profitable one.

The entertainments provided for the visitors by the local committee included a reception and banquet, and contributed very much to the success of the meeting from a social standpoint.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, held Feb. 6, 1908.

The President, Dr. John A. Wyeth, in the Chair.

Present Significance of Chorioepithelioma.

Dr. James Ewing is convinced that this group of tumors can be subdivided and different prognoses established on their histologic structure. Briefly, the conclusion was reached that chorioepithelioma includes three distinct tumors, which are distinguished by their gross appearance, histologic structure, prognosis and indications for treatment. The following classification and nomenclature was suggested:

1. Syncytioma.—Atypical chorioma of Marchand. This tumor produces a more or less diffuse infiltration of the myometrium, or a large intrauterine tumor, leading to marked enlargement of the uterus, but not tending to perforate the organ and not giving metastases. Histologically the tumor is composed of large syncytial wandering cells in the walls of sinuses and in the musculature. Hemorrhage, cachexia, suppuration and perforation by the curette might prove fatal. In early stages the prognosis is good.

2. Chorioadenoma Destruens.—Malignant placenta polyp. This tumor tends to infiltrate the sinuses of the uterus, considerably enlarging the organ, but not splitting it by a compact growth. Metastases occur in the lungs and vagina, but recovery may follow, certainly after vaginal metastases or after partial removal, possibly after pulmonary metastases. Histologically the growth shows villi.

3. Chorio-Carcinoma. This tumor produces a relatively small circumscribed growth in the musculature, tending rapidly to perforate the uterus without greatly enlarging it, and to cause local and pulmonary metastases. Histologically villi are absent. Langhans' cells and syncytium are present in masses. Morphologic signs of anaplasia and malignancy are always marked. The atypical and diffuse growth of cells yields a structure to which the term carcinoma is commonly applied. Tumors of this structure are probably always fatal. Operation sometimes seems to accelerate its course. The uterus should be removed as soon as possible. Infraction of the lines laid down in this classification might result in: 1, Inability to determine the true position of the tumor, from insufficient curettings; 2, the occurrence of intermediate types of tumors; 3, differences in structure in different portions of the same tumor.

Recent Advances in Obstetrics.

Dr. Edwin B. Cragin said that marked advances had been made along three lines—a better knowledge of obstetric pathology, a better knowledge of the mechanical problems of delivery and better procedures. In the pernicious vomiting of pregnancy, the chief pathologic lesion is a fatty and hydropic degeneration of the liver, and, if the condition exists long enough, the lesions are practically identical with those of acute yellow atrophy. There is more or less degeneration of the renal epithelium of the convoluted tubules. The urine contains acetone, diacetic acid, B.-oxybutyric acid, indican and, perhaps, a trace of albumin and a few casts. These cases, as a rule, show a high ammonia nitrogen, high amido acid and undetermined nitrogen and a low urea nitrogen. The hepatic and nephritic types are recognized clinically. In the hepatic type, aside from the convulsions, there is vomiting, with little edema, little albumin and casts, often jaundice, tenderness over the liver and ascites. In the nephritic types there are headaches, disturbances of vision, high tension pulse, nervous irritability, marked albuminuria and casts. These two types are often combined. In the livers studied by Dr. Cragin there were three varieties of lesions. In the nephritic type the cells near the periphery of the liver showed a moderately fatty and hydropic degeneration, without necrosis. In the hepatic type the fatty and hydropic degeneration at the periphery of the lobules was very marked; the cells had lost their nuclei and were, in fact, necrosed cells. There was a necrosis at the center of the lobule, a zone of fatty and hydropic degeneration near the periphery, and a few normal cells at the periphery along the portal vessels. In the third variety there was an area of degeneration of the liver cells with hemorrhage, the so-called hemorrhagic hepatitis. The lesion was situated at the periphery of the lobule.

In eclampsia the myocardium often showed degeneration and the brain edema and hemorrhage. In the nephritic type of eclampsia two classes were recognized, those patients who had previously suffered with nephritis and in whom the eclampsia had developed an acute exacerbation of the old trouble, and those whose kidneys had been previously free from disease. Figures presented showed a marked resemblance between the hepatic type of eclampsia and the pernicious vomiting of pregnancy, i. e., ammonia nitrogen, amido acid and undetermined nitrogen above normal, and urea nitrogen below normal.

In pernicious vomiting one does not feel that he has done his duty by his patient unless the urine has been examined and the nitrogen partition determined, and the presence or absence of acetone, diacetic acid, B.-oxybutyric acid, indican, etc., ascertained. The best results are obtained by colon irrigations, rectal feeding for a short time only, and early emptying of the uterus. Prolonged menorrhagia and metrorrhagia following labor, abortion or operation for hydatidiform mole, should be looked on with suspicion, and early diagnosis and early hysterectomy, in case of chorioepithelioma alone give hope. The induction of labor two weeks before term will often secure a relatively easy and safe birth for a child which otherwise would be lost. The improved methods of inducing labor at the proper time for the child to pass the given pelvis, and the low mortality of the Cesarean section, have largely reduced the number of cases in which craniotomy is considered justifiable. The operation of pubiotomy is still *sub judice*. A well trained man might repair a lacerated cervix immediately after labor, but a note of warning should be sounded, that the morbidity, if not the mortality, of the patient is markedly increased, and the old rule for the general practitioner is the good one, immediate trachelorrhaphy for hemorrhage only.

Cesarean Section.

Dr. Edward Reynolds, Boston, claimed that the mortality of Cesarean section varies greatly in accordance with the period of labor at which it is performed. That, 1, the mortality of the section late in labor is too great to permit of its performance in the interests of the child alone; 2, the maternal mortality of the section performed even so early as the end of the first stage of labor is greater than that of an ordinary high forceps delivery or version; 3, the mortality of the section done at the time of election in advance of labor, or at its very beginning, the primary section, is so low that it is a safer operation for both patients than difficult high forceps or version when performed for mechanical obstacles. His own experience with section now comprises 30 cases without mortality. He divided the cases into three classes—those done before labor, or primary; those done early in labor, or secondary; those done late in labor, or late sections. His completed tables contain 289 cases operated on by 20 different operators; of these 82 were primary, 158 secondary, and 49 late. The late cases showed a mortality of over 12 per cent.; the secondary cases, 4 per cent.; the primary cases, slightly over 1 per cent. He offers the proposition that: 1, A section undertaken under every surgical advantage in advance of labor is less dangerous than one performed after even a few hours' endurance of the exhausting physiology of labor, and under the technical conditions incident to such work; 2, that the section performed after a full test in labor has demonstrated the approaching failure of the natural forces is an operation favorable to the child, but more dangerous to the mother than the intrapelvic methods of extraction by high forceps or version. When Cesarean section is necessary, it is desirable that it should be determined on in advance, and performed as a primary operation. He ruled out secondary section as an operation of choice. To attain accurate results, one should estimate with equal care the pelvis, the passenger and the probable maternal power as a propelling engine. To estimate these in difficult cases it is usually necessary to see the patient repeatedly during and, when possible, before pregnancy.

DISCUSSION.

Dr. William M. Polk regretted that Dr. Cragin failed to tell of the advantages of slow forceps delivery. There has never been anything so potent for good as the obstetric forceps, but when used with a rush, for the purpose of terminating labor quickly, they are capable of danger which is not limited to the external passages, but they are responsible for the great number of cases of procidentia. The fact that forceps delivery could be extended over an hour or longer, until such a time as the uterus is coaxed to do its duty, seemed to him to be worthy of earnest consideration. He also emphasized the vast advantage of early and prompt incision and drainage in the cul-de-sac in cases of pelvic peritonitis associated with septic infection of the uterus.

Dr. J. Clifton Edgar agreed with Dr. Cragin in the main about the toxemias of pregnancy and was glad that he brought out the value of the nitrogen ratios as diagnostic factors. He believes that to-day the line can be drawn more sharply between the nephritic and hepatic cases of eclampsia. At the Manhattan Maternity Hospital the internes often make the diagnosis before urinary analysis. In institution work the mortality from puerperal sepsis is 0.1 per cent. or less. The morbidity is exceedingly low. This is not so in private practice. The reason for this diminution in the mortality and morbidity rate in institutions is due to the introduction of asepsis and antisepsis in midwifery.

Dr. Charles Jewett said that in toxemia of pregnancy, whether of the vomiting or eclamptic type, the general condition of the patient must still remain the principal guide in the treatment. Any material departure from the normal nitrogen ratios speaks for an unstable condition of the organism that might end in disaster. Eclampsia sometimes occurs explosively with scant clinical premonition. The end might come unexpected in pernicious vomiting. An elaborate analysis of the urine, at short intervals, during pregnancy in the latter months, and in all cases of pregnancy vomiting, might save many lives, but this requires the services of a practical chemist, which is expensive and not generally available. Pubic section, whether median or extramedian, has a limited field, which has grown more so with the improvement in the status of Cesarean section. It is difficult to select cases before labor which would probably fall within the scope of symphyseotomy or hebotomy. The principal objection to immediate suturing of the cervix is the danger of sepsis. The cervix is, perhaps, the seat of less resistance than other parts of the birth canal because of the traumatism it suffers even in spontaneous delivery. The cervix should not be sutured at the end of labor, except when necessary for hemostasis.

Dr. George L. Brodhead said that cases would be met with, from time to time, in which the clinical picture suggested that the uterus be not emptied in spite of the fact that the urinary findings indicated the termination of pregnancy. They were becoming more and more accustomed to doing a craniotomy in the fore and after coming head in cases where the child was dead, rather than to subject the woman to difficult forceps or version. Lacerated cervices should only be repaired immediately after delivery in cases of hemorrhage. Cesarean section might be done too often; many patients might be delivered at the eighth month safely and well. After Cesarean section the danger of rupture occurring at the site of the scar in subsequent labors should be borne in mind. Therefore, the induction of premature labor offers an advantage over Cesarean section.

Dr. F. A. Dorman emphasized the clinical evidences of toxemia so often overlooked by the general practitioner. The excretory and digestive functions, the circulatory system, the nervous manifestations, neuralgic or mental, should be investigated carefully. The operation of instrumental rotation of the head is a valuable method in occiput posterior positions and is increasing in usefulness. Rubber gloves should be used as a prophylactic measure. The induction of premature labor has a large field and very successful results might be obtained by starting labor and getting a smaller child.

Dr. W. Gill Wylie said that it has been his practice for over twenty-five years to make a close study of all these cases from the beginning, and it is amazing how often cases of toxemia and septic troubles can be averted.

Medicolegal

Evidence Against Abortionist.

The Supreme Court of New Jersey holds, in the case of State vs. Barnes, that in the trial of an indictment for the commission of an abortion, bottles of ergot and knitting needles found in the house of the defendant were admissible in evidence when it appeared that ergot and needles were sometimes used to produce miscarriages.

Privilege Can Not be Waived by Contestant of Will.

The Supreme Court of Michigan says, in re Mansbach's estate, that it has held that privilege may be waived by the personal representatives of a deceased person. But it holds that it can not be waived by a contestant of a will, the latter not being a representative of the testator, but standing in the suit in the attitude of an adverse party. Such a one has no right to waive the statutory privilege.

Malpractice May be Proved to Defeat Claims for Services.

The Supreme Court of Michigan says, in the case of Vandenberg vs. Slagh, that under proper pleadings, malpractice may be proven for the purpose of defeating a claim for services rendered by a physician or surgeon.

Physician Allowed to Testify to Result of Examination Made for State—Identifying Subject.

The Supreme Court of Washington says that in the prosecution for rape, of State vs. Winnett, a physician was allowed to testify, over the defendant's objection, to the result of an examination made by him whereby he ascertained, and so testified, that the woman was in a family way. There was nothing here tending to show that the relation of physician and patient existed between them, or that any confidential relation whatever existed. The record did not indicate, but, presumably, the examination was made at the instance of the state, and was made for the purpose of publishing the result of the examination. No confidential relation appeared to be violated. The case did not come within the spirit or reason of the law which prohibits physicians from giving information acquired in attending a patient, and no error was committed in admitting the testimony objected to.

But the defendant having married the woman, in consequence of which, as his wife, she could not testify against him, the court holds that it was error to have her brought in for the physician to identify as the woman whom he examined, where her condition as to pregnancy, which was a fact which the state sought to prove, could be observed and noted by the jury. It says that this might have been evidence of the most convincing and telling character, and being produced before the jury, just after the testimony of the physician in relation to her pregnancy, and the possible length of time which she had been in that condition—presumably six months—it would not be slanderous to impute to the jurors a careful scrutiny of the witness with a view of determining for themselves the probable correctness of the physician's diagnosis. It does not seem that it was at all necessary to parade her to the courtroom for the purpose suggested. The physician could have testified that he knew her, and that it was she whom he had examined, just as such identifications are ordinarily made.

Rules as to Burden of Proof in Criminal Cases Where the Defense Is Insanity.

The Supreme Court of Wyoming says, in the homicide case of State vs. Pressler, that, in criminal cases, where the defense of insanity is interposed, three different rules as to the burden of proof of insanity have been adopted. In a few jurisdictions the rule is that the burden rests on the defendant to establish his insanity at the time of the commission of acts charged beyond reasonable doubt. This view has not met with much favor; the overwhelming weight of authority being against it.

Another rule, viz., that the burden is on the defendant to prove insanity by a preponderance of the evidence, has been adopted by the courts of last resort in many of the states, and was the one contended for by the attorneys for the state in this case, who cited in their brief cases from the states of Alabama, Arkansas, California, Georgia, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Missouri, Nevada, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, Rhode Island, Utah, Virginia, Washington and West Virginia. In the states of Oregon and Louisiana the matter is regulated by statute.

The third rule, viz., that the burden of proving the sanity of the defendant rests on the prosecution, and that it must do so beyond a reasonable doubt in order to convict, or, in other words, if on all the evidence in the case the jury entertains a reasonable doubt as to the sanity of the defendant at the time of the commission of the act, it should acquit, is the rule adopted in the states of Colorado, Connecticut, Delaware, Florida, Illinois, Indiana, Kansas, Michigan, Mississippi, Montana, Nebraska, New Hampshire, New York, Tennessee and Wisconsin, and in the territories of New Mexico and Oklahoma, and also by the Supreme Court of the United States.

And this court holds that as sanity is the normal condition of the human mind, that condition is presumed, in the first instance, to exist, and has the force of evidence sufficient, if uncontradicted, to establish the sanity of the defendant. That is, it makes a prima facie case, and nothing more; and, when the right to a conviction is challenged by evidence in the case tending to show the insanity of the defendant at the time of the homicide, the burden does not shift, but still rests with the prosecution to show that the defendant was criminally responsible. That seems to be the most reasonable rule.

Physician Employed by Company as Witness.

The Supreme Court of Colorado says, on the appeal of the Colorado Midland Railway Company vs. McGarry, a personal injury case brought by the latter party, that the company called as a witness a physician, and asked him concerning the plaintiff's condition at the time the physician made an examination of him, soon after the injury was inflicted. It appeared that this examination was made as the result of instructions to the witness from the company's chief surgeon. The plaintiff, refusing his consent, objected to this testimony on the ground that it was forbidden by the Colorado statute, which reads: "A physician or surgeon duly authorized to practice his profession under the laws of this state, shall not, without the consent of his patient, be examined as to any information acquired in attending the patient, which was necessary to enable him to prescribe or act for the patient." The company claimed the evidence was competent because the witness was not employed by the plaintiff as a physician, and that the plaintiff at the time was not his patient. Counsel cited to this point Heath vs. Broadway & S. A. R. Co., 57 N. Y. Super. Ct. 496, 8 N. Y. Supp. 863, and 23 Am. & Eng. Cyc. Law (2d Ed.) 85. The court holds that the company's objection to a ruling excluding the offer was not tenable. It says that the witness himself testified that he was commissioned by the company's chief surgeon to inquire into the plaintiff's injuries and to prescribe treatment where the family physician was not employed. What the physician found, as to the plaintiff's physical condition, must have been the result of the examination that was made in such circumstances. The statute applied and made the testimony incompetent. The authorities cited hold that, where a person responsible for an accident by which another is injured sends a physician employed and paid by him to attend the injured person, the rule of privilege applies. In the Heath case, the court adverted to the fact that the evidence there showed the object and purpose of the physician in examining the patient were to procure for the employer (the defendant company) information about the plaintiff's injury, and to elicit from her admissions as to the circumstances of the accident, and place the information thus procured at the disposal of the defendant company by whom he was employed. That was quite a different case from the one in hand. Here the witness was employed and paid by the defendant company to attend the plaintiff in a professional capacity and prescribe for him, and under the authorities cited, as well as the provisions of the statute, he was not permitted to give information, which he thus acquired, as to the plaintiff's physicial condition, without the consent of the patient.

When Omission to Care for Another Resulting in Death Is Not Criminal.

The Supreme Court of Michigan says, in the case of People vs. Beardsley, that the law recognizes that under some circumstances the omission of a duty owed by one individual to another, where such omission results in the death of the one to whom the duty is owing, will make the other chargeable with manslaughter. But this rule of law is always based on the proposition that the duty neglected must be a legal duty, and not a mere moral obligation. It must be a duty imposed by law or by contract, and the omission to perform the duty must be the immediate and direct cause of death.

Although the literature on the subject is quite meager and the cases few, nevertheless the authorities are in harmony as to the relationship which must exist between the parties to create the duty, the omission of which establishes legal responsibility. Indeed, all of the adjudicated cases examined in this investigation the court finds are in entire harmony with the proposition first stated.

In the case before the court the defendant and a woman who had accompanied him to his rooms, spent from Saturday evening until Monday afternoon drinking together. Then she was observed to be taking some morphin tablets that she had sent out for, and the defendant had her removed to another party's room, where she afterward died. The state claimed that the facts and circumstances attending her death in the house of the defendant were such as to lay on him a duty to care for her, and the duty to take steps for her protection, the failure to take which was sufficient to constitute such an omission as would render him legally responsible for her death. But the court holds otherwise.

Seeking for a proper determination of the case by the application of the legal principles involved, the court says that it must eliminate from the case all consideration of mere moral obligation, and discover whether the defendant was under a legal duty toward the woman at the time of her death, knowing her to be in peril of her life, which required him to make all reasonable and proper effort to save her, the omission to perform which duty would make him responsible for her death. This was the important and determining question in the case.

It was urged by the prosecutor that the defendant "stood toward this woman for the time being in the place of her natural guardian and protector, and as such owed her a clear legal duty which he completely failed to perform." But the cases cited and digested in this case establish that no such legal duty is created based on a mere moral obligation. The fact that this woman was in his house created no such legal duty as exists in law and is due from a husband toward his wife, as seemed to be intimated by the prosecutor's brief. Such an inference would be very repugnant to our moral sense. The defendant had assumed either in fact or by implication no care or control over his companion.

Had this been a case where two men under like circumstances had voluntarily gone on a debauch together, and one had attempted suicide, no one would claim that this doctrine of legal duty could be invoked to hold the other criminally responsible for omitting to make effort to rescue his companion. How could the fact that in this case one of the parties was a woman change any principle of law applicable to it?

Deriving and applying the law in this case from the principle of decided cases, the court does not find that such legal duty as was contended for existed in fact or by implication on the part of the defendant toward the deceased, the omission of which involved criminal liability.

Appointments to Public Health and Marine-Hospital Service.

United States Treasury Department Circular No. 6, dated Jan. 16, 1908, states that appointments may be made without examination in the following cases:

1. Local physicians employed for temporary duty as acting assistant surgeons. When, however, the duty ceases to be temporary, the place must be filled by transfer of a regular officer of the service, or through examination by the Civil Service Commission. Where the duties of an acting assistant surgeon require only a portion of his time, and compensation therefor does not exceed $300 per annum, appointments may be made without examination.

2. Quarantine attendants at stations at which, in the opinion of the commission, the establishment of registers is impracticable. This exception from examination applies to Fort Stanton and Key West, and to the Gulf, South Atlantic, Tampa Bay, Key West, Reedy Island, Cape Charles, Columbia River, San Francisco and Mobile Bay quarantines.

3. Quarantine attendants, acting assistant surgeons and sanitary inspectors, on quarantine vessels, or in camps or in stations established for quarantine purposes during epidemics of contagious diseases, employed for temporary duty in preventing the introduction or spread of contagious or infectious diseases.

Examinations are held by the Civil Service Commission for the positions of acting assistant surgeon and pharmacist third class.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

February 27.

1 *The Bennett Fracture of the First Metacarpal Bone. Diagnosis and Treatment. S. Robinson, Boston.
2 *Treatment of Trophic Nerve Lesions; Study Based on a Case of Mal Perforans; of Ischemic Paralysis and of Erythromelalgia. W. C. Quinby, Boston.
3 Pulmonary Embolus Following Operative Interferences. C. G. Cumston, Boston.
4 *Psychology in Medicine. A. H. Ring, Arlington Heights, Mass.

1. **The Bennett Fracture.**—Robinson describes the Bennett or oblique fracture through the base of the first metacarpal bone and writes: 1. To correct the erroneous idea of some writers that the Bennett fracture is the most common fracture of this bone. 2. To emphasize the necessity of a radiograph of all fractures of the thumb, in order to determine whether or not the Bennett fracture is the one at hand. 3. To propose a form of treatment which seems imperative in cases of this particular fracture. He discusses the anatomy, pathology, clinical aspects, diagnosis and treatment, and sums up as follows: The first and fifth metacarpal bones are most frequently fractured; 64 per cent. of fractures of the first metacarpal are of a less obstinate transverse type; 28 per cent. are oblique fractures into the joint, with or without subluxation of the metacarpal (Bennett type).

2. **Trophic Nerve Lesions.**—Quinby advances the following conclusions. 1. The so-called trophic nerve lesions of

the skin, bones and joints are due to a break in what we have called, for convenience, the neurovascular mechanism of the part involved. 2. This break may be situated centrally, on the neural side, or on the vascular side. 3. Rational treatment of such conditions will be directed toward modification of (a) the blood supply; or (b) the nerve function of the part. 4. For modification of the blood supply, we have active and passive hyperemia increasing it, and positive pressure by bandaging, pneumatic cabinet or the immersion in mercury, decreasing it. 5. For modification of the nerve function, we have nerve stretching, neurolysis and nerve disassociation and electricity. 6. Nerve stretching is probably to be condemned, similar results being obtainable by the simpler passive hyperemia.

4. **Psychology in Medicine.**—Ring urges that physicians should become better acquainted with the exact meaning of psychologic terms with which to express the mental state of their patients. One is struck, in the average case record in a nerve clinic, by the fact that, while physical data are carefully detailed, the one item that would make the picture vivid and give it personality—a statement of the mental life—is omitted, or at most is put down as nervous, irritable, depressed, etc. He reproduces Kraepelin's analysis of dementia præcox to illustrate the proper application of the psychologic method.

Medical Record, New York.

February 29.

5 *Chronic Sigmoiditis. H. Stern, New York.
6 Cardiac Hydrothorax. Report of Case Aspirated 311 Times. W. T. Gibb, New York.
7 *Acute Bulbar Paralysis with an Unusual Symptom. A. Gordon, Philadelphia.
8 Significant Features of Middle-Ear Suppuration in Infancy and Childhood. S. J. Kopetzky, New York.
9 *Dangers Attending Operative Intervention in Gonorrheal Salpingitis. J. S. Price, Beaumont, Texas.
10 Ether Anesthesia. D. Loree, Ann Arbor, Mich.

5. **Sigmoiditis.**—Stern discusses this condition at length, and, judging from his own experience only, concludes that inflammatory processes occur fully as often in the sigmoid flexure as in the cecal and appendicular regions. There is no question that the inflammatory condition may be limited to the sigmoid flexure, and we must logically assume that in some cases at least it may be idiopathic, though others may be the consequence of some pre-existing condition. Habitual obstipation and long-continued drug cathartics are the direct, inadequate or perverse nerve impulse in the descending or sigmoidal colon, the indirect predisponents. Intestinal spasm, atony or paresis, by giving rise to obstipation, may be remote causes. Chronic sigmoiditis may be associated with numerous concomitants and complications. The causal indication for treatment is the regulation of functional activity of the sigmoid. Sigmoidal spasm is readily amenable to atropin, hypodermically, in doses of 1/100 grain (0.0006 gm.); less pronounced enterospasm often yields to prolonged administration of lupulin in daily doses of from 2 to 4 grams. Stern gives the following combinations:

℞.	gm.		
Lupulini			
Strontii bromidi ....āā	15	or	gr. iiss

Ft. caps. d. t. dos. No. 50.

Sig.: Two capsules from three to five times a day.

℞.	gm.		
Lupulini	|03	or	gr. ½
Pulvis ipecacuanhæ	|02		gr. ⅓

Ft. caps. d. t. dos. No. xx.

Sig.: One capsule from four to six times a day.

Lupulin in suppositories is useful; strychnin and tonic medication he finds inefficient. Regulation of diet is the chief point. Preponderance of protēids leaves little residue and tends to obstipation; carbohydrates produce fermentation and consequently mucosal irritation. The best diet is one in which green vegetables and absorbable fats, like yolk of egg, predominate. Exercise is important—walking, calisthenics, gymnastics. Passive exercises he considers overrated; the best form is a strong, faradic, sinusoidal current. Hydrotherapy renders efficient service. For pain, opium should never be prescribed; hot applications and counterirritants and suppositories of belladonna, with lupulin in gram doses if tenesmus is present, may be used. Local treatment is imperative. The necessary reduction of peristalsis may be effected by belladonna, lupulin, valerian, viburnum, bromids, chloral, cannabis indica, etc. The sigmoid should be entirely evacuated by a high enema of warm soapsuds. Irrigations of fresh infusion of chamomile flowers, or sage (sage, 15 grams; boiling water, 500 c.c.), soothe the irritated mucosal surface. Very mild astringent irrigations (borax or boric acid, 2 per cent.; zinc sulphate, 1 in 1,000; lead acetate, 2 in 1,000, or aluminum acetotartrate, 10 in 1,000). Protective agents may be injected as an emulsion through a stiff catheter. Stern gives the two following prescriptions:

℞.	gm.		
Menthol	2|5		gr. xv
Oil of eucalyptus......................	20		ʒv
Bismuth subnitrate	12	or	ʒiii
Glycerin	15		℥ss
Gum tragacanth and water q. s. ......ad	60		℥ii

℞.	gm. or c.c.		
Oil of eucalyptus......................	30		℥i
Bismuth subnitrate	30		℥i
Olive oil	15	or	℥ss
Powdered gum acacia Make emulsion.			
Water enough to make..................	60		℥ii

7. **Acute Bulbar Paralysis.**—The evidences in Gordon's case clearly point to a bulbar affection. The unusual symptom is loss of speech, depriving the patient, a woman, of the power of even pronouncing letters, though she is able to emit sounds or syllables more or less resembling words. There is no interference with intelligence and no agraphia.

9. **Gonorrheal Salpingitis.**—Price reports a case of operation in which death, probably due to gonorrheal endocarditis, ensued without warning on the fifteenth day of what appeared to be an attack of acute rheumatism which began on the second day after operation. He calls attention to the likelihood of gonorrheal rheumatism being awakened by operation in specific infections.

New York Medical Journal.

February 29.

11 *The After-Care of the Insane. F. Peterson, New York.
12 *Conservative Prostatectomy. F. Cabot, New York.
13. *Gastrointestinal Symptoms of Middle-Ear Suppuration. L. Fischer, New York.
14 *Indications for Surgical Intervention in Suppurating Middle-Ear Diseases of Infancy and Childhood. F. Cohn, New York.
15 *Present Status of the Etiology of Syphilis. R. C. Rosenberger, Philadelphia.
16 Case of Aortic Regurgitation and Floating Liver. E. P. Magruder, Washington, D. C.
17 *Orthopedic Therapy During the Early Stages of Acute Anterior Poliomyelitis. J. J. Nutt, New York.
18 Case of Biliary Fistula Between the Gall Bladder and the Stomach, with a Stone in the Hepatic Duct. G. M. Dorrance, Philadelphia.

11. **After-Care of Insane.**—Peterson points out that insanity is a protracted malady, and that convalescence and cure are matters of months or even of years. After return from hospital the patient feels like Rip Van Winkle, out of touch with all his surroundings, and moreover returns to a similar, or perhaps, harsher environment than that in which his mind first broke down. Peterson discusses the history of the movement for the after-care of the insane and proposes an association, comparable to the old English "Guild of Friends of the Infirm of Mind," to be composed of hospital physicians, local practitioners, lawyers, clergymen, business men, and their wives, whereby not only will the immediate objects of the care of these individuals benefit, but a knowledge of the predisposing conditions will be acquired, preventable causes will be recognized, and earlier treatment be instituted.

12. **Prostatectomy.**—Cabot divides prostatics into three groups: 1. Those beginning to show evidence of prostatic obstruction. 2. Those who have two or more ounces of residual urine, who are straining considerably, and who rise four or five times at night to empty the bladder. In these cases there is nearly always some enlargement of the prostate. 3. In the third group are those prostatics who can no longer be treated by palliative measures. In the first group no operation is

advisable unless there is an advance in the obstruction, but in the latter event early operation is conservative. In the second group there is usually cystitis and often a secondary pyelitis. In rare cases palliative treatment will result with great care, in long life and comparative comfort for the patient; but usually such patients pass quickly into the third stage. Here a complete prostatectomy is almost sure to be followed by death. Cabot follows Lilienthal's two-stage operation in all cases in which the patient's resistive power is doubtful, using the suprapubic route. The results are good and the mortality is comparatively low and on the decrease. As to the sexual power, he has had complaint in only one case out of seventy-two.

13. **Gastrointestinal Symptoms of Middle-Ear Disease.**—Fischer points out that one is apt to look no further than the alimentary canal to explain vomiting or diarrhea with fever in children. In several diseases, however, there is a liability to intestinal symptoms, e. g., in scarlet fever during the preeruptive stage, in tuberculous meningitis and in infection of the middle ear due to the streptococcus or the pneumococcus. Children swallow secretions from the nasopharynx. He shows how easily bacteria can penetrate from the mouth into the middle ear, and discusses the gastrointestinal manifestations of middle-ear trouble in breast-fed and bottle-fed infants respectively.

14. **Middle-Ear Diseases.**—Cohn gives the following indications for paracentesis: 1. It is indicated in every form of perforative inflammation. 2. It is not indicated in the nonperforative form. 3. It should be performed in every doubtful case in which distinction is impossible or difficult. 4. It should not be performed too early; one should wait until the symptoms demand it. He repeats his indications for perforating the mastoid, as published by him in the same journal, Aug. 8, 1896.

15. **Spirochæta Pallida.**—Rosenberger gives an exhaustive résumé of the literature on the morphology of the *Spirochæta pallida*, its occurrence in the lesions of syphilis, the technic, inoculation experiments on animals, and its cultivation. This shows that by far the majority of observers regard the spirochete as the probable cause of syphilis, of which Rosenberger's personal observations convince him also. When stained by the Levaditi method there should be no mistake possible for anyone with any histologic training. It must be borne in mind that local or general treatment diminishes the number of parasites.

17. **Orthopedics in Poliomyelitis.**—Nutt believes that proper and painstaking orthopedic treatment, instituted during the more acute stage, will greatly lessen the exent of the crippling results, and that in some cases it will be the means of effecting a complete cure. The treatment before the chronic stage should be directed toward: 1. Keeping the parts in as healthy a condition as possible. 2. The preservation of the normal range of motion of the joint, and 3. The prevention of stretching and elongation of paralyzed and weakened tissues. The first end may be accomplished by massage, electricity, heat and hydrotherapy. The second is attained by passive movements. The third can be effected by keeping the ends of the dorsal extensors of the foot approximated, as well as those of any other muscles threatened, such as the peronei, the tibialis anticus alone, or the deltoid. He reports cases showing the importance of preventing overstretching of paralyzed muscles.

Archives of Diagnosis, New York.

January.

19 *Diagnosis and Prognosis of Mitral Stenosis and of Aortic Stenosis. D. Rochester, Buffalo.
20 *Relative Importance of Symptomatic and Physiologic Diagnosis in Neurology. L. H. Mettler, Chicago.
21 *Grocco's Sign in Pleurisy with Effusion. T. F. Reilly, New York.
22 *Diagnosis of Pleuritis. M. Hartwig, Buffalo.
23 Diagnosis of Acute Catarrhal Cholecystitis. H. W. Bettman, Cincinnati.
24 *Etiology of Epidemic Poliomyelitis. W. Sinkler, Philadelphia.
25 *Diagnosis of Extrauterine Pregnancy. H. J. Boldt, New York.
26 Case of Meckel's Diverticulum Causing Obstruction of the Bowels. J. H. Carstens, Detroit.
27 Diagnosis of Polycystic Kidney in Adults. C. G. Cumston, Boston.
28 *Diagnosis of Abnormalities and Diseases of the Ureters. F.
29 *Differential Diagnosis of the Ulcerative Forms of Cutaneous Syphilis and Tuberculosis. A. Ravogli, Cincinnati.
30 Diagnosis of Chronic Inflammation of the Nasal Accessory Sinuses. S. Oppenheimer, New York.

19. **Mitral and Aortic Stenosis.**—Rochester considers it unfortunate that among physicians generally so little attention is paid to the differentiation of valvular lesions of the heart. One commonly hears it said: "There is mitral disease," or, "There is an endocardial murmur, but I don't pretend to differentiate those sounds." A man who does not attempt to differentiate the murmurs has no right to attempt the practice of general medicine. The diagnosis of the different lesions is most important, as regards both prognosis and treatment. He discusses in detail the symptoms and signs by which the diagnosis of mitral stenosis might be made, and points out the morbid conditions present on which prognosis must depend. The diagnosis of aortic stenosis is considered in like manner.

20. **Diagnosis.**—Mettler insists on the great superiority, the positive necessity, of employing the physiologic method of diagnosis instead of the merely symptomatic, based on mere observation and grouping of symptoms, which he considers primitive, unscientific and dangerous. To give value to the symptoms as the indicators of a given disease they must severally and collectively be minutely analyzed and fully accounted for on modern physiopathologic and psychophysiologic grounds, for which the present knowledge of biology, psychology and physiology is surprisingly adequate. With regard to diseases of the nervous system, a branch second only to ophthalmology in scientific clearness and deductive accuracy, more study of the works of physiology and physiologic psychology—he had almost said less study of the works of mere clinical neurology—is what is needed in the profession to-day.

21. **Grocco's Sign in Pleurisy.**—Reilly considers that the value of this sign is not appreciated. He describes its character and determination and discusses its causation. Aside from its value in differentiating a pleurisy from an unresolved pneumonia, he has found it of signal service in the diagnosis of purulent effusion.

22. **Pleuritis.**—Hartwig says that exudative pleuritis is frequently unrecognized in its early stages, even by experienced physicians, which fact he attributes to the unsound text-book doctrine, that liquid interposed between chest wall and pleura being a poor sound conductor must necessarily reduce the intensity of respiratory noises. The most reliable early symptom of exudative pleuritis he considers to be obliteration of the intercostal depressions. The diagnosis, however, should never be based on one symptom alone, but on the totality of symptoms, with the history of the present illness. He reports an illustrative case.

24. **Epidemic Poliomyetlitis.**—Sinkler produces an analysis of 274 additional cases, making a total of 509 with those already reported, which tend to support his conclusion (*American Jour. Med. Sciences*, April, 1875) that a large majority of cases of poliomyelitis occurs during the summer months. In his series of 509, 418, or 82 per cent., occurred between June and October. The nature and progress of the disease indicate that it is clearly due to infection by a micro-organism developed during hot weather, and he refers to the fact that in an epidemic in Vermont in 1894 horses and birds were also affected.

25. Abstracted in The Journal, Jan. 18, 1908, page 233.

28. **Diseases of the Ureters.**—Johnson reports cases and states that the dominant suggestion from the study of them is that, when a patient appears with a history and a localization of pain similar to those described, and when ordinary methods of treatment fail, it becomes our duty to make a thorough cystoscopic examination and to ascertain the exact condition of the ureters and kidneys. It is probable that ureteral lesions and pelvic inflammations are far more common than has hitherto been supposed.

29. **Ulcerative Cutaneous Syphilis and Tuberculosis.**—Ravogli discusses the differentiation between tuberculous and syphilitic cutaneous ulcers, and calls attention to the fact that syphilis and tuberculosis often occur together, and that they have a mutually deleterious action the one on the other.

Indiana State Journal of Medicine, Fort Wayne.

February.

31 Direct Laryngoscopy and Tracheobronchoscopy. J. J. Kyle, Indianapolis.
32 *Diagnosis of Intestinal Obstruction. E. Walker, Evansville.
33 Surgery of Gall-stone Disease. T. B. Eastman, Indianapolis.
34 Report of a Series of Leukemic Cases; Symptomatology and Treatment. F. B. Wynn, Indianapolis.

32. **Intestinal Obstruction.**—Walker says that in all cases in which pain, vomiting, corprostasis and meteorism are the symptoms we should be on the lookout for mechanical obstruction. He discusses in detail each of these symptoms, cautions against the repeated use of purgatives, and against masking the pain by morphin, as well as against the error of undue delay in the effort to make an exact anatomic and pathologic diagnosis, which is often impossible. One is rarely justified in waiting more than from six to twelve hours. Hernia must, of course, be looked out for. The all-essential point is the earliest possible diagnosis of the obstruction followed by prompt surgical intervention.

Vermont Medical Monthly, Burlington.

February.

35 Control of the Lymphatics in Infections of the Extremities. H. L. Burrell, Boston.
36 *Intestinal Obstruction. L. Allen, Burlington.
37 Address at Annual Banquet of the University of Vermont Alumni, Boston. H. C. Tinkham, Burlington.

36. **Intestinal Obstruction.**—Allen sums up the treatment of intestinal obstruction as follows: In all mechanical ileus operate. Never try cathartics. In early dynamic ileus or the distension so often seen after laparotomy, use stomach and rectal irrigation, saline solution, and cathartic enemata. This condition is probably due to slight peritoneal infection or trauma. Eserin, atropin and morphin (sometimes) are indicated. Operation, if done, must be with the idea of removing some definite, local, septic focus.

Washington Medical Annals.

January.

38 Philosophic Foundations of Charlatanry in Medicine. D. K. Shute, Washington.
39 Case of Typhoid with Diphtheria in a Child. S. S. Adams, Washington.
40 Cauterization of Pterygium. F. B. Loring, Washington.
41 Sexual Differences in Skull and Other Parts of Skeleton. A. Hrdlicka, Washington.
42 Review of Internal Medicine. W. W. Wilkinson, Washington.
43 Case of Infectious Cerebrospinal Meningitis. J. D. Morgan, Washington.
44 Progress of Neurology. D. P. Hickling, Washington.
45 Experience with Hyoscin, Morphin and Strychnin as a Surgical Narcotic. W. A. Jack, Jr., Washington.
46 Case of Calculus of Ureter. G. T. Vaughan, Washington.
47 Case of Aneurism of Aorta. F. E. Harrington, Washington.
48 Etiology of Chorea. J. S. Wall, Washington.
49 *Annual Report of the Committee on Public Health, December, 1907.

49. **Annual Report of the Committee on Public Health.**—The principal object of this report, which is based on the mortality statistics of scarlet fever, diphtheria and measles in ten American and six European cities, is to determine whether or not municipal quarantine has reduced the mortality from these diseases. The conclusions arrived at are in brief that there has been a marked decrease in mortality from scarlet fever, diphtheria and measles, for the most part since the introduction of antitoxin and the establishment of municipal quarantine. The mortality of diphtheria, which for the last ten years shows an average decrease of 36.6 per cent. for sixteen cities, can be best accounted for on the theory that it is due to the antitoxin treatment. The average reduction of mortality in measles for the same period and cities, 27.4 per cent., can best be accounted for on the theory that it has been brought about by the measures employed by private physicians and the people on their own account. In scarlet fever the mortality reduction, which under the same conditions has an average of 47.9 per cent., may be attributed perhaps one-half to municipal quarantine, the remainder to the measures of physicians and people. While somewhat disappointing, the showing of municipal quarantine justifies the continuance of the service and its extension to include measles, provided unreasonable and unnecessary measures, which engender prejudice and opposition can be eliminated. The placarding of houses is chief of these measures, and as effective quarantine can only be enforced by careful supervision and health authorities, it would be a gain to let such supervision entirely supersede placarding, the feasibility of which omission is shown in New York and European cities. The laws and regulations must be adjusted to meet the requirements for each particular disease. The European, and some American, showing justifies quarantine hospitals for those who can not be properly isolated and cared for at home. The inadequacy of terminal disinfection requires that it should be either replaced or supplemented by the maintenance of absolute and constant disinfection throughout the entire course of the disease until all possibility of infection is known to be over. The report is liberally illustrated with charts and explanatory tables.

Long Island Medical Journal.

January.

50 Marital Maladjustment; the Business of Preventive Gynecology. R. L. Dickinson, Brooklyn, N. Y.
51 *Sources of the Contamination of the Air in New York City. D. D. Jackson, Brooklyn, N. Y.
52 Cholecystitis in Typhoid. M. Figueira, Brooklyn, N. Y.
53 *Sudden Death. W. N. Belcher, Brooklyn, N. Y.
54 Control of Social Disease. N. P. Rathbun, Brooklyn, N. Y.

51. **Contamination of the Air in New York.**—Jackson discusses the dangers of excessive or contaminated dust, the constituents of street dust, and the smoke nuisance. He then proceeds to a consideration of infection from flies, the substance of which is contained in a report which was discussed editorially in The Journal, Jan. 18, 1908, page 210.

53. **Sudden Death.**—Belcher investigates the causes and conditions of sudden death, particularly with reference to the findings of the coroner for the Middlesex district of London, and draws the following conclusions: Sudden death is of frequent occurrence; too frequent. Changes and conditions in the vascular system are responsible for nearly 90 per cent. of all sudden deaths from natural causes. No matter where we trace the source of the trouble, we come back to the vascular system as the responsible factor. Sudden death can be explained in many cases. In others it is very largely a matter of conjecture; and in none can it ever be satisfactorily explained without autopsy. Many of these sudden deaths, although absolutely unavoidable, are often thought to be preventable by the great non-medical public. It is the duty of the physician to safeguard his patient, so far as may be possible, against this accident, by a careful estimate of the case at hand by every known method of diagnostic procedure. So-called sentiment should never be allowed to stand in the way of the investigation into the cause of death by postmortem examination, in all cases in which death is sudden and wholly unexpected.

Northwestern Lancet, Minneapolis.

February 1.

55 *Rocky Mountain Spotted Fever. W. M. Chowning, Minneapolis.
56 Practical Suggestive Therapeutics. A. E. Clough, Madison, S. D.
57 Diseases in Which Frequency and Pain in Urination Are Prominent Symptoms, with Suggestions as to the Diagnostic Technic. A. W. Abbott, Minneapolis.

55. **Rocky Mountain Spotted Fever.**—Chowning refers to a statement in the *Journal of Infectious Diseases* (Vol. I. No. 1. page 44), to the effect that in the blood in seventeen cases of this disease no bacteria were found. A study of the material from these cases, however, shows that organisms apparently of plant life are present in eight of them. He describes the technic of examination and the morphology of the clumps, and gives a preliminary note on beerwort as a culture medium.

Laryngoscope, St. Louis.

December.

58 *Tuberculosis of the Mouth. R. Levy, Denver.
59 *The Tonsils and Their Relation to the Development of Tuberculosis. E. Danziger, New York.
60 Etiology of Tuberculosis of the Upper Respiratory Tract. G. B. Wood, Philadelphia.
61 *Baneful Influence of Pregnancy on Laryngeal Tuberculosis. W. Freudenthal, New York.
62 *Tuberculosis of the Larynx and Pregnancy. A. Kuttner, Berlin, Germany.
63 Histologic Examination of a Window Resected Septum. J. C. Beck, Chicago.

58. This article was published in *Denver Medical Times*, December, 1907, and abstracted in The Journal, Feb. 15, 1908, page 563. The present publication, however, adds eleven colored plates.

59. **The Tonsils and Tuberculosis.**—Danziger's investigations show that acute tonsillar tuberculosis is found as a part of miliary tuberculosis or as a mestatic process in the last stage of pulmonary tuberculosis. It is accompanied by severe symptoms. The chronic form, however, is nearly always latent and without symptoms, and may be either primary or secondary, the secondary infection taking place through the sputum. The absence of severe symptoms is probably due in secondary cases to a certain degree of immunity from pre-existent pulmonary tuberculosis. In primary chronic tuberculosis as soon as the pharyngeal tonsil is enlarged enough to make nasal respiration impossible, mouth breathing adds its dangers to those of food harboring tubercle bacilli. Infection may travel from the tonsils to the cervical and bronchial glands, or may reach the lymph current and through the general circulation cause miliary tuberculosis. Remembering the possibility of primary tuberculosis of the tonsils, we should not be satisfied with removing tuberculous cervical glands, but after excluding pulmonary disease, should examine the tonsils and remove them radically if necessary.

61. **Pregnancy and Laryngeal Tuberculosis.**—Freudenthal considers pregnancy in relation to those cases of laryngeal tuberculosis associated with pulmonary affection. While it is impossible to assert that pregnancy influences the incidence of laryngeal tuberculosis in those with pulmonary tuberculosis, it must be positively affirmed that it has a deleterious effect on laryngeal tuberculosis already established. He discusses the effect on both the child and the mother, and reports cases to show that early interruption of pregnancy may save the mother, the percentage of deaths if pregnancy is not interrupted amounting really to 100, and the children almost invariably die anyway. On the other hand, a relative cure of the tuberculosis is reported in two cases after the induction of premature labor. The rule is: If the case is seen early, immediate interruption in the interest of the mother. If seen late, wait in the interest of the child.

62. **Id.**—Kuttner's considerations lead him to practically the same conclusions as those of Freudenthal cited above.

Northwest Medicine, Seattle.

January.

64 *Effects of Back-Pressure on the Bladder. G. S. Peterkin, Seattle.
65 *Diagnosis of Kidney Functions. H. P. Marshall, Pullman, Wash.
66 *Hyperchlorhydria. F. H. Brandt, Boise, Idaho.

February.

67 Treatment of Partial Optic and Retinal Atrophy by Electricity and Massage. H. V. Würdemann, Milwaukee, Wis.
68 Acute Pancreatitis. E. F. Pope, Spokane.
69 Where Medicine and Surgery Meet in Diseases of the Stomach. W. V. Gulick, Tacoma.
70 Treatment of Acne Vulgaris. L. H. Redon, Seattle.

64. **Back Pressure on the Bladder.**—Peterkin discusses in detail the *modus operandi* of the effects of urinary back pressure on the bladder. The probable involvement of the bladder in continued inflammatory conditions of the seminal vessels must not be overlooked, and irrigation should accompany massage or other treatment, not only as a remedy but as an aseptic precaution. The bladder of any patient may be irrigated without harm in view of the fact that it is automatic in action. The lining membrane, when intact, has no power of secretion or absorption; therefore, irrigation by hydrostatic pressure *à la* Jendt with catheter is not contraindicated in the sense that it is dangerous, because it may carry infection into the bladder. Absorption commences only when the lining membrane is broken, so that great gentleness in instrumentation is required and since the invention of the cystoscope, stone searchers, etc., are antiquated. Peterkin shows how the pathologic changes that take place as the result of continued distension may result in a sacculation of the lining membrane, forming so many pockets for residual urine. In the diagnosis of stricture the metal sound should never be used, for being of uniform caliber it will prevent the diagnostic feeling of resistance on withdrawal. Moreover, in the case of a moderate obstruction, especially in the bulbo-membranous portion, in consequence of the compensating expansion of the unaffected membrane, it will often pass without detection of an existing stricture. The condemnation of the cystoscope shows inefficiency in its employment. Finally, Peterkin urges the importance of thorough examination, not only physical with instruments, but, as to family and personal history, general condition, subjective and objective symptoms (the patient being stripped), abdominal percussion, external genitals and rectum, and the three glass method for the examination of the urine microscopically, macroscopically and chemically.

65. **Kidney Functions.**—Marshall concludes that the perversion of renal functions may have a physical, chemical or morphologic basis. Hence function, not microscopic appearances, should be recognized. Albuminuria and cylindruria may be present without nephritis and vice versa. Visceral symptoms and the physical characteristics of the urine are the principal aids in arriving at a functional diagnosis; and, finally, he considers it worse than absurd to send a specimen of urine to a urologist for diagnosis. All that the clinician can expect is a report of the findings, while the clinician, knowing the history and physical condition of the patient, must estimate the functional capacity of the kidney.

66. Abstracted in The Journal, Dec. 7, 1907, page 1946.

Western Medical Review, Omaha.

January.

71 *Treatment of Cholelithiasis. W. O. Bridges, Omaha.
72 Points Concerning Stomach Surgery. B. B. Davis, Omaha.
73 Puerperal Eclampsia. A. E. Mack, Omaha.
74 Id. F. A. Butler, Harvard, Neb.

71. **Cholelithiasis.**—Bridges discusses gallstones, particularly in reference to the question of surgical intervention. He does not agree with those who say that gallstones should be operated on when recognized, thus saving time, suffering and danger. He disclaims disparaging the most brilliant triumphs of gall-bladder surgery, but protests against the dictum that every patient with cholelithiasis should be operated on. He commends and reproduces Kehr's indications for gallstone operation, and criticises the surgeon who operates in a gallstone case and discharges his patient in two or three weeks as cured, without instructions or reference to his attendant physician for subsequent care and observation. In the medical treatment of gallstones so-called specific remedies are usually disappointing. Whatever good effects they may have are produced, not by dissolving calculi, but by relieving congestion and reducing infection and the tendency to bile stagnation. The salicylates occupy first place. He has seen no benefit from olive oil. His best results have come from salicylic acid 2 grains (0.13 grams); acid oleate of sodium, 1 grain (0.065 grams), and phenolphthalein, 1 grain (0.65 grams) in capsules, two after each morning and evening meal. In congestion with enlargement, marked duodenal catarrh, ammonium chlorid in 10 grain (0.65 gram) doses, twice or three times daily is recommended. The treatment outlined for the attack is recommended as a postoperative treatment.

Detroit Medical Journal.

January.

75 *Unsettled Questions in the Treatment of Hare-lip and Cleft Palate. T. A. McGraw, Detroit.
76 Action of Strychnin. W. J. Wilson, Jr., Detroit.
77 Diseases of the Rectum and Intestinal Tract, with Report of Cases. J. A. MacMillan, Detroit.

75. **Hare-lip and Cleft Palate.**—McGraw considers the time when operative measures should be undertaken, the kind of operation to be employed, the relative order and sequence when several operations are required, the causes of failure, the methods of anesthetization, the nature of the suture material, and the after-treatment. He weighs the arguments for and against in each case. In the milder uncomplicated cases of harelip operation may be done after the third week of life; in the severer cases, after the second or third month. When cleft palate is present the sequence of the various operations will have to be taken into consideration. When the cut surfaces are beveled in opposite directions the resulting scar will be less irregular than when cuts are made perpendicularly to the skin surface. Horsehair only should be used on the cutaneous surface, to avoid scar. Tension sutures, which are sometimes necessary, should have their entrance and exit in the mucous

membrane and pass through the entire thickness of the lip except only the integument; they may be tied over small lead or silver plates perforated for the purpose. The cutaneous wound should be exposed to air for several hours to permit escape of serum, then coated with collodion. Success depends on prevention of hemorrhage, and this is accomplished by operating slowly and attending at once to every bleeding point. The head should be lowered not only to prevent the swallowing of blood, but to make the surgeon aware of the extent of bleeding. The essential of after-treatment is rest, for which opiates should be given if necessary. McGraw thinks it unfortunate that the prevalent opinion of the medical profession, that clefts of the palate may not be closed until the child is several years of age, is so firmly fixed. There should be a determined effort to cure these children in infancy, and he feels confident that our methods may be so improved as to warrant very early operations if only we can attain to the necessary experience. He considers that the Brophy operation has come to stay. For suture material he approves of metallic sutures to relieve tension with fine sutures of iron-dyed silk to secure union of the cut edges. In the after-treatment he lays particular stress on the necessity of avoiding nervous disturbance in children of nervous temperament. No general rule can be adopted in regard to the indications of absolute rest, avoidance of sepsis, and comfort and good health of patient, because they are not always compatible among themselves. Frequent douching of the mouth and nostrils, for instance, while undoubtedly serviceable, is not always necessary and incidentally may do more harm than it does good directly.

United States Naval Medical Bulletin, Washington.

January.

78 *Preliminary Report on Gangosa and Allied Diseases in Guam. A. J. Geiger, U. S. Navy.
79 Hypertrophic Arthritis of the Spine. H. W. Smith, U. S. Navy.
80 Beriberi at the United States Naval Hospital, Norfolk, Va. O. J. Mink and R. C. Holcomb, U. S. Navy.
81 *Guha (epidemic bronchial asthma, Guam). F. E. McCullough, U. S. Navy.
82 Patients Burned in Accident on U. S. S. "*Georgia.*" W. H. Bucher, U. S. Navy.
83 Case of Psychical Aphonia. J. L. Belknap, U. S. Navy.
84 Case of Ruptured Kidney. E. Thompson, U. S. Navy.
85 Case of Dementia Præcox. S. H. Dickson, U. S. Navy.
86 Case of Abscess on the Diaphragmatic Pleura During an Attack of Malaria. B. F. Jenness, U. S. Navy.
87 Case of Hernia with Appendix Adherent to Sac. R. C. Holcomb, U. S. Navy.

78. **Gangosa.**—Geiger divides the ulcerations of the upper portion of the respiratory tract, which are common in Guam, into three groups: 1. Ulcerations that yield readily to antiseptic treatment. These are all due to ordinary pus organisms, principally the *Bacillus pyocyaneus.* 2. Ulcerations that yield slowly to antiseptic treatment. This group covers a large percentage of the cases and to it the term gangosa should be limited. He describes the mortality, staining properties, culture characteristics and pathogenesis of an organism found present in all active cases and believed to be the etiologic factor for the following reasons: (a) The organism has been found in every case examined in which the disease was still active. (b) In acute cases, in which the conjunctivæ are involved by extension of the disease, the organisms are generally found in pure culture in the conjunctival sac. If a case with extensive ulceration be treated for several days with antiseptics, a large portion of the ulcerating surface will present healthy granulations and begin to heal. Small areas, however, will often be found which continue actively ulcerating. In many instances bone destruction will be going on at these points. The organisms can invariably be found at these points until all active ulceration ceases. Healing sometimes proceeds over an ulcerating surface, leaving here and there a wart-like projection. After an interval of time this breaks down, leaving a very small ulcer. If just before it breaks down completely the surface is removed with antiseptic precautions the organism is found in pure culture in the pus thus obtained. Sections from these wart-like projections often reveal the organisms in groups just beneath the epithelium. The organism closely resembles the *Bacillus diphtheriæ*, from which it is doubtful if it can be distinguished. 3. Ulcerations that are only modified by antiseptic treatment. This group is characterized by the formation of distinct tubercles or nodules, which may involve the skin or mucous membrane of the nose, soft palate, pharynx, larynx, or lips. He describes an organism constantly associated with the disease and believed to be the etiologic factor. A consideration of this disease from all its aspects leaves no doubt that it is rhinoscleroma.

81. **Guha.**—McCullough gives further notes of the recent epidemic of a disease described by Freeman in the July number of the *Bulletin*, consisting of a septicemia epidemic, and characterized by hemorrhagic infarction of the lungs, intestinal ulceration, cloudy swelling of the parenchymatous organs, and enlargements of the mesenteric and mediastinal lymph nodes. The intial symptoms occur either in the lungs (pneumonic type) or intestinal tract (enteric type). In the primarily pneumonic type the enteric symptoms never become the more prominent, and vice versa. The course of the pneumonic type is sharply defined from bronchial asthma in the following respects: 1. The number of respirations is considerably increased. 2. There is continued fever. 3. The amount of expansion is not so disproportionate to the respiratory movements. 4. Inspiration is not so short and quick and expiration is not so prolonged. 5. The percussion note has not the same hyper-resonant quality. 6. Paroxysms subside gradually, never suddenly. The treatment is symptomatic.

Yale Medical Journal.

January.

88 Laryngeal Tuberculosis. F. S. Crossfield, Hartford, Conn.
89 *Toxic Amblyopia. E. M. Blake, New Haven, Conn.
90 *Diagnosis of Tumors of the Bladder. H. Binney, Boston.
91 Diagnosis and Treatment of Psoriasis. M. S. Bradley, Hartford, Conn.
92 Split Proteid in Infant Feeding. W. G. Murphy, Hartford, Conn.

89. **Toxic Amblyopia.**—According to Blake, quinin, methyl alcohol, lead, arsenic, stramonium, cannabis indica, coffee and other substances may produce toxic amblyopia, but he confines his paper to the effects of tobacco and alcohol, which are answerable for a large percentage of cases. He describes the ophthalmic conditions and the methods of induction of the disease. The condition is more common in those who use tobacco only than in those who use alcohol only; whence Blake regards tobacco as the more potent etiologic factor, though most persons affected use both. It has not been definitely proved that nicotin or some of its by-products and alcohol exert a specific action on the nervous structure, though it is a matter of reasonable induction. If the patient is seen before the pallor of the discs sets in (due first to anemia and later to atrophy of nerve) restoration of sight practically to normal may be expected. With an atrophic nerve the prognosis is less good, but better vision may be expected on withdrawal of the poison. Absolute blindness never results. Complete stoppage of tobacco and alcohol in mild cases suffices for a cure. Potassium iodid, with Turkish baths and regulation of diet, may aid elimination; the iodid may be continued as an alterative when improvements ceases. Strychnin in ascending doses may be used with great advantage. The use of the eyes for close work should be prohibited. Three cases are reported.

90. **Tumors of the Bladder.**—Binney says that in the adult the clinical picture of bladder tumors in an early stage resembles that of other bladder or kidney conditions so closely that an absolute differential diagnosis can not be made by ordinary methods. While unnecessary, and possibly harmful, in very advanced cases of cancerous infiltration, and less important in those rare cases in which large fragments of the tumor are passed, affording material for pathologic examination, cystoscopy should always be resorted to in early or suspected cases. By this means only can the presence of tumor be determined in many cases, while in those in which the evidence is more complete, not only is the clinical diagnosis confirmed in the most brilliant way, but data of the greatest importance as to prognosis and treatment are obtained.

American Journal of Surgery, New York.

February.

93 When Shall We Operate in Ulcer of the Stomach? F. Torek, New York.
94 Diagnosis of Malignant Tumors of the Bladder. L. Heitzmann, New York.
95 Traumata of the Kidney. W. B. Crawford, Savannah, Ga.

96 *Hemorrhoids and Their Treatment. M. Iverson, Stoughton, Wis.
97 Successful Treatment of Tuberculous Glands, Facial Acne, and Skin Cancer by the *x*-Ray. W. S. Lawrence, Memphis, Tenn.
98 Blood Examination in Surgical Diagnosis (to be continued). I. S. Wile, New York.
99 *Removal of the Whole or a Part of the Humerus. E. M. Sala, Davenport, Iowa.
100 Rupture of the Uterus, Escape of Fetus into Abdominal Cavity; Operation and Recovery. A. P. Hanie, Hartwell, Ga.

96. **Hemorrhoids.**—Iverson discusses the various methods of treatment and concludes that of the useful methods of operation on hemorrhoids the injection cure is unsurgical and a parallel to the "patent-medicine" man's "repeater," except if accompanied with a dilatation of the sphincters under full narcosis. If we use full narcosis and dilatation, we had better employ at the same time the most surgical procedure—the plainest—of cutting the piles away and sewing up the wounds.

99. Abstracted in THE JOURNAL, Jan. 25, 1908, p. 309.

Atlanta Journal-Record of Medicine.

January.

101 How to Prevent the Spread of Contagious Diseases. S. A. Visanska, Atlanta.
102 Typhoid. W. A. Mathews, Hawkinsville, Ga.
103 Strangulated Inguinal Hernia in Infant. J. E. Cannaday, Hansford, W. Va.
104 Perforating Ulcer of the Foot. M. G. Campbell, Atlanta.
105 Review of Modern Treatment of Gonorrhea. C. W. Canan, Orkney Springs, Va.
106 Medicinal Effects of Indian Spring Water on Typhoid Fever. A. F. White, Flovilla, Ga.

Ophthalmic Record, Chicago.

January.

107 Clinical Appearances and Treatment of Infection with Morax-Axenfeld Diplobacillus. F. C. Todd, Minneapolis.
108 Case of Belladonna Poisoning. W. Eberhardt, Michigan City, Ind.
109 A Knife Guard to Aid in Tarsal Subsection. A. E. Ewing, St. Louis.
110 The Eye and the Pelvis. C. P. Franklin, Philadelphia.
111 *Case of Ophthalmia Neonatorum Followed by Pyemia and Death. F. N. Lewis, New York.

111. **Fatal Ophthalmia Neonatorum.**—Lewis reports the case of a baby, in which both the father and the mother had acute gonorrhea at the time of its birth, and in which apparently the absorption of pus into the general circulation from the ocular conjunctiva took place, causing pyemia and subsequent death. The ophthalmia was treated in the usual manner at once, so that on the tenth day after admission both eyes were normal and the pathologist reported a negative result from examination of the ocular secretion. Nevertheless, abscesses over external malleolus, at the left elbow and in the wrists, were found, the pus from which showed gonococci. The child died three weeks after admission.

California State Journal of Medicine, San Francisco.

January.

112 *The Rat and His Parasites in the Spread of Disease, Especially Bubonic Plague. B. J. Lloyd, U. S. Public Health and Marine-Hospital Service.
113 Continuance of Plague in San Francisco. W. C. Hassler, San Francisco.
114 Amputation Below the Knee. A. M. Henderson, Sacramento.
115 Replacing of Bone and Cartilage of the Septum After Its Submucous Resection. E. C. Sewall, San Francisco.
116 Cases of Head Injury. O. D. Hamlin, Oakland.
117 Medicinal Treatment of Myocarditis. W. W. Kerr, San Francisco.
118 Treatment of Hip-Joint Disease. W. Le M. Wills, Los Angeles.
119 Indications of Cesarean Section. A. B. Spalding, San Francisco.
120 Filling of Bone Cavities. J. T. Watkins, San Francisco.
121 *New Plaster Compound for Permanent Surgical Dressing. R. Russ, San Francisco.

112. Owing to the importance of this subject at the present time an abstract of Lloyd's article is reproduced, although it was published in full in the *California State Journal of Medicine*, April, May and June, 1907.

121. This article appeared in THE JOURNAL, Feb. 22, 1908, p. 579.

Lancet-Clinic, Cincinnati.

February 22.

122 *When Should Gastric Ulcer Be Treated Surgically? M. R. Barker, Chicago.
123 Thorough Work in Operating on the Biliary Apparatus. A. C. Wiener, Chicago.
124 *Physicians and Publicity; a Study. E. S. McKee, Cincinnati.

122. Abstracted in THE JOURNAL, Oct. 26, 1907, p. 1467.

124. This article will be dealt with in the Department of Medical Economics.

Journal of the Kansas Medical Society, Columbus.

January.

125 *Success and Failure in Medical Organization. F. G. Carmichael.
126 Three Cases of Tetanus, One Case of Hydrophobia, One Case of Priapism. A. J. Best, Centralia.
127 Dysmenorrhea of Adolescence. P. J. Hendrickson, Columbus.
128 A Few Phases of Leucocytic Activity. B. B. Little, Manhattan.
129 Minor Surgery. R. C. Lowdermilk, Galena.

125. Abstracted in the Department of Medical Economics, THE JOURNAL, Feb. 29, 1908, p. 716.

Dominion Medical Monthly, Toronto.

February.

130 Posterior Occipital Presentations. J. R. McCabe, Strathroy, Ont.
131 The Modified Salicylate Treatment. W. Osenbach, Indianapolis, Ind.

Colorado Medicine, Denver.

February.

132 The Medical Society. C. Epler, Pueblo, Colo.
133 Physicians and Dispensing. J. F. Kearns, La Junta, Colo.
134 Heredity. E. Sturver, Fort Collins, Colo.
135 Case of Acute Melancholia. J. E. Courtney, Denver.

American Practitioner and News, Louisville.

February.

136 Surgical Treatment of Goiter. J. R. Wathen, Louisville.
137 Report of Library Committee of the Jefferson County Medical Society.
138 The Puerperal State. R. H. Ames, Waco, Texas.
139 Therapeutic Hints. N. Bowman, Philan, Texas.

Mississippi Medical Monthly, Vicksburg.

February.

140 When to Operate for Appendicitis. M. O. Shivers, Greenville.
141 Puerperal Convulsions. P. T. Rainey, Cascilla.

Journal of South Carolina Medical Association, Greenville.

January.

142 Value of the County Medical Society. T. G. Croft, Aiken.
143 General Anesthesia. E. W. Simons, Summerville.
144 Alkalometry. R. Ackerman, Walterboro.
145 Gonorrhea. J. Burke, Manitowoc, Wis.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

February 15.

1 *Ovarian Teratomata. S. G. Shattuck.
2 *Treatment of Tuberculosis by Different Kinds of Tuberculin. N. Raw.
3 *Case of Acute Poliomyelitis Associated with Diplococcal Infection of the Spinal Sac. W. Pasteur, A. G. R. Foulerton and H. MacCormac.
4 Therapeutic Uses of Normal Serum. E. C. Hort.
5 Plastic Bronchitis. S. West.
6 Artificial Air-Way for Use During Anesthetization. F. W. Hewitt.
7 Early Operation in Acute Appendicitis; Indications for Its Performance and Its Advantages. Southam.
8 Cavernous Nevus; Treatment by Metallic Magnesium. J. A. C. Macewen.
9 *Three Cases of Plague Treated by Yersin's Serum. A. C. Dixon.
10 Case of Septicemia Due to Pneumococcus; Death. J. Bell.

1. **Ovarian Teratomata.**—Shattuck describes an embryoma projecting into an ovarian cyst, in which the indications of a second fetus were unusually evident, and a series of ovarian teratomata showing the progressive disappearance of limbs from an amorphous trunk. He discusses the theories that attribute the origin of ovarian dermoids respectively to a relatively abortive and incomplete impregnation and to the impaction of a second individual that has started on its development simultaneously with its host, but has subsequently failed in its progress. He then suggests a theory of his own, that ovarian teratomata result from the fertilization of one of the primordial ova in the ovary of the embryo, so that the embryo gives rise to a second, imperfect individual whose origin is, therefore, not synchronous with, but of later date than, itself—the formation of one embryo within another—for which he suggests the name of "epiembryogenesis." He adduces arguments to show that this theory explains the frequency and particular location of embryomatous cysts of

the ovary, their multiplicity in the same ovary, and their occurrence in both ovaries of the same subject. The patient is, while yet an embryo, the mother of the teratoma. The father of the teratoma is the father of the patient. As regards the occurrence of such cysts in the testicle, this theory involves a hermaphroditic condition of the gland in which the cyst is formed, and the intra-embryonic fertilization of one of the ova. The rarity of the glandular hermaphroditism accords with the rarity of testicular teratoma. On any of the other theories advanced such cysts should be as frequent in the testicle as they are in the ovary.

2. **Tuberculin Treatment of Tuberculosis.**—Summing up his own views on the distribution of tubercle in the human body, Raw says, speaking provisionally and without any final evidence of proof, that (1) tubercle bacilli of the human type produce phthisis pulmonalis, ulceration of the intestines, and tuberculous laryngitis; and (2) tubercle bacilli of the bovine type produce tuberculous peritonitis, tuberculosis of the lymphatic glands, tuberculous joints, meningitis (probably), and lupus. He is of the opinion, also, that acute miliary tuberculosis is of bovine origin. Working on the hypothesis that the human body is attacked by two varieties of tubercle which may be present at the same time, and which, generally speaking, are antagonistic to each other, he has been occupied in trying to produce tuberculins for these different lesions. He concludes that Koch's tuberculin has little or no healing effect in phthisis pulmonalis, as was to be expected on his theory, since that tuberculin is produced from human tuberculosis. For this condition he has prepared a tuberculin from typical bovine tuberculosis (*perlsucht*) cultures, and finds that eighteen patients with pulmonary lesions treated with this bovine tuberculin are making rapid progress, though the time is yet too short to report definitely. On the other hand, he has been using with marvelous effect Koch's tuberculin in 104 cases of surgical, or bovine, tuberculosis. He describes his method of treatment and reports or summarizes his results in phthisis pulmonalis, tuberculous glands, lupus, tuberculous joints, peritonitis, meningitis, abscesses and sinuses. He advocates that the treatment be carried out by practitioners on patients at their own home. With proper precautions, he says, there is no risk.

3. **Acute Poliomyelitis.**—Pasteur, Foulerton and MacCormac report a case of non-fatal acute poliomyelitis, in which they were able to identify in the spinal fluid withdrawn during life, a micrococcus which produced, on injection into a series of rabbits, phenomena resembling the disease in the human subject. The same micro-organism was identified in the spinal fluid of the experimental animal, though they have been unable to obtain the micrococcus on culture in artificial media. They consider Geirsvold's discovery of a specific infectious disease, of which acute poliomyelitis is a frequent and prominent, though not essential, feature, substantiated by their case, which they think represents a sporadic instance of Geirsvold's epidemic disease. There is not sufficient reason for assuming that acute poliomyelitis is always the result of this particular diplococcus infection. The symptoms by which it is recognized in the human are the consequences of a constitutional alteration of certain cells of the central nervous system, which possibly may be caused by the toxins of other infected processes.

9. **Yersin's Serum in Plague.**—Dixon reports three cases treated (two successfully) with Yersin's serum, which seem to show that: 1, Unless the patient has a rigor after the injections he has not had a large enough dose; 2, the doses advised are not nearly large enough for severe cases; and 3, there is no ill effect from large intravenous injections of Yersin's serum.

British Medical Journal, London.

February 15.

11 *Chorea of Aggravated Type with Certain Unusual Phenomena. R. W. Philip.
12 Chronic Bronchitis. A. G. Auld.
13 Surgical Aspects of Subphrenic Abscess. H. L. Barnard.
14 Existence in India of an Acute Tuberculous Fever Which Has Been Confused with Continuous and Remittent Fevers. J. R. Roberts and R. S. P. R. Bhandarkar.
15 Spread and Prevention of Tuberculous Disease in Pondoland, South Africa. J. G. Millar.
16 *Prevention of Tuberculosis; a Suggestion. A. R. Gunn.
17 *Treatment of Epidemic Cerebrospinal Fever by Intraspinal Injections of Flexner and Jobling's Antimeningitis Serum. A. G. Robb.
18 *Calmette's Ocular Reaction for Tuberculosis. F. P. Weber.
19 Phthisis Treated by Bovine Tuberculin. A. Cuffe.

11. **Fatal Chorea.**—Philip reports a case of aggravated chorea, or chorea gravis, in a young man, aged 18. The clinical picture might be described as one of muscular insanity (*folie musculaire*). The motor contortions were universal and most disorderly. The facial muscles gave most contradictory manifestations, from the broad grin of good nature to the ferocious look of uncontrolled anger. Interest, pleasure, excitement, vexation, distress, resentment, hate, were all rapidly reproduced from moment to moment, more quickly than the lightning sketches of the music hall artist. Every possible deviation of the eyeballs occurred, but the most remarkable symptom was one apparently not before noted in connection with chorea, namely, that of hippus—the alternate rapid dilatation and contraction of the pupils. The case is unusual, in that such cases usually occur between five and fifteen years, and when occurring later are mostly in girls. Moreover, no family history of either rheumatism or neuropathy was traceable. Beyond an emotional condition there was no factor of significance in the personal history. Philip discusses the diagnosis of chorea minor, major and gravis, and briefly describes the medieval St. Vitus' dance. He considers the causation, prognosis and treatment of chorea.

16. **Prevention of Tuberculosis.**—Gunn found a suggestion on a fact first pointed out by Archdall Reid, that in every population certain members are to be found who possess an inborn degree of immunity against tuberculosis. Assuming the identity of bovine and human tuberculosis, it is to be expected that among cattle also there will be found certain immune individuals. His proposal, in brief, is to breed from these immune individuals a strain which will remain absolutely free from the disease. He endeavors to show the practicability of this.

17. **Serum Treatment of Cerebrospinal Meningitis.**—Robb gives his experience at Belfast with Flexner and Jobling's antimeningitis serum in the epidemic of cerebrospinal meningitis. Prior to the end of August, 1907, 275 patients were admitted to the fever hospital, 199 of whom died, a case mortality of 72 per cent. Every patient admitted since then has been treated with Flexner and Jobling's serum intraspinally, with the following results: Thirty-two cases with 22 recoveries, 8 deaths and 2 patients still under treatment, of which it is expected that at least one will recover. The results are tabulated. Robb describes the method of injection and the doses, and, while avoiding any premature expression from so small a number of cases, he nevertheless feels justified in putting them on record.

18. **Tuberculin Ocular Reaction.**—Weber refers to the control effects of the ocular tuberculin reaction when sought for in non-tuberculous persons. He suggests that it would be better to test the reaction on apparently healthy persons who have to irritate their eyes by sitting up late reading by artificial light. In five healthy doctors who made this experiment on themselves, a positive result was obtained in each case, and in three it was very violent. He thinks these results worth recording, however exceptional they may turn out to be, as he believes that there has been a tendency unduly to magnify the reaction as a diagnostic test of tuberculosis.

Clinical Journal, London.

February 12.

20 *Colibacilluria. H. B. Shaw.
21 Case of Fatal Acute Illness in a Child from Status Lymphaticus. S. Phillips.
22 Ferments as Intestinal Antiseptics. A. S. Gubb.

20. **Colibacilluria.**—Shaw discusses this subject very exhaustively as regards its origin, the antagonism between harmless and pathogenic bacteria in the human economy, the nomenclature, and the biochemical and toxic characters of the colon bacillus in relation to colibacilluria. He brings forward

evidence to show that infection of the urinary tract, and more especially infection by the colon bacillus, is capable of producing or being associated with the similitudes of malaria, dysentery or mucous colitis, recurrent cystitis of unknown cause, enuresis, pyuria of unexplainable cause, "gout" or "goutiness" or "rheumatism," general tuberculosis or genital tuberculosis, dyspepsia (duodenal ulcer?), acute suppression of urine. Other cases could be quoted in which the symptoms and signs were simulative of different forms of disease, such as typhoid fever and pernicious anemia. The importance of the infection is hardly sufficiently recognized, except when pus is present in quantity. The presence of obstruction to the urinary outflow increases the gravity of the condition. Many persons harbor pathogenic organisms in the urinary tract without displaying any symptoms unless and until the defenses of the body break down. Moreover, the same organisms will produce varying results according to the resisting power of the individual. All causes that lead to imperfect flushing of the urinary tract greatly increase the dangers of infection. Instrumentation is the most common source of their introduction from without. They may, however, reach the urinary tract in the process of their excretion. Any injury to the rectum admits the colon bacillus to the submucous tissue. The first sign is usually a whitish urinary deposit in which the microscope shows pathogenic organisms. The character of the urine is extremely offensive, often apparently ammoniacal, though reaction shows it to be acid. He divides the symptoms into those mainly characterized by fever of apparently unexplained origin, gastrointestinal, and cerebral. The best remedy in cases independent of instrumental interference is to leave them alone unless symptoms call for palliation. When dependent on infection of the bladder alone daily lavage of the bladder with silver nitrate solution, 1 in 1.000 or 2.000. may prove advantageous. The urinary antiseptics and disinfectants he considers disappointing.

Medical Chronicle, Manchester.

February.

23 *Hallucinations. R. G. Rows.
24 *Hyperpiesis as Compensatory of Increased Peripheral Resistance. R. F. V. Hodge.

23. **Hallucinations.**—Rows discusses, in an attractive and easily comprehensible manner, the subject of illusions and hallucinations. With regard to the storage of images in the brain, whether in a special center of representation or in the cells by which they are primarily received, he agrees with those who adopt the latter view. He lays particular stress on the fact that under present conditions the neurologist rarely sees his patients until the hallucinations have become more or less fixed. There is almost always a preliminary period during which such hallucinations are recognizable by the patient as such, and Rows thinks that if it were possible to take these patients in hand in the earliest stages of the illness, it would be possible in many instances to ward off the evil.

24. **Hyperpiesis.**—Hodge discusses, with illustrative cases, the elevation of blood pressure, and arrives at the following conclusions: Hyperpiesis is due to increased peripheral resistance. The possible causes of increased peripheral resistance are (a) arteriolar spasm; (b) changes in the vessel walls; (c) increased viscosity of the blood. Clinically, cases of hyperpiesis may be divided into temporary and persistent. In temporary hyperpiesis the increased resistance is due to arteriolar spasm. It serves no useful purpose, and can not be regarded as being in any way compensatory. With persistent hyperpiesis definite organic lesions of either the arteries or the kidneys are present. In cases of arteriorenal sclerosis a limited reduction of pressure only is obtained by antispasmodic treatment. From this we conclude that there is some other cause of increased resistance present besides spasm of the arterioles. The presence of arteriosclerosis in all cases suggests the probability of vascular changes being the cause sought for. In chronic parenchymatous nephritis the reaction to treatment varies. In one case, when uremic symptoms were present, a limited reduction was obtained. In two cases without uremic symptoms, neither patient showed any reaction to antispasmodic treatment; in one, however, the pressure fell to normal after the relief of edema by incision of the legs. In chronic parenchymatous nephritis, as in arteriorenal sclerosis, spasm of the arterioles can account for at most but a small proportion of the increased pressure. The most important factor in the increased pressure is increased viscosity of the blood. In cases of persistent hyperpiesis we are not able to remove the cause of increased resistance. We must, therefore, have a compensatory increase of blood pressure.

Journal of Laryngology, Rhinology and Otology, London.

February.

25 *Pathology and Therapy of Submucous Inflammation of the Larynx. J. Sendziak.

25. **Submucous Inflammation of the Larynx.**—Sendziak has noted 108 cases of this disorder in 21,000 patients, about 5 per cent. of the whole. He considers this process much more frequent than is commonly observed, and believes that examination of the larynx in every case of peritonsillar abscess would discover a secondary edema of the larynx, and also that acute edema of the subglottic region would be found, if looked for, in many cases of so-called primary laryngeal croup. He divides inflammatory edema of the larynx into: 1. Primary (A) simple—(a) thermal, (b) chemical, (c) mechanical; (B) infectious. 2. Secondary: (a) as a consequence of general infection, (b) primarily, and (c) by extension. He discusses these conditions. Treatment is general and local. The first is chiefly prophylactic; laxative drugs and salicylate preparations with tonics are indicated when the disease is present. He does not consider antistreptococcic serum of much use. He advises ice internally and externally, fluid and cold foods. Vesicants and leeches to the neck may be used to advantage. Incision of the swelling is successful in most cases, though some advocate tracheotomy, others intubation. Bier's method has been applied with success in cases of acute submucous laryngitis or phlegmon of the pharynx and larynx.

Presse Médicale, Paris.

February 8, XVI, No. 12, pp. 89-96.

26 Infantile Splenic Infection with Leishman-Donovan Bodies. Its Relations with Kala-azar and Infantile Splenic Anemia. C. Nicolle and E. Cassuto. (Tunis.)
27 Cancer and the Roentgen Rays. Mally.

Semaine Médicale, Paris.

February 5, XXVIII, No. 6, pp. 61-72.

28 *Cystic Epithelioma of the Ovary. Lejars.
29 *Danish Law in Regard to Destruction of Rats.

February 12, No. 7, pp. 73-84.

30 How Long Shall Patients Be Kept in Bed After Laparotomies? (Le traitement ambulatoire des opérés de laparotomie.) R. de Bovis.

28. **Ovarian Cystic Epithelioma.**—Lejars reports two cases with illustrations of the specimens after removal. The possibility of a cystic epithelioma should never be forgotten in examining a patient with an ovarian tumor, even a young woman, free from any general signs of malignant disease. Extensive ablation of such tumors, if still movable and if the peritoneum is not involved, is almost always followed by permanent recovery. In several cases described, the growth did not attract attention until a sudden sharp pain in the epigastrium, radiating through the abdomen, gave the alarm. The pain subsided promptly, but recurred later, growing constantly worse, with greenish vomiting and hiccough, alternating with intervals of peace, the syndrome suggesting appendicitis or a gallstone affection. The patients were between 20 and 40 years old.

29. **Danish Law in Regard to Destruction of Rats.**—This editorial states that the Scandinavian countries take the lead in systematic efforts for the extermination of rats. They regard the rat as a factor in the dissemination of trichina, etc., as well as of plague. Recent research has shown that the flesh or excrements of rats infected with trichina, mixed with food given to pigs, transmitted the trichinosis to the pigs. The island of Deget was free from rats until 1905, when two lads bought on the mainland, from some vagrants, a couple of white rats peculiarly spotted with yellow and black. These

rats escaped and their parti-colored progeny in the course of these two years have invaded the entire island and killed every bird on it. The Danish law is the first that provides for systematic destruction of rats throughout an entire country, with a bounty for each rat caught. The law has been in operation since last July. The text is given in full. At first only the children brought in the rats, but numbers of adults are now engaged in the work and bring in from forty to fifty rats at a time. Arrangements are made in each community for the reception of the rats, generally at the fire engine stations; in small places a tank wagon makes the rounds to receive the dead rats. Severe penalties are imposed for breeding or importing rats and for taking them from one community to another. The rats are trapped generally with some home-made device, such as a heavy door, sheet of metal or the like, with bricks on top, the whole resting on one end, but held up at the other end by a little stick to which a string is tied. The least pull on the stick brings down the heavy door and crushes the trapped rats, while the hunter can superintend several such traps at once. It is said that the number of rats brought in is increasing every week. The bounty on each rat is from 5 to 10 öres—approximately from 1 to 3 cents—and each community is to set aside from its treasury an annual sum for the purpose, amounting to at least 84 cents for each hundred inhabitants. The national treasury also appropriates about $6,000 annually for the purpose, one-third of this sum being devoted to scientific experiments at the agricultural and veterinary schools aiming at destruction of rats, and the balance to be spent for poisons, etc., and to supply such to societies working to exterminate rats. A national society for destruction of rats has been at work for some years in Denmark. Copenhagen is also the seat of the "International Association for the Rational Destruction of Rats." M. Emil Zuschlag, a leading lawyer, is the president of the latter.

Archiv für Gynäkologie, Berlin.

LXXXIV, No. 2, pp. 289-538. Last indexed, February 1, p. 407.

31 *Duration of Gestation and Retrospective Determination of Date of Conception. (Wann tritt die Geburt ein?) F. Schatz.
32 *Ultimate Results of Treatment of Genital and Peritoneal Tuberculosis in the Female. K. Baisch.
33 *Extrauterine Pregnancy. (Extrauterinschwangerschaft.) Y. Iwase.
34 Histology of the Ovarian Vessels at Different Ages with Special Regard to Menstruation and Ovulation Sclerosis. (Histologie der Ovarialgefässe.) M. Sohma.
35 Two Cases of Angioma of the Placenta. R. Schindler.
36 *Thrombosis and Embolism After Gynecologic Operations. E. Zurhelle.
37 Cysts in Retrogressive Corpus Luteum. (Corpus albicans-cyste.) F. Koebner.

31. **Duration of Pregnancy.**—Schatz continues his previous studies of this subject, especially the determination beforehand of the date of delivery and retrospective determination of the date of conception. In German medicolegal circles, a range of from 181 to 302 days is allowed, but he thinks that from 260 to 280 days is the normal range, and gives a number of arguments in favor of accepting 273 days as the normal duration of a pregnancy. This is just 39 weeks, 9 calendar months, and 10 menstrual periods (27.3 days), or three-quarters of a year, corresponding also to other periodical features of physiologic life, as he explains.

32. **Ultimate Results of Treatment of Genital and Peritoneal Tuberculosis.**—Baisch reports the ultimate outcome in 110 cases of tuberculous processes in the female genitalia or peritoneum treated at Döderlein's clinic at Tübingen. The mortality was 36 per cent., 40 of the patients having died at once or in the course of the first four years after operative treatment. The others are in good health to date. In 38 cases of tuberculous peritonitis with ascites, 34 of the patients were operated on and 15 are in good health from 4 to 9 years afterward, and 9 after an interval of from 6 months to 3 years. The best results were attained with patients free from fever and without severe tuberculous processes elsewhere, in fair general condition. It is doubtful whether or not internal treatment can show as good a record as two-thirds cured. In 11 cases the ascites was evacuated by an incision in the posterior vagina, but the proportion of patients with fever afterward was much higher than after abdominal section. In 22 cases of tuberculous peritonitis without effusion, 11 patients were treated expectantly; 8 of the 11 patients operated on are in good health years afterward. The operation was merely incision and immediate suture of the abdomen. One patient succumbed to the effects of a fecal fistula resulting from attempts to loosen adhesions. In 2 other cases a fecal fistula dragged along with fever for months, but the patients finally recovered completely. These latter cases demonstrate, he thinks, that these patients recovered not on account of the operation, but in spite of it. In another case the peritoneum was found covered with tubercles, and the intestines were immovably soldered together with the uterus and adnexa. At the sight of these conditions the abdomen was sutured at once without further interference, and the patient, a woman of 33, gradually regained complete health. The abdomen is normal, without tenderness anywhere or signs of trouble, except a small non-sensitive tumor to the right of the uterus. The long bed rest and careful nursing in the clinic may have contributed to the complete recovery as much as the operation. In 45 cases of tuberculous processes in the adnexa, 13 patients were in too advanced stages for operative treatment, and 8 died, but 23 of the 32 patients operated on are in good health after from 2 to 8 years. In 6 cases a tumor has developed again on the tubes, and he urges that these teach that the tendency to healing is exceptionally slight in the tubes, and that they should both be removed as a routine measure in case of a tuberculous process, but he advocates leaving at least one ovary in patients under 30. His experience indicates that the power of conception is entirely lost by tuberculosis of either peritoneum or genitals, and consequently this simplifies the indications for treatment.

33. **Ectopic Pregnancy.**—Iwase reports 38 cases of tubal pregnancy observed at Tokyo, the age of the patients ranging from 24 to 39. His experience seems to show some connection between operations to correct displacements of the uterus and ectopic pregnancy later, and also between miscarriages and extrauterine pregnancy.

36. **Thrombosis and Embolism After Gynecologic Operations.**—Zurhelle writes from Fritsch's clinic at Bonn to emphasize the necessity for greater regard for the natural functions in the after-treatment of gynecologic operations. It should aim not to allow the heart action to grow weak even for a single moment. Nothing should be omitted that can stimulate the heart action directly or indirectly. The patient should not lie on her back for any length of time, and the upper part of the trunk should be raised to allow the lungs to act more freely. Ten or twenty deep breaths should be taken every half hour by the clock; the arms and limbs should be moved frequently, and the intestinal functions started early after the operation. Fluids by the mouth or rectum or subcutaneously reduce the tendency to thrombosis. The more anemic the patient or the weaker the heart, the higher the foot of the bed should be raised. He gives in tabulated form the details of the 34 cases in which thrombosis occurred, fatal in 15 cases. Thrombosis with consequent pulmonary embolism was observed in 19. The percentage was much higher after operations for myoma, being 3.75 per cent. of 372 abdominal and 2.6 per cent. in 154 vaginal myoma operations, with 3.5 per cent. in 57 cancer operations, while it was only 0.7 per cent. in 714 operations on the adnexa and much less than this in the hundreds of other gynecologic operations. Only 40 per cent. of all the women with thrombosis were working women—the necessity for keeping at work does not allow the heart and vessels to get into such a debilitated condition as in the more well-to-do patients, who are able to "take care of themselves" when their health is suffering, and thus get into a condition of defective circulation, defective nourishment of the muscles, relaxation of the walls of the vessels, etc. This vital depression is augmented by worry over the impending operation, while working women have no time for such depressing thoughts. He discusses the effect of the anesthetic on the heart, as also the mechanical effect of pressure on the heart when the pelvis is raised; the

symptoms of thrombosis of the veins in the pelvis and of the femoral and saphenous veins; the necessity for measuring the circumference of the leg on suspicion of thrombosis—the larger diameter of the left leg suggesting thrombosis, as the right leg is usually the larger—extreme weakness and fainting as the patient gets up from bed as a sign of thrombosis; the necessity for refraining from the slightest movement in case of thrombosis, and the indications for stimulating the heart and keeping the bowels moving freely.

Deutsches Archiv für klinische Medizin, Leipzig.

January, XCII, Nos. 3-4, pp. 199-382. Last indexed, Jan. 25, p. 322.

38 Behavior of Proteolytic Leucocyte Ferment and Its Antiferment in the Normal and Morbid Secretions of the Human Body. (Zweite Mitteilung mit Beiträgen zur Physiologie und Pathologie der Verdauung, insbesondere zur Pankreassekretion.) E. Müller.
39 *Excess of Sugar in Blood During Fever. (Hyperglykämie bei Fieber.) A. Hollinger.
40 Influence of Fatiguing Muscular Labor on the Proportion of Sugar in the Blood. (Einfluss ermüdender Muskelarbeit auf den Blutzuckergehalt.) W. Weiland.
41 *Action of Formaldehyd on Diabetic Urine. (Einwirkung von Formaldehyd auf diabetischen Urin.) L. Michaud.
42 *Chronic Liver Affections with Acquired Syphilis. (Erfahrungen über die chronischen Erkrankungsformen der Leber bei der erworbenen Syphilis.) W. Ebstein.
43 Study of the Pathology of the Pulmonary Circulation. (Untersuchungen über die Atmung bei Herzkrankheiten.) V. Rubow.
44 Clinical Experiences with Intravenous Administration of Strophanthin. F. Lust.
45 Balance of Water in the Blood. (Wasserbilanz des Blutes.) A. Plehn.
46 Distribution of Leucocytes in the Blood. (Verteilung der Leukocyten in der Blutbahn.) Schwenkenbecher and Siegel.
47 *Apparatus for Graphic Registration of the Heart Sounds. (Objektive Aufzeichnung der Schallerscheinungen des Herzens.) E. Roos.
48 Histogenesis of Myeloid Transformation in Leukemia and Anemia. (Ueber die ungranulierten Vorstufen der Myelocyten und ihre Bildung in Milz, Leber und Lymphdrüsen.) E. E. Butterfield.

39. **Excessive Proportion of Sugar in Blood During Fever.**—Hollinger found abnormally large proportions of sugar in the blood in thirteen cases of pneumonia and also in a dozen cases of other febrile affections, the proportion returning to normal as the fever subsided. The increase in the proportion of sugar and the rise in the temperature did not parallel each other, although the highest figures for each coincided in a case of fatal chronic sepsis.

41. **Action of Formaldehyd on Diabetic Urine.**—Michaud relates clinical experiences and tests which show that errors are liable when diabetic urine is treated with formaldehyd to preserve it for examination, especially when it is desired to test for acetone.

42. **Chronic Syphilitic Affections of the Liver.**—Ebstein gives the details of six cases to emphasize the importance of prompt recognition of the underlying infection. In three cases the liver affection subsided under antisyphilitic treatment. In the first, the syphilis acquired at 25 had induced cirrhosis of the liver, the first manifestations being noted three years after infection. Pains radiated from the liver to the right shoulder, and there was much ascites. The patient, a man of 33, had suffered from malaria, with frequent recurrences after the first attack at 23. Under symptomatic measures and potassium iodid he recovered complete health, which has persisted during the nearly twenty years since. The abdomen was tapped eight times in the course of forty-seven days, and Ebstein regards this repeated puncture as an important prophylactic measure against the development of tuberculous peritonitis which is so frequent an accompaniment of cirrhosis of the liver. It was noted in two out of his six cases. The preceding malarial infection may have predisposed the liver to cirrhosis in this case. Another patient, a man of 27, had acquired syphilis three years before. The disease ran its usual course, until pains in the liver region were noticed. The right lobe was enlarged, tender and apparently fluctuating. Under potassium iodid all symptoms vanished and the enlarged lobe grew smaller than normal with a deep depression in it, possibly a cicatrix. The cure has been permanent during seventeen years. The third case was similar; a man of 40 had acquired syphilis fourteen years before, with symptoms on the part of liver and spleen during the last seven years. A cirrhotic fat liver was diagnosed at first, and then, on account of the sensation of fluctuation, a hydatid cyst was assumed, but tentative potassium iodid treatment banished the symptoms. There could not have been actual fluctuation in these cases, but the pseudofluctuation was useful in differentiating the syphilitic character of the affection. It is a somewhat rare symptom and occurs only during certain stages of gumma in the liver—the history of syphilis in the antecedents helped to interpret correctly the tendency to fluctuation in these cases. In two other cases the patients were hard drinkers, and the cirrhosis of the liver was accompanied by heart or kidney disease, soon fatal. In the sixth case a man of 32 had severe jaundice for five months, and succumbed to hemorrhage from a tumor in the liver—actual liver apoplexy, probably the result of syphilitic changes in the blood vessels. The blood from the hemorrhage found its way into the intestines through the biliary passages, causing colic pains. The tumor was probably a gumma, although the patient scouted the idea of venereal infection. Ebstein makes it a practice to give potassium iodid in every case of cirrhosis of the liver, believing that alcoholism and syphilis are frequently associated, and he always examines for syphilitic lesions, especially in the testicles. Specific treatment may not always be needed, but it is better to err on this side.

47. **Graphic Registration of Heart Sounds.**—Roos gives an illustrated description of Marbe's apparatus for recording the heart sounds by means of the movements of a flame connected with a drum covered with a very thin rubber membrane placed on the body. The flame used is from acetylene gas and is very smoky, so that the flame writes its own record on the moving strip of paper by the changes in the appearance of the strip of soot. A second flame serves for time control. Roos gives tracings of the findings in a few of the twenty-three patients tested by this method. The findings correspond with the audible heart sounds, and sometimes record them when the ear is unable to detect them. The tracings also allow the heart sounds to be separated into their various factors and may reveal other features of the heart action which escape other methods of research.

Deutsche medizinische Wochenschrift, Berlin.

February 6, XXXIV, No. 6, pp. 225-264.

49 Management of Umbilical Cord. (Abnabelung, Nabelverband und Behandlung des Nabelschnurrestes.) F. Ahlfeld.
50 Pyocyanase in Treatment of Diphtheria. R. Mühsam.
51 Atoxyl in Syphilis. B. Spiethoff.
52 *Injection Therapy in Neuralgias. E. Schlesinger.
53 Diverticulum in Ureter and Hydronephrosis. A. Schönwerth.
54 *Suction Treatment of Puerperal Mastitis. (Behandlung der Mastitis mit Saugapparaten.) Zangemeister.
55 *Constriction Hyperemia in Treatment of Burns. (Anwendung der Stauung bei Verbrennungen.) Ritter.

52. **Injection of Chilled Salt Solution in Neuralgia.**—Schlesinger has applied the anesthetic action of extreme cold in treatment of neuralgia by injecting a suitable amount of physiologic salt solution at the desired point after the fluid has been chilled to freezing point—salt solution does not freeze until a little below freezing point. He has thus treated 42 patients with sciatica, making a total of 51 injections. The pain vanishes instantaneously and the cure is generally permanent, although second and third injections were required in a few cases. He injects the fluid at the most painful point, which does not always correspond to the nerve, suggesting that possibly in chronic cases the pain is the result of contracture of the muscles or traction on the periosteum. The effect of the injection is probably mechanical, lifting and loosening the tissues. He describes several acute cases in which the intense pain was relieved at once by a single injection of 10 c.c. of the chilled mixture. In other cases a second or third injection was required. In two of the chronic cases the sciatica had developed in the course of diabetes. The patients have been free from all pain during the months since the single injection. Gouty antecedents were noted in 70 per cent. of all his cases of sciatica, and some of the patients had somatic manifestations of the gouty tendency. He thinks that this suggests the necessity for supervision of the diet in case of sciatica. One patient was a young woman who had suffered for eight months from right supraorbital neuralgia. After intracutaneous injection of 2 c.c. of the chilled salt solution

the pain was banished and has not recurred during the three months since. In a case of intercostal neuralgia, with a suspicion of aneurism in a man of 57, and in one of obstinate coccygodynia in a woman of 49, remissions of the pain for several days were attained with the Schleich technic, using the chilled solution and making about seven blisters. He has also had favorable experiences with the chilled injections in the girdle pains and gastric crises of tabes, but, he says, "that is another story."

54. **Suction Treatment of Mastitis.**—Zangemeister reports his experience with fifty patients with acute mastitis developing within two weeks after childbirth and treated by various measures. In thirty-three cases Bier suction glasses were applied. The results were bad, the suction seeming to increase the tendency to suppuration and lengthen the course of the affection. He, therefore, warns most decidedly against suction technic in the first stage of puerperal mastitis. On the other hand, the effect was most excellent when the affection had progressed to the stage of abscess formation. Very small incisions sufficed then to complete the cure under suction treatment.

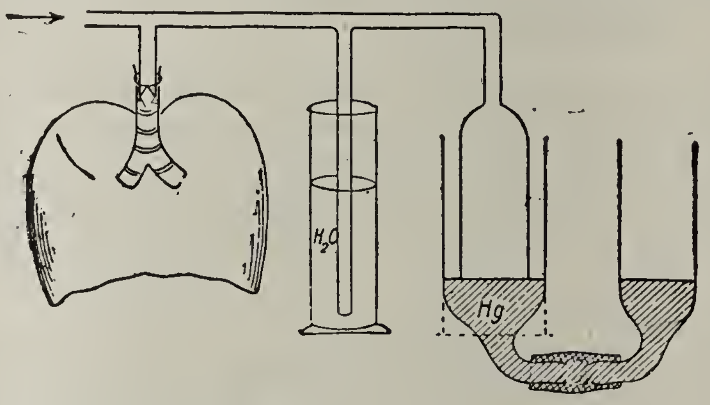
55. **Constriction Hyperemia in Treatment of Burns.**—Ritter confirms the prompt relief of pain and the promotion of healing by application of Bier's constriction hyperemia in treatment of local burns. It is extremely important, however, that the application of the constricting band must be brief. Further experience is necessary before this technic can be recommended for general burns. It may prove harmful. Too long application, even for a small burn, results in scars filled with blood to an excessive extent. The constriction hyperemia relieves the pain in a local burn, as also in case of a frozen member and the most painful form of gangrene. In case of freezing the measure enables the blood to be driven to the anemic frozen part and held there. With a burn the part is not anemic and the indications are different.

Münchener medizinische Wochenschrift.

February 4, LV, No. 5, pp. 209-264.

56 *Artificial Respiration by Mere Ventilation of the Trachea and Apparatus for Automatic Rhythmic Artificial Respiration. (Vorrichtung zur rhytmischen künstlichen Atmung.) F. Volhard (Dortmund).
57 *Diagnostic Cutaneous Reaction After Rubbing with Tuberculin Salve. E. Moro.
58 *Experiments with von Pirquet's Cutaneous Tuberculin Reaction in Adults. F. Junker.
59 *Yeast in Treatment of Vaginal Inflammation. (Hefetherapie bei der Kolpitis.) E. Kehrer.
60 *Yawning. (Das Gähnen.) R. Geigel.
61 Action of Tropacocain Spinal Anesthesia on the Kidneys. (Einwirkung der Tropakokain-Lumbalanästhesie auf die Nieren.) Hartleib.
62 Antitoxin Treatment in Two Cases of Tetanus After Gynecologic Operations. P. Zacharias.
63 Tetanus After Subcutaneous Injection of Gelatin. Use of Gelatin in Case of Hemorrhage. A. Heddaeus.
64 Primary Acute Osteomyelitis of the Ribs. L. Fiedler.
65 *To Aid in the Fight Against Tuberculosis.. (Zur Bekämpfung der Tuberkulose.) F. Jessen.
66 *The "Dumb Nurse" Table for Instruments. (Neuer Instrumententisch mit trapezförmiger Platte.) Geissler (Neu-Ruppin).
67 Orthopedics as a Specialty and Its Limitations. O. Vulpius.

56. **Apparatus for Automatic Rhythmic Artificial Respiration by Ventilation of Trachea.**—Volhard found that dogs under the influence of curare to such an extent that respiration was entirely suspended could be kept alive for an hour or so, without any active or passive respiratory movements, merely by passing a current of oxygen into the trachea, allowing it to escape outside of the tube. The tissues absorbed the oxygen with such avidity that the blood remained the normal bright red. Notwithstanding this the animals all died by the end of the second hour; as there was no means of getting rid of the accumulating carbon dioxid, they succumbed to the effects of carbon dioxid poisoning of the vagus center. He has devised an apparatus for automatic rhythmic flushing of the air passages with oxygen and has found it extremely effectual on animals and also in a clinical case, in which the patient was kept alive for nine hours by this means after three hours of manual measures for artificial respiration, normal respiration having stopped during the course of an attempt to remove what proved to be an inoperable brain tumor. The apparatus worked so perfectly in this case for the nine hours before the patient succumbed to his brain trouble that this principle of automatic rhythmic ventilation of the lungs seems destined to prove of invaluable service in tiding patients past dangerous crises. His apparatus consists of a T tube introduced into the trachea, one arm connected with the oxygen tank and the other with a cylinder resting in a jar containing mercury up to a certain height; this jar is connected by a wide rubber tube with a second similar mercury jar. Between the trachea and first mercury jar a water manometer is interposed on the connecting tube. The single or two-way tube introduced into the trachea carries a small inflatable rubber bag to close the passage airtight. Another arrangement has only one mercury jar, but the cylinder resting in this jar fits into a similar but larger cylinder reversed—two lamp chimneys answer the purpose admirably, one larger than the other. The afferent tube has a stopcock or clamp to regulate the supply of oxygen. The weak current of oxygen enters the trachea, ventilates the air passages and passes out through the efferent tube into the cylinder. When the resistance offered by the mercury in the jar is overcome by the pressure from the oxygen, a bubble of air escapes through the mercury. This induces a comparative vacuum and the lung collapses. The inflowing oxygen soon distends the lung again, and so the process goes on at rhythmic intervals. A mere drizzling of oxygen on the trachea seems to be enough to supply the body with sufficient oxygen to keep the blood bright red and thus avert the gravest danger of immediate suffocation from lack of oxygen. It enables time to be gained and avoids the necessity for the painful manual maneuvers for artificial respiration. In one case in his experience years ago a patient with acute poliomyelitis required incessant artificial respiration by rhythmic compression of the chest for fourteen days, night and day, and he has had patients with acute ascending spinal paralysis in which manual artificial respiration proved the only means of saving them from suffocation. In such cases, and also in apparent death from electric shock, opium poisoning, etc., he thinks that this simple and easily improvised apparatus will much facilitate the task of resuscitation.



57-58. **Differential Cutaneous Reaction to Tuberculin Salve.**—Moro says that the von Pirquet technic is not necessary to induce a differentiating reaction. A specific reaction can be obtained by merely rubbing a tuberculin salve into the skin of the abdomen, just below the manubrium, for one minute or half a minute. The salve is made of equal parts of old tuberculin and lanolin, and keeps for months in a cold place. In case of scrofula, surgical tuberculosis or other forms of tuberculosis, a nodular papulous efflorescence develops in a few hours or within two days on the anointed spot, with or without itching. It subsides in the course of a few days and, even after a severe reaction, no trace is left except a brownish pigmentation by the end of two weeks. This test was applied in eighty-nine cases and proved strictly specific. In every case in which there was a positive reaction other tests also elicited a positive response. The advantages of this "percutaneous" technic, as he calls it, are obvious, chief among them being its absolute harmlessness. Junker reports experiences with the von Pirquet and ocular technics applied in 180 cases. With a single exception every patient with certain tuberculosis gave a positive and every patient manifestly free from tuberculosis a negative response. He mentions that months afterward a subcutaneous injection of tuberculin caused a renewed reactive process in the conjunctiva and at the point of the cutaneous inoculation, showing that a durable deposit of toxin resulted from the application of the tests.

59. **Yeast in Treatment of Inflammation in the Vagina.**—Kehrer reviews the history of the therapeutic application of yeast, which dates from Hippocrates' day, and relates extensive clinical experience with it in his own practice. The best results were attained in acute gonorrheal inflammation, benefit being apparent in three or four days. In the chronic form, if no improvement is apparent in three or four days, he resorts to other measures. He prefers preparations of yeast which contain no living yeast cells, as their by-effects can not always be anticipated, and he warns against applying the yeast to the cervix or uterus—the application should be restricted to the vagina alone. When used in acute vaginal gonorrhea it is a prophylactic against ascending infection, but in case of existing chronic suppurative endometritis it is important to apply suitable intrauterine medication, rinsing and cauterization, to protect the vagina against constant reinfection from above.

60. **Yawning in Respect to Prognosis.**—Geigel has noticed that yawning is generally a sign of comfort and relaxation; it does not accompany excessive but only moderate fatigue. A very sick person does not yawn; when he yawns the crisis is past and he has started on the road to convalescence.

65. **The Campaign Against Tuberculosis.**—Jessen urges that postgraduate courses should be held everywhere to train physicians to recognize tuberculosis in its incipiency, before it has done irreparable havoc. He also advocates compulsory declaration of every case of tuberculosis and compulsory disinfection every time tuberculous individuals change their residence. The public should be trained to regard with respect the individual cuspidor using cougher, and to dread those who cough without taking such precautions. There should be no shrinking from labeling tuberculosis with its proper name while preaching its curability.

66. **Handy Table for Instruments.**—Geissler's table is a single standard supporting a trapeze-shaped frame over which a washable cover is slipped. The frame projects considerably from the standard, and this allows it to project over the patient, ready to the operator's hand. The standard can be placed at the foot of the table, between the patient's legs, the table thus projecting over the patient, close to the field of operation, and yet entirely out of the way of the surgeon's or assistants' arms. He calls it the "dumb nurse."

Wiener klinische Wochenschrift.

January 30, XXI, No. 5, pp. 137-172.

68 *Relations Between the Mammæ and the Genitalia. A. Foges.
69 Mastoid Operation by Way of the Nose. (Radikaloperation der Kieferhöhleneiterungen von der Nase her.) L. Rethi.
70 The Differentiating Cutaneous Tuberculin Reaction. A. Wolff-Eisner.
71 The Rôle of the Lipoids in the Specific Reaction to Syphilis. E. Weil and H. Braun.

February 6, No. 6, pp. 173-212.

72 *Differential Tuberculin Reactions. L. Detre.
73 Examination of 800 Patients in Regard to Palpation Findings and Tender Points in Relation to the Appendix and Cecum. (Palpation des Wurmfortsatzes, des Blinddarmes und der zugehörigen Druckpünkte.) W. Jaworski and S. Lapinski.
74 Retroperitoneal Cystic Tumor. H. Heyrovsky.
75 Abortive Treatment of Gonorrhea with Silver Salts. R. Polland.
76 False Tumor of the Stomach. Konried.

68. **Relations Between Mammæ and Genitals.**—Foges' conclusions from the experimental research reported are to the effect that the ovary, by its internal secretion, is indispensable for the development of the mamma to a functionally capable organ. In regard to the milk-producing function, however, the subsidence of the ovarian function is what starts and increases the production of milk. He refers parenthetically to a patient, a man of 45, who applied to have very prominent breasts removed. They had grown to a large size after subsidence of a syphilitic epididymitis with subsequent atrophy of the testicles. Amputation showed that both mammæ were composed exclusively of adipose tissue, without a trace of gland substance.

72. **Human and Bovine Differential Tuberculin Reactions.**—Detre is chief of the tuberculosis department of the polyclinic at Budapest, and here reports extensive research on the cutaneous reaction to inoculation with tuberculin or filtrates of cultures of human and bovine tubercle bacilli. In some cases the human tuberculin was inoculated in one arm and the bovine in the other, or the inoculations were made in a row on the same limb, first the tuberculin and then the human and bovine filtrates, and then inoculation with a carbolic acid solution. The results with two parallel rows always coincided in every respect. He gives illustrations of two arms thus treated, showing the invariable specific reaction to the human or bovine filtrate and the absence of reaction to one or the other according as the infection was of human or bovine origin. He calls this the "differentiating reaction" and tabulates the classified findings in 110 cases. In 69 per cent. the reaction occurred only with the human inoculations and in 9 per cent. only with the bovine, while in 22 per cent. there was evidently mixed infection. The human reaction occurred less frequently in the surgical cases (59 per cent.) and most frequently with infected glands in the neck (82 per cent.). On the other hand, in the surgical cases the proportion of mixed infections was 33 per cent. and of bovine alone 8 per cent., the total 41 per cent. being a much larger proportion in these than in the lung and gland cases. He calls attention to this preponderance of the bovine reaction in the surgical cases, thinking that it suggests infection by way of the blood from the alimentary tract. He found filtrates of bouillon cultures of the tubercle bacilli more effectual and reliable than tuberculin for the tests, and he also noted that the clinical character of the tuberculous affection imposed a special type on the reaction, acute, chronic, rudimentary or negative.

Zentralblatt für Chirurgie, Leipzig.

January 25, XXXV, No. 4, pp. 89-120.

77 *Disinfection of the Hands. R. Lenzmann.
78 *Operation for Embolism of Pulmonary Arteries. F. Trendelenburg.
79 Intestinal Button Made from Formalin Compound of Casein-Galalith. (Neuer Darmknopf.) V. Lieblein.

February 1, No. 5, pp. 121-152.

80 *Influence of Application of Heat and Cold in Infection of the Peritoneum. W. Danielsen.
81 Sterilization of Metal Instruments. J. Levai.
82 *Aspiration Treatment of Cancerous Tumors and Especially of Epithelioma of the Face. (Behandlung von krebsigen Geschwüren.) W. Sykoff.

February 8, No. 6, pp. 153-184.

83 *Growth of Epithelium Under Influence of Scarlet R. (Epithelwachstum unter Einwirkung von Scharlach R.) V. Schmieden.
84 Aneurismal Varix in Jugular Vein. (Varix aneurysmaticus.) Herbing.

77. **Disinfection of the Hands.**—Lenzmann comments on the inconveniences of wearing gloves, the slipperiness that follows the use of any substance like soluble rubber or a varnish, and the inability of the disinfectants at present in vogue to penetrate into the sweat and sebaceous glands of the skin to destroy germs lurking there which may be forced out by the use of the hands during the operation. For these reasons he has devised a technic which has proved eminently satisfactory during several years of experience. He uses a soap made of 5 parts formalin to 15 parts benzin and 80 parts of a soapy vehicle composed of 50 per cent. cod liver oil with fat, lanolin, glycerin, Peruvian balsam and ethereal oils. This foams in contact with the skin and works its way into the glands, as he has demonstrated by coloring the mixture with fuchsin. He first scrubs his hands under running hot water with "marble soap" for five minutes, then dries them with gauze, and rubs in the soapy mixture for two minutes, then scrubs with spirit of soap for two minutes and rinses off finally with 1 to 1,000 solution of bichlorid of mercury. He prepares the field for operation in the same way, rubbing the soapy mass into the skin for five minutes the evening before, after the usual soda and soap scrubbing, and then covers with a moist medicated compress, changing it for a compress impregnated with the bichlorid solution two hours before the operation, finally rubbing off with the spirit of soap and rinsing with the bichlorid. The disinfectant works its way deep into the skin while it does not irritate or injure it in any way.

78. **Operation for Embolism in Pulmonary Arteries.**—Trendelenburg reports successful experiments on animals and on the cadaver showing the practicability of operating in case of embolism of the pulmonary arteries. He succeeded in removing by the technic described a strip of lung 15 cm. long and 1 cm. thick, which had been taken from a calf and passed through the jugular vein into the left branch of the pulmonary artery of another calf. The animal rapidly recovered after removal of this artificial embolus. Over-pressure in the air cabinet is not indispensable for the intervention.

80. **Influencing of Infection in Peritoneum by Application of Heat and Cold.**—Danielsen thinks that when the infection is very virulent the physician should strive to prevent absorption, and this is best accomplished by application of cold. On the other hand, when the germs are not very virulent, the protecting and defensive vital processes are best promoted by hastening absorption of the comparatively non-virulent germs. For this application of heat is most effectual. By discriminating in this way he believes that he has been instrumental in hastening the recovery of many patients with peritonitis. Gelinsky recently advocated application of superheated air in treatment of peritonitis, and Danielsen cordially endorses his suggestion for cases of mild infection, but warns most decidedly against it in case of very virulent germs.

82. **Suction Treatment of Cancers and Suppurative Processes.**—Sykoff thinks that it is important to prevent absorption of the products of a cancer and consequently advocates "aspirating" them; he uses Potain's apparatus with Körting's air pump. This method of treatment is applied for ten or fifteen minutes as often as is necessary, in some cases every day. The end of the rubber tube which is placed in contact with the ulcer is smeared with a turpentine ointment in order to make perfect contact. It is placed directly over the ulcer and the tube is then exhausted of air, this procedure being continued for ten or fifteen minutes. The tube is then found to be filled with blood clots, pus and epithelial débris. The ulcer presents an excavated appearance instead of the "heaped up" appearance usual in these cases. Generally, healing takes place after ten treatments, the malignant ulcer being slowly converted into a simple ulcer and then into scar tissue. Sykoff has also employed this method in suppurative arthritis, suppurative disease of the uterus and adnexa, inoperable carcinoma of the uterus, and epitheliomas of the face. The best results have been obtained in the last. He reports an illustrative case.

83. **Growth of Epithelium Under Action of Scarlet R.**—In the issue for Nov. 10, 1906, page 1566, The Journal commented editorially on Fischer's success in inducing production of atypical epithelium by the injection of a concentrated oily solution of the dye, scarlet R, injected under the skin of rabbit's ears. Vigorous proliferation of epithelium followed the injected substance into the depths, producing microscopic pictures not to be distinguished from those of ordinary cutaneous cancer. No destructive growth was apparent; the proliferation ceased as soon as the injections were suspended, and the new-formed epithelium succumbed to degenerative processes. Schmieden has been utilizing this property of scarlet R to promote the healing of large skin defects. An extremely thick and vigorous epithelium grows rapidly over the defects under the influence of an 8 per cent. scarlet R salve. The epithelium thus grown seems to be normal in every respect. Among the patients thus treated was a woman with large skin defects on arm and breast resulting from a burn. Small islands of epithelium were scattered over the surface of the defects, and under the salve broad rings of epithelium rapidly grew around each of these islands, rendering the proposed transplantation unnecessary. The epithelium thus grown seems so thick and strong that it promises to shrivel less than under other conditions. The defect left after removal of the mamma in another case rapidly healed under the salve, although previous attempts at transplantation had been unsuccessful. He warns that the salve has an evident irritating action; the granulations turn gray and sometimes suppurate; consequently he never applies the salve for longer than twenty-four hours at first, following with plain lanolin or oil for two or three days or longer, until the signs of irritation have passed away. He says further that it is important not to apply the salve until the surface is ready for it; that is, presenting clean flat granulations, the conditions similar to those required for Thiersch flaps. He does not think there is any danger of a tendency to cancer in this proliferation of the epithelium, as neither Fischer nor others who have tried the scarlet R have witnessed anything approximating malignant proliferation. The effect is evidently a chemotactic action, specific for epithelial cells.

Zentralblatt für Gynäkologie, Leipzig.

January 25, XXXII, No. 4, pp. 97-120.

85 Instrument for Discission of Rigid Os Uteri. (Geburtshilfliche Instrumente.) M. Stolz.
86 Obstetric Curettes. Id.
87 Improved Intrauterine Catheter. Id.
88 Obstetric Speculum. Id.

February 1, No. 5, pp. 121-168.

89 Study of the Ciliated Epithelium of the Female Genitalia. (Flimmerung im Gebiete des weiblichen Genitalapparates.) O. Hoehne.
90 *Functional Fate of Relics of Ovaries. P. Zacharias.
91 *Extraperitoneal Incision of Uterus. H. Sellheim.
92 Suprarenal Treatment of Osteomalacia. (Adrenalinbehandlung der Osteomalakie nach Bossi.) F. Engelmann.
93 My First 28 Cases of Successful Influencing of Menstrual Disturbances by Roentgen Treatment of Ovaries. (Beeinflussung von Periodenbeschwerden durch Röntgenstrahlen.) M. Fraenkel.
94 Transplantation of Ovaries into the Testicles of Rabbits. (Beitrag zur Ovarientransplantation.) G. Burckhard.
95 Combined Hook and Knife for Cutting Ligatures. (Häkchenmesser.) J. Wernitz.

February 8, No. 6, pp. 169-200.

96 *Necessity and Suggestions for Uniformity in Collecting Cancer statistics. (Karzinomstatistik.) G. Winter.
97 Outcome of More Extensive Abdominal Operations for Uterine Cancer. (Leistungen der erweiterten abdominalen Uteruskrebsoperation.) E. Wertheim.
98 Pyocyanase in Gonorrhea in the Female. J. Hofbauer.
99 Ventrofixation of Uterus by Means of Round Ligaments. C. Staude.
100 Automatic Retractor for Abdominal Walls. (Selbsthaltender Bauchdeckenécarteur.) J. von Rosenthal.

90. **Functional Fate of Remains of Ovaries.**—Zacharias reports the later history of three patients on whom he operated several years ago, leaving a small piece of the ovarian tissue when removing both ovaries for a non-malignant affection. The piece left had to be part of the benign tumor. Menstruation had continued undisturbed.

91. **Extraperitoneal Incision of Uterus.**—Sellheim reports his experiences with what he calls "supravaginal Cesarean section." He would like to have this extraperitoneal supravaginal technic supplant the abdominal or vaginal technic for Cesarean section and pubiotomy, as it allows the child to be extracted approximately by the natural route with the loss of scarcely a drop of blood, under conditions favorable for surgical work. During the period of expulsion the entire cervix lies in the pelvic connective tissue, bare of peritoneum, and this region has the smallest proportion of blood vessels. The longer labor has lasted and the more contracted the pelvis, the better the conditions for this extraperitoneal operation. The peritoneum has to be detached from the top of the bladder, but this does not affect the bladder functioning. The longitudinal incision in the cervix can be readily enlarged at need. He describes two cases in which this technic was successfully applied.

96. **Plea for Uniformity in Cancer Statistics.**—Winter has taken a prominent part in collating cancer statistics and in prophylaxis of uterine cancer; he here expatiates on the urgent necessity for compiling statistics according to a uniform plan so that they can be compared, believing that important lessons will be learned from the findings. He appeals to gynecologists the world over to write to him expressing their acquiescence in the outline he proposes for collection of statistics or to suggest modifications and improvements. All such replies received before April 1 he will collate and publish, giving names, to add weight to the material. He aims thus to work out a practicable and universally acceptable method for collecting cancer statistics which will conclusively demonstrate the superiority of certain operative technics and decide other still disputed questions. He suggests the following five points: 1. Primary results of operation—mortality percent-

age, obtained by listing all the fatalities during or after the operation which would not have occurred without it, such as sepsis, embolism, pneumonia, pyelitis and cardiac paralysis. 2. Operability. A case is to be regarded as operable when a radical operation can be carried out to the end. This term "operable" should not be definitely applied to the case until after the operation, because the opening of the abdomen first reveals the true condition of affairs. He classes further the radical intervention as (a) removal of uterus and adnexa; (b) removal of upper portion of vagina; (c) removal of parametrium on both sides, and (d) removal of the lymph glands of the first stage pertaining to the uterine system. 3. Permanent results, based on five years of freedom from recurrence. Scarcely 10 cases of recurrence after the fifth year are on record in 1,000 cases of recurrence, while from 3 to 5 per cent. of recurrences, in the experience of Winter, Glockner, Thumim and Hanisch, occurred in the fourth and fifth years. 4. Computation of the permanent results. These are calculated for a given radical operation after excluding all cases in which the patients succumbed during or soon after the operation, or from any cause, during the five years following the operation or were lost track of. 5. The absolute number of cures. This figure is calculated from the number of inoperable cases, the number of deaths during the operation, and the number of cases of recurrence. The number of patients cured by the operation, taken alone, does not give an accurate conception of the value of the operation, and other reasons are cited why the most instructive formula for the absolute number of recoveries is that based on the percentage of patients with cancer who apply for relief who are made permanently healthy by the operation, in that they survive the operation and escape recurrence later. From this calculation are omitted (a) all patients who refuse the operation; (b) all patients who have been lost track of; (c) all patients who have died of intercurrent diseases before the end of the five-year interval. These classes of patients must be excluded from the formula computed for the ultimate outcome, as they interfere with a correct estimation of the results of the operation, as he explains in detail. The figures must be given: 1, of the number of cancer patients who sought the surgeon's aid before the beginning of the five-year period; 2, the number of those who refused operation; 3, the number of those found inoperable; 4, the number of those who died from the operation; 5, the number of carcinomas over which control could be exercised; 6, the number of patients who have been lost to sight; 7, the number of those who died from an intercurrent disease or other cause during the five-year interval, and 8, the number of patients found to have recurrence before the end of the five years.

He gives the following as an example of the calculations: In January, 1908, a general outlook over the status of cancer in a given clinic is undertaken. All the cases of cancer admitted to the clinic before 1903 would thus come under consideration —a total of 200. Of these 200 patients (a) refused operation, 5; (b) succumbed to the operation, 10; (c) lost sight of, 5; (d) died without autopsy during the five years since, 5; (e) recurrence, 50. From the total 200 would thus have to be subtracted (a) with 5; (c) with 5, and (d) with 5, leaving 185 for computation of the absolute recoveries. Of these, 10 succumbed to the operation, 50 have had a recurrence of the cancer, and the cancer was inoperable when first seen in 90 cases. Thus, out of the 185 cases, 35 patients were restored to permanent health by the operation. The absolute cures (*absolute Heilungszahl*) are thus 19 per cent. of 185. He appeals to gynecologists generally to cooperate with him in the way he suggests, as cancer and the operations for it form one of the few subjects in which statistics are of paramount importance, and vitally precious time is now being wasted. Address Prof. G. Winter, Königsberg, Germany.

Gazzetta degli Ospedali, Milan.

January 26, XXIX, No. 11, pp. 105-120.

101 *Acute Anilin Poisoning. (Anilismo.) C. Trevisanello.
102 Ovarian Organotherapy. C. Ottone.
103 Elimination of Urea in Chronic Affections. G. Campanella.
104 Application of Forceps at the Superior Strait (Forcipe allo stretto superiore.) E. Bracchi.
105 Steam or Compressed Air Apparatus for Spraying. (Nuovo nebulizzatore.) C. Giglio.
106 Efficiency of Small Amount of Amyl Nitrite Inhaled Early in Tuberculous Hemoptysis. (Il nitrito di amile nelle emottisi tubercolari.) L. Fochi.

101. **Acute Anilin Poisoning.**—A workman in a dye house fell into a tank containing anilin oil. He was rescued immediately and taken to the hospital, unconscious and cold, with marked cyanosis and almost complete apnea, Cheyne-Stokes respiration, subnormal temperature, and pulse 112; the skin was dyed an intense blue. He was given hot baths, with cutaneous revulsion, injections of ether, caffein and camphorated oil, inhalation of oxygen and digitalis, with venesection and saline infusion. By evening the patient was out of immediate danger and continued to improve on a milk diet, with 10 gm. of sodium sulphate a day, until discharged from the hospital on the ninth day. The urine and stools showed the effect of the anilin, both being the color of dark coffee for a few days, while the blood showed the spectrum of methemoglobin. The sodium sulphate was given in the hope of combining the anilin in the organism as a paramidophenol.

Policlinico, Rome.

January, XV, Surgical Section, No. 1, pp. 1-48.

107 *Experimental Research on Ligation of the Large Veins of the Trunk. (Sulla legatura delle grandi vene del corpo.) N. Leotta.

February 2, Practical Section, No. 5, pp. 133-164.

108 Hypertrophic Sclerosis of Liver Due to Uric Acid in the Blood. (Sulla sclerosi ipertrofica del fegato da origine uricemica.) G. Baccelli.
109 Syndrome of Whooping Cough Simulated by Presence of Foreign Body in Trachea. E. Cavazza.

February 9, Practical Section, No. 6, pp. 165-196.

110 Causes of Graver Course of Diphtheria in Case of Recurrence. Cause del decorso piu grave della difterite nelle ricadute.) L. M. Spolverini. Commenced in No. 5.

107. **Experimental Ligation of Large Veins of Trunk.**—Leotta did not find the effects of ligation of the vena cava, innominata and other veins so serious as he had anticipated. He gives the details of thirty-four series of experiments on dogs or guinea-pigs, with the ultimate results and mechanism of the collateral circulation.

Hygiea, Stockholm.

January, LXX, No. 1, pp. 1-96.

112 *Contagiousness of Syphilis. (Syfilis smittsamhet.) M. Möller.
113 *Professional Secrecy and Duty or Right of Search for the Source of Infection in Venereal Affections. (Om läkarens tystlåtenhetsplikt, om anmälningsplikt resp. anmälningsrätt samt om utrönande af smittokällan vid smittosamma könssjukdomar.) Id.
114 Therapeutic Utilization of Electric Counter Currents in the Human Body. (Elektriska motströmmar i människokroppen.) G. Heüman.
115 Transportable Mercury Manometer. (Kvicksilfermanometer.) K. A. E. Fries.

112-113. **Contagiousness of Syphilis.**—Möller makes a point of investigating the source of the infection in every case of syphilis, whenever possible, and has found this a great aid in general prophylaxis of venereal disease; when the source is discovered and the syphilis treated, further infection of others is less liable. His experience with 60 cases in which he has obtained such data (22 men and 38 women) has shown that, as a rule, the infecting party is not aware of his contagiousness, and that infection was transmitted frequently by an unnoticed primary affection or by secondary genital manifestations—the latter more frequently in the female—by secondary extragenital manifestations, and occasionally during the so-called latent period when no appreciable manifestations could be detected. He regards this latter class of cases as particularly dangerous from the standpoint of prophylaxis. His experience demonstrates that other local genital affections may predispose to syphilitic infection, especially herpes, condyloma, scabies, and relics of infiltrations or anything which induces a predisposition to defects in the skin. He insists that every person who has been infected with syphilis must be regarded as contagious during the first years afterward, at least, whether they present appreciable symptoms or not. Thorough local and general treatment is the best measure for general prophylaxis, but personal attention—individual prophylaxis—is extremely important, but it requires more widespread knowledge of the subject among all classes. In his second article on a different aspect of the same subject he tabulates the information he has learned from various patients in regard to the source and circumstances of the opportunity for contagion in a total of 661 cases. He discusses the physician's duty in regard to professional secrecy and notification of known sources of infection. In Denmark and Norway the physician is required to declare cases of syphilis known to be a source of infection, but the law does not require this in Sweden. He thinks that the Swedish law should be modified to require that the physician should declare the sources of infection when the manner of life or other conditions render contagion of others probable; also that the physician should keep a record of each case of venereal disease with the details learned in regard to the source of infection, omitting the patient's name. His investigation at Stockholm confirms anew the predominant part played in the dissemination of venereal diseases by abuse of alcohol, street solicitation and so-called hotels.

Norsk Magazin for Lægevidenskaben, Christiania.

February, LXIX, No. 2, pp. 97-180.

116 Norwegian Artificial Mineral Waters. (Kunstige norske mineralvande.) E. Poulsson and E. Wang.
117 *The Biochemical Reaction in Diagnosis of Malignant Tumors. (Biochemiske reaktioners diagnostike anvendelse paa de maligne svulster.) S. Widerøe.
118 *Application of Biochemical Reaction in Diagnosis. (En biochemisk reaktion i diagnostik øjemed.) M. Paus.
119 Treatment and After-treatment of Fractured Joints. (Frakturer i led.) Bülow-Hansen.

117-118. **Biologic Blood Test for Diagnosis of Incipient Cancer.**—Widerøe thinks that Kelling's theory in regard to the origin of cancer from embryonal cells of other species is scarcely probable, but Kelling's assertions in regard to the application of the hemolytic blood test for diagnosis of cancer have been brilliantly confirmed by Widerøe's experiences. Kelling regards the application of this test as proving his embryonal cell theory. Widerøe applied the test in 50 cases and exclusively with hen's blood; 25 of the patients had cancer and 25 suffered from other affections. In 25 cancer patients the results of the test were positive in 64 per cent., the degree of hemolysis averaging from 50 to 85 per cent. In the 16 cases in which the hemolysis was over 30 per cent. the cancer was in the digestive tract in 13. In the 9 cases with negative results in the cancer group, 6 of the patients were cachectic, and Kelling has warned that the reaction diminishes with advancing debility. Among the 25 patients with other affections, the hemolysis surpassed 30 per cent. only in 3 cases, and in 2 of these the affection was a blood disease (splenic or pernicious anemia) which Kelling declares belongs in the same category with malignant tumors. The third patient had pneumonia. In the others the hemolysis was less than 8 per cent. in 13 of the patients, and less than 16 per cent. in 6 others. No appreciable hemolysis could be detected in the patients with syphilis and benign tumors. Widerøe remarks that these findings confirm in every respect Kelling's assertions as to facts, and they do not seem to conflict with his theory. He discusses the chemical composition of the hemolytically active substance which these tests show is a constituent of the serum in case of malignant disease.

Paus relates similar research in 90 cases, including 30 healthy persons. He centrifugates with Hamburger's hemolysis graduated glass and states that 2 c.c. of the patient's blood are ample for the purpose. He obtained a positive reaction in 65 per cent. of the cases in which the course of the affection or operation confirmed the diagnosis of cancer. With the exception of uremic conditions, his results harmonized with those of Kelling in every respect. The latter has announced that the hemolytic action of the serum may remain constant in case of carcinoma or sarcoma to the patient's death, but vanishes when the tumor is successfully removed. He also states that if cancer substance is injected into an animal, the serum of the animal acquires a hemolytic action to the same level as in the patient from whom the cancer substance was derived. Metastases induce hemolysis the same as the primary tumor. The hemolytic action is more pronounced the more vigorous the patient and occurs with less and less energy with increasing cachexia. Paus' research confirmed these assertions.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

TEXT-BOOK OF PHYSIOLOGIC CHEMISTRY. By Olof Hammarsten, late Professor of Medical and Physiologic Chemistry in the University of Upsala. Authorized Translation from the author's enlarged and revised sixth German edition by John A. Mandel, Sc.D., Professor of Chemistry in the New York University and Bellevue Hospital Medical College. Cloth. Pp. 845. Price, $4.00. New York: John Wiley & Sons, 1908.

THE THEORY AND PRACTICE OF ANTIRABIC IMMUNISATION. By Captain W. F. Harvey, M.B., I.M.S., and Captain Anderson McKendrick, M.B., I.M.S., No. 30 of the Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Paper. Pp. 43. Price 1s. 2d. Calcutta: Superintendent of Government Printing, India, 1907.

PIROPLASMA CANIS AND ITS LIFE CYCLE IN THE TICK. By Captain S. R. Christophers, M.B., I.M.S., No. 29 of the Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Paper. Pp. 83. Price 3s. Calcutta: Office of the Superintendent of Government Printing, India, 1907.

TEXT-BOOK OF OTOLOGY. By Fr. Bezold, M.D., Professor of Otology at the University of Munich and Fr. Siebenmann, M.D., Professor of Otology at the University of Basle. Translated by J. Holinger, M.D., Chicago. Cloth. Pp. 315. Price, $3.50. Chicago: E. H. Colegrove Co., 1908.

ANNUAL REPORT of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States, for the Fiscal Year 1907. Cloth. Pp. 146. Washington: Government Printing Office, 1908.

THE ANIMAL MIND. By Margaret Floy Washburn, Ph.D., Associate Professor of Philosophy in Vassar College. Cloth. Pp. 333. Price $1.60. New York: The Macmillan Co., 1908.

MILK AND ITS RELATION TO THE PUBLIC HEALTH. By various authors. Hygienic Laboratory—Bulletin No. 41. Paper. Pp. 758. Washington: Government Printing Office, 1908.

REPORT of the Commissioner on Education for the Year Ending June 30, 1906. Vol. II. Cloth. Pp. 1308. Washington: Government Printing Office, 1908.

TRANSACTIONS of the Luzerne County (Pa.) Medical Society for the Year Ending 1907, Vol. XV. Paper. Pp. 118. Wilkes-Barre: E. B. Yordy Co., 1907.

NEW PATENTS.

Recent patents of interest to physicians:

877401. Deodorizing compound. S. M. Buchanan, Hubbard, Ore.
877309. Deodorizer-receptacle. R. R. Emerson, Jackson, Mich.
877317. Auriphone. D. O. Fosgate, Chicago.
877231. Crutch-tip. C. P. Rogers, Jr., Corry, Pa.
877248. Making stannic chlorid. E. A. Sperry, Brooklyn.
877154. Electrical abdominal heater. H. D. Wood, Jr., Minneapolis.
877155. Electrical face-steamer. H. D. Wood, Jr., Minneapolis.
877703. Sterilizing foods or organic compounds. C. C. L. G. Budde, Copenhagen, Denmark.
877560. Shoulder brace. G. T. Foltz, Wytheville, Va.
877660. Making vegetable extracts. J. Meikle, Glasgow, Scotland.
877618. Douche protector. A. A. Van Orden, Galilee, Pa.
878045. Invalid or hoisting bed. J. J. Collins, Clemo, Pa.
878191. Rectal supporter. H. E. Cunningham, Los Angeles, Cal.
878199. Vein tube. W. H. Freeman, Freehold, N. J.
878379. Soda-water fountain. L. G. Green, Philadelphia.
877926. Vaginal syringe. E. Hilker, Chicago.
878296. Vaporizer for medicaments. E. L. Loveless, Corning, N. Y.
878078. Vibratory massage apparatus. G. R. Macomber, New York.
878223. Inhaler. A. F. Meisselbach, Newark, N. J.
878225. Pasteurizer. J. C. Miller, Canton, Ohio.
878083. Vibrator. W. N. and F. W. Nicholls, Toronto, Canada.
877946. Apparatus for containing and injecting serums and other substances. J. L. Overton, London, England.
39054. Design, Atomizer. C. W. Meinecke, Jersey City, N. J.
879041. Massage apparatus. C. E. Egan, Petersburg, Ill.
878524. Surgeon's knife. R. K. Gregory, Greensboro, N. C.
878577. Device for repairing fractured jaws. P. Stukey, Auburn, Ind.
878917. Endoscope or other optical instrument. R. H. Wappler, New York.
878760. Apparatus for massaging the hearing organs. A. Zund. Paris, France.
879360. Artificial hand. C. M. Broady, South Bend, Ind.
879516. Hot water bottle. T. Cantwell, St. Louis.
879442. Chair-bed, couch, stretcher, etc. H. P. Clemetson, Ashford, England.
879740. Poison indicator. G. Cohen, Jamestown, N. Y.
879619. Bath-pad. J. H. Foote, Chicago.
879179. Specialist's chair. W. H. Kersey, Indianapolis.
879777. Electromedical appliance. S. H. Lackland, St. Louis.
879778. Catamenial bandage. W. Lauffs, Zurich, Switzerland.
879391. Fresh-air-treatment apparatus. L. P. Leonard, St. Cloud, Minn.
879297. Uterine curette. F. T. M. Moormeister, La Grande, Ore.
879567. Truss. H. L. Mortimer, Sound Beach, Conn.
879299. Syringe. W. B. Murphy, New York.
879191. Hair tonic. F. J. Pieper, Salt Lake City, Utah.
879326. Process of and apparatus for preparing effervescing baths. L. Sarason, Hirschgarten, near Berlin, Germany.
879223. Cutting and stripping device for spool adhesive plasters. W. J. Walsh, Boston.
879224. Cystoscope. R. H. Wappler, New York.

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Address

SOME NEGLECTED FACTS IN THE BIOLOGY OF THE TETANUS BACILLUS.

THEIR BEARING ON THE SAFETY OF THE SO-CALLED BIOLOGIC PRODUCTS.*

THEOBALD SMITH, M.D.

George Fabyan Professor of Comparative Pathology in the Harvard University Medical School; Director of the Antitoxin and Vaccine Laboratory of the Massachusetts State Board of Health.

BOSTON.

Medical science, like any other applied science, deals not so much with abstract biologic principles, as with the facts of every day life, illumined and made orderly by these principles. Through a knowledge of such principles the facts of our concrete existence may often be controlled and rearranged for our good. Like other applied sciences, medical science often uses incomplete truths, data with gaps in them, methods inadequately tested or not sufficiently developed. Hence the accidents of our daily life. Measures designed to do good may have concealed within them incidental dangers due to faulty processes. It is one of these to which I wish to call your attention this evening. It involves the principle of *non nocere,* one which we must ever keep before us in the prevention and treatment of disease.

About nine years ago, in a very brief article,[1] I called attention to the inefficiency of discontinuous boiling or steaming when large quantities of bouillon are to be sterilized in relatively shallow layers. In the routine preparation of diphtheria toxin it was found that the spores of anaërobic bacteria frequently survived the repeated steamings. After the diphtheria bacilli had established anaërobic conditions by forming a surface pellicle or membrane, these spores began to germinate, and more or less multiplication took place. It was a routine practice of the laboratory to submit all such cultures to microscopic examination and titration. One or both methods would reveal any accidental contamination.

The anaërobes encountered in these contaminated flasks were reserved for future study by removing the diphtheria bacilli by boiling from a small portion of the culture fluid, and a considerable number of cultures were collected, only a few of which have survived the accidents of time. One of these cultures was pathogenic, for guinea-pigs died over night after a subcutaneous injection of one cubic centimeter of a bouillon culture. There were no lesions, local or general, beyond an occasional trace of edema at the point of inoculation, and marked congestion of the lungs.

Nothing more was done until the past summer, when I began a more serious study of the anaërobes in my collection. The nature of this culture was not recognized until minute doses were employed. The disease then showed a longer period of incubation, and, to my surprise, the animals (rabbit, pigeon, guinea-pig, white rat) became affected with tetanus. A more thorough microscopic study of the culture, from day to day, revealed the presence of an anaërobe, beginning spore formation within 24 hours, and masking the presence of a second anaërobe which produced spores after the second or third day, and which had all the morphologic characteristics of the tetanus bacillus. That the spores of the tetanus bacillus should survive three steamings, of 20 minutes each, was new to me, and I at once began to test the resistance of the spores and to examine the literature on this point.

Kitasato,[2] well known as the first who isolated the tetanus bacillus in pure culture and studied its biologic characters, stated that the spores resist moist heat at 80 C. for one hour, but that they are killed in streaming steam in 5 minutes. Vaillard and Vincent,[3] closely following Kitasato, stated that the spores, heated in the presence of moisture in a closed vessel, would resist destruction at 80 C. for 6 hours; at 90 C. for 2 hours; at 100 C., 3 to 4 minutes; that they were not always destroyed in 5 minutes, but never resisted more than 8 minutes at 100 C. These statements by Kitasato and by Vaillard and Vincent found their way into textbooks, some authors quoting the former, others the latter. In the volume of Kolle and Wassermann's large hand-book containing Lingelsheim's article on tetanus and bearing the date of 1903, Kitasato's original statement is quoted without comment or dissent.

The extended use of gelatin as a hemostatic in dangerous and otherwise uncontrollable hemorrhages, which led to a series of fatal cases of tetanus in the years 1901 to 1903, called attention to the resistance of tetanus spores to the temperature of boiling water. Levy and Bruns,[4] taking these unfortunate accidents as a text, determined anew the resistance of tetanus spores. According to them, destruction begins at 8½ minutes at 100 C.; after 15 minutes very few survive; after 30 minutes none.

In a short bulletin, Anderson[5] calls attention to the presence of tetanus spores in commercial gelatin, as determined by Levy and Bruns. A tetanus bacillus isolated by him from one of seven samples of gelatin was killed between 20 and 30 seconds at 100 C.

Tuck[6] next takes up the same subject in view of the dangers of the subcutaneous injection of gelatin. Tetanus cultures, pure or mixed with *B. subtilis,* were always killed after 10 minutes' boiling. Some samples of gelatin, accidentally containing tetanus spores, were not sterilized after three boilings, of 30 minutes each, on consecutive days. Tuek does not state, however, that the spore-bearing anaërobes other than tetanus were responsible for this resistance. His concluding statement would lead us to think that they were, for, to allay unnecessary alarm concerning the use of gelatin, he says: " . . . I am fully convinced that no spores of tetanus can resist boiling for over 20 minutes."

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* Read, Dec. 18, 1907, at a joint meeting of the Chicago Pathological Society and the Chicago Medical Society.

[1] Jour. Exper. Med., 1898, iii, p. 647.

[2] Zeitschr. f. Hyg., vii, p. 225.

[3] Annal. de l'Institut Pasteur, 1891, v, p. 1.

[4] Grenzgeb. d. Med. u. Chir., 1902, x, p. 235.

[5] U. S. P. H. and M.-H. Service, Hygienic Laboratory, Bull No. 9, September, 1902.

[6] Jour. Pathol. and Bact., 1903-4, ix, p. 38.

Falcioni[7] is the last observer dealing with the same theme. He impregnated gelatin with spores of tetanus bacilli grown in agar or broth for 10 to 12 days, and used Koch's steam sterilizer. The gelatin was exposed in 2, 5 and 10 per cent. solutions. He found the spores to resist destruction for 2½, but not for 3 hours, in streaming steam.

The foregoing results are sufficiently varied and conflicting to suggest to us, on first thought, that races of tetanus bacilli exist, the spores of which vary widely in their resistance to moist heat at 100 C. Before resting, however, on this inference, it would be necessary to know the tendency to spore formation in different media and at different temperatures; the age of the culture at which spores are ripe, and, therefore, most resistant; the reaction of the medium in which the spores are boiled or steamed, because all of these variable factors have probably entered into the experiments quoted.[8]

Before I had informed myself of the work done thus far I had made some experiments to determine the resistance to boiling of two cultures in my hands—one obtained from presumably sterilized bouillon (Culture 4);[9] the other brought by me, in 1896, from a large German institute (Culture 3).

The method employed to produce a rich crop of spores is one which I have used for many years and to which attention has been called in several short papers.[10] To ordinary bouillon, in suitably constructed fermentation tubes, is added a bit of kidney, or spleen or liver from a rabbit or guinea-pig, just killed with chloroform. The piece of tissue is torn or pinched away from the organ with fine sterile forceps and varies from ½ to ¾ cm. in bulk. This is pushed well into the connecting tube, where it remains. The tubes need not be freshly prepared. They respond by growth even after standing for weeks in the laboratory. Sugar should not be added.

Animals which are to yield the tissues should be perfectly well. There should be no ulcers or other sores on them. They should not have been inoculated with bacteria of any kind for at least a month previous. They should be handled with great gentleness and not chloroformed in such a way as to cause them to struggle. The reason for these precautions is that any lesion or previous inoculation of bacteria may lead to the distribution and prolonged latency of such bacteria in the body and these are brought to light by the large pieces of tissue used in the culture medium which is very sensitive to both aërobic and anaërobic bacteria. The struggling of the animal and rough handling may lead to slight injuries through which bacteria may enter the circulation. In spite of all these precautions fermentation tubes prepared in this way occasionally become clouded. Hence, they should only be used after an incubation of three or four days. Usually a slight clouding of the fluid in the open branch of the tube in which a bit of liver has been placed is due to a fine granular precipitate. Such clouded fluid should, however, be examined carefully microscopically.[11]

When tubes prepared in this way are inoculated with material containing spores or bacilli a rapid and abundant multiplication takes place. The spore production is especially rich in and about the piece of tissue. Fluid from such cultures was used to determine the resistance of the spores at the temperature of boiling water or streaming steam.

TETANUS 3.

EXPERIMENT 1.—Culture in a fermentation tube, as above described, nine days old. Five c.c. of turbid fluid placed in thick-walled test tubes and the latter tightly stoppered with rubber stoppers, each perforated with a glass tube drawn out into a capillary, free extremity. Tubes were completely immersed in boiling water, except the capillary vent through which the air and steam could freely enter and escape. After the exposure for given periods of time, about 1 c.c. of the boiled fluid was added to fermentation tubes to determine the presence or absence of living spores. The culture fluid exposed to boiling water for 10, 20 and 40 minutes contained living spores, as proved by the successful subcultures. Fluid boiled 60 and 80 minutes failed to produce growth in subcultures.

EXPERIMENT 2.—Culture nine days old. Tubes about 6 mm. in diameter, drawn out and sealed at both ends in the flame, and containing about 1 c.c. culture fluid and an equal volume of air, were exposed to streaming steam in the Arnold sterilizer for 20, 40, 50, 60 and 70 minutes. The tubes were then opened and the entire contents of each allowed to flow into a fermentation tube. All cultures, except the one receiving the contents of the 60-minute tube, developed and contained only tetanus bacilli.

EXPERIMENT 3.—Culture in fermentation tube containing fermented bouillon, plus tissue from a guinea-pig. In incubator sixteen days. Total age, eighteen days. Spore-bearing bacilli very abundant, as usual. Only a few free spores seen. The arrangement for exposure of the culture fluid was the same as in Experiment 1, save that a large boiler, with a tight-fitting cover was used. The test tubes were completely immersed in the boiling water. Tubes were exposed 60, 90 and 120 minutes. To the last-named enough gelatin was added to make a 5 per cent. solution. This was done to determine if gelatin increased the resistance of spores, as suggested by Falcioni's[7] results. All the subcultures, to each of which from 2 to 3 c.c. of the exposed culture had been added, remained sterile.

TETANUS 4.

EXPERIMENT 4.—Culture six days old. Portions exposed in test tubes to boiling water, as described under Experiment 1, for 10, 20 and 40 minutes. All subcultures positive.

EXPERIMENT 5.—Culture eight days old. Tubes exposed as in preceding experiment, at 60, 80 and 100 minutes. Subcultures of fluids heated 80 and 100 minutes remained clear.

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[7] Annali d'igiene sperimentale, 1904, N. S., xiv, p. 319.

[8] In the case of nutrient gelatin, which has been a favorite medium, I find sporulation very feeble and involution forms common. It is quite probable that such cultures would resist boiling but feebly. The use of dextrose in fairly large amounts, such as 1 or 2 per cent., has been frequent among bacteriologists, although this amount is inimical to rapid spore formation.

[9] A pure culture was obtained from the mixed culture on blood-agar in desiccating jars, according to Bordet. Quite unexpectedly, pure cultures were also obtained with bits of liver from a white rat inoculated subcutaneously in the thigh with the impure culture. As a rule, and in harmony with the results of earlier observers. tubes inoculated with large bits of organs, and with ¼-½ c.c. of heart's blood of rabbits and guinea-pigs inoculated with tetanus bacilli remained sterile. The colonies of tetanus bacilli spread very rapidly on blood-agar plates and the hemolytic area produced by a single colony may reach one centimeter in diameter. This tendency to spread made it difficult to obtain pure cultures from the colonies of the contaminating anaërobe whose colonies were very compact, for the tetanus colonies invaded them, though this invasion was not recognizable under low powers. I succeeded more quickly in obtaining pure cultures of this latter organism by boiling the mixed culture for 85 minutes. This destroyed the tetanus spores, but not those of the associated species.

[10] Jour. Boston Soc. Med. Sc., 1899, p. 340; Jour. Med. Res., 1905, xiv, p. 193.

[11] This method of using tissues to stimulate the growth of anaërobes has recently been rediscovered by Tarozzi (Centrbl. f. Bakt., Orig., 1905, xxxiv, p. 619.

That the spores surviving prolonged boiling belonged to the true tetanus bacillus was demonstrated by testing the subculture of the 60-minute tube of this experiment on two guinea-pigs. Both guinea-pigs acquired tetanus after the subcutaneous injection of .00075 c.c. and 00005 c.c., respectively.

EXPERIMENT 6.—Made at the same time and in the same manner as Experiment 2. Culture nine days old. Contained also an oval-spored anaërobic bacillus. Placed in sealed pipettes, and exposed to streaming steam for 20, 40, 50, 60 and 70 minutes. Subcultures from all, excepting the 70-minute tube, contained tetanus bacilli. The subculture of the 70-minute tube contained only the oval-spored bacillus.

EXPERIMENT 7.—Performed at the same time and in the same way as Experiment 3. Culture fifteen days in thermostat. Total age seventeen days. Spore-bearing bacteria very abundant. Tubes exposed in boiling water with those of Experiment 3 for 60, 90 and 120 minutes. A tube containing culture fluid plus 5 per cent. gelatin was exposed 120 minutes with the rest. The subcultures of these four tubes remained sterile.

EXPERIMENT 8.—This experiment was to determine whether any spores would survive steaming for 20 minutes on three consecutive days. To imitate the usual laboratory environment as closely as possible, the following tubes were prepared with tetanus cultures, nine days in the thermostat, and containing spore-bearing bacilli:

BACILLUS 4.

A: Ordinary test tube, 1 inch in diameter, plugged with cotton wool, into which about 8 c.c. culture fluid was put with pipette.

B: The same kind of tube, into which 5 c.c. culture fluid, plus 7 c.c. freshly boiled bouillon was put.

C: Ordinary ⅝ inch test tube, plugged with cotton wool, containing 2 c.c. culture fluid, plus 10 c.c. fresh bouillon, making a column 9 cm. high.

BACILLUS 3.

D: Ordinary test tube, 1 inch in diameter, containing about 6 c.c. culture fluid, and 6 c.c. freshly boiled bouillon.

This arrangement was designed to favor germination of the spores between the steamings in B, C and D. In A, the absence of freshly boiled bouillon would tend to leave the spores unchanged. There is, of course, nothing to show that tetanus spores were actually stimulated to germinate under the given conditions. An Arnold sterilizer was used and the tubes kept at 70 F. in the intervals. The following table gives the amount of fluid added to fresh fermentation tubes after each steaming, and the result indicated with the sign +, when multiplication took place.

Designation of culture.	Amount transferred to fresh fermentation tubes after:		
	1st steaming.	2d steaming.	3d steaming.
4. A.	1 c.c. +	1 c.c. —	6 c.c. —
B.	1 c.c. +	2 c.c. —	9 c.c. —
C.	2 c.c. —	3 c.c. —	7 c.c. —
3. D.	1 c.c. +	2 c.c. +	9 c.c. +

In this test the spores of Bacillus 3 were distinctly more resistant than those of 4. Spores in all but the dilution C survived the first steaming. None but Culture 3 survived the second and third. It should be noted here that the tubes were actually exposed 20 minutes each time. The reckoning began only after the thermometer of the steam chamber had registered a constant temperature.[12]

The foregoing experiments, though merely tentative and suggestive of more detailed and thorough investigation of the tetanus spore, are sufficient to prove that under the conditions of cultivation, as described above, some spores survive a single boiling or steaming for 20 minutes regularly, usually for 40 minutes, and occasionally for 60 minutes. In one case 70 minutes' exposure did not destroy all spores. They are sufficient to prove the possibility of tetanus spores appearing in culture fluids sterilized by discontinuous boiling or steaming in routine laboratory work, even when a relatively small amount of fluid is exposed to streaming steam for fully 20 minutes on three successive days.

There is also evidence to show that after 40 minutes' exposure a large portion of spores are killed, for the tubes of bouillon inoculated with them usually become clouded after 36 hours. Cultures of spores exposed 20 minutes became clouded within 24 hours. That there are spores which resist steaming for 2½ hours, as claimed by Falcioni,[7] needs further confirmation in view of the facts given above.

There is to-day a widespread tendency to accept and apply the principles of immunity or specific resistance toward parasitic invaders in the routine treatment of certain infectious diseases, and in the prevention of such diseases as well. To what extent the application of methods of immunization may grow will depend, to a great degree, on the special education of the masses in the true nature of disease, and their willingness to undergo treatment as a preventive measure. Moving parallel with this application of the principles of immunity and depending on it is the growth in the use of so-called biologic products in the prevention and treatment of disease.

These may roughly be defined as obtained directly or indirectly from the animal body. Leaving aside those products which are derived from the animal body by chemical processes and designed for administration by the mouth, I wish to confine my remarks to those with which the body is inoculated, or which are injected into it. Twenty years ago animal vaccine was the chief, if not the sole product, used in this way. Then came the antitoxic and bactericidal sera, chiefly derived from the horse. To-day we have various bacterial products grown chiefly in bouillon or in media made with it as the chief basis. The subcutaneous application of gelatin as a hemostatic has already been mentioned.

Groups of cases of tetanus have been associated at some time in the recent past with vaccine, antitoxic sera, gelatin and bacterial vaccines. The occurrence of occasional stray spores in vaccine was demonstrated by Carini.[13] Such vaccine, however, had proved entirely harmless in thousands of cases. It is more than probable that the actual danger would begin if such occasional stray spores were allowed to germinate in the vaccine pulp through some serious fault in manipulation. It is conceivable that the vaccine pulp after removal from the calf or heifer, if not at once chilled and placed in a low temperature, or mixed with glycerin or other antiseptic, such as carbolic acid or chloroform, may form a very rich medium for anaërobic bacteria. Some carelessness or neglect just at this stage might prove disastrous if tetanus spores accidentally present should multiply. The epidemic in this country in 1902, reported by Willson[14] and McFarland,[15] may have been the result of some such occurrence. On the other hand, neglected vaccination wounds, or those in which improper bandages or shields favor anaërobiosis, may stimulate the germination of spores coming from without and lead to the occasionally reported sporadic cases following vaccination.

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[12] In the routine work of the laboratory the actual time required for large volumes of fluid to reach the boiling point may remain undetermined. Hence the length of exposure to a given temperature may be uncertain and probably shorter than the estimated period. In the above experiments, the time was counted after the mercurial column of the thermometer in the steam chamber of the Arnold sterilizer had come to rest. Even with a large flame this requires 10 minutes at least. How much longer a large quantity of bouillon would require could be determined only by actual measurement.

[13] Centralbl. f. Bakt. Orig., 1904, xxxvii, p. 48.

[14] THE JOURNAL A. M. A., 1902, xxxviii, p. 1147.

[15] Jour. Med. Research, 1902, n. s. ii, p. 474.

In the preparation of antitoxic and bactericidal sera, there are so many safeguards thrown around them, from beginning to end, that here also only gross negligence or some hitherto unforeseen occurrence could lead to the production of tetanus. Yet several outbreaks of tetanus occurred some years ago—one in this country and one in Europe—as a result of the use of antitoxin.[16]

The occurrence of tetanus after the subcutaneous injection of gelatin in uncontrollable hemorrhage caused consternation in medical and surgical circles some years ago. The cases were reported in 1902 and 1903. I find no reports later than the latter year. In 1903 Chauffard[17] was able to report to the French Academy of Medicine as many as 18 cases collected from medical literature. Dieulafoy[18] adds five cases to this list. I have made no attempt to bring together all the cases. The 23 above referred to are already too many, and show how the widely diffused use of a new remedy may lead to many nearly simultaneous fatal accidents. The explanation was very simple. Commercial gelatin, on examination, was found to contain tetanus spores. Thus Levy and Bruns[4] found eight out of thirteen samples of gelatin infected with them. Krause[19] failed to find his samples infected. Anderson[5] reports one out of seven infected. Tuck[6] found one out of six samples of French gelatin, one out of four samples of German gelatin and four out of five samples of English gelatin contaminated with tetanus. The gelatin was usually sterilized at the apothecary's and the process was insufficient to destroy the spores. In view of the fact that some of the spores in my cultures resisted boiling 40 to 70 minutes, the recommendations of the various writers who investigated the bacterial flora of commercial gelatin, or else had used gelatin in their practice are interesting.

Margoniner and Hirsch[20] expose the gelatin in 2 per cent. solutions to streaming steam for one hour. Krause[19] recommends streaming steam for 30 minutes on five consecutive days. Holtschmidt[21] boils the 2 per cent. solution in a water bath for five or six hours. Anderson[5] recommends boiling for at least 10 minutes, or else fractional sterilization on three successive days. The temperature at which this is to take place is not given. Falcioni[7] calls attention to the uncertainties of discontinuous steaming, because in his experiments the spores failed to germinate in 2, 5 and 10 per cent. gelatin. He recommends 30 minutes, at 130 C., in the autoclave. Levy and Bruns[4] recommend streaming steam for 40 minutes. They call attention to the dangers of using large flasks in place of test tubes, for the former become heated rather slowly. Finally, the commission[22] appointed by the French Academy of Medicine recommend that the gelatin dissolved in 0.7 per cent. sodium chlorid solution be exposed, in bulk not exceeding 150 c.c., in an autoclave at 115 C. for 30 minutes.

There is sufficient variety in these recommendations to justify a more thorough investigation, even if the injection of gelatin in surgery should not prove to do all that has been ascribed to it.

The possible association of tetanus with bacterial vaccines was demonstrated in the unfortunate outbreak at Mulkowal, India, in 1902. Only last year full abstracts of the reports of the investigating committees were published in English medical journals.[23] These inform us that at the place mentioned 107 persons were inoculated with Haffkine's plague prophylactic. Of these 19 were affected with symptoms of tetanus and died. The prophylactic consisted of a suspension of plague bacilli from agar cultures in salt solution and sterilized by heat. The 19 unfortunates were all inoculated with fluid from the same bottle. They were the first to undergo the treatment. The syringe was cleansed superficially after this bottle had been emptied and the rest were injected with the same syringe from other bottles of the same lot, but none contracted the disease. A dramatic incident occurred when the prominent persons of the locality at first hesitated to undergo the simple operation. Dr. Elliott, the physician in charge, bared his arm and was prepared to inoculate himself first. At this the people gave way and submitted to the injection. Dr. Elliott would have been among the victims.

Exhaustive investigations were made by an Indian Commission and by the Lister Institute in London. The records show certain irregularities which occurred during the administration of the vaccine, such as the dropping of forceps used to remove the cork upon the ground, etc. Both commissions, however, are inclined to refer the accidents to the contents of the bottle rather than to extraneous infection during the operation. It also seems to me that the evidence points in this direction. I have been unable to read the full report and learn of any investigations as to the mode of sterilizing the culture fluid in the laboratory at Bombay, where the plague vaccine was prepared.

My own experience, related above, opens up the possibility for the survival of tetanus spores in bouillon or agar, unless temperatures above 100 C. are used. It should also be borne in mind that tetanus spores are widely disseminated in India. Goodrich[24] states that in Bombay alone there were 1,955 cases of tetanus in five years. These do not include puerperal cases.

Before leaving this phase of the subject there should be mentioned, for the sake of completeness, the epidemics of tetanus in our large cities, following wounds from blank cartridges on Independence Day. The only experimental study of this subject which I have been able to find is by H. G. Wells.[25] Dr. Wells made an exhaustive bacteriologic study of 200 cartridges from five firms. Though several other anaërobes were encountered in cultures from them the tetanus bacillus was not detected.

The great resistance of tetanus spores concerns both the practicing physician and surgeon and the laboratory worker who is engaged in the preparation of biologic products for subcutaneous administration. As regards the surgeon, I do not believe that the usual disinfection by boiling or steaming at 100 C., such as may be resorted to away from hospitals need be placed under suspicion or discarded, but whatever has come in contact with fecal matter or with material undergoing putrefaction should be autoclaved at 110 C. to 115 C., unless the disinfecting action of the boiling water in which objects are immersed is increased by alkalis and other substances.

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[16] The outbreak ascribed to this country occurred in St. Louis in 1902, and was due to the presence of tetanus toxin in the diphtheria antitoxin. It was proved by a commission that the horse yielding the serum was in the incubation stage of tetanus. (Bolton and Fisch, Trans. Amer. Physicians, 1902, p. 463.)

[17] Bull. Acad. Med., Paris, 1903, xlix, p. 549.

[18] Bull. Acad. Med., Paris, 1903, xlix, p. 630.

[19] Berl. klin. Wochschr., 1902, xxxix, p. 673.

[20] Therapeut. Monatshefte, 1902, p. 334.

[21] Münch. med. Wochschr., 1902, xlix, p. 12.

[22] Bull. Acad. Med., 1903, i, p. 805

[23] Jour. Trop. Med. and Hyg., 1907, x, p. 33.

[24] Annals of Surgery, 1897, xxvi, p. 710.

[25] Phila. Med. Jour., 1900, v, p. 1377.

It is the producer of biologic products who is most concerned in the occurrence of resistant tetanus spores. For if they may resist boiling for an hour, it is obvious that the autoclave is the only safeguard. Wherever tetanus antitoxin is being prepared, the necessary preparation of tetanus toxin to immunize horses makes great caution necessary. Whatever comes in contact with such toxin must be autoclaved, and the communication between the rooms where tetanus toxin is being prepared and those devoted to antitoxins should only be through the autoclave, so far as all apparatus is concerned. The occasional occurrence of tetanus among the horses of antitoxin plants may, in part, be due to the accidental escape of tetanus spores from the laboratory. Spore-containing toxins should not be injected and even filtered toxins should be treated with suspicion, as filters may become leaky at any time.

In the preparation of bacterial vaccines the danger is not altogether chimerical. My own experience with the tetanus spore, which successfully ran the gauntlet of the ordinary sterilization, and reappeared in the fully developed diphtheria culture in a Fernbach flask, is a good illustration. At that time autoclaves were not so generally used as they are now and it was my belief that the higher temperatures rendered the bouillon less satisfactory for toxin-production. So far as I know this belief has not been disproved, but the autoclave came, nevertheless, as a necessity, and it has come to stay. The occurrence emphasizes the importance of routine microscopic examination af all such material, testing it on small, susceptible animals and making subcultures wherever the product is to be used on the human subject.

It must be emphasized, however, that in spite of the wide distribution of tetanus spores over the world, and the gigantic amounts of biologic products in the form of sera and vaccines consumed annually the number of accidents which have occurred is excessively small and no one is likely ever to recur from the same causes. If accidents should occur they will be due to the erroneous impression still generally prevalent concerning the heat resistance of tetanus spores. The chief object of my communication is to aid in dispelling this error.

The prevention of tetanus should not rest with the attempts to destroy the spores, but go farther and determine, if possible, what the real habitat and the bacterial and other associations of this formidable species are. We have two ways of approaching this problem. One is to localize the bacillus by actual isolation, i. e., by finding it by means of bacteriologic procedures. The other is more indirect and consists in a detailed study of its biologic characteristics and those of closely related species, from which its affinities might be inferred.

As regards its occurrence, it is now well known that well-manured garden soil has yielded tetanus bacilli in the hands of various observers. The old theory derived from the French, which claims that the tetanus bacillus is a regular inhabitant of the intestines of the horse, and newer observations which extend this habitat to other species of domestic animals as well, seems to have found more or less acceptance. Thus, Sanchez Toledo and Veillon[26] found tetanus in the feces of four out of six horses and in the feces of one of two cows. Hoffmann[27] examined feces of rabbits, guinea-pigs, horses, cattle and sheep. Only one examination of 22 proved positive. This was in the feces of a horse. Pizzini[28] found tetanus bacilli in the feces of peasants having much to do with horses.

The large cecum and double colon peculiar to the genus including the horse, in which the food after passing the small intestines is stored temporarily to permit absorption, serves well the purposes of anaërobes. This large reservoir may dilate rapidly during digestive disturbances, when fermentation is not kept under control and may require tapping to relieve the great distension. It would be a rather curious paradox if the animal, the most susceptible of all to tetanus toxin, should prove to be the primary host of the tetanus bacillus. We should expect the exact reverse and look for a relatively high immunity of the carrier.

Closely associated with this problem of breeding places of the tetanus bacillus is its dissemination over the globe and the presence of its spores in so many places outside the intestines of animals. The great resistance of the spores to the normal destructive influences of nature in part explains this dissemination. Climate enters as a factor, for tetanus is stated to be far more prevalent in warm climates. Yet Iceland at one time suffered severely from tetanus neonatorum.

The biologic characteristics of this organism are in some respects noteworthy. On account of the disagreeable odors which emanate from its cultures it may be classed among the putrefactive anaërobes, yet it has very feeble, if any, powers of liquefying coagulated blood serum and egg albumin, and it liquefies gelatine very slowly. The ordinary non-pathogenic putrefactive anaërobes possess these powers to a high degree. Indol may easily be demonstrated in its cultures, but not in those of the actively putrefactive types. These characters place it between the genuinely pathogenic and the putrefactive anaërobes. Some years ago I formulated the doctrine that among a given group of closely related bacteria those which became parasitic and pathogenic lost some or all of the fermentative and putrefactive functions belonging to more independent types. Judged from this standpoint, the tetanus bacillus has lost some and retained other characteristics of the putrefactive types and this would point to the digestive tract as a possible breeding ground. On the other hand, the presence of the tetanus bacillus in garden soil and in gelatin suggests much more extensive breeding places than the intestine, and it may be that it is capable of multiplying in symbiotic relation with other anaërobes wherever proteid material undergoes putrefaction. In fact, it is conceivable that it simply passes through the intestines in spore form without multiplying at all.

Another aspect of the subject well worth considering is the continued dissemination of this organism and the permanent infestation of regions originally free from it, through commercial and industrial agencies, just as certain territories in our country have become permanently infected with anthrax spores, thanks to the offal and residues washed down into streams from tanneries and hair factories. The wide distribution and consumption of gelatin infected with tetanus spores must certainly assist, quite effectively, in their dissemination wherever human ordure is used as a fertilizer, for the usual culinary treatment of gelatin can hardly be expected to kill tetanus spores. The same may be true of the wide dissemination of tetanus spores on vegetables, tubers, and fruits[29] transported by train loads from south to north, from west to east, and as a general rule from the territories where tetanus may be considered most prevalent to those in which it is less prevalent.

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[26] La Semaine Med., 1890, x, p. 45.
[27] Hyg. Rundschau, 1905, xv, 1233.
[28] Riv. d'igiene e. san. pubbl., 1898, x, p. 170.
[29] Only recently Rabinowitsch found the water in which strawberries sold in Berlin had been washed quite regularly infected with tetanus spores. Arch f. Hygiene, 1907, lxi, p. 103.

Another agency in the distribution of tetanus spores over limited areas is the common housefly. Anyone who has occupied himself with the study of tetanus and other putrefactive bacteria, knows how a solitary housefly in a large room is quickly attracted by the offensive odors, and how persistent in its attempts to reach the culture fluid this insect is. Films spread on cover-glasses are quickly eaten by this pest, and in view of experiments made by Lord and others with tubercle bacilli I do not hesitate to assume that tetanus spores are not injured in their passage through the digestive tract of flies, and that the latter may carry this infection from house to house. There can be no doubt that with the mosquito and the rat, the housefly has much to answer for in civilized communities.

The theme on which I have discoursed at some length may seem to many a commonplace one and hardly worthy of notice. To one who has had the responsibility of the preparation of diphtheria antitoxin during the past 12 years, the subject appears of great importance, for the preparation of such therapeutic agents requires all the circumspection, care and knowlege which can possibly be bestowed on it. It is far easier to arouse the nervousness of the public than to allay it, and though the accidents that have followed directly or indirectly the use of biologic products are infinitesimal as compared with those of our railroads, yet the public is accustomed to the one and more or less indifferent to it, and very much disturbed by the other. The cause of rational, progressive medicine is distincly retarded by accidents which would hardly cause a ripple if they occurred in industrial life.

My theme finally illustrates an occasionally observed fact in medicine. Whenever practice outruns the laboratory, and, more or less impatient, applies the latter's results to the prevention and cure of disease, it frequently deals with half truths whose application may be harmful. It is this sense of being surrounded by half truths which should stimulate us all not to rest content with them, but to use our efforts unremittingly until they have been made whole.

Original Articles

THE HOME TREATMENT OF PULMONARY TUBERCULOSIS.

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INTRODUCTION.

In acute diseases, reactions to treatment (hygienic, medicinal and other) are often more or less prompt and decisive. In chronic diseases the reactions to treatment are, for the most part, slow and so indefinite as to cause a shadow of doubt as to the responsibility of the treatment, for either the good or bad termination. In acute diseases physicians generally recognize that the chances for recovery are greatly enhanced by perfect quiet. So firmly do they believe this that every movement possible is saved the patient. A nurse assists in the feeding, she bathes the patient in such a way as to worry him the least; everyone is excluded from the sick room, with the exception of the nurse and one or two of the most intimate members of the family, and, in fact, everything is done to ensure quiet for the patient.

The prolonged course of chronic diseases, the hopelessness of the conditions, the resulting severe mental disturbances, the dread of the inevitable period of considerable duration when the victims are forced to take to their beds, have all been factors in causing physicians to recommend as active a life as could be tolerated without too much inconvenience. Thus it has been with tuberculosis. Most of the physicians, as well as the laity, up till recently, have considered tuberculosis as an incurable disease, and have only attempted to make the progress of the disease as slow, and the remaining days as livable, as possible. The treatment of tuberculosis in recent years has yielded such gratifying results that we can now say that, beyond question, tuberculosis is curable. This idea has not yet become generally disseminated. But we must change our opinions regarding the curability and the treatment of tuberculosis, and the sooner we do this the more lives we will save. Someone has pertinently said that "We must care for the consumptive in the right place, in the right way, and at the right time, until he is cured, instead of, as now, in the wrong place, at the wrong time, until he is dead."

The question of what to say when asked for advice by a consumptive is ever a puzzling one to most physicians. Just what advice is given very often, is too well known to make it of any force if repeated here. The writer sees so many patients who are doing the wrong thing, often on the advice of physicians, that he is prompted to write on the above topic.

PHYSIOLOGY OF TUBERCULOSIS.

The anatomy of the pathologic lesion of the disease is well known to all, but not so the physiology—and the physiology is of the extremest importance. Tubercle bacilli produce poison. When this goes into the system, by absorption from a lesion in the body or from a hypodermic injection, a definite physiologic reaction is induced. This reaction is responsible for the symptoms of tuberculosis. Wright, of London, and his assistants have found that exercise and massage of an infected area produce as definite changes in the blood as come from injections of tubercle poison, whereas this will not occur if the infected part is kept quiet. For this reason an organ the seat of an infection should be placed at rest.

In the light of Wright's discoveries the rest should be intercepted by sufficient work to cause an inoculation into the blood of a small amount of poison at not too frequent intervals. The rationale of this will be seen in a later paragraph. The corpuscles of the blood have the faculty of ingesting bacteria. The serum of the blood often has the property of agglutinating bacteria and of precipitating the toxin of the bacteria. These are some of the protective elements or immunity factors of the blood. There are others of which we know, and there are doubtless still others of which we do not know. It has been shown that these protective elements are profoundly influenced by bacterial toxins.

When the toxin first goes into the blood there is a decrease in at least some of the protective elements. The extent and duration of the decrease is slight or great, depending on the amount of toxin introduced and the ability of the blood to counteract it. This period of decrease, called by Wright "the negative phase," endures usually from a few hours to a few days. If during this period more toxin is introduced into the blood a further decrease in the protective elements results. This may occur so frequently as to keep the immunity factors constantly at a low ebb.

If, however, only one inoculation of toxin occurs, the negative phase will have run its course in a few days or less time and be superseded by a secondary reaction—an increase in the protective elements of the blood, termed "the positive phase" by Wright and his co-workers. The height and the duration of this phase depends also on the amount of toxin inoculated and on the ability of the blood to counteract it. During this phase the protective elements of the blood are unusually active in fighting the invading bacteria and their toxin. If the protective forces can be kept indefinitely at a high ebb the chances for recovery are much greater than if they are even occasionally at a low ebb.

According to the modern conception of therapeusis, we must attempt to increase the immunity factors of the blood in order to eradicate the disease from the body. On this course of reasoning it is plainly seen that the bacterial poison should be kept from entering the blood at too frequent intervals, and should be caused to enter the blood at the proper times.

It is impossible to put the lungs at rest, but it is possible to reduce the depth and frequency of the respiratory movements to a minimum. From a given focus of infection, and during a definite time, more toxin will be absorbed while the breathing is deep and rapid than if the breathing is slow and shallow. Every movement of the body occurs at the expense of the oxidative processes. Increased oxidation causes an accumulation in the blood of carbon dioxid. An excess of carbon dioxid, together with an impoverishment of the oxygen of the blood, causes the respiration to become deeper and more frequent. This, as was said, causes some toxin to go into the blood. The poison, on entering the blood, as was said, brings about a fall in the protective elements of the blood. If the poison is frequently introduced and in too great doses, the protective factors may become so reduced that the bacteria may gain new footholds and institute other foci from which toxin may be absorbed.

INFLUENCE OF WORK ON THE SYMPTOMS.

The symptoms of tuberculosis—the cough, the fever, the chills, the weakness, the loss of appetite, the loss of weight, the flushed cheeks, the moist axillæ, the night sweats, etc.—are largely the results of the presence of the poison in the blood. As shown above, the poison in the blood may be increased greatly by anything that makes one breathe faster or deeper. It is the usual thing for tuberculous patients to report that they feel better after a rest of a few days, and that the day following an unusually hard day's work they feel worse, and that their symptoms are aggravated. In spite of all this, however, many of us still tell them to exercise in the open air—we tell them to walk, to ride horseback, to camp or to make an overland trip, or to do anything just so they are out of doors. The author has repeatedly seen cases which have gone along for a considerable period without making progress, and when prevailed to take the rest cure, begin immediately, or within a few weeks, to show distinct improvement. In fact, this is the rule.

One patient who had been taking an overland trip, on the advice of her physician, presented herself to the writer for examination. The important findings were that she had been possibly holding her own for the four or five months past. She had considerable throat irritation, was expectorating some and her temperature registered 102 or over. Her appetite was poor. There was considerable involvement of each lung. She had been attempting to walk a half mile each day, and also to assist her mother in the cooking and with the other duties connected with the camp. These she had been recommended to do by her physician. She was advised by the writer to discontinue all work and exercise. At the end of a week she presented herself for a second examination. Her fever was gone, her throat irritation was much reduced, her appetite was better, and she had increased 3 pounds in weight. In the next four weeks she continued to improve—gaining 8, 3, 5 and 3 pounds, respectively, each successive week. Her total gain in eight weeks amounted to 34 pounds. She is now allowed to do a little work. A tub bath will not now cause her to have a fever as it did only a short while back. A short walk of twenty or twenty-five yards at first caused her to feel fatigued. Now at the end of eight weeks she is allowed to walk a half mile or even more, and no untoward results are observed therefrom. The histories of a number of other cases which illustrate the importance of rest for tuberculous patients could be cited, but the one mentioned shows the influence of rest to a very pronounced degree; the most of the cases respond in about the same way, though sometimes not quite so rapidly.

THE DIFFICULTY OF KEEPING PATIENTS QUIET.

Persons suffering from tuberculosis, in any but the last stages of the disease, ordinarily feel fairly well—at least they do not feel like staying in bed continuously for several weeks. As a rule, these patients avoid the bed as long as possible, because they have a superstitious belief that when they once go to bed they are apt to not get up again. This belief must be dispelled, and the rationale of the rest treatment must be explained. The writer has found the following course of reasoning to be both comprehensible and convincing to the patient.

The lungs are the breathing organs of the entire body and are filled with air spaces. On this account they may be compared with a sponge. If a sponge, saturated with water, is gently squeezed, a little water will be squeezed out. If the gentle squeezing is repeated, the amount of water to leave the sponge will gradually decrease until none leaves. But if the sponge is somewhat more than gently squeezed, water will again be caused to exude. In fact, water can be forced out of the sponge at almost any time that sufficient pressure is applied to it. When the lungs are the seat of a tuberculosis infection, the condition existing there, in regard to the tuberculosis poison, is much the same as the water in the sponge. For this reason every respiratory movement has a tendency to cause some tuberculosis poison to leave the foci of infection. Since the lungs are richly supplied with blood vessels, some of the toxin eliminated from the tubercles will be taken up by the blood. During the existence of the symptoms of the disease, or as long as the patient is subject to them, the respiration should be as slow and as shallow as it is possible to have it. All exercise, all unnecessary body movements—bathing, laughing, crying, talking and even sitting up—should be strictly prohibited. In other words, the patient is treated in just as careful a manner as if he was prostrate with pneumonia or typhoid fever.

To get a patient to follow directions carefully is not easy. In fact, it is very difficult, and sometimes impossible. Sometimes, the writer, when explaining the conditions to a particularly intelligent patient, goes so far as to explain the influence of the toxin on the blood—detailing the influence of both the negative and the positive phases. It seems advisable to do this.

MENTAL ATTITUDE OF THE PATIENT.

The mental attitude of the patient is of the greatest importance. If the patient is contrary, and unwilling to believe in the seriousness of his condition, or in the good to be acquired by the rest cure, if he conjures a spirit of antagonism and of unresignedness, or if he is of a nervous, fidgety, absent-minded disposition, it will be difficult, or perhaps impossible, for him to make much progress. The writer has repeatedly noticed that those patients who comprehend the advice given them, and who have dispositions that will allow them to do what they have been told to do, are the surest to make the most rapid recovery. Most tuberculous patients have a high or low grade of neurasthenia, and the resulting symptoms are constantly in need of treatment.

THE NURSE.

A careful, conscientious, intelligent nurse is an absolute necessity. The nurse must, at all times, have complete charge of the patient. She must see that the directions of the physician are carried out. It makes little difference how often some patients are told not to do a certain thing, nor how important they are told it is, they are liable to disobey as soon as the adviser is out of sight. The nurse must have intimate control of the patient, or he will take a bath, or have too animated a conversation, or engage in a general laughing bout with others; or he will do something he should not do, unless the restraining influences of some one is felt.

To cite a little incident that occurred in the sanatorium. One evening, while the nurse was preparing the between-meal lunch, four of the lady patients, whose temperatures had been normal for a while, got into the room of one of the patients, and put on their coats, hats and veils as if they were going out. They surprised the nurse, as they had planned. The result provoked a great deal of laughter. The next day two or three of them had fever. Had it not been for the nurse's short absence this would not have happened. In another instance, a patient's fever jumped from 100 to 103 degrees. She had unadvisedly been given a bath the day before. A week or two later her temperature remained at normal for a couple of days. She wished her room fumigated and she walked to another room. The next day her fever jumped to 100. The writer could cite a large number of incidents which prove conclusively to him that the fever, cough and other signs of toxemia may result indirectly from undue exertion. The nurse is the disciplinarian and must control the patients even unto their slightest exertion. The nurse must keep careful records of the temperatures, of the appetite, of any medicine administered, of the amount of the cough, and of the conditions in general. All of these will be improved, as a rule, by the proper régime, and it is very gratifying and encouraging to the patient to see evidence that he is improving.

ANALYSIS OF THE PHYSIOLOGIC INFLUENCE OF CLIMATE.

There are differences in climates. There may be: atmospheric impurities; a small or large amount of humidity; winds; too little or too much of sunshine; a rarefied and condensed condition of the atmosphere; high or low temperatures; changeable or equable temperatures. An analysis of the physiologic influence of the above factors shows some interesting points. Impurities, such as often exist in the atmosphere of certain parts of large cities—coal-smoke, dust of various kinds, obnoxious gases, etc.—are irritating to the respiratory tract; and a consumptive should not live where he is subjected to them. The humidity is of less importance. In a climate where the humidity is relatively high, evaporation of the perspiration of the body takes place very slowly, and the clothes become moist. Moist clothes are much better conductors of heat and cold than dry clothes; hence, in the summer, the heat is more oppressive, and in the winter the cold is more severe, in a climate where the humidity is high—the temperature being the same—as in another climate where the humidity is low. But clothing and artificial devices can compensate to a greater or less degree for the influences of humidity.

The worst days for consumptives are the hot, humid, oppressive days of summer. These cause deep, rapid, labored respiration. This may bring about, indeed, is likely to bring about, an exaggeration of the symptoms. Winds aid in a change of the atmosphere, and hence may disperse impurities and facilitate evaporation. This is advantageous. Heavy winds are disagreeable, but can easily be avoided.

A sunshiny day is much more cheering and less dismal than a cloudy one, and hence it is more conducive toward one's being out of doors; but the sunshine also makes the day warmer. The cheering days are much to be desired, but excessively warm days are detrimental as the heat causes more rapid respiration. The higher the altitude the rarer the atmosphere; the rarer the atmosphere the more rapid and the deeper must one breathe in order to get the required amount of oxygen. Rapid and deep breathing, as before stated, are distinctly contraindicated in any case of pulmonary tuberculosis, where there is any tendency toward the development of toxemia. The sea level, or a few hundred feet above it, is preferable to a higher altitude.

Temperature is an important factor in the handling of tuberculous patients. Where it is too warm, the breathing will be too deep and rapid, and where it is too cold, discomfort results. The latter, however, is much less dangerous than the former. Sudden changes of temperature are liable to be more or less harmful, unless great care is exercised to prevent sudden cooling of the body.

As no climate is likely to possess all of the desirable features and none of the harmful ones, and since, as a rule, the climate of any place within a thousand feet of the sea level possesses both good and bad elements, and since any of the untoward factors of climate, except excessive temperatures and rarefied atmosphere can readily be compensated for, there is usually, not a great deal to be said for or against any certain climate in regard to its peculiar fitness for the cure of tuberculosis.

It seems best to repeat that hot climates and high altitudes should be avoided by most consumptives. Sometimes, sending a man to another climate will get him away from his business and force him to rest. It is the rest and not the climate that does the good. The indiscriminate changing from one climate to another is absolutely wrong. To deprive a sick man of his home and loving friends, without giving him anything to take their places, is wrong. Placing a patient in a sanatorium robs him of his family and home, but these are compensated for by the care he receives.

SANATORIUM TREATMENT.

This is superior to home treatment because of the more perfect control that it is possible to have of the patient. The strictly enforced rest is what yields the results, and it is not enough to recommend rest to a patient; he must have some one in control of him who will make him rest. And this some one should be a person who is specially trained, and who will rigidly enforce the orders of the physician.

In a sanatorium the feeding is also done in a manner that is unusual in the home; and many petty annoyances do not have to be contended with in sanatoria. Sometimes, homesickness is an important factor. It may be so bad as to materially retard the progress of the patient.

DIET.

There is little that needs to be said concerning any special diet for the tuberculous convalescent. The victuals should be prepared in an appetizing manner and they must be served in an enticing style. This is a point of the supremest significance. Things which disagree with a patient must, of course, be avoided. Disturbances of digestion must be treated symptomatically as they arise.

As a rule, the appetite is very much improved by a few weeks' rest. It is the writer's custom to have his patients take, in addition to their regular three meals per day, three or four lunches. A lunch consists of eggs and milk or milk and cheese sandwiches, or milk and a dish of beans or ice cream or custard, or something else which is particularly nutritious. The milk may be served hot, alone or as cocoa. Not a few patients claim that they can not eat eggs and milk; but perseverance and tempting the appetite by the various ways of serving will invariably succeed in developing a tolerance if not an appetite for both eggs and milk. Milk should be taken very slowly. In order to get some patients to observe this, they must have something to eat with the milk. The writer has devised an omelet wafer, composed of egg and just enough flour to thicken so that it will bake well. It can be seasoned to suit the taste. This is a very good way of serving eggs.

THE PHYSICIAN'S VISIT.

Unless the patient is so far convalescent that he has no signs of toxemia, even after taking the exercise necessary to go to and from the physician's office, the doctor should visit him at his home. The frequency of these visits must depend largely on the mental attitude of the patient. If he is confident of receiving benefit, and is trying hard to follow orders, and is not restless or nervous in any way, the physician does not need to call very often—once every week or two will suffice. But if the patient is despondent, doubtful of results, ready to give up, needful of encouragement, the physician should carry cheer and encouragement to him frequently.

The physician must incessantly be repeating the fact that every little bit of exercise may be harmful; he will have to coax and plead with the patient to remain quiet. He must himself be a firm believer in the good to be accomplished by enforced rest, fresh air and good food, and he must never give up. A thorough understanding of the condition should make him a firm believer. It may take weeks or even months before noticeable improvement can be detailed.

The patient will often be doing things unknown to the doctor, and in the belief that they are absolutely harmless. The author had one patient who, unknown to him, and after it was thought that she thoroughly understood what was desired of her, was practicing deep breathing, for a few minutes, each day. She discontinued this, and her improvement has been much more marked since than it was before.

DRUGS.

So far as we know, there are no drugs which will do sufficient consistent good in tuberculosis to compensate for the harm they may do. Tuberculin may be used to advantage in certain instances, provided it is used with extreme care. It should be held in mind that the administration of tuberculin is doing nothing more than putting into the patient's body some of the toxin, of which he has already had too much. By a proper regulation of the exercise, an inoculation of the patient with his own toxin can be effected. If there is anything in the specificity of the immunity elements, the latter is the rational procedure. The only disadvantage is in the regulation of the dosage, but the same trouble arises in the hypodermic administration of tuberculin, as there is ever danger of giving it with a concomitant absorption of tuberculin from the focus of infection in the lungs.

The use of drugs in tuberculosis for the purpose of making the patient think that the doctor is doing something or to keep the patient coming to the doctor's office is, in most instances, pernicious. Sometimes, when reasoning has been found useless, it may become necessary to deceive a patient in order to keep control of him long enough to do him good. Such an instance is pardonable.

Complications, however, frequently call for drugs. There are no special contraindications to calomel or cascara for constipation, or for sodium bicarbonate in hyperacidity, or for bismuth and salol in dysenteric conditions, or for nitroglycerin or calcium lactate in hemorrhages, or for aspirin in headaches, or for many other drugs in certain other conditions.

Because of the heavy demands necessarily made on it, the digestive tract should be saved all undue irritating influences of drugs. The writer is opposed; however, on other grounds, to the use of drugs, unless there are specific indications for them; many persons have an extreme confidence in the ability of drugs to cure, and when drugs are given them they naturally, having great faith in drugs, relegate all other orders to a position of far inferior value, and they thereby do themselves more or less harm.

TREATMENT OF THE TUBERCULOUS CONVALESCENT.

After a patient has experienced a relief from his symptoms for a few weeks, he may begin to sit up to eat and to read. He may be allowed a little later to take short walks. The increase in his exertions should be made not every day, nor oftener than every five to ten days. An explanation of this course of reasoning lies in the duration of the negative phase following an inoculation of toxin. And there is apt to be an inoculation of toxin after a period of even mild exercise. The effect of one day's work may not be noticeably bad, but an accumulation of the bad effects of several days' work may be detectable.

The writer aims to have every one of his patients begin exercise so gradually and cautiously that no bad effects will result from it. This is not always possible, and the second best thing to do is to have the exercise begin so slowly that but little harm can result, and this should be repaired as quickly as possible. A return to rest is indicated whenever there are signs of a backset. The first few weeks after the fever is gone are the most trying to the patient, because he invariably feels fine and scarcely can refrain from doing something. Those who can not control themselves are usually the ones who get the backsets and have a hard time to make a recovery.

Later in the period of convalescing outdoor exercise can be given a patient. This should be in measured doses. Walking a certain distance, in a given time, is, perhaps, one of the most satisfactory exercises. This can be increased or decreased as judged best by the physician in charge of the patient. The decision as to the amount of exercise to be allowed a patient should be left to the physician, as it is too important a question to leave to the patient or even to the nurse. By gradually increasing the work, the patient will eventually do a day's work, one day after another, without harm. Careful living should be practiced, however, after this.

SUMMARY.

In conclusion, it should be said, that in the treatment of tuberculosis a proper regulation of rest and exercise is the most important point. Absolute rest must be enforced during and for some time after the existence of toxemia. The exercise must begin after nearly normal weight is gained, and very gradually, so as not to produce toxemia. It is best that the exercise be begun so that there is an interval of a week or more between two exercise periods.

The second important factor is good air. Fresh country air, or a climate which is not too warm, and at an altitude of not more than 1,000 to 1,500 feet is desirable. Air should be circulating through the patient's room all the time. It is of some benefit, perhaps, in some instances, for the patient to live out of doors. This is of little importance, however, when compared with the significance of the rest and exercise.

The third important factor is good food. The patient should have three good meals a day, and between each two meals a lunch of eggs and milk. Forced feeding is not necessary, but good feeding is essential.

It should also be repeated that consumptives are curable, and that it is being demonstrated every day. (The tuberculous patient must, however, be treated as though he were really sick—just as sick as if he had some acute disease, as scarlet fever, typhoid or pneumonia.)

In tuberculosis, where there are signs of progress of the disease, it is of far more importance to keep the patient quiet than to force him to eat unusually large quantities of food, or keep him out of doors all the time, or give him large quantities of cod-liver oil, creosote or other drugs.

THE MANAGEMENT OF THE SEXUAL FACTOR IN TUBERCULOSIS,

AND ITS RELATION TO THE HOME TREATMENT.

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The problem how to regulate sexual intercourse is one of the most difficult in phthisis therapy, and it is correspondingly important. I purpose to consider first the general factors which obtain, then the means by which we may deal with them in sanatoria, and, finally, how we can manage this very delicate matter in the home treatment of the consumptive, which, in my opinion, is a serious drawback to that method.

Some physicians think it is erroneous to hold that consumptives are more prone to sexual excitement than healthy individuals; that we are impressed in rather a disproportionate way because the erethism which some consumptives admit is surprising and grotesque, when this disease is, in itself, so enervating and so exhausting. At the other extreme are those physicians who consider the phenomenon a very prevalent one. The latter view is apt to be held by those of our colleagues who do a great deal of dispensary work among the poor in large cities, and among the victims of alcoholism and prostitution, which factors are so often either predisposing to or co-existing with consumption. Between these two extremes of opinion, however, are ample data to show that the tendency to abnormal sexual excitement is so frequent among consumptives as to require the careful attention of the physician.

What are the reasons for such abnormal erethism in consumptives? There is, first, the lack of occupation, which is either enforced by the physician as one of the fundamental principles of phthisis therapy, or which has naturally come about through the patient's weakness and hesitancy of employers to engage a sick man. Enforced idleness follows, and this oftentimes leads to unwholesome introspection. Then, the temperature in consumption, no doubt, excites erethism. The toxins generated by the tubercle bacillus and in the mixed infections have a similar influence. Then, there is the forced feeding essential to the cure; the eating of raw eggs and rich red meats; also the stimulating life in the open air and sunshine, and the tonics—such as strychnin—which we find adjuvant to the cure. Besides, some consumptives feel that their disease dooms them to an early death and "Drink and be merry, for tomorrow you die," becomes their life philosophy.

This attitude of the consumptives is not to be observed so much nowadays, since we are proving by many thousands of examples that the malady is not necessarily fatal. It is said that this abnormal excitability is greater among women than among men. If such be the case, it must be because the home life and the lack of employment are more accentuated among women. On the other hand, we can easily understand how erethism is more common among male adolescents, for it is at that period that a new, an unaccustomed and a most exhausting appetite manifests itself, with all the force of a great revelation. I believe that the advent of the sexual appetite with adolescence is a large factor in the appalling tuberculosis death rate which begins with adolescence and which has been destroying every third or fourth adult life. The preponderance of tuberculosis in girls, on the other hand, is from the second to the twentieth year (Cornet).

Every physician has been impressed by the almost disgusting and sometimes revolting persistence of the sexual instinct in consumptives, even late in the disease. I have repeatedly, in my sanatorium experience, taken the temperatures when married couples were left to themselves during visits. There has been an invariable increase of from one to three degrees. Especially was such a rise in temperature marked in women who have been running a normal temperature after the husband's visit. One of my patients, a man of 35, with advanced pulmonary tuberculosis, had intercourse on each of five consecutive nights, the last exertion resulting in a hemorrhage from which he died. My colleague, Dr. H. L.

Barnes, superintendent of the Rhode Island State Sanatorium, narrated to me the case of a male patient who died from a hemorrhage coming during the sexual act, which took place while on a visit from the sanatorium to his wife.

The sexual desire may persist, and this is not at all uncommon, to the very day of death. Cornet relates the case of a tuberculous husband who copulated every night.

Copulation under such circumstances must be most offensive to the healthy partner, if for no other reason than that the well-known odor of the consumptive's perspiration is so intensely disagreeable and penetrating.

"My nose," states Babcock, "can usually diagnose a case of consumption for me." Of course, the sexual excitement is increased by irregular habits of life and by the inordinate use of alcohol; moreover, there is grave danger of infection, which occurs with great frequency in marriage, not only by the ordinary and familiar avenues, but also by immediate contact, as when the patient has a tuberculous lesion of the testicle or of the epididymus. Cornet relates how in the most disgusting ways infection may occur in illegitimate intercourse; and it is not only ordinary intercourse which must be considered, but also exhausting onanism and pollutions.

In the sanatorium we may do much that can not be done in the home treatment of consumptives by constant regulation and the proper supervision and observation of the patient's life, both day and night. Still, the greater vigilance is by no means always rewarded. The sanatorium is much the better place for the married consumptive and the careless patient, and, if possible, privacy should not be permitted during visits. All men who work in institutions are acquainted with the many difficulties that are here met; all know how the most beneficent of councils, the most salutary orders are oftentimes disregarded when the most powerful of human temptations appears.

It is often wondered at that sexual intercourse does not result more fatally than seems to be the case. To understand this we must bear in mind the enormous resources in reserve which exist even in a very sick body, the factors of safety which Dr. Meltzer[1] described in such a scientific way.

The home treatment is, after all, the only one that can be followed in many cases of consumption, since we have not sanatoria enough to take even a small percentage of these patients. And here the physician can only advise and give the most explicit and earnest counsel, explaining the dangers that lie in excessive intercourse. He must detail those I have already set forth, and he must, in addition, require the consumptive to sleep in a room by himself, or, at least, in a bed by himself. It must be explained that even in healthy individuals, the exhaustion from the sexual act and the shock on the nervous system are very great and not always recovered from; how much greater then, is this so in the sufferer from so chronic, so exhausting, so enervating a disease as consumption. I have come on the statement that coitus hurts the consumptive more than a five-mile walk. Of course it is difficult to consider this estimate scientifically, because there is no means of gauging it. But I do not believe that there is any underestimation in this statement; indeed, the sexual act in an advanced consumptive would probably be a greater strain on the organism than a walk of a number of miles, hurtful though the latter exercise certainly would be.

We must represent to the patient that the treatment which we emphasize, rest, nourishing food, outdoor life, and the use of tonics and stimulants is essential, in order that the exhausted organism may fight and destroy the forces of disease which so grievously beset it; and that if the body becomes enervated by excesses and acts tending to deplete the strength, recovery can not be hoped for.

We must appeal to the fair mindedness of the consumptive, stating to him that the spermatic fluid contains the fructifying sperm up to the day of death; that children have often been born long after the death of consumptive fathers; that such children, because of the physiologic poverty of their sick progenitors, come into the world with the most unfair and cruel handicap of an abnormal heredity. The well husband of a consumptive wife should have his honor and real affection for her appealed to, not to make her pregnant; since in such cases the saddest of all deaths is deplorably frequent.

Finally, consumptives who consult physicians with regard to their marriage prospects should be most earnestly counseled not to take the step until they are entirely cured. The wise warning of Flick should be given, "many a young man sacrifices his chances of recovery on the altar of Hymen." And also this: When consumption is hanging about a girl, the distance between the marriage-bed and the grave is usually short with her. The husband, if he does not become a widower soon after the birth of the first child, may count on a perpetually ailing wife.

Drs. Knopf, Huber, Osler, Babcock, Cornet and Flick all touch on this important subject in their writings, and I am indebted to them for many excellent points, but I really feel that the subject does not receive the consideration it deserves. I think the absolute abstinence of sexual intercourse is one of the most important points to consider; and one that is especially hard to overcome in the home treatment of the great white plague. And it is my opinion that the home treatment is very unsuitable for the management of the sexual factor.

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[1] THE JOURNAL A. M. A., Feb. 23, 1907; also the Harvey Society Lectures (Lippincott Co.).

TRAUMATIC PNEUMONIA

WITH REPORT OF A CASE IN A FEMALE AGED SIX YEARS.*

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It is certain that pneumonia frequently follows bodily injury and traumatic pneumonia may be defined as that form of pneumonia which follows direct or indirect injury to the lungs. The trauma may cause a fracture of a rib, and the rib is sometimes forced into the lung substance, or a foreign body may have been aspirated. The injuries following such accidents are, without doubt, the most frequent causes of this kind of pneumonia. These, however, are not the only causes, for not a few cases have been reported in which the patient received a fall or a simple contusion on the thorax, and one English writer mentions a case following shock from a railroad accident, although no injury was actually received. Pneumonia developed in one week after the accident, and the railroad company was sued for damages, the patient alleging the great nervous shock as the direct cause of the trouble.

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* Read before the Philadelphia Pediatric Society, Dec. 10, 1907.

Although the older clinicians realized that trauma and pneumonia were frequently associated, they did not understand the exact etiologic factor existing between the two. It is a well known fact that whatever lowers vitality predisposes to pneumonia. It may be alcoholism, which is the most frequent predisposing factor in adults, great fatigue, hardship, previous illness, exposure to cold or to dampness, or trauma. Sturges says: "In some cases the disease is not caused by the injury, but is brought to light by its agency; in others it is the indirect consequence due not to any immediate harm done the lung, but to nervous shock which, whether it arises from injury or any other cause, produces a condition which is favorable to the development of pneumonia." To-day trauma is considered no more than a predisposing cause of pneumonia. The micro-organism is the exciting cause, without which the disease will not develop.

The affection is characterized by the usual signs of pneumonia. When foreign bodies have been aspirated there is generally a definite history of sudden onset, and usually there is an initial attack of coughing when the foreign body enters. Frequently there is hemorrhage or bloody sputum brought forth by the cough, which is more or less constant. There may be localized pain. Prostration is frequently marked in these cases. It has been said that if a bronchus be blocked up completely there is a clear percussion sound over the part of the lung with which it is connected, while the respiratory murmur is abolished. The latter is only weakened if the bronchus be not closed completely. A clear history will aid greatly in the diagnosis.

The prognosis is grave, indeed, when one of the most serious of all diseases is supcrimposed on a severe traumatism. The mortality of all cases of foreign bodies in the lungs or in the bronchi, when treated by the expectant plan, has been estimated variously at from 56 to 80 per cent. When tracheotomy is performed the death rate is lowered to about 30 per cent., since a much better opportunity is afforded for the spontaneous expulsion of the foreign body. For obvious reasons these figures are not accurate. Some of the fatal cases are not reported, while others, presumably cured, die later of such complications as empyema, atelectasis or lung abscess. Since Kilian reported his method of examination by inserting long tubes in the bronchi and thus locating and removing the foreign body, only an occasional case should be lost.

The treatment of this condition naturally falls into two subdivisions, the treatment of the pneumonia and the treatment of the trauma. It is not necessary here to say anything about the former. If it is suspected that a foreign body has been aspirated, it is wise to locate and remove it, if possible. This may be accomplished by means of the *x*-ray and a surgical operation, or by means of the bronchoscope and the alligator forceps. The latter method is to be preferred if the result can be accomplished by its use. If the expectant plan of treatment is followed the mortality, as above stated, is high, whereas by Kilian's method of locating and removing the foreign body, the death-rate should be very low.

The case which it is my privilege to report by the kindness of Dr. D. J. Milton Miller was admitted to the Children's Hospital, Nov. 15, 1907, with the following history:

Carrie G., aged 6 years, of Austrian parentage, but born in America. Uneventful previous history. Three weeks previously, while holding a carpet tack in her mouth, it suddenly disappeared. She was immediately seized with a violent coughing attack, and she told her mother that she had swallowed the tack. The family physician was called, but gave the child no relief, and attached little significance to the history of the tack. The child passed a restless night, and the coughing paroxysms were frequent. The next morning another physician was called, and he likewise thought little of the tack, but continued to treat the child at her home for three weeks, during which time the coughing and vomiting continued. One week after the accident she first began to complain of pain in her right side. No hemorrhage or bloody sputum had been expectorated.

The examination on admission revealed the following: Temperature, 104.4 F.; respirations, 36; pulse, 140. There was nothing significant about the throat, except enlarged tonsils. The abdomen, spleen, liver and heart were negative. The whole of the lower lobe of the right lung was consolidated. The dulness—almost flatness—was well-marked, and very little air seemed to be entering this portion of the lung. The other portions of the lungs were negative, except for a few râles.

The dulness and almost complete absence of breath sounds made me suspect fluid in the right chest; but on the day after admission the temperature dropped to 96.2 F. The temperature, however, rose again on the following day to 103 F. The respirations were 32, and the pulse 132. The examination of the urine was negative. The blood examination showed, leucocytes, 13,680; hemoglobin, 64 per cent. Nine days later the leucocytes numbered 17,369, and the hemoglobin was 70 per cent. On November 17, the breath sounds with bronchial breathing were again heard at the root of the right lung. Since November 18, three days after admission, the temperature has remained normal, or practically so. On November 20, during a severe coughing paroxysm, she coughed up a large steel carpet tack of the square style, with a large round head; length, 1.5 cm.; circumference of the head, 2 cm. It was brought up into the larynx and she seemed to choke. The nurse, assisting her to get rid of what was supposed to be thick mucus, brought forth the tack with her finger. The lung has completely returned to normal, and on December 2 the blood examination showed the leucocytes to be 9,760, red corpuscles 4,580,000, hemoglobin 78 per cent. She was discharged from the hospital completely recovered. The tack remained in the lung twenty-six days.

In this case the diagnosis seems well established because of the physical signs, the well-marked crisis and the slight leucocytosis.

The following cases selected from the literature on the subject are recited briefly because they illustrate the several varieties of traumatic pneumonia:

Case 1.—Balser's case is similar to my own. A decorator, who was holding a 14 ounce tack in his mouth, aspirated it, and pneumonia, with crisis in the second week, ensued. Sixty-three days after the accident, he coughed up the tack and complete recovery followed.[1]

Case 2.—Napier's case is also similar, and it is interesting because the foreign body was not discovered until the autopsy, when the pith of the elder was found in the bronchus communicating with the lower lobes of the right lung. This portion of the lung was entirely consolidated and showed numerous abscesses. Death came nineteeen days after the accident.[2]

Case 3.—Franczak's case, in a female, aged 8 years, showed the physical signs of pneumonia after aspirating a watermelon seed. This remained in her lung for two months, when she coughed it up in a somewhat decayed condition. She then made a rapid recovery.[3]

Case 4.—Balser's second case is in a male, aged 69, who aspirated a pea while eating his lunch. On the seventh day after the accident, he coughed up the offending substance, and in a short time was in his usual good health. The evidence of pneumonia appeared two days after the accident.[1]

Case 5.—Foss's first case was in a laborer, aged 44, who fell thirty feet from a scaffold. One day after the accident pneumonia was discovered in the right lung. The autopsy confirmed the diagnosis and showed simple fractures of several ribs.[4]

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[1] Mediz. Monatschr., N. Y., 1889, vol. i, p. 36.

[2] Glasgow Med. Jour., 1885, vol. xiii, p. 11.

[3] Buffalo Med. Jour., 1905-6, vol. lxviii, p. 480.

CASE 6.—Foss's second case is somewhat similar to his first. There is a slight lacerated wound of the scapula without fracture, but which penetrated to the bone. Almost immediately the diagnosis of pneumonia was made and was confirmed by the autopsy four days later.[4]

CASE 7.—Sturges reported a case in a sailor, aged 30, who fell into the mud and sustained a slight injury. Pneumonia developed almost immediately, and death resulted in six days.[5]

CASE 8.—The second case reported by Sturges is a simple contusion pneumonia. A stone mason was struck on the chest by a heavy marble slab and knocked down by the severe blow. No ribs were fractured, but in a few days a typical apex pneumonia developed.[6]

In the last four cases mentioned the question arises whether the pneumonia may not have existed before the trauma occurred. It is well known that sometimes those suffering from febrile affections walk around for several days after the onset of the initial symptoms. This is especially true of typhoid fever patients and particularly so in the case of children. It is rare, however, for those suffering from pneumonia to go about, because usually the prostration is so great as to cause them to remain in bed from the very onset.

INJURIES OF THE SPINAL CORD,

WITH THE STUDY OF NINE CASES WITH NECROPSY.*

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It is my purpose to deal with injuries of the spinal cord secondary to external violence, such as gunshot wounds, fracture-dislocation of the spinal column with involvement of the cord, and involvement of the cord in spinal concussion without spinal lesion. At this time I shall not discuss injuries of the cord from stab wounds.

There are a few points concerning the anatomy of the spinal column to which I wish to call attention before discussing any cases of fracture-dislocation. From our standpoint, the spinal column consists of twenty-four true vertebræ. The sacrum, which is morphologically five vertebræ, we consider in the light of a single bone. Of the coccyx I shall say very little, as it is interesting, chiefly, on account of a possibly faulty ankylosis in cases of fracture or contusion. The ligaments of the spinal column, next to the bony conformation of the vertebræ themselves, play the largest part in the prevention of displacement. The following ligaments are those concerned in the binding together of the integral parts of the spinal column: the intervertebral discs, the anterior common ligament, the posterior common ligament, the interspinous ligaments, the supraspinous ligaments, the intertransverse ligaments, the capsular ligaments and the ligamenti subflavæ. The last named are composed, chiefly, of yellow elastic tissue, and serve, rather, to close in the vertebral canal, than to give protection from injury or prevent overflexion.

The articulation between a superior articular process and its contiguous inferior process is a true diarthrosis of the arthrodial type. On examining a ligamentous preparation of the spinal column, one is struck with the fact that there is very little movement between any two vertebræ, with the single exception of the atlas on the axis. Taken as a whole, however, there is a very great latitude of movement. This is most conspicuous in the cervical region where extension is possible to a surprising extent; likewise flexion, to some extent. In the lumbar region flexion is chiefly predominant. In the thoracic region, on account of the thinness of the intervertebral discs, as also on account of the tile-like arrangement of the laminæ through the middle part of the thoracic spine, there is very little motion. At the two ends of the thoracic spine, however, this tile-like arrangement of the laminæ and the obliquity of the spinous processes are much less, and motion is consequently greater in these regions. Another condition which limits motion in this region is the articulation of the thorax and the very heavy binding which the heads and tubercles of the various ribs possess in their stellate ligaments. According to Wagner and Stolper, the greatest capability of extension and flexion of the spinal column is in the cervical region, from the third to the seventh vertebra, and also from the eleventh thoracic to the second lumbar vertebra.

A vertebral dislocation presupposes, in the first place, a greater or less disturbance of the integrity of the intervertebral discs between bodies of the two vertebræ in question. One finds numerous cases cited in literature where on postmortem examination the intervertebral disc has been pronounced uninjured. I consider this an absolute impossibility. A more careful histologic study would have determined a torn disc.

Fractures and dislocations in the thoracic region, above the tenth thoracic vertebra, are not so frequent as those in the cervical region or as those below the tenth thoracic vertebra. Also, it can be said that fracture and dislocation more frequently involve the lumbar vertebræ than the junction between the twelfth thoracic and the first lumbar. More than half of all the fractures of the spinal column are, according to Pearce Bailey,[1] located below the tenth thoracic vertebra. This statement is hardly borne out by statistics.

Burrell,[2] in a collection of 244 cases of fracture-dislocation, gives 86 in the cervical region, 43 in the upper thoracic, 75 in the lower thoracic, and 40 in the lumbar. When thoracic fracture-dislocation takes place, it is on account of terrific violence, deformity is usually pronounced, and the cord much injured; but, as will be seen further in this discussion, there must be fracture in this region to produce a crushing of the cord, the possibility of a thoracic dislocation without fracture having been denied by Treves.[3]

The articular processes of the cervical vertebræ are set well out from the body, to such an extent, in fact, that any force which would tend to push a vertebra forward, providing it were great enough to overcome the ligamentous protection common to all vertebræ, would not find the bony obstruction which lower down the anterior aspect of the inferior intervertebral notch offers to the posterior aspect of the superior intervertebral notch of the vertebra immediately below it. In fact, the articular surfaces are so far separated in the cervical region that with very little longitudinal separation a complete luxation backward can obtain, the body of the upper vertebra resting on the spinal foramen of the vertebra below. As a matter of fact, however, this luxation is rarely seen, the opposite being usually the case; that is to say, the upper or luxated vertebra passes forward. To my mind, there are several reasons for this. The first is that usually the direction of force which brings about the fracture-dislocation is such that the spine is flexed instead of extended, and in a flexion the line of least resistance is certainly forward, on account of the fact that the anterior superior lip of the vertebral body is rounded off and inclines downward in the cervical region, while in the thoracic region the bodies of the vertebræ are a trifle thicker posteriorly than anteriorly. This inclination forward and downward, invites a slipping forward of the luxated vertebra, which carries with it the intervertebral disc attached to its inferior surface. This intervertebral disc, in the vast majority of cases, succeeds in tearing away the anterior superior lip of the body of the vertebra next below. The obliquity of a fracture of this nature, that is to say, from above posteriorly, in a direction down and anterior, makes a sliding displacement of the upper fragment very easy, and the deformity is often great. It is this deformity which most frequently nips the spinal cord in two, or if it does not actually sever it, so crushes it as to make all function or restoration of function an impossibility. This cutting or crushing of the cord takes place between the posterior upper border of the vertebra, next below the luxated one, and the arch of the dislocated vertebra, as illustrated in Case 7.

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[4] Brit. Med. Jour., 1884, vol. 1, p. 1042.
[5] London Lancet, April 24, 1886.
[6] Brit. Med. Jour., March 1, 1879.

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, Atlantic City, June, 1907. The article is here abbreviated, but appears in full in the Transactions of the Section and in the author's reprints.

* From the Department of Neurology and the Laboratory of Neuro-Pathology in the University of Pennsylvania.

[1] Diseases of the Nervous System Resulting from Accident and Injury, D. Appleton & Co., 1906.
[2] A Summary of All the Cases of Fracture of the Spine (244) which were Treated at the Boston City Hospital from 1864 to 1905, Trans. Am. Surg. Assn., vol. xxiii, 1905, p. 56.
[3] Surgical Applied Anatomy, 1894, p. 546.

Another variety of fracture-dislocation is illustrated in Case 4 (Fig. 1) in which the contiguous surfaces of two vertebral bodies have crumbled under the forced flexion. The greatest pressure being exerted anteriorly, the anterior lips, superior and inferior, of the two vertebræ in question are chiefly concerned in the crumbling. A second result of the disposition of the pressure is the forcing backward of the intervertebral disc. This disc together with the bony detritus presses against the anterior aspect of the cord.

With forced flexion of the cervical spine, the head being pushed forward and down on the chest, the upper or luxated vertebra can slip forward, the posterior lips of the anterior articulating surfaces riding over the anterior lips of the superior articulating surfaces of the vertebra immediately below and becoming locked, as it were, in its superior intervertebral notches. The attenuation of the spinal foramen in this case, though pronounced, is not so complete as in backward luxation, unless the deformity be further accentuated by a crashing of one or both vertebral bodies, as in the case reported by Carson.[4] When we reach the lumbar region, what with the increased thickness of the intervertebral discs and the great mobility of the vertebræ, particularly in flexion, we find that the bony obstacles to dislocation present in the thoracic region do not here obtain, and an anteroposterior displacement is not only possible but is rendered probable, if there be forced flexion of the lumbar spine at the time of, or consequent to the injury. Although, from a mechanical standpoint, it is theoretically possible to have a pure dislocation in the lumbar region uncomplicated by fracture, the lower vertebra slipping forward or backward, yet there are many who think that fracture almost always plays an important part in these injuries.

In the cervical and lower thoracic regions self-reducing dislocation without fracture frequently takes place. We are all familiar with the picture of a case of this kind. A man receives an injury to his spinal column. Careful examination fails to reveal any deformity, crepitus, ecchymosis or other signs of fracture. But there is a partial or complete paralysis present of segmental nature. If this case comes to necropsy, there is found no bony lesion, there may even be a fair amount of firmness in the ligamentous binding, but the spinal cord shows signs of compression opposite an intervertebral disc. At times, this compression is so great that the cord appears as if a string had been tied around it.

There have been many who have advanced the theory that the spinal musculature was a preventive factor in dislocation. This, I consider, is erroneous. As far as prevention of dislocation or fracture-dislocation is concerned, the muscles play absolutely no part whatever. As an argument to uphold this statement, I would call attention to the fact that the most frequent point for fracture dislocation is between the fifth and sixth cervical vertebræ. Let us turn to the anatomy of the muscles in this region. The muscles whose attachments lie directly over the junction of the fifth and sixth cervical vertebræ are the multifidus spinæ, the semispinalis colli, the complexus, the trachelomastoid, the transversalis cervicis, the cervicalis ascendens, the scalenus medius, the scalenus anticus, the rectus capitis anticus major, and the longus colli. Here, then, we have eleven muscular attachments covering this articulation on each side, twenty-two in all, and yet it seems to be the point of election for fracture-dislocation in the cervical region.

We find the spinous processes more frequently broken from the fifth cervical to the end of the thoracic vertebræ. Gurlt[5] says that in the cervical region in less than one-quarter of all cases, and in the thoracic in more than one-half of all cases, the spinous processes are broken. In the thoracic region, on account of the peculiar tile-like arrangement of the laminæ, above referred to, when one lamina is fractured, usually several are fractured with it. This, of course, does not refer to gunshot fractures. The spinous processes in the lumbar region, according to Gurlt, are fractured in less than one-eighth of all cases. As a rule, transverse and oblique fractures of the vertebral bodies are nearer the upper than the lower surface. Isolated fractures of the articular processes are extremely rare.

Although, as stated above, the muscles of the spinal column play no part in its protection from fracture, yet there are a number of cases on record where fracture has been caused wholly by muscular action. One of these cases, reported by Gurlt, happened in this peculiar manner. A sailor, going in bathing from the deck of a ship, dived and while his body was shooting downward, he realized that there was not enough depth of water for him to escape an accident. For this reason, and in order to save himself, he threw back his head with all his force as he struck the water and sustained a fracture in the cervical region. Another case, likewise reported by Gurlt, was that of a man violently insane who, for purposes of restraint, had to be tied in an armchair. In this position he made strenuous nodding movements of the head, endeavoring to loosen his bonds. He also sustained a fracture in the cervical region.

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[4] Trans. Am. Surg. Assn., 1905.

[5] Handb. d. Lehre v. d. Knochenbrüchen, Hamm, 1862.

Philipeaux,[6] in his fracture experiments on the cadaver, found that the most frequent point of fracture was between the eleventh and twelfth thoracic vertebræ, the fracture being the usual variety from posteriorly and above to anteriorly and below. Experiments of this nature on the cadaver fail so completely to reproduce the conditions present in a spinal fracture accident, that this finding of Philipeaux' is not of great importance as a comparison to the statistics of spinal fracture-dislocation in the living subject.

Gurlt classifies fractures of the spine as follows: (1) Fracture of the first and second cervical vertebræ; (2) fracture between the third cervical and the second thoracic vertebræ; (3) fracture between the third thoracic and the second lumbar vertebræ; (4) those below the second lumbar vertebræ. He does not think that fractures of the first class are necessarily immediately fatal, unless there be a pronounced dislocation. He cites the case of a patient who lived eight days. These patients die because of making some sudden voluntary or involuntary movement which displaces the vertebræ or fragments and causes pressure on the upper cord or the medulla oblongata. Gurlt calls attention to the fact that in none of the cases he cites, in which there was a fracture of the odontoid process, was there also a tearing of the ligamentum transversum dentis, although in several cases there was considerable displacement.

He cites an interesting case quoted by Sir Astley Cooper.[7] A syphilitic woman, under mercurial treatment, suddenly, while eating breakfast in bed, had her head fall forward on her chest and was dead. A fracture of the odontoid process was found. Another patient of Cline's[8] had a fracture of the atlas, and for one year aided all neck movements with his hands in order to prevent injury to the medulla oblongata. In these two cases, and in five others, making seven in all, there was fracture of the first or second cervical vertebræ or both. One patient died instantly. Another patient lived two months. Two patients lived five months. Still another patient lived eleven months. Another lived twelve months and still another twenty-eight months. In only one of these cases was there any disturbance of the integrity of the joint between the atlas and the occiput. This joint is tremendously strong, as anyone can testify who has endeavored to remove the head at the occipito-atloid articulation. The dislocation of the atlas on the axis occurs in death by hanging. I present herewith, a photograph of such a dislocation involving both articular processes. This specimen is in the Mütter Museum of the College of Physicians. The case was one of suicide by hanging. The spinal cord was found crushed, although the spinal canal was not reduced in area at the point of luxation more than about one third (Fig. 2). In the cases enumerated by Gurlt, where the fractured odontoid process injured the medulla, it did so by the backward pressure of its lower fractured surface.

When fracture occurs involving the phrenic nerve, death is usually very sudden from paralysis of respiration. There are cases where the patient lives a longer or shorter time with only a partial inconvenience in breathing. This may point to a partial lesion lower down in the cervical region, but some untoward movement will convert a possible simple fracture to a fracture-dislocation with involvement of the phrenic nerves, and the patient drops dead.

In injuries to the spinal column, the spinal cord can be injured in a number of ways. I have already mentioned the possibility of its being transversely squeezed, or even cut in two. There are also cases on record where the plane of injury is oblique rather than transverse. In one case, reported by Gurlt, the spinal cord seemed to be wedged into a longitudinal cleft in the posterior aspect of the body of the fifth cervical vertebra.

I herewith give the histories of nine cases of injury to the spinal cord. Six of these were consequent to fracture-dislocation. One case was caused by a gunshot wound. One case was a pure, self-reducing dislocation without fracture; and one was consequent to spinal concussion without spinal lesion. For the pathologic material of these cases I am indebted to Dr. William G. Spiller, who has most kindly put at my disposal the material bearing on this subject in his laboratory. One of these cases was reported by Dr. C. S. Potts, another by Dr. Spellisy, and a third by Dr. Spiller and Dr. Martin. In the clinical histories of these cases there will be noticed many statements that seem vague, indefinite and careless. There will frequently be apparent glaring omissions of data which, for the scientific consideration of the case in question, are most important. These shortcomings will be easily understood and condoned by those who realize how very faulty is the system of history taking in many of our large institutions where the resident physicians are constantly changing and rarely ever interested.

CASE 1.—Male, aged 25 years, laborer, born in Italy, was admitted to the Polyclinic Hospital, Nov. 17, 1899, with the history that a bank of earth had fallen on his back. On examination there was discovered a paralysis of both lower limbs and loss of sensation up to a "short distance" above the umbilicus. There was likewise a prominence of "several of the lower dorsal vertebræ." At 11 o'clock that night Dr. Roberts performed a laminectomy under ether anesthesia.

Patient died July 27, 1903. No notes on his immediate antemortem condition can be found. The full postmortem record does not particularly bear on this study; therefore I shall not quote it.

This case had skilful surgical treatment at once. The kyphosis was reduced, and all refinements of technic were used. And yet, here, as in so many other similar cases, the element of uncertainty is present as to just how much of the future difficulty was due to the fracture dislocation and how much to an unavoidable manipulation of the spinal cord on the part of the surgeon.

The microscopic examination of the spinal cord by the Weigert hematoxylin method showed complete disintegration in the level of the sacral region. Opposite the seat of compression, the tenth thoracic vertebra, there is great destruction and distortion of the white and gray matter. There are large irregular areas of degeneration, a small amount of normal white matter being left, chiefly in juxtaposition to the gray matter. This is particularly so in the middle root zone on one side. There is also on one side a preservation of many normal white fibers situated between the posterior horn of gray matter and the periphery of the cord, in the area of the direct cerebellar tract. A segment above the tenth showed an intense degeneration in the columns of Goll, in the direct cerebellar tract and in Gower's tract. Marchi preparations show no system degenerations, but some black dots still remain along the blood vessels.

CASE 2.—Man, aged 38 years, colored, married, born in Maryland, was brought to the Philadelphia Hospital from the Jefferson Hospital, where he had been for three weeks following an accident to his spinal column. With the exception of the facts that he had been a heavy drinker, and that he denied venereal disease, his past history is not relevant.

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[6] Revue Médico-chir., t. xi, 1852, p. 178.

[7] A Treatise on Dislocations and on Fractures of the Joints, new edition, by Bransby Cooper, London, 1842, p. 536.

[8] A Treatise on Dislocations and on Fractures of the Joints, new edition, by Bransby Cooper, London, 1842, p. 533.

On June 7, 1901, while at work, he fell from a ladder a distance of thirty feet, striking on his back. He was taken to the Jefferson Hospital unconscious. He regained his consciousness late on the same day, but was delirious and had to be restrained by straps for three or four days. When he eventually became rational, it was found that there was complete paralysis, both sensory and motor, of the lower extremities, upward as far as the upper border of the pubes and encircling the body. Incontinence of urine and feces came on about one week after the accident, both micturition and defecation having been unimpaired up to this time. There was a very tender protrusion over the lower dorsal and lumbar vertebræ, which was the seat of severe pain on motion. There was a bed sore over the lower part of the vertebral column.

Dr. Spiller's notes, dated July 1, 1901, state that there was complete paralysis in the lower limbs, the patient being unable to move a muscle "even with the greatest exertion." The lower limbs were flaccid and without contractures. The knee jerk, Achilles jerk and Babinski reflex were all absent on each side. There was no priapism. Irritation of the sole of the foot produced no toe movement, and the cremasteric reflex was not obtained.

Dr. Spiller's diagnosis was: "The man has signs of complete interruption of the spinal cord in the lower thoracic region. The probable cause of this interruption is fracture of the lower thoracic vertebra." On July 11, dulness, singultus and free perspiration were reported. On July 12, it is recorded that hiccough had been present almost constantly, that there was pain in the umbilical region, and that on irrigation of the bladder much dark brown fluid and detritus returned through the catheter. The patient died at 8:45 p. m. July 14, hiccough having been present constantly, except for short intervals, three days before death. There was much albumin reported in the urine.

I shall omit the general necropsy notes, with the exception of a quotation on the kidneys, ureters and bladder, to-wit: "Ureters dilated, especially on the left side, where ureter reaches size of index finger. Kidney enlarged, capsule adherent and adhesions to surrounding tissue. On removal of capsule, numerous abscesses were found in the substance of the kidney. Pelvis dilated, and both pelvis and ureter contain creamy pus. The right kidney enlarged, less than the left; capsule peels readily; no abscess in cortex. Bladder is distended; contains thick yellowish pus."

From Dr. Spiller's dictation at the autopsy I quote the following: "The scar of an old injury, 4.8 cm. long, the cicatrix of which is directly over the spine of the eleventh thoracic vertebra, extends on to the tenth and twelfth vertebræ. The spinous process of the tenth vertebra is driven downward. The surface edge shows an irregular loss of substance, affecting also the entire superior surface. The interval between the tenth and eleventh spinous processes is increased. Beginning 5 millimeters from the superior surface of the spine there is an irregular fracture line extending laterally on each side and passing through the corresponding laminæ. The right lamina is prominent and shows the chief injury. The fracture on this side extends downward and forward through the entire diameter of the lamina. The tissues about the lamina are edematous and slightly hemorrhagic. On the left side the tissues are involved to a slighter extent, but the remains of the hemorrhage are found in the fascia and spinal muscles. The fracture extends through the upper portion of the body of the tenth thoracic vertebra, so that the two portions of the vertebra move freely one on another. The spinal cord apparently is completely compressed at the line of fracture, and is softened for a distance of 4 cm. above the line of fracture. The softening at the line of fracture may have been produced at the autopsy.

The cervical region shows no gross lesions. The dura below the line of fracture is much injected, much more so than above the line of fracture." Spiller founds his paper,[9] "The Sensory Segmental Area of the Umbilicus," on this case.

I wish to call attention to the urinary condition in this case. In many cases of fracture-dislocation involving the lower thoracic region of the spinal column hematuria is a common symptom. This is, at times, caused by trauma to the kidney substance. But there are likewise many of these cases in which the kidney is uninjured and yet hematuria comes on the second, third, or fourth day, or even later. Wagner and Stolper,[10] in speaking of the temporary suppression of urine often seen immediately following spinal fracture, advance the theory that this suppression is due to the fact that consequent to the attraction of blood to the lower limbs, on account of the vasomotor palsy of these parts, there is produced in the kidney substance a traumatic anemia. This anemia causes a great lowering in vitality in the kidney parenchyma which proceeds in many cases to the absolute death of the epithelium lining the tubules. These investigators found this condition of affairs two hours after the accident.

It seems to me that the hematuria above referred to may well be explained on the same hypothesis: The vascular equilibrium being restored the kidney finds itself supplied with blood, which, on account of a badly damaged parenchyma, it can not handle, and hence the hematuria. I have recently seen this picture in a dog, a portion of whose spinal cord I exsected in the mid-thoracic region. In this animal the hematuria set in on the fourth day after the operation.

Case 3.—Man, aged 56 years, carpet weaver, born in England, was brought to the Philadelphia Hospital thirty-six hours after falling down stairs. Regarding the decubitus, I quote as follows: "Patient, well-nourished man, lies with fingers flexed, forearm flexed on the arm, the arms elevated about 15 degrees from the body." A slight power of flexion and extension at elbow was preserved, and he could elevate the upper extremities to right angles with the trunk. The act of pronation and supination of the forearms seemed to be accomplished by the biceps muscle, as there was no contraction of the supinator longus when this motion was executed. There was no paralysis in either upper or lower extremities. The plantar reflexes were slight, the big toes flexing. The knee jerks, Achilles tendon jerks, cremasteric, epigastric and abdominal reflexes were all absent. The cilio-spinal reflex was present. There was a marked retraction of abdominal muscles in respiration. At times his penis became partially erect. The patient complained of pain in the back of the neck. There was a tenderness extending over the seventh cervical and first thoracic vertebræ. A bed sore had begun over the right trochanter and also one over the scapula. The prick of a pin was followed by a persistent hyperemia of the skin. The patient could slightly rotate his arms outward.

At the postmortem examination a fracture of the skull was discovered over the left parietal and temporal bone, beneath which was an extradural blood clot, 8 cm. in diameter and having a maximum thickness of 1.5 cm., situated mainly over the motor area. There was no subdural hemorrhage and the ventricles were normal. The spinal cord exhibited a depression which corresponded to the body of the fourth cervical vertebra, which had been slightly displaced backward. The depression was so deep that the cord appeared as if entirely severed. Dr. Spiller's notes read: "Compression seems to be between the sixth and seventh cervical segments. There were sensory disturbances in the distribution of the fifth cervical segment."

This case is interesting for a number of reasons. In the first place, the mechanics of the fracture-dislocation was the backward displacement of the cervical vertebra, to which I referred in my general considerations. The case was made the subject of a paper by

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9. Phila. Med. Jour., Feb. 8, 1902.

10. Die Verletzungen d. Wirbelsäule u. d. Rückenmarkes, Deutsche Chir., No. xl, 1898.

Dr. Charles Potts,[11] whose patient he was, discussing the location in the fifth cervical segment of the biceps tendon reflex. Now, bearing in mind that there was complete solution of continuity of the cord at the fifth cervical segment, there was retention of normal plantar reflex and abolition of all the other reflexes of the lower limbs. Also he had partial erection of the penis at times.

The peculiar position assumed by the arms in this case coincides with the position depicted by Thorburn[12] in a fracture-dislocation involving the same segment of the cord. The extreme crushing of the cord in this case is owing to the remarkable attenuation which the cross section of the vertebral canal suffers in these cases where the displacement is backward in the cervical region.

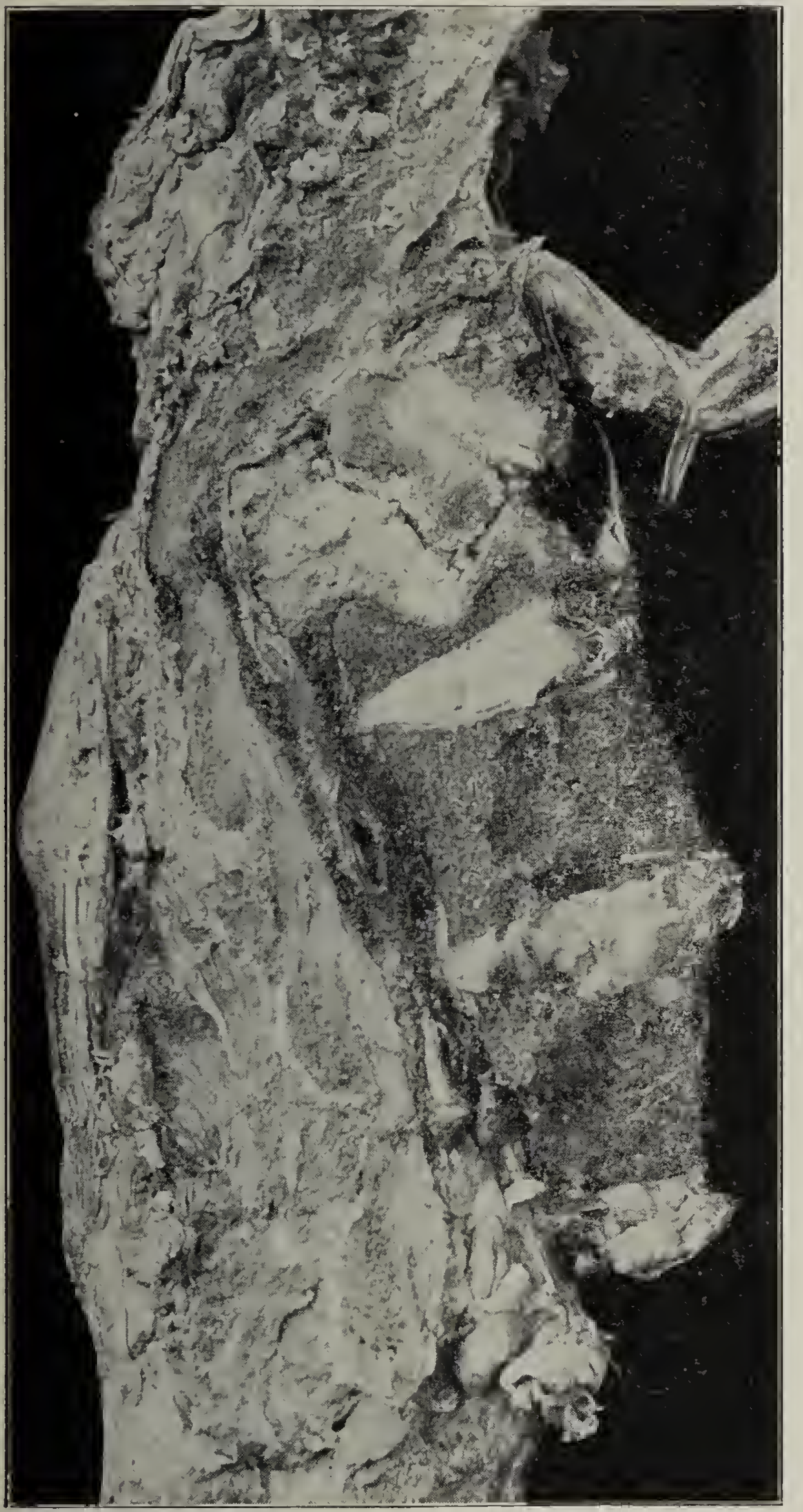

Fig. 1.—Case 4. Fracture-dislocation of the ninth and tenth thoracic vertebræ.

The question of the preservation or loss of the plantar reflex in cases of complete lesion of the spinal cord is, at present, a model one. J. J. Thomas[13] says that in complete transverse lesion of the cord the plantar reflex is often retained.

Unquestionably, the majority of cases of complete transverse lesion reported have abolition of the plantar reflex. There is probably some other equation in the preservation or loss of this reflex other than complete solution of continuity.

The question of erection of the penis in cases of spinal cord injury is possibly more unsettled than it was a few years ago, when it was generally accepted that the center of erection and ejaculation as well as for the detrusor of the bladder and the rectal mechanism were all located within the cord. Lately some evidence points to the fact that these centers are largely, if not wholly, extraspinal, being possibly in the hypogastric and hemorrhoidal plexuses of the sympathetic. There are, nevertheless, many who defend the intraspinal location of these centers.[14] Wagner and Stolper speak of priapism in cases of injury to the spinal cord as of purely vasomotor origin when the lesion is above the erectile center. This center they locate in the second sacral segment. They differentiate between erection in the sensual sense and a soft, semi-flaccid turgescence. The former depends on a stimulation of the motor neurones for the ischiocavernosus, transversus perinei, and bulbocavernosus muscles. The soft turgenscence, with our incomplete knowledge, only points to a spinal lesion. In other words, we are unable to say that *the one symptom points to complete transverse lesion, the other to incomplete.*

Case 4.—Man, age, nativity, etc., unknown, was admitted to the Philadelphia Hospital, Feb. 13, 1903, with the history that about ten months prior to this date he was crushed, an injury to his spine resulting. Since this time any motion involving the spinal column caused pain. His knee jerks were exaggerated, ankle clonus was present and the Babinski reflex was obtained on the right side.

With a few minor exceptions, there is a gap of almost two months in the history. On April 10 it is entered on the chart: "Patient operated on at 1:30 p. m. An incision over dorsal vertebræ was made about eight inches long and a laminectomy done." Just why this patient was operated on is not indicated. There is no history, recorded or unrecorded, that he was getting worse prior to the operation. A vertebra was found displaced and rotated, to which the cord was bound on the left side of the canal by dense adhesions. The cord was found to be softened at the site of the luxated vertebra. On April 11 (the day after the operation) it is noted that the patient on examination showed a loss of sensation in the left leg and the lower third of the thigh; also in the right leg to the knee. Also, "Patient is unable to move toes of either foot." On April 16 it is noted that the patient seemed unimproved. It was necessary to catheterize him since the operation, and his bowels would not move without an enema. It was impossible to keep the skin on the patient's back in a healthy condition. On April 19 the patient was still unable to void urine voluntarily, and this retention obtained until October 25, when it is noted that incontinence had occurred. On May 2 it is recorded that he "can not move lower extremities at all."

Here occur great gaps in the history, with a few unimportant observations. I quote Dr. Spiller's notes of July 23, 1904, ten days before the patient's death: "lower limbs are extremely wasted. The only movement possible is a slight drawing upward of the limbs on either side, but there is no flexion of either limb.

In a long postmortem record there is noted: "Necrotic abscess formation of seventh, eighth and ninth dorsal vertebræ." The microscopic examination of the spinal cord shows by the Weigert hematoxylin method well-marked degeneration in the columns of Goll, in Gowers' columns and in the direct cerebellar tract (Fig. 3). The method of Marchi shows degeneration in Goll's column and also a few black dots in Gowers' column on the right side. Numerous fat crystals were found in the columns of Goll above the lesion in the Marchi preparation, which I shall discuss elsewhere.

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[11] A Case of Traumatic Cervical Hematomyelia and Complete Division of the Cord, with Probable Dislocation of the Fifth Cervical Vertebra. Remarks on the Location of the Center for the Biceps Reflex. Jour. Nerv. and Ment. Dis., 1905, vol. xxxii, p. 359.

[12] A Contribution to the Surgery of the Spinal Cord, 1889.

[13] Five Cases of Injury of the Cord, Resulting from Fracture of the Spine, Med. and Surg. Reports of the Boston City Hospital, Series xi, 1900, p. 1.

[14] E. Reichert, in a personal communication.

It appears evident that, on admission to the hospital, the patient had not an absolute solution of continuity in the spinal cord, in fact there must have been a goodly amount of normal functionating axons bridging the seat of injury to account for the amount of motor and sensory function still intact. The fact that this condition of affairs obtained ten months after the accident should be enough to warrant the prognosis that the acute degenerative changes had extended as far as they were going to extend, and barring future trauma and the very slow sclerotic changes, the probabilities were that he would have remained *in statu quo*. The operation in this case, can not therefore be defended by even the most radical advocates of the knife.

The injury the surgeon is able to do to the spinal cord in these cases is here demonstrated beautifully. From a chronic condition, at rest, the case was converted again into an acute condition, the results of the operation being loss of bladder and rectum control, loss of motor and sensory function, and a tendency to bed sore formation.

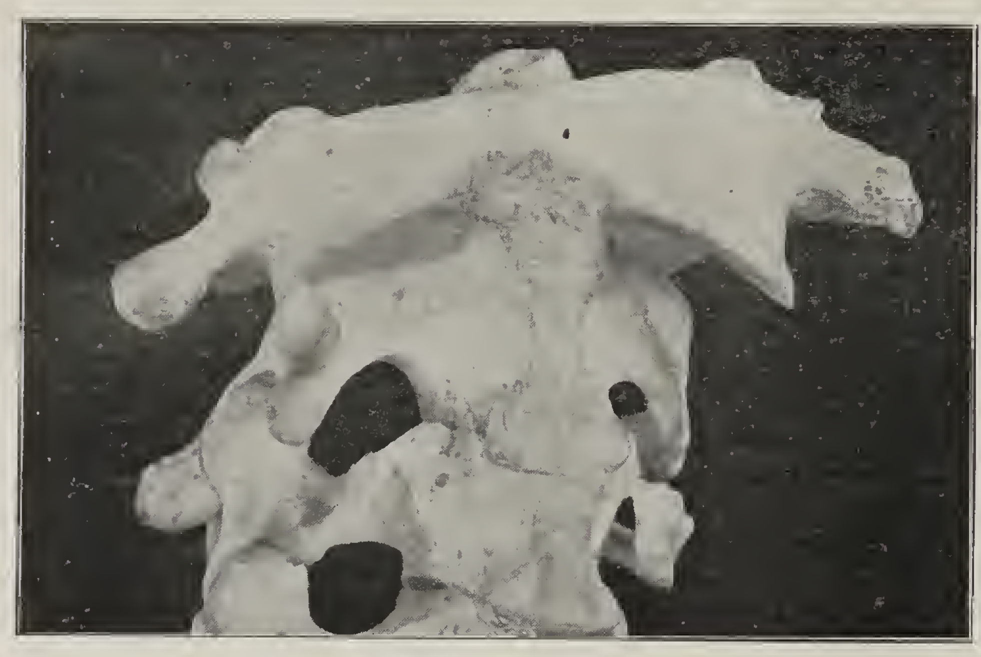

Fig. 2.—A dislocation of both articular processes of the atlas on the axis. Suicide by hanging. (Specimen from the Mütter Museum, College of Physicians, Philadelphia.)

CASE 5.—Man, aged 59 years, colored, born in Delaware, was admitted to the Philadelphia Hospital, Jan. 2, 1905, with the history that he had fallen from a wagon and had struck on his head. After the accident he was able to walk with assistance for about one hour, when his lower limbs became completely paralyzed. He had a loss of tactile and temperature sensation in the lower limbs and on the trunk extending up to above the third rib. Above this there was a band of hyperesthesia. He was able to move his arms, but was unable to flex his fingers or move his thumbs. His third rib on the left side was "dislocated" at its sternal junction. He answered questions coherently. He had, on admission, retention of urine and feces and complained of pain in his neck. There are no further notes on the case during life. The patient died January 3.

The following is quoted from the postmortem record: "Fracture of sixth cervical vertebra, body. Fracture of the laminæ of the fifth and sixth cerevical vertebræ. Ligamentous rupture between sixth and seventh spinous processes of the cervical vertebræ, also between second and third dorsal vertebræ. Transverse fracture of sternum. . . . The musculature over the sixth, seventh and eighth cervical vertebræ infiltrated with blood. . . . The part of the cord overlying the fracture is slightly compressed and softer in consistency than portions either above or below." Here follows a rather involved description of a fracture of the skull, the exact localization of which is not evident, but which is obviously considerable in extent from this quotation: "Subdural hemorrhage in the left anterior fossa, left middle fossa and right posterior fossa. There is an irregular macerated area involving the inferior frontal and middle convolutions of the left side."

Sections were made from the second or third, the sixth, seventh and eighth cervical regions and also from the first and second thoracic regions. They were stained by the hemalum acid-fuchsin and Weigert's hematoxylin methods. The sections from the highest block of tissue, either second or third cervical, appeared normal. At the level of the sixth cervical segment there appears a hemorrhage in the gray matter on both sides of the cord and also in the anterior commissure. These hemorrhagic foci are all distinct and separate. There is great injection of the anterior central branches of the anterior spinal artery, and in the eighth cervical segment this pressure has been so great that there appear minute areas where the red blood corpuscles have broken through the wall of the blood vessel and are lying free in the anterior fissure. In the upper part of the seventh cervical segment the hemorrhages found in the segment above are not present. There exists here simply an overdistension of the central branch of the anterior spinal artery, with a leakage from this vessel of red blood cells into the margins of the anterior columns of the cord.

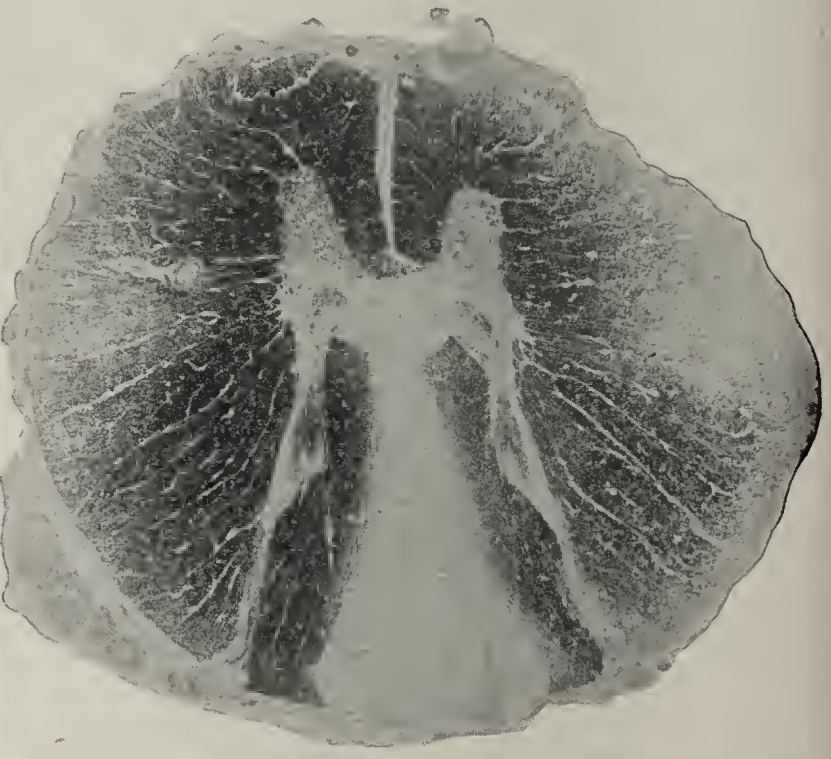

Fig. 3.—Case 4. A section of the spinal cord in the mid-thoracic region showing intense degeneration in the columns of Goll and also some degeneration in the direct cerebellar and Gowers' tracts. (Weigert preparation.)

In the lower part of the seventh cervical segment there is a rupture of an artery in the anterior gray commissure, the hemorrhage extending directly backward into the posterior columns for about one-fifth their depth. There is also in this level a very minute hemorrhage in the center of the gray matter of one anterior horn and the central branch of the anterior spinal artery is greatly distended. In the eighth cervical segment the entire gray matter is hemorrhagic, the extravasations extending into the contiguous white matter. The first thoracic segment is the same as the eighth cervical, except much more pronounced and here there seem to be hemorrhagic processes in the white matter of the lateral and posterior columns (Fig. 4). In the second thoracic segment the hemorrhage is not found in the white matter and, except for one minute focus in one anterior horn, is confined altogether to the other anterior horn.

This case brings up the very interesting subject of traumatic hematomyelia. This condition is frequently found in cases of fracture-dislocation where the spinal cord has been pressed on; it is also found in cases of severe spinal concussion where there has been no fracture and no crushing violence to the spinal cord. Much speculation has existed as to the cause of traumatic hematomyelia and why the gray matter is so preponderatingly chosen as the seat and limit of the hemorrhage. As a rule, the hemorrhage is not multiple and although found in different parts of the gray matter in different levels of the cord, still, if examined in serial sections, a continuity will often be demonstrated among the several seemingly separate foci. Pearce Bailey has published a classical case of multiple hemorrhages into the cord.

The consensus of opinion seems to be that the hemorrhage is caused by the commotion in the cord substance, and is located in the gray matter on account of its weaker and softer consistence. That the gray matter has less cohesive strength is axiomatic. But I take it that the hemorrhage in traumatic hematomyelia is of purely hydraulic origin. There is usually in these cases a marked flexion of the spinal column, and consequent forcing of blood into the anterior fissure of the spinal cord. As this causes an hydraulic expansive force in the central arteries from the anterior spinal artery, and as the distribution of these arteries is practically wholly within the gray matter, the reason for usual limitation of the hemorrhage to the gray matter is obvious.

My explanation for those cases of traumatic hematomyelia where there has been simply concussion of the spinal column without hyperflexion or fracture is likewise on the hydraulic hypothesis. That homely and painful practical joke, in which we have indulged in youth, of knocking together two stones under water when another boy is completely submerged demonstrates on our tympanum the absolute incompressibility of liquids and the terrific force which can be brought to bear by a seemingly insignificant means. Although the blow usually comes on the posterior aspect of the spinal column, yet the greatest hydraulic action is felt in the anterior spinal artery because of its being a more direct and straight blood channel than any found on the posterior surface of the spinal cord. The difference between the posterior and anterior blood supply to the spinal cord I have referred to elsewhere.[15]

It seems to me the views of Kadyi[16] that the small arteries of the anterior fissure pass to one side or the other, rarely bifurcating, explain why it is that one finds in serial section study of a case of traumatic hematomyelia the so frequent shifting of the seat of hemorrhage from one side to the other. Without doubt the hydraulic pressure extends over a distance sufficiently great to take in at least two of these median branches from the anterior spinal artery.

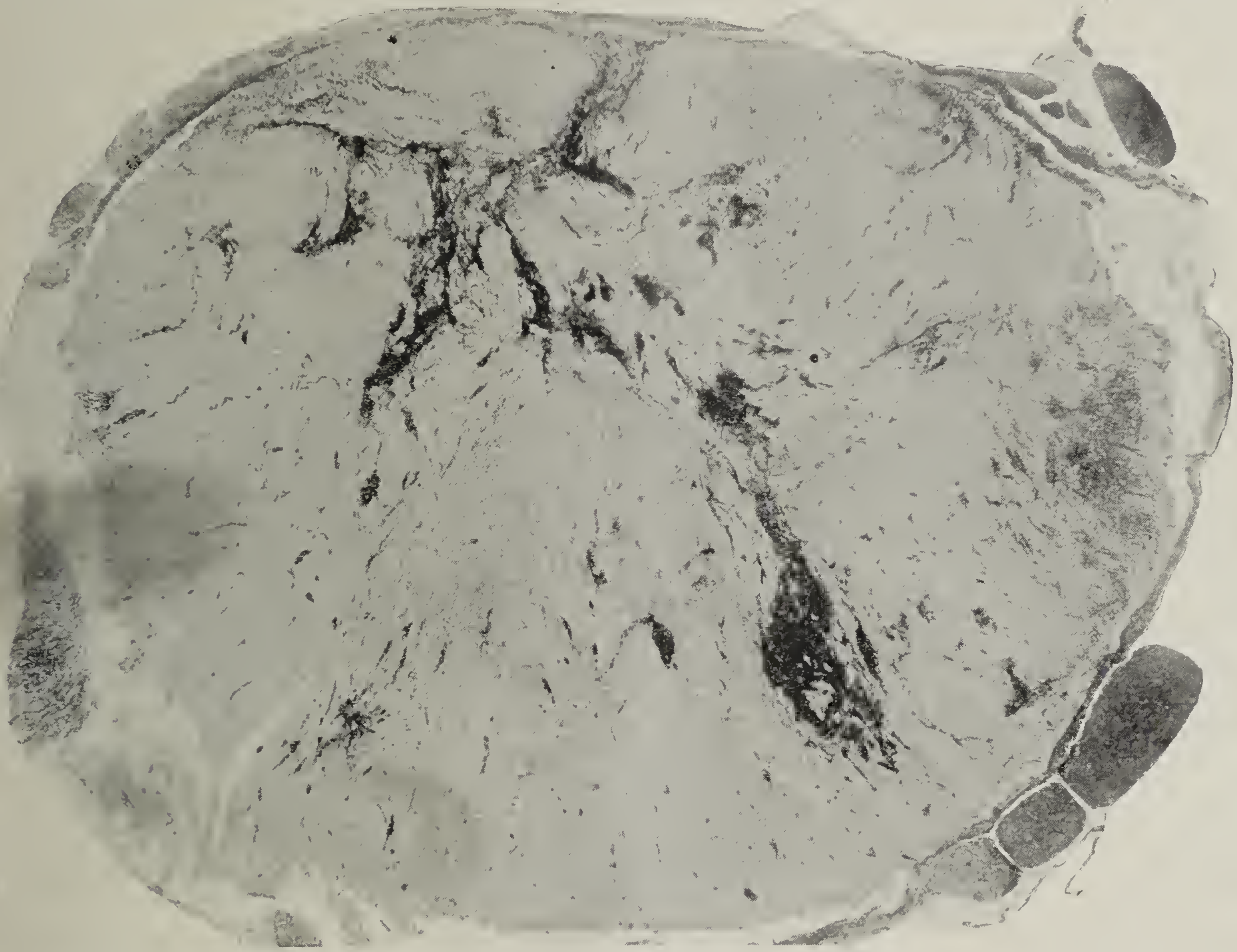

Fig. 4.—Case 5.—A section of the spinal cord at the first thoracic segment, showing intense hemorrhagic condition. (Weigert preparation.)

Case 6.—Man, aged 32 years, a miner, born in Italy, was brought to the Philadelphia Hospital on Dec. 22, 1905, suffering from a paralytic condition consequent to a gunshot wound of the spinal column received two months prior to admission. His past history was negative. He denied venereal infections, but owned to having used a great deal of alcohol without ever becoming "very intoxicated." The point of entrance of the bullet was just above the insertion of the deltoid muscle in the left arm. The humerus was fractured. On receipt of this injury he fell, having no power in his lower limbs. One month after his wound he began to have shooting pains in his lower limbs and a bed sore began to develop over his sacrum.

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[15] Combined Pseudosystemic Disease, with Special Reference to Annular Degeneration, Univ. of Penna. Med. Bull., January, 1905.

[16] Ueber d. Blütgefässe d. Menschlichen Rückenmarkes, Lemberg, 1899.

On January 2, after an *x*-ray examination, in which the bullet was located, the patient was operated on, an exploratory laminectomy being done. The fourth, fifth and sixth thoracic spines were removed, but the bullet was not found. The patient lived until February 22. During this time he gradually grew weaker. The wound proved very refractory and there remained several sinuses leading to the spinal cord.

The history records, after the operation, an incontinence of urine and feces, but whether this condition obtained before the operation is not indicated, but probably it did. There is also noted on February 10 that there was a "large bed sore over the right hip, exposing the trochanter and eight inches of the shaft of the femur."

At the autopsy the bullet was found imbedded in the body of the fourth thoracic vertebra, where it had been located by the *x*-ray.

The microscopic examination shows an intense degeneration by Marchi's method at the level of the lower part of the pyramidal decussation in Goll's columns, in the direct cerebellar columns and in Gower's columns. In the eighth cervical segment there is a degeneration of some of the anterior cornual cells, also there is seen here by Weigert's method degeneration in the columns of Goll, and the direct cerebellar and Gowers' tracts. Both Weigert's hematoxylin and Marchi preparations show degeneration in both crossed pyramidal tracts in the lumbar region. Sections from the seat of compression show complete disintegration of the spinal cord, only a few irregularly scattered groups of axis cylinders remaining normal and intact, and these mostly at the periphery of the spinal cord. The degeneration, when followed up into the medulla by the Marchi method, shows very beautifully the parting in different directions between the direct cerebellar tract as it swings back into the restiform body and Gowers' tract, continuing upward.

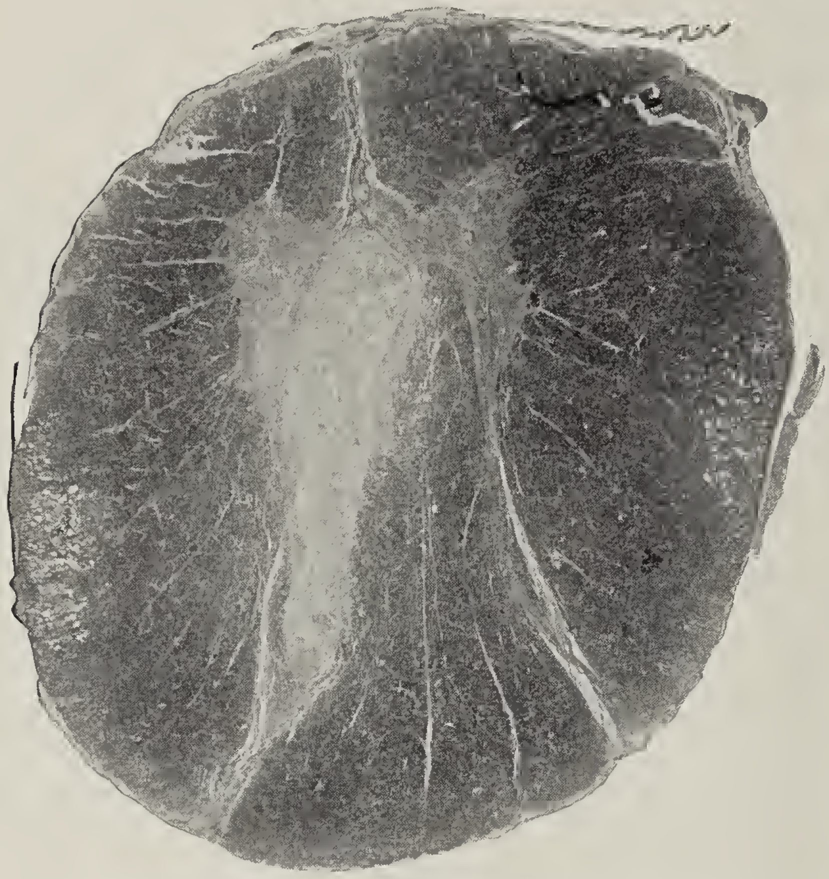
Fig. 5.—Case 7. A section of the spinal cord about 2.5 cm. (fourth block) below the seat of compression, showing area of central softening and two areas of degeneration peripherally and symmetrically situated. (Weigert preparation.)

This case introduces an important point which is frequently brought up in arguments pro and con laminectomy in cases of spinal fracture-dislocation. One of the chief reasons advanced by the surgeon or surgically inclined neurologist for operating in these cases is, as Burrell says, "that if pressure on the cord is allowed to remain for many hours, irreparable damage to the cord may take place." This statement would infer that the immediate removal of pressure would tend to prevent the "irreparable damage to the cord," which idea is wholly fallacious. The spinal cord in this case had barely been grazed by the bullet, the dura mater being intact and without abrasion. The bullet had lodged in the vertebra and was exerting no pressure whatsoever on the spinal cord. Therefore, whatever injury obtained resulted from the instantaneous pressure of the bullet in passing, a pressure indenting possibly the dura but not enough to abrade or tear it, and then absolutely removed. And yet, note the wholesale destruction of cord tissue in this case. It seems to me that in weighing your data pro and con operation in these cases, the pressure of fragments should not be the reason for a rapid operation. If a fragment has exerted pressure sufficient to cause degeneration, that degeneration will take place and be as immutable one second after the reception, of the injury as it would be one week after. When the dura was opened in this case the cord was found completely softened.

Case 7.—Man, aged 38 years, an iron worker, born in America, was brought to St. Joseph's Hospital, Oct. 14, 1906. Dr. Spellisy, whose patient he was, has kindly furnished me with the following brief facts: The family history was negative, as was also his past history. On the date of his admission he was working on a scaffold, when it gave way and he fell a distance of thirty feet. What part of his body struck the ground is not known. He did not lose consciousness, but was unable to get up. He complained of pain in his arms and upper part of back. This pain he described as like red-hot irons going through his arms.

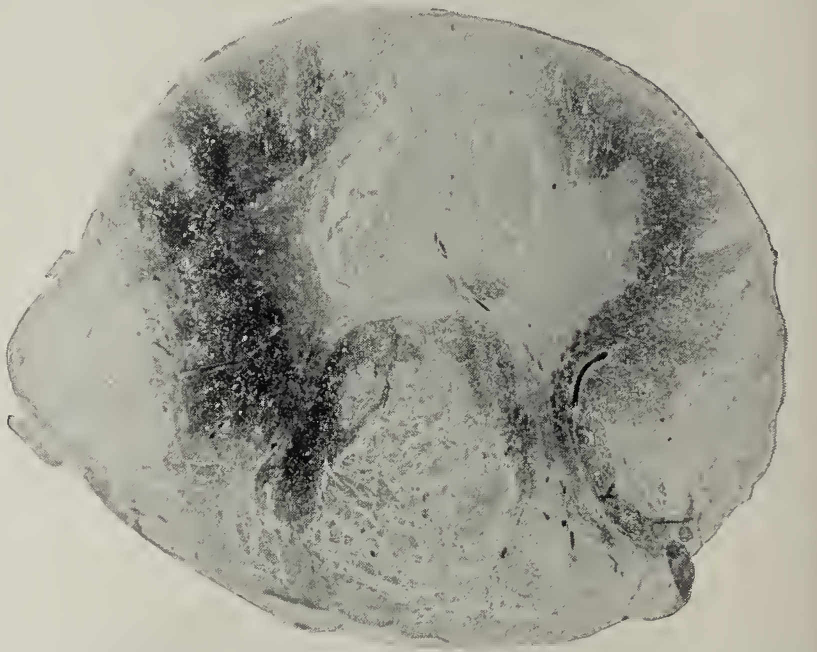
Fig. 6.—Case 8. A section of the spinal cord immediately above the seat of compression, showing intense degeneration and disintegration of cord substance. (Weigert preparation.)

He was a well-nourished and well-built man. There was loss of sensation up to the second rib, the limiting line of anesthesia circling the body horizontally. He had retention of urine and incontinence of feces. There was a slight laceration of the scalp. The eyes were normal. The loss of the sense of pain extended above the loss of tactile sensation. Knee jerks and plantar reflexes were absent. There was a loss of the power of the flexors of the fingers. The patient gradually lost ground and died October 31.

I received the pathologic material in the shape of a portion of the spinal column, including two vertebræ below the point of fracture-dislocation and six vertebræ above. Judging from the topography of the gray and white matter of the highest segment, the lesion involves the upper part of the thoracic cord. For a distance of about four centimeters the cord is absolutely softened, having been nipped between the posterior-superior edge of the vertebral body next below the luxated vertebra and the arch of the dislocated vertebra. From a point one and a half centimeters below the point of constriction to fully five centimeters distal there was an area of softening occupying the posterior part of the left anterior horn and extending backward into the posterior horn to within a short distance of the periphery.

The three and one-half centimeters of cord were divided into five pieces and mounted in celloidin and cut. They were numbered from below upward. Block 5 shows an area of degeneration in the white matter at the periphery on the side opposite to the cerebral softening. This area is small and is situated at what might be the junction of the direct cerebellar and Gowers' tracts. In Block 4 (Fig. 5) there is, in addition to this same area, a similarly situated area of degeneration on the other side. These areas are true degenerations, showing swollen axis cylinders. They were probably caused by the injury inflicted to the cord by stretching it over the posterior surface of the body of the vertebra next below the vertebra luxated. In Block 3 this degeneration is not present. The photomicrograph shows the area of central softening together with the degenerations as found in the fourth block. Had it been possible to cut and stain an entire unbroken set of serial sections through this part of the cord, doubtless one would have found occluded or damaged blood vessels to account for the central softening.

CASE 8.—A young student was brought to the University Hospital, March 15, 1906, with the following history: He had been wrestling in a gymnasium, and his opponent, having gotten his head on the mat, was endeavoring to force the shoulders down also. Without any sudden wrench the patient collapsed and was in a perfectly limp condition. Afterward he stated that he had experienced a sensation as if something had broken. There was diaphragmatic breathing, motor and sensory paralysis, the area of anesthesia extending well above the umbilicus, and there was also priapism and loss of reflexes. The grasp of each hand was weak, but the motions of the arms at the shoulders were normal. There was tenderness on pressure over the sixth cervical vertebra, but no deformity.

The patient died, March 30, from "pulmonary edema and general exhaustion."

Operation was not resorted to in this case, owing to the hopeless outcome which was indicated. In a letter to Dr. Spiller, Dr. Edward Martin, who also saw the patient in consultation, said: "I have not accentuated a feeling that I had then and still have, that it is a rather good thing to go into these absolutely hopeless cases on general principles with the idea of finding, perhaps, the one in a thousand who can be helped."

The autopsy discovered a luxation of the seventh cervical vertebra which had been reduced spontaneously. There was no fracture. The cord had been completely crushed. Dr. Spiller's notes were as follows: "There was an adhesion between the posterior part of the dura and the lower part of the seventh cervical vertebra. The seventh cervical vertebra was a little displaced on the first thoracic. There was a slight protrusion backward of the body of the seventh cervical vertebra which was visible when the cord was removed. The body of the seventh cervical vertebra was very movable. No hemorrhage anywhere. The cord was swollen above and below the seat of compression. The compression is very marked and is at the extreme upper part of the eighth cervical segment.

Sections for microscopic examination were made immediately above the level of the compression (Fig. 6). There were areas of softening in the lateral, posterior and anterior columns on both sides, together with a great comminution of the white matter. Only the part of the cord immediately involved at the seat of injury was allowed to be taken at necropsy. This case was presented by Dr. Spiller and Dr. Martin before the Philadelphia Academy of Surgery.

This case may be classified among the pure dislocations. As stated, it was self-reducing. The injury was completed in the twinkling of an eye, and yet, note from the picture the obvious cord destruction. This appearance is typical of this class of injury, the cord looking as though it had been constricted by having a string tied around it. The terrible destruction of tissue above and below the seat of injury is shown in the accompanying illustration. Although the history records priapism as a pronounced symptom, I am told by Dr. Spiller that semi-flaccid turgescence would more accurately described the condition.

The following case was reported by Dr. Spiller.[17]

CASE 9.—A man, aged 46 years, fell eight feet out of a window and struck on his face. He remained on the ground unconscious for several hours after his fall before being found. His examination revealed that he had no control over his bladder and rectum. He could draw up his lower limbs, but the movement was much impaired. The knee jerks were present, but not exaggerated. The Babinski reflex was uncertain. The voluntary movement of the upper limbs was much impaired. He could not move the fingers of either hand, but could move his arms at the shoulder and elbow joint imperfectly. Sensation for touch was normal all over the body. The sensation for pain and temperature was much impaired in the lower limbs and over the trunk anteriorly and posteriorly as high as the base of the neck. There was also some impairment of pain and temperature sensation in the upper limbs, but not so much as in the lower.

The seventh day after his accident the patellar tendon reflex on the left side was absent and on the right was feeble. The Babinski reflex was present on both sides. The fourteenth day after the accident it is recorded that the restoration of power to the lower limbs was remarkable. On the thirtieth day after the accident he could make feeble extensor and flexor movements of the fingers of each hand. He died thirty-eight days after the accident.

In this case were found two distinct foci of disease: First, a traumatic myelitis which Spiller defines as a degeneration affecting the nerve cell body and the nerve fiber, together with a round-cell infiltration, proliferation of neuroglia, congestion of blood vessels and miliary hemorrhage. This affected the fourth, fifth and sixth cervical segments. Second, a degenerative change in the cell bodies of the anterior horns which was much greater in the eighth cervical segment than elsewhere. The hemorrhages were too minute to be detected with the unaided eye.

On account of the findings in this case Spiller says he considers that it is impossible to make a differential diagnosis during life between hematomyelia and traumatic myelitis.

The limitation of time and space prevent me discussing spinal localization, the reflexes and motor and sensory paralysis.

The treatment of a case of spinal fracture-dislocation if often rendered much more difficult than it otherwise would be by reason of the ignorant ministrations of the well meaning laity present at the time of the accident. When a man receives an injury of the back which renders him unable to arise, he should be carefully placed on a flat stretcher, preferably one extemporized by boards and not soft and yielding. Care should be taken to preserve as nearly as possible the position of the body as originally found after the accident, unless the position threaten life. This can only be done by bolstering up certain parts with pillows or better still extemporized sand-bags or mounds of earth. Absolutely no attempt should be made to straighten out his body until his clothes have been cut from him, and then only by an experienced physician. After the patient has been duly examined, it is well to pass a catheter as soon as possible, under strict aseptic precautions, and empty the bladder. In this way one is able to judge more accurately of the functional ability of the kidneys during the first twenty-four hours. If the patient be delirious morphin is indicated to counteract a restlessness which might displace a fragment of bone and so wound the cord. If given hypodermically, care must be taken not to give it in an area which shows a circulatory stasis or edema, otherwise there will ensue very slow and imperfect absorption and trophic changes might occur.

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[17] American Neurological Association, 1902, Traumatic Lesions of the Spinal Cord without Fracture of the Vertebræ.

The question of operation will always be much discussed. I wish to note a few of the justifications which have been advanced for operation in these cases. Tubby[18] says, operation is indicated if there be "pressure from fractured laminæ, or from a process driven inward, or a spicule of bone perforating the theca and cord, hemorrhage and when the cauda equina and lumbar sacral plexuses of nerves are implicated." McCosh[19] says, "(1) The risk of the operation of laminectomy is slight. (2) Early operation is of the greatest importance. Operate before the onset of degenerative changes. (3) . . . (4) Operate rapidly. Employ but few artery forceps or ligatures. (5) Support of the spinal column after operation is generally unnecessary." Burrell says, "An open operation gives definite information as to the condition of the cord and, above all, allows pressure to be removed." Haynes[20] says that all patients who survive the shock of the injury to the spinal cord and its complications should, in gunshot cases, be operated on. The following are the conditions which he thinks demand laminectomy: "(1) To remove the bullet, or spiculæ of bone or particles of clothing; (2) to remove blood clots; (3) to arrest hemorrhage; (4) to allow oozing in traumatic edema of the cord; (5) to prevent pressure and sepsis by drainage; (6) in advancing paralysis; (7) to suture a severed cord." Oliver says to operate where there is "some acute function of the spinal cord. In other cases, those in which there is no such evidence, it is highly probable that nothing is lost by waiting two or three days." Munro suggests a union of the roots above and below the injury in cases where there is division of the cord. Horsley advises waiting a few days and then operating to remove fractured laminæ or projecting portions of the vertebral bodies or at times intervertebral discs.

Tubby's argument as to pressure I have answered above (Case 6). To McCosh's advice relative to the slight risk of laminectomy in spinal fracture-dislocation cases, I can only say that literature teems with cases whose future course after operation is the strongest denial of that statement. No matter what good is to be done mechanically, there is no denying that to operate is to convert a simple into a compound fracture, and the risk of such a measure can never be spoken of as slight, no matter how skillful or aseptic is the operation. As to Burrell's statement anent the definite information concerning the condition of the cord which we gain by open operation, it is really hard to take that seriously. If there is one thing that a laminectomy frequently fails to do, it is to give much or at times any clue to the condition of the cord. (Case 6.)

Spiller[21] answers Haynes' argument in favor of operation by calling attention to the fact that some authorities consider the symptoms of compression due in reality to secondary degeneration. He thinks, moreover, that the removal of an external clot on the cord is of doubtful value, and he questions the good influence of an operation on an edema of the cord following fracture or injury of the spine. The seventh point taken up in Haynes' argument, i. e. "to suture the severed cord," need not be discussed, except to say that the entire weight of all careful observation and evidence is against the possibility of the cut ends uniting so that there ever will be functional continuity between the two ends. This takes into account the several alleged cases of spinal cord suture with partial return of function afterward. M. Allen Starr,[22] denies that repair of the spinal cord ever occurs. He says that scar tissue may form, but that "restoration of continuity of the nerve fibers" is impossible. He gives the weight of his opinion against operating saying that the results are "uniformly disappointing."

Oliver's[23] advice to operate where there is "some acute function of the spinal cord" remaining seems to me diametrically opposed to reason. If one be fortunate enough to have an incomplete lesion of the spinal cord following a fracture-dislocation why run the risk of converting it into a complete lesion as in one of my cases quoted above (Case 4)?

Munro's[24] suggestion of suturing the nerve roots immediately above the lesion to those immediately below is fantastic only because of our lack of experimental data in this direction. He evidently advances that means, accepting the doctrine that axon regeneration is dependent on the nuclei of the neurilemma and can never take place in a cord suture, the cord lacking neurilemma.

The work of Kilvington[25] has lent additional weight to Munro's suggestion. This investigator (Kilvington) sutured in a dog, the central ends of spinal nerve roots leading to the hind limbs to the peripheral ends of the nerves to the rectum and bladder, with successful results. He thinks that nerve crossing would not be feasible in the cervical region in man, but that in the dorso-lumbar region it would be possible. He found from dissection that the second and third sacral roots could be joined to the first lumbar root, provided that the latter be divided as low as possible (where it pierces the dura).

Horsley's[26] views have been so adequately answered by Spiller in his reply to Haynes that I need not further dilate on them.

When are we to recommend operation in cases of fracture-dislocation of the spinal column? In answering this question we must not base our advice on the isolated cases reported in which brilliant results have come after radical operative procedure. These cases are often will-o'-the-wisps leading to disaster because we are as yet too ignorant of the processes of regeneration and spinal surgery to be able to see what factor in a particular case made for success, and in our ignorance we are prone to ascribe it to superlative surgical technic, promptness in operating, etc., factors any one of which is easily within our power and which if they were the true crux of the question would forever set aside the dispute on the subject.

A compound fracture of the spinal column, whether caused by gunshot or other violence is often a suitable case for operation. Here there is not the conversion of a simple into a compound fracture. Do as little as possible in the operation in the way of removal or reposition of fragments. Of course, should one find a lamina driven into the spinal cord, it would be indicated to remove it, but rather than clear the premises of all existing débris, trust to the natural processes of organization and ankylosis, with the aid of immobilization, to bind the fragments, which one might otherwise tediously dissect away, out of reach of the spinal cord. When the canal is opened the greatest care should be exercised in sponging so that the spinal cord is not forcibly pressed on. A great deal of injury can thus be done. I think it better never to let the gauze pad even so much as touch the cord. Clots of blood can be removed by a stream of warm sterile physiologic salt solution, after sufficient time has been given for the oozing in the small vessels to cease spontaneously.

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[18] Injuries to Spinal Column and Spinal Cord, Clin. Jour., vol. xxiv, No. 25, 1904, p. 385.

[19] Remarks on Spinal Surgery with Illustrative Cases, Journal A. M. A., Nos. 9 and 10, vol. xxxvii.

[20] Gunshot Wounds of the Spinal Cord, a Plea for Early Myelorrhaphy, with Report of a Case of Bullet Wound Through the Liver, Spinal Column and Cord; Laparotomy; Laminectomy: Recovery; N. Y. Med. Jour., Sept. 22, 29, 1906.

[21] Keen's System of Surgery, vol. ii, 1907.

[22] Organic Nervous Diseases, 1903, p. 381.

[23] Injuries to the Spine and Their Treatment, Cincinnati Lancet-Clinic, 1903, p. 480.

[24] Laminectomy, Journal A. M. A., Jan. 6, 1900, vol. xxxiv, p. 12.

[25] An Investigation on the Regeneration of Nerves, with Regard to Surgical Treatment of Certain Paralyses, Brit. Med. Jour., April 27, 1907, p. 988.

[26] Alibut's System of Medicine, vol. vii, p. 871.

Scudder,[27] in an attempt to arrive at some conclusion as to the advisability of operating in cases of complete transverse lesion of the cord, does not render the subject more lucid by the following two sentences, which in conflict seem to be past reconciliation: (a) "These specimens . . . demonstrate the utter futility of operative interference in cases of crush of the cord with signs of complete transverse lesion;" and (b) "all fractures showing complete transverse lesion of the cord should be treated by immediate operation."

There seems to be much testimony in favor of operating in fracture-dislocation involving the cauda equina. Thorburn,[12] in his classical work, comes to these conclusions: "The operation of trephining the spine for traumatic lesions, as compared with the condition which it is intended to relieve, does not present any great dangers, and appears unlikely to increase the gravity of the prognosis, but that as both *a priori* argument and the results of published cases show that it is unlikely to be of service, it should be abandoned, except in cases of injury to the cauda equina, and that in the latter, on the other hand, it will probably prove to be an eminently justifiable and serviceable procedure." He says that if improvement has not started in six weeks in cases of injury of the cauda equina he recommends operation. Scudder,[27] speaking on the same theme, says, "If at the end of six weeks evidences of beginning recovery do not appear, or if recovery once begun has ceased, it will be wise to operate on injuries to the cauda equina."

The treatment of the bladder difficulties and trophic disorders must be carried out along the lines of general medicine and surgery. Often in cases of fracture-dislocation of the thoracic region of the spine, the patient will present in due time troublesome meteorismus. This is probably owing to an irritation of the splanchnic inhibitory nerves from the thoracic region of the cord.

DISCUSSION.

Dr. William G. Spiller, Philadelphia, called attention to the fact that Dr. Allen had failed to give any conclusions. The subject of laminectomy, he said, is one of great importance, and there is much diversity of opinion regarding the value of the operation. After examining many cases of fracture of the vertebræ clinically and pathologically, Dr. Spiller believes that, in most cases, the operation may do harm. There may be exceptions, but in the majority of cases the patient is better treated by other means than surgical. Although this is contrary to the opinion of some surgeons and some neurologists, Dr. Spiller can not help thinking that it is the correct view. He has expressed his opinion more fully in the second volume of "Keen's Surgery."

Dr. Albert E. Sterne, Indianapolis, Ind., did not agree with Dr. Spiller. In certain injuries of the spinal column, he said, where the cord is involved in comparatively few instances, it is, in his experience, not the mere fragmentation of the spinal laminæ that does the damage. It does damage, but it is not always the chief factor; often, indeed, it is a secondary factor in the damage. The body of the vertebra is pressing against the cord from the front, and the counter-pressure of the lamina at the rear, wedges the cord between these two osseous obstructions. This really does most of the damage. Dr. Sterne thought that by removing the counter-obstruction and the counter-pressure by surgical measures, we are really doing the patient a great deal more good. The operation ought to be done early. Dr. Sterne realizes that there are a few of these cases that do well without operation, but in his experience, and he has seen quite a number of these cases, operation when done early, is the one measure that gives the very best results. If we delay too long, we can not expect results; if secondary degeneration has set in, we can not expect results. If, in the primary injury, the cord is severed partially or worse, we can not expect to obtain results from operation or anything else. We can not determine this; there is no means by which we can know definitely whether the cord is severed or not. He referred to a case of this kind in which an operation was done. A man was shot through the left lung. The natural assumption was that the bullet had passed through the lung to the right of the spinal column. Dr. Sterne could not feel it with his finger, and he feared that the cord was severed. Three weeks after the shooting the man was absolutely paralyzed, without deep reflexes, with blood in the urine, with all of the symptoms naturally resulting from perforation of the lung, and with extensive bed sores from the point of the injury downward. Dr. Sterne operated, and on removing the bullet, he found the cord absolutely uninjured. The bullet had passed over the spinal cord and was lying against the lateral process almost in the canal, compressing the cord, but without any reflexes from this pressure. After the removal of the bullet the patient made an uninterrupted recovery, in spite of the fact that he had a perforation of the lung. Dr. Sterne knows of no method by which we can say absolutely whether the cord is severed or not, and in lieu of this fact it seems to him that we fail to give the patient every benefit of the doubt unless we determine this by operation. Furthermore, it makes little difference as to the nature of the object causing pressure on the cord—whether foreign body, bone or a blood clot of magnitude.

Dr. Alfred Reginald Allen, Philadelphia, asked whether there was any evidence that the dura had been touched, and was the motor power in that case restored. Dr. Sterne replied that the bullet had passed over the cord, but did not lacerate the dura. It was, however, pressed against the dura and cord by the overlying bone. There was practically no blood-clot within the canal, either above or below the level of injury. Motor power was almost completely restored at the time the patient left his observation and he understands that the man is at present actively at work.

Dr. Wm. A. Jones, Minneapolis, Minn., believes that patients do better without operation, and he is in perfect accord with what Dr. Spiller said. He has seen patients operated on make good recoveries, and he has seen a number of patients that were not operated on that made practical recoveries; that is, they so far recovered that they were able to perform a number of their duties. In the case of irritation reported by Dr. Sterne in which the bullet did not puncture the spinal cord, Dr. Jones thought that the patient would probably have gotten just as well without operation as by extirpation of the bullet. He believes that too much laminectomy and spinal surgery is being done with more harm than good, except in very rare cases.

Dr. H. M. Thomas, Baltimore, has never been convinced that the operation in cases of this character has been of the least benefit. Perhaps, he said, his cases have been unfortunate ones. The cord symptoms in these cases he believes to be due either to complete destruction by the fracture dislocation, and to be practically irreparable, or to hemorrhage into the cord, which is a condition that has a tendency to improve markedly.

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[27] The Treatment of Fracture, 5th ed., 1905.

In the cases where the dislocated bones actually compress the cord, it is obvious that an operation is indicated, but apparently these cases are not very common. Dr. Thomas cited the case of a boy who came to the surgical dispensary of the Johns Hopkins Hospital, complaining simply of a stiff neck. He was perfectly well in other respects; had absolutely no paralyses or other nervous symptoms. On examination it was found that one of the spines of the cervical vertebræ seemed to be depressed and an *x*-ray examination revealed a condition that was taken to demonstrate a dislocation forward of the fourth cervical vertebra. The boy was so little incommoded that he did not return to the hospital and has been lost sight of.

Dr. Charles K. Mills, Philadelphia, said that his experience, in a general way, is against operation for fractures of the spine; but he did not agree with Dr. Spiller that operation should never be performed in these cases. He has seen a very few instances in which it has been of value. One mistake, which is sometimes made, is in doing the operation too soon after the injury. Operation should be done neither too early nor too late. It should be performed, if at all, within a reasonable period after, but not too far removed from the accident. High operations nearly always prove disastrous; that is, operations on the cervical and upper thoracic vertebræ. Dr. Mills has seen patients who were not operated on and who seemed to be extremely serious if not absolutely hopeless cases, but they made an approximate recovery after a long time.

Dr. Philip Zenner, Cincinnati, Ohio, has seen two cases within the last six or eight months that would lead one to hesitate as to operating. One patient, aged 18 or 20 years, in doing some stunts on his bedstead, fell on his head and fractured the fourth or fifth cervical vertebra, as shown by the *x*-ray picture. Examination showed that he had paralysis of both arms, bladder and rectum, and was suffering from extreme pain. Three or four months later all of the symptoms had disappeared. A second patient had been injured very seriously some four months previously in the sacral and lower lumbar region. He had been completely paralyzed, according to his statement, and for a month he could not move his legs at all. When Dr. Zenner saw him one leg was normal, while in the other there was anesthesia and paralysis of some of the muscles of the foot. Such cases, he thought, show that we may be fortunate if we hesitate to operate.

Dr. C. C. Hersmann, Pittsburg, also agreed with Dr. Spiller. However, he can remember when the same was said with regard to trephining. When he was a medical student, the professor advised never to trephine as a rule, but to trephine as an exception. Dr. Sterne, he thought, was either utterly mistaken, or his knowledge was at fault. Among the many cases of spinal injuries which Dr. Hersmann has seen in the last twenty years or more there has been only one patient that apparently recovered. The boy fell out of an apple tree, and "broke his neck." Laminectomy was done, and the boy apparently made a good recovery. However, Dr. Hersmann has seen very few cases of spinal injury benefited after operation, and he believes as many patients would recover without operative interference, as with it.

Dr. Morton Prince, Boston, Mass., has gone over the records of the Boston City Hopital cases of spinal cord injuries for some twenty years back, and has been attempting for some time to follow up all the cases after leaving the hospital, with a view to learning what the final result has been. Taking the cases that have occurred during a long period of time, and after having observed personally a large number of cases operated and not operated on, Dr. Prince has seen improvement without operation and improvement following operation, but he can not say that he has ever seen any improvement which he could logically and certainly attribute to the operation itself. Operations for traumatism of the cord are nowadays rarely recommended either by his neurological colleagues or by himself, unless there is some exceptional reason to justify this course. And yet the prognosis in severe cases, when there is reason to believe the lesion of the cord is complete, is so hopelessly bad, that he has felt that there is no particular objection to any surgeon trying the operation if he wishes to do so. Dr. Prince would not go as far as Dr. Spiller does in saying that it actually does harm, although the operation, in his opinion, is not nearly as harmless as it is sometimes said to be, but is attended by considerable danger, meaning immediate risk to life, particularly in the hands of surgeons who are not skilled in the technic.

Dr. Sterne asked whether that also included the operations of choice for other injuries on the cord.

Dr. Prince replied that he was speaking of fractures and dislocations causing structural injuries to the cord such as frequently come into the hospital.

Dr. Spiller remarked that he did not say that no case of fracture should be operated on, nor that operation is necessarily injurious, but that it may be injurious. In one case the evil effects of operation were clearly shown.

Dr. Alfred Reginald Allen, Philadelphia, answering Dr. Sterne, said that, in the first place, there is no saying definitely that the cord is destroyed or that it is not. Even weeks or months will not answer that question in some cases. In others there is an absolute abolition of all the reflexes, and absolute abolition of all sensory and motor phenomena, from which one would be led to suppose that there is a complete lesion of the cord, and yet in the course of time the patient gets well, even without operation. There are a number of such cases on record. In a case referred to in the paper there was no point of exit of the bullet. The man was paralyzed, and Dr. Spiller diagnosed the level of the lesion. When the case came to autopsy the bullet was found imbedded in that particular vertebra. In passing it had not wounded the dura in the least, but had evidently just touched it. The cord for a distance of about 4 cm. was completely destroyed. Dr. Allen thought that in Dr. Sterne's case, instead of completely destroying the cord, the bullet did what frequently happens in fracture dislocations—it produced enough temporary injury to cause the paralysis and the other symptoms. Even some of the severest cases get well without operation. Like Dr. Spiller, he holds that these cases are better left alone surgically. In fact, judging from the hundreds of cases that he has gone over in the last eight months, he does not believe that we are justified in operating, except in a very few instances, until by experimental surgery on the lower animals we get some method of suturing the spinal cord. Dr. Thomas' case, he thought, was one in which, from his description of cervical dislocation, the upper or luxated vertebra had slipped forward, the inferior articular process locking in front of the superior articular process of the vertebra next below.

THE EPIDEMIC OCCURRENCE OF CANCER IN FISHERSVILLE, VA., AND VICINITY.*

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The principal facts of the histogenesis and structural peculiarities arising from different types of tissues have been pretty well worked out[1] and the workers in this field have allied themselves with the bacteriologist, chemist and biologist in their efforts to determine the etiology of malignant tumors, but so far they are unable even to determine whether cancer is of internal or external origin. There is much evidence in support of the theory that cancer is due to some micro-organism, and certain protozoa have been accredited with being the cause, but skepticism still prevails among the rank and file of the profession.

The experimental investigation of cancer in animals is, perhaps, the most recent and most promising field of research and the studies of Gaylord and Clows, and of Leo Loeb, in this country, have done much to stimulate interest along biologic lines. There is much yet to be done; the field is a broad one, and until the facts are all in let us not waste time in hypothetical speculation.

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* Read before the Medical Society of Virginia, Nov. 13, 1907.

[1] Observations on the Inoculability of Tumors, etc., International Clinics, vol. iii, Seventeenth series.

As the general practitioner is the first one to come in contact with cancer he is in a position to observe the conditions under which it develops and the rapidity with which its pathological phenomena appear. He knows the family histories and the environments of his patients; the physical characteristics of the soil and food and other conditions which may affect the development and distribution of cancer. There are many side lights which he can throw into the field of research which might illuminate the work of the pathologist. A careful statistical study and analysis of his cancer cases by every physician in this state would not only enable us to arrive at a correct conclusion as to whether or not our cancer mortality is annually increasing, but would also reveal the localities where it is most prevalent. Then, with the cooperation of the laboratory expert, who could investigate the soil and water and food products, the actual cause of the disease might be discovered.

That there are localities where cancer in man and in the lower animals is unusually prevalent, is a fact well established. Prof. Loeb,[2] of the University of Pennsylvania, calls attention to an endemic occurrence of cancer of the inner angle of the eye among cattle on a ranch in Wyoming. So far as observed there were no conditions which differed from those at neighboring ranches that were practically free from cancer. L. Pic[3] reports a remarkable epidemic of cancer of the thyroid in trout in certain tanks in fish hatcheries in Germany. Even wild trout and fish of other families introduced to renew the stock developed the disease, while other hatcheries are entirely free from cancer. Pic, therefore, concludes that heredity, as an etiologic factor, may be eliminated and that this endemic occurrence of cancer in certain tanks in hatcheries is indisputable evidence of the existence of an infectious agent in the water of those tanks.

Perhaps the most remarkable endemic of cancer occurring in mammals and pointing directly to the cage as the source of infection is reported by Gaylord and Clowes.[4] I quote them briefly:

> A cage has been discovered in which over sixty spontaneous tumors among mice have occurred in the course of three years. The fact that the location of the cage was frequently changed and the stock entirely renewed, without any permanent interference with the production of tumors, makes it apparent that the cage itself was the source of infection.

Lyon[5] of Buffalo has made a careful study of the cancer areas of western rural New York and of the city of Buffalo. In the latter he has demonstrated that the disease is much more prevalent in the foreign born population, especially among the Germans, and that cancer of the stomach is ten times more common among the Germans than among an equal number of the native born. He concludes that this is due to the peculiar diet of the Germans, who eat much uncooked, and, therefore, infected food, and that this fact points toward a parasitic theory of infection.

As a farther substantiation of his theory of the parasitic cause of cancer, he gives a résumé of Behla's classical observations in the town of Luckau, in Prussia. I will summarize briefly in very nearly his own words:

> The town of Luckau consists of a central portion, with 3,000 inhabitants, flanked on the east by the suburb Kalau, and on the west by the suburb Sando, each with 1,000 population. During twenty-two and one-half years no case of cancer was noticed in the western suburb, Sando. Cases were not infrequent in the main town, and out of a total of 663 deaths from all causes, in Kalau, the eastern suburb, 73 were due to cancer. Cancer, therefore, caused one out of every nine deaths in Kalau, as against one out of twenty-five to thirty in the entire town; whereas there were no deaths from cancer in Sando. The soil in the main town and in Kalau was low and flat and moist; in Sando it was high and dry. The special distinction of the three divisions of the town was the location of a ditch, which derived its water from a stream below the suburb. Sando, without touching it, encircling the central town and the eastern suburb Kalau. Cancer followed this ditch, occurring chiefly in the main town among those whose gardens bordered on the ditch, and most frequently in the eastern suburb Kalau, all the gardens of which were watered from this ditch. Of 127 houses, the gardens of which backed on this ditch, 56 were cancer houses. The ditch contained stagnant water, and the people were in the habit of washing vegetables in water taken from this ditch. The vegetables were thus infected, and as they were eaten raw, they infected the people.

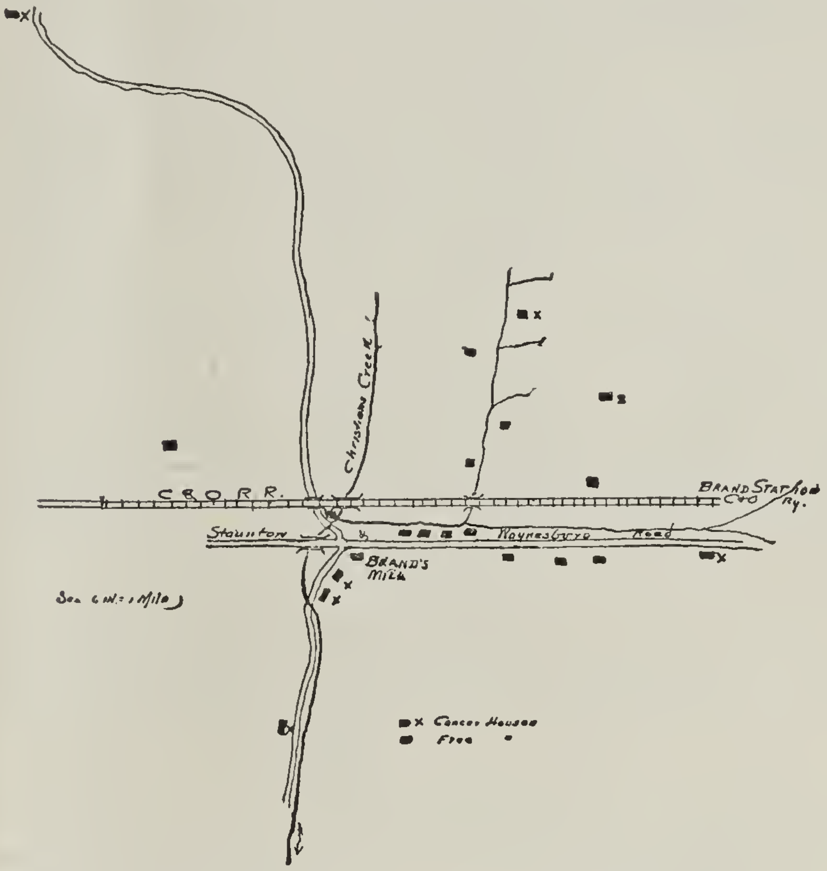

Fig. 1.—Map showing Brand's Mill neighborhood and relationship of houses in which cancer occurred. The top of the map is north.

Behla believed the peculiar and unequal distribution of cancer through the different parts of Luckau could be explained only by reference to the location of the ditch.

Believing that if such observations in men and in animals as I have detailed above were multiplied so that the law of chance could be eliminated it would be presumptive evidence of the infectious nature of cancer, I have determined to call the attention of this society to what I have termed "The Endemic Occurrence of Cancer in Fishersville and Vicinity." I shall quote a few lines from a paper I[6] contributed just a year ago to the Medical Society of Augusta County:

> The village of Fishersville is in the eastern portion of Augusta County. My work is largely confined to the area between Christian's Creek on the north and South River on the south, running up and down the valley for about nine miles,

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[2] Further Observations on the Endemic Occurrence of Cancer, etc., Univ. of Penn. Med. Bull., March-April, 1907.

[3] Quoted by Gaylord and Clowes, footnote 4.

[4] Evidences of Infected Cages as the Source of Spontaneous Cancer Developing Among Small Caged Animals, THE JOURNAL A. M. A., Jan. 5, 1907.

[5] Fourth Annual Report N. Y. State Cancer Laboratory.

[6] A Statistical Study of My Cancer Cases in the Fishersville District, Augusta Co., Va., Virginia Med. Semi-Monthly, Feb. 22, 1907.

and is of a distinctly rural character. These streams are approximately parallel. The country is hilly, providing good natural drainage, and is partly wooded, while the soil, for the most part, is exceedingly productive. Near South River is a stretch of sandy soil; next comes a belt of limestone, and next to Christian's Creek slate abounds.

This section is traversed by two railroads and numerous public highways, making it easy of communication. There has been a steady infusion of new blood from Maryland and Pennsylvania for over seventy years. The people generally are devoted to agriculture and stock raising, and are unusually prosperous and well-informed.

These facts, together with the great variety of family names, are adduced in support of the idea that there has been no unusual degree of consanguinity, a probable factor in the etiology of cancer. A list of hundreds of confinements attended during the nine years under consideration also convinces me that the birth rate has been well looked after in the Fishersville community, and, therefore, race suicide and senility are not unusual conditions to be reckoned with.

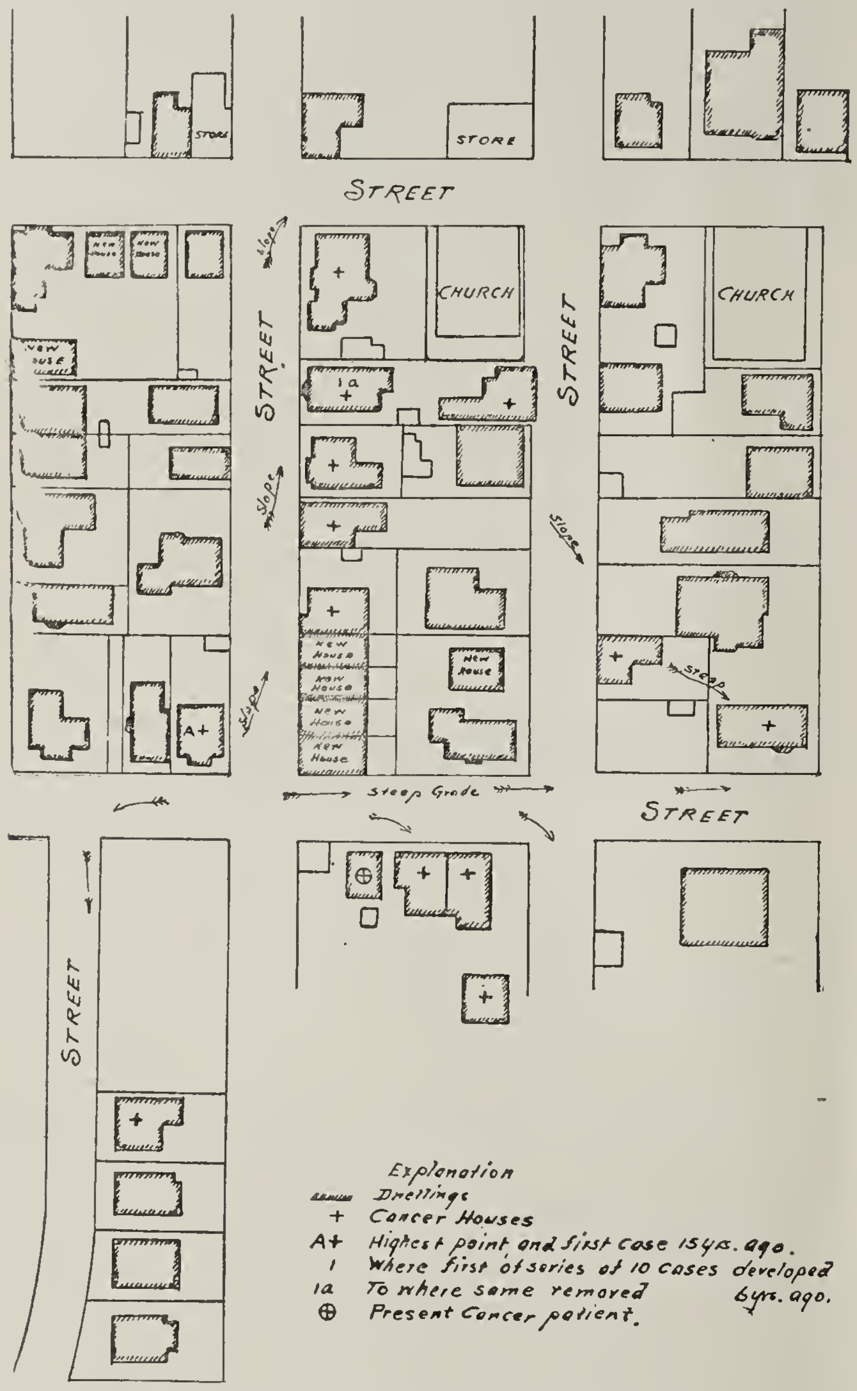

Fig. 2.—Map showing relationship of houses in which cancer existed. The top of the map is north. Scale, 100 feet to 1 inch.

My practice embraces an average of about 265 families, or some 1,300 people. There are other families living within the limits of my work, but this report, be it understood, is confined to the families among whom I practice, and does not include cases of cancer and other diseases seen in consultation, or deaths due to cancer or other diseases outside the limits of my own work.

From October 15, 1898, to October 15, 1907, a period of nine years, there have occurred in my practice, not including still-born infants, 105 deaths from all causes; 16, or 15 per cent., were due to pneumonia; 17, or 16½ per cent., to tuberculosis, and 18, or 17 per cent., to cancer.

In order that we may appreciate this unusually high mortality from cancer, let us compare it with the township of Brookfield, N. Y., perhaps the most widely known cancer zone in this country. With a population two and one-half times as great as the Fishersville district there were in the fifteen year period, 1886 to 1900, 1,719 deaths from all causes. Of these 70, or 9.7 per cent., were caused by cancer; whereas the Fishersville mortality from cancer during nine years is 18, or 17 per cent., out of a total mortality of 105. The rate in the Fishersville area is, therefore, nearly 8 per cent. higher than in the Brookfield area.

As shown in that report, heredity and consanguinity in my cases were not important factors, there being only one case of direct descent from a cancerous ancestor, and that a great-grandmother. One patient had an aunt, one a cousin and one a sister who died of cancer. Diligent inquiry has been made of all the regular physicians adjoining me and I find no such death rate from cancer approaching that of my own experience. In fact, if I eliminate the city of Staunton, I have had more deaths from cancer during the last nine years than have the six physicians surrounding me combined, and this includes the town of Waynesboro, with a population of 1,400.

Now, let us study my cases more closely and see if we are warranted in assuming a probable infectious origin as the cause of this unusual mortality from cancer. Two years ago Mrs. F. died of cancer of the uterus. Shortly after her death, Mrs. M. occupied this brick house, and within two years she was dead of cancer of the liver. Mrs. A. died of cancer of the pancreas. She was very friendly with her cousin, Mrs. L., who died of cancer of the uterus. At Ladd's Post Office, seven years ago, X died of cancer of the rectum. Diagonally across the road Mrs. S. has just died of cancer of the stomach and bowels. Three years ago V. moved from one-half mile of this house to Waynesboro and he has just died of cancer of the liver, after an illness of eighteen months. Seven years ago, near this same house, N. died of cancer of the throat, and shortly before Mrs. D. of cancer of the uterus. They were all friends and lived within a radius of a mile. One and one-half miles north of Ladd's Miss E. died of cancer of the liver metastatic from cancer of the breast, which had been removed one year before. Five years afterward her sister, who had lived for years in the same house and nursed her, developed cancer of the pancreas, and has just died, making my third pancreatic case, the diagnosis in every case being confirmed by operation or autopsies. One and one-half miles north of this house, in the village of Fishersville, Mrs. R. and Miss R. (not related) died of cancer of the face and rectum, respectively. They lived diagonally across the road from each other. A few months ago, Mrs. S., who lived forty feet away from Miss R., died rather suddenly. She had a large abdominal tumor and was in ill health, suffering at times with violent abdominal pain, but a positive diagnosis was not made and she is not included in this report. Exactly opposite Mrs. R.'s house, across the road, Mrs. H. died of a bowel affection which was highly suspicious of cancer and is referred to in my former studies, but was not included in my eighteen cases.

I have in my possession the names of a number of people who died from cancer, within a radius of one and one-half miles of Fishersville, about twenty-five or thirty years ago. In fact, I have been appalled at the high mortality from this disease about that time. There seems to have been a check in the ravages of cancer for nearly two decades, only to break out with relentless fury during the one that is now under observation. This characteristic is analogous to that of certain infectious diseases, and, to my mind, is strongly presumptive evidence of the infectious nature of cancer.

But to continue. At Brand's Mill,[7] three miles from Fishersville, within a radius of one mile, I have lost four patients from cancer, three of whom died within a period of six months. There is one case of cancer there at present, and another woman has a large pelvic tumor. Except these cases I recall only two deaths from other diseases in this community during the past five years.

On or near a certain section of road, one and one-half miles in extent, near Fishersville, are four brick houses. In one I have seen two cases of cancer. In each of two others there has been a case and possibly a fifth case in the other one of the four brick houses. On Barren Ridge, one and one-half miles from Fishersville, I lost a patient with cancer of the uterus and a few hundred yards away a patient with cancer of the bowels. This patient lived in the house whose former occupant, Col. X., died some twenty years ago from cancer of the face. While living in this same immediate community, but in a brick house, and before he was afflicted, Col. X.'s daughter died of cancer of the breast, and her cousin, who made her home with them and nursed them, has since died of cancer of the stomach. It is very interesting to note that this old man's mother also died of cancer of the face, and that his next door neighbor, one-eighth of a mile away, developed cancer. This daughter is the granddaughter of Col. A., who lived one mile away and died some twenty-five or more years ago. These people were then and are now among the most prominent citizens of our county and they have furnished me with these statistics:

A. immigrated to Fishersville from Scotland, and nothing is known of his health or that of his antecedents. He himself was accidentally killed. At least four of his children died of cancer of the face: Col. A., aged 76; Mrs. B., aged 75; Mrs. C., aged 70; and Mrs. D., aged 60. Col. A., by his first wife, had four children. Daughter No. 1 died of cancer of the uterus, aged 30; Nos. 2, aged 29, and 3, aged 34, of tuberculosis, but her daughter died of cancer of the breast, aged 28, and is the one to whom I referred above. The poisoned son left one son, who has just died, possibly of cancer. Col. A.'s sister, B., died of cancer of the face, and her son of cancer of the liver. His sister, C., died of cancer of the face, and she lost a daughter, Mrs. H., from cancer of the uterus, and this daughter, in turn, lost a daughter from cancer of the uterus. Col. A.'s sister, D., died of cancer of the face. His sister, E., did not die of cancer, but her son died of cancer of the face.

Here was a family in which were eleven cases of cancer. It may be called hereditary transmission, but how would this explain the number of sporadic cases I have referred to, but have not named individually, existing here in this immediate community, at about the same time, and who were intimately associated as neighbors and servants, but were not related? Then, too, permit me to say that I am the family physician of the descendants of this family in this section and though I have had eighteen cases of cancer here I have not seen even a suspicious sore among any of the members of this family now living in this community.

I now wish to report a focus of cancer more distant from me, occurring about the same time and closely connected by blood and association with many of the people among whom I practice. Col. L. died of cancer of the face; his brother, C., of cancer of the ear; his sister, E., of cancer of the axilla; Col. L. had three children. J. and W. died of cancer of the face and the daughter of cancer of the uterus. J. L.'s daughter died of cancer of the uterus. Col. L. was the first member of the family attacked. All lived within sight of one another and nursed each other until death.

Another observation which I regard as furnishing the strongest evidence of the infectious nature of cancer is the following: I am not at liberty to divulge either the name of the locality or the names of the physician and the layman who kindly furnished the facts. Suffice it to say that, in a nearby city, within the last six years, there have been ten deaths from malignant tumors, in a sharply defined area not much larger than a city block, and there is one case there at present. In fact, five of the cases occurred in the same block, on the same street, and in the five adjoining houses, and the others on adjacent property. The first patient, making eleven persons in all who have died, developed cancer at the highest elevation in the locality less than one block away, fifteen years before any of the above cases developed. The drainage from her house is directly down the street and into the premises of the other five houses where cancer later developed. Two hundred feet southwest from one of these houses was a case of epithelioma of the face, but the old man was accidentally killed about two years ago. This makes twelve cases developing in this section in about six years.

Only three of these persons are related, and they were sisters and a son. So far as I am informed, there is no history of heredity in any of these cases.

SUMMARY.

There has been an endemic of cancer in Fishersville and vicinity for a number of years. At one time there was a high mortality from cancer among those who lived in the community, by no means confined to families, succeeded by a period in which there was comparative immunity to the disease. This period is followed by a decade in which there is a recurrence of the disease, causing a higher mortality in my own practice than that of any other disease.

In a nearby city, within an area a little larger than a city block, twelve cases have developed during the last seven years, and this in a city in which the physicians inform me they have seen very few cases of cancer.

In conclusion, permit me to say I believe sufficient evidence has been submitted to show that the high mortality from cancer in Fishersville and vicinity is not due to a fortuitous occurrence, but I believe it is due to an infectious organism transmitted directly or by means of a host. Such a theory does no violence to the views of those who believe in a hereditary predisposition to cancer.

To Take Castor Oil without Disgust.—Cracked ice held in the mouth before taking castor oil chills the tongue and prevents any disagreeable after-taste.—*Nurses' Jour. of Pac. Coast.*

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[7] Since writing the above, further inquiry reveals the fact that some forty odd years ago this family, consisting of a mother, grandmother and thirteen children, occupied the house in which the present and last surviving male member now lives and is affected with cancer of the face. The grandmother died here of cancer of the face; the mother of a "bad womb trouble;" a brother died at an advanced age of "thigh bone disease," which was believed to be cancer. After leaving the old home, another brother died of cancer of the mouth; another at an old age of "abscess of the liver," and a nephew of cancer of the throat. Nearby, and about the time the grandmother died of cancer, an old negro woman died in a brick house, one hundred yards above the house at Brand's Mill in which I recently lost a case from cancer.

"CACTIN" AND "CACTINA;" AN EXAMINATION INTO THEIR PHYSIOLOGIC ACTION.*

S. A. MATTHEWS,
CHICAGO.

Not long since R. A. Hatcher[1] made a physiologic examination of a number of preparations of *Cactus grandiflorus* which certain enterprising pharmaceutic manufacturing companies were exploiting as possessing invaluable therapeutic properties. He evidently went thoroughly into the somewhat limited literature on the subject, and one only needs to refer to his article to find out the present status of our knowledge of the chemistry and the physiologic action of the yet unknown principles contained in *Cactus grandiflorus*.

As stated by Hatcher, various principles derived from the different members of the cactus family have been subjected to physiologic examination, but few and incomplete are the researches on the physiologic action of anything found in *Cactus grandiflorus*. This is probably due to the fact that no one has been able, thus far, to isolate any substance which could be said, with any degree of certainty, to be either an alkaloid or glucosid contained in this member of the cactin family and possessing physiologic action.

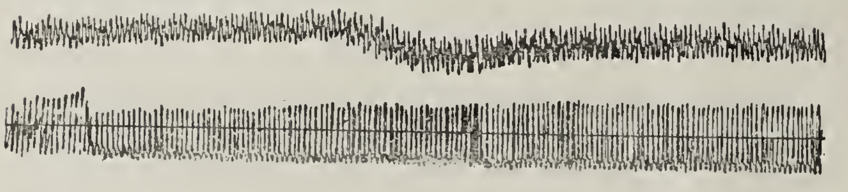

Fig. 1.—Cactin experiment. Dog, wt. 8 kg., time 10 a. m. Read from left to right: Upper tracing, blood pressure; lower, respiration. Normal blood pressure, 100 mm. Hg. At point indicated in tracing, 25 cactin granules, dissolved in physiologic salt solution, were injected into the right saphenous vein (time 10:01). Blood pressure dropped to 96 mm. Hg, but soon rose again to normal, 100 mm. No change in rate.

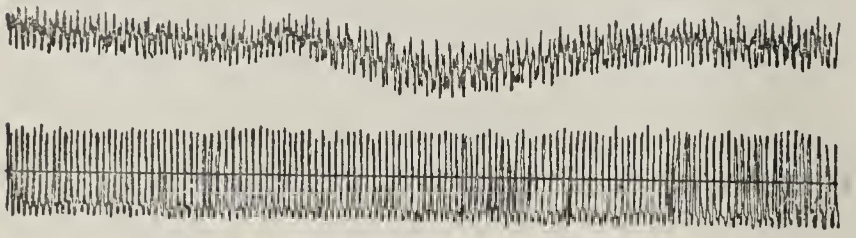

Fig. 2.—Ten minutes later (10:10), 25 cactin granules were injected. Blood pressure, 98 mm. Hg. No change in rate.

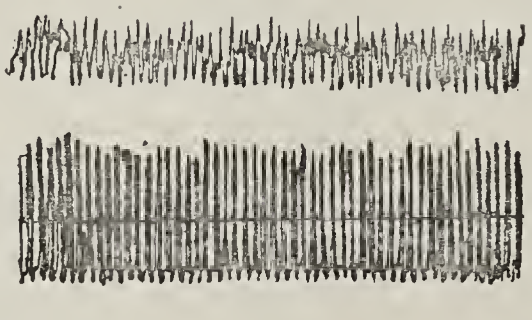

Fig. 3.—Ten minutes later (10:20), blood pressure 90 mm. Hg. No change in rate.

Hatcher has left it unnecessary for me to go into the history and literature of the subject, hence my only reason for investigating these preparations of cactus at this time is that they are still being advertised as very useful remedial agents; therefore, a restatement of the place assigned to them by physiologic experiment will not seem out of place.

The substances used in this investigation were the so-called "Cactin," prepared from *Cactus grandiflorus* by the Abbott Alkaloidal Company of Chicago, and "Cactina," manufactured by the Sultan Drug Company of St. Louis. Both preparations were purchased in the open market; cactin in the form of granules, each granule said to contain 1/67 grain cactin or approximately 1 mg.; cactina in the form of pellets, each said to contain 1/100 grain of "cactina."

CACTIN (ABBOTT).

In the literature sent out by the promoters of this preparation special attention is called to this granule, "it being an invaluable steadier of the circulation." In view of the fact that no one heretofore has been able to find anything in *Cactus grandiflorus* possessing any physiologic action whatsoever, the company's claims as to the most extraordinary influence of this preparation on the heart and circulatory organs in general, in any and all deranged conditions of the circulation, are most interesting, indeed, and, if true, most valuable.

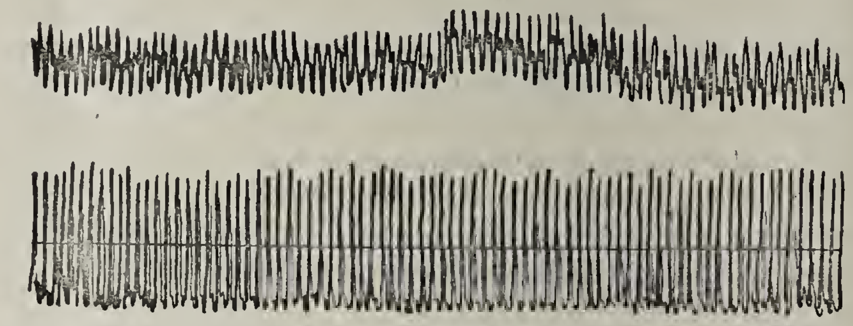

Fig. 4.—Ten minutes later (10:30), blood pressure 98 mm. Hg; 25 cactin granules injected.

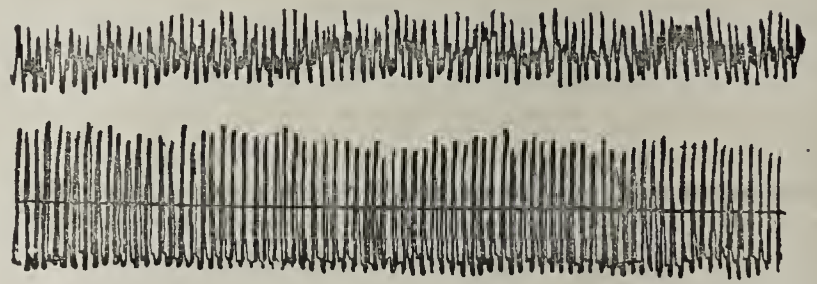

Fig. 5.—Ten minutes later (10:40), blood pressure 98 mm. Hg; no change in rate.

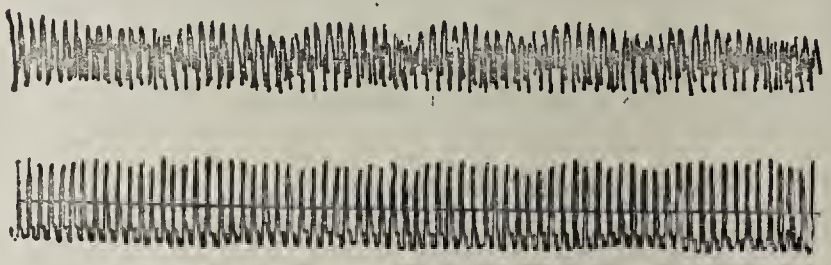

Fig. 6.—One hour and twenty minutes later (12:00 m.) and after the administration of 7,200 cactin granules, blood pressure 98 mm. Hg; no change in rate.

That cactin (Abbott) is non-poisonous is attested to by the fact that guinea-pigs will withstand 30 to 50 cactin granules administered per os or subcutaneously without the least effect. Also rabbits, in like manner, will withstand 50 to 100 granules. This simply means that a man could take any quantity. I took 100 of these cactin granules, 25 at a dose, every four hours, without experiencing the least effect. Being satisfied that cactin possessed none of the properties of an acute poison, I made a few experiments on dogs to see what influence it might exert on the circulation, using the methods generally followed in physiologic experiments.

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* From the Laboratory of Experimental Therapeutics, University of Chicago.

[1] The Journal, Sept. 21, 1907, p. 1021.

Experiment 1.—Dog, weight 8 kg. Anesthetic, ether. Prepared in the usual manner to take a blood-pressure tracing and a record of the respiratory movements. Two hundred cactin granules were ground to a fine powder in a mortar and dissolved in 80 c.c. of physiologic salt solution. This was administered intravenously in doses of 10 c.c., or about 25 granules at a dose.

At the beginning of the experiment (10 a. m.) the blood pressure was 100 mm. Hg. Two hours later (12 m.) and after the administration of 200 cactin granules the blood pressure was 98 mm. Hg. The blood pressure and the rate of both heart and respiration remained practically constant throughout the experiment (Figs. 1-6).

This shows the record of one of several experiments performed under like conditions, all of which showed cactin to be inert, just as inert as milk sugar administered in like quantity. One of the dogs used for experiment was suffering from the effects of a large goiter, and had a very irregular heart and low blood pressure. In fact, it was difficult to keep the animal under the anesthetic (ether) with any degree of safety. In this case cactin was without the least effect, in doses of 5 granules every ten minutes for one hour. In this case the corresponding dose for man (dog 8 kg., man 70 kg.) would be about 40 to 45 granules.

It would seem from the results here recorded, and from certain clinical reports sent out by the manufacturers of cactin, that physiologic experiments and so-called clinical observation must part company.

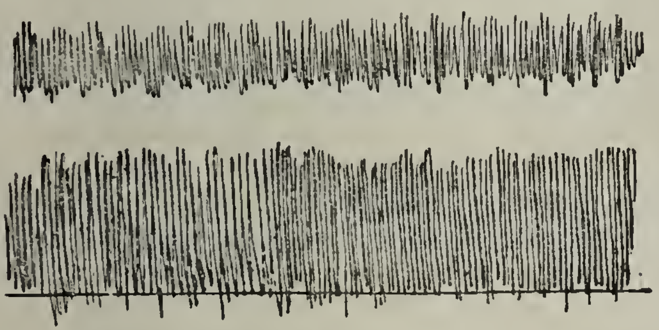

Fig. 7.—Cactina experiment. Jan. 13, 1908. Dog, weight 12 kg.; time 10:30 a. m. Read from left to right: Upper tracing, blood pressure; lower, respiration. Normal blood pressure, 134 mm. Hg.

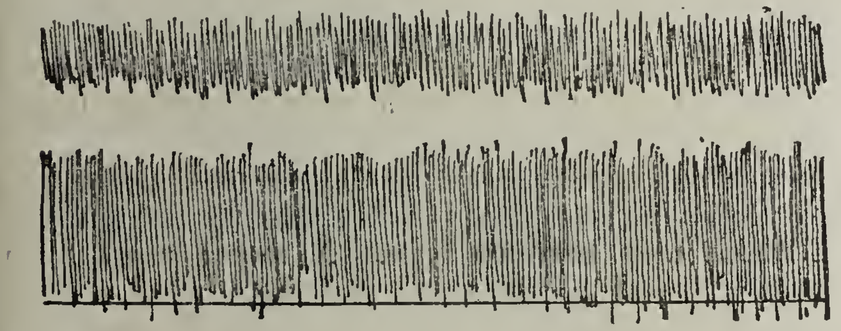

Fig. 8.—Ten minutes later (10:40), ten cactin pellets were injected at point indicated on tracing. Blood pressure one minute after injection, 128 mm. Hg.

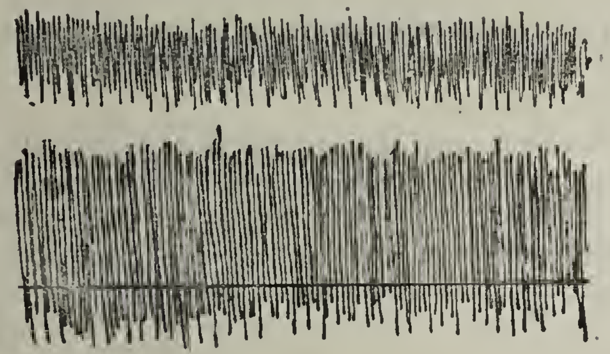

Fig. 9.—Twenty minutes later, 11:00 a. m., blood pressure 120 mm. Hg. Second dose of ten cactin pellets were administered at 10:00.

CACTINA (SULTAN).

This preparation is on the market in the form of pellets and is claimed to be the proximate principle of *Cactus grandiflorus*.[1]

This preparation of cactin was found to differ somewhat from the cactin of the Abbott Alkaloidal Company in that it was found to be poisonous in large doses, administered intravenously. A single dose of five, ten or even twenty cactina pellets, administered intravenously, to a 10-12 k.g dog exerts little or no influence on the heart or circulation; the larger dose may cause a slight fall in blood pressure (Fig. 12). The following experiment will show the action of cactin on the blood pressure of a dog, administered in doses of ten pellets:

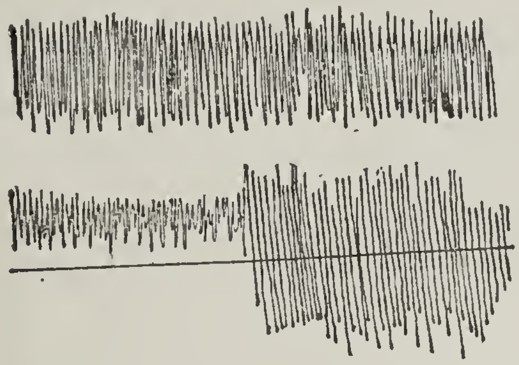

Fig. 10.—One hour later (12:00 m.), doses of 10 cactin pellets had been administered at 11:05, 11:15, 11:30 and 11:40, making a total of 60 cactin pellets. Variation in respiration tracing due to a shift of the ether bottle. Blood pressure, 120 mm. Hg.

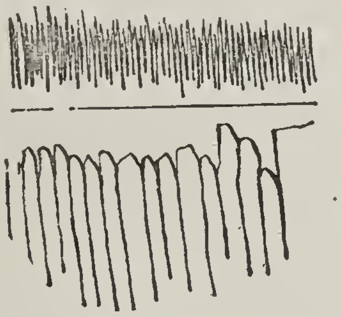

Fig. 11.—Forty minutes later (12:40), ten cactin pellets were injected at 12:10 and at 12:20, making a total of 80 pellets. Blood pressure, 40 mm. Hg. Respiration slowed. Dog died at 12:50.

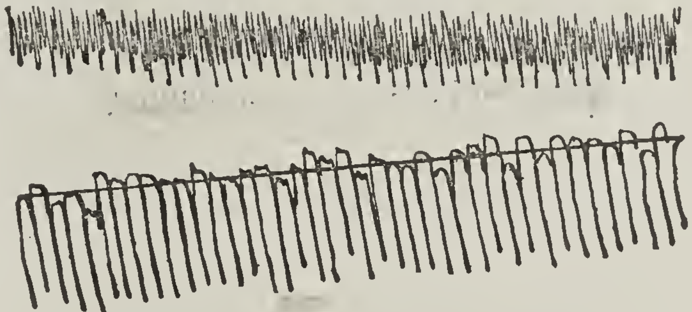

Fig. 12.—Blood pressure and respiratory tracing taken from 10 kg. dog. Two doses of 20 cactin pellets each had been administered intravenously 20 minutes apart. Tracing was taken 20 minutes after last dose. Normal blood pressure, 140 mm. Hg. Blood pressure indicated in tracing 120 mm. Hg. Respiration slowed.

Experiment 2.—Dog. Weight, 12 kg. Anesthetic, ether. Experiment conducted under same conditions as Experiment 1. One hundred cactin pellets were dissolved in 100 c.c. of physiologic salt solution. This was administered intravenously in doses of 10 c.c., or 10 pellets. Corresponding dose for man (dog, 12 kg., m. cm. 70 kg.) would be about 60 pellets at a dose (Figs. 6-12).

All this experiment showed was a gradual decline in blood pressure, and if 70 or more pellets were administered in the space of two and a half hours, the animal generally died, the blood pressure gradually going to zero and the respiration growing progressively slower and weaker. In fact, instead of showing any stimulating effect on the heart, it showed the opposite—both the circulation and respiration were progressively weakened. In this regard it differs from strychnin, and has no resemblance to the action of digitalis, strophanthus or any other of the known heart stimulants. Just what is in this preparation that causes a depression of the circulation I do not know. Figure 12 shows the effect exerted by 40 cactina pellets, twenty minutes after the last dose, or forty minutes after the first (20 pellets at a dose). This animal was used for another experiment and was living two hours after the administration of the cactina.

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[1] Myers: N. Y. Med. Jour., liii, 681.

Here again it might be said in regard to cactina, as has been said of cactin, physiologic experiment is wholly out of harmony with the clinical results published by the Sultan Drug Company. In the light of my experiments all that can be said for either one or the other of these preparations (cactin [Abbott] cactina [Sultan Drug Co.]) is: Physiologically neither one corresponds in the slightest degree to the claims made by their respective exploiters, the former being absolutely inert in doses at least a thousand times greater than recommended, the latter in large doses (two or three hundred times the dose recommended) shows a depression of the circulation and respiration.

The negative results recorded in this paper simply confirmed all previous pharmacologic work on *Cactus grandiflorus;* that is, no one has ever found it to possess any physiologic action whatsoever.

A BREACH OF TRUST; THE PHYSICIAN'S USE OF SECRET REMEDIES.*

JOHN B. ROBERTS, M.D.
PHILADELPHIA.

The trust and confidence in physicians shown by the public is phenomenal. A woman will bring her baby to a doctor, whom she may never have seen before, and permit him to prescribe for it, knowing that on his judgment, knowledge and care depends its very life. Men and women of the highest culture and intellectual power will place their lives, aye, their honor, dearer than life, in the custody of an anesthetist and an operator of whom they know little. Can a higher compliment be paid to a profession than this? It must be remembered that it is the knowledge that we are physicians which gives rise to this unusual faith in our integrity, our wisdom, our skill. None but the thoughtless doctor can fail to be thrilled when he realizes to what a pinnacle of virtue the repute of his calling has raised him. Perhaps it is the familiarity of this attitude of the public which makes us a little dull in appreciating the responsibility which its docile trust imposes. It at least must drive an honest man to a soul-stirring endeavor to play fair with his patients.

While it is true that some essayists and novelists have occasionally written disparagingly of medical men, it has, as a rule, been their foibles that have been smiled or railed at rather than their altruism for their patients. The words of thoughtful observers will seldom fail to confirm what I have said as to the prevalent opinion concerning physicians. It, therefore, behooves the present generation of doctors to maintain the honor of medicine by justifying this trust in its votaries.

Recent events in commercial and political life have exposed astonishing breaches of trust in high stations. Lapses from the kind of integrity supposed to be general have shaken faith in insurance circles, in the transportation business and in financial enterprises. The result has been economic distress and almost universal distrust.

The primal duty of one who offers himself as a healer of the sick and injured is to know what he is doing. He needs to use his mind to discover the cause of the illness and to apply his knowledge to furnishing the means of relief. Hence, he must see to it that neither ignorance of medical progress, nor a mind befuddled with drugs, nor the secret composition of his remedies makes him unfit to be trusted with human life. Such deficiencies on his part rob his clients of what they have a right to expect and lessen the honor in which the profession of medicine has long been held. A man who puts an unknown dose of an unknown poison into the circulation of his trusting patient is worse than a quack. He commits a breach of trust, as surely as the financier who fills his own pockets by selling worthless securities, or the guardian who cheats his ward out of his patrimony.

For a number of years the public respect for the medical profession has been in danger; because some credence has been given to rumors of secret division of fees, acceptance of bribes and other breaches of trust such as that under discussion. My observation has proved that such practices are indulged in by those from whom the public has a right to expect better things

Sensational newspapers have disseminated the notion that physicians are willing to kill the sick deliberately, for whom they have no cure. A recent novel by a woman of great ability seems to indicate that she believes that a trained nurse, who is sane, will murder a desperately ill patient entrusted to her care. The insult to physicians and trained nurses conveyed in these publications is a result of some of our own misdoings. The damage done to public confidence in these essentials of modern civilization by such opinions is, perhaps, as widespread as the loss of financial stability due to recent knavery in business.

The cure for the nostrum evil is the inculcation by medical teachers of the maxims of Hippocrates and their own discontinuance of prescribing secret preparations, the use of the Pharmacopeia as a text-book in medical schools, the immediate emptying of samples of secret nostrums into the sewers, a better education in therapeutics, and an insistence that the prescriber of secret nostrums is a dangerous quack, who commits an actual breach of trust.

Paraplegia Following Roentgen Treatment of Cancer.—Martini's two patients had each a cancer in the chest wall and it retrogressed notably under the influence of Roentgen treatment. As the tumor subsided signs of paraplegia became apparent and the patients succumbed from thirty to forty-four days after the onset of the paraplegia. It came on suddenly, preceded by a severe radiodermatitis, and the circumstances seem to exclude a possible direct action of the rays on the spinal cord. Nothing was found at autopsy to indicate a metastatic affection of the spinal cord nor lesions of the vessels suggesting syphilitic infection, but merely a softening, a degeneration, of the nerve substance. Consequently he is inclined to ascribe the paraplegia to a myelitis of toxic origin. His article was published in the two last numbers of the surgical section of the *Policlinico* for 1907.

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* Read Dec. 3, 1907, before the Philadelphia Branch of the American Pharmaceutical Society

Special Article

MY "ATTACK" ON DOCTORS.

EDWARD BOK.
Editor of *The Ladies' Home Journal.*
PHILADELPHIA.

I.

Because I said at a meeting of the Philadelphia Branch of the American Pharmaceutical Association that a large number of physicians prescribed "nostrums," I have been accused, in print and in scores of letters, of making an "attack" on the medical profession. One would imagine from some of the expressions used that the medical profession is an institution of the holy of holies, quite without human fault or flaw, and that when we laymen seek to approach it it should only be in a deferential and worshipful attitude, bringing our prayer-rugs with us.

Of course, my "attack" was not an "attack" at all. I never planned an "attack;" I did not make one. What happened was simply this: The meeting was called to discuss the relation of the physician to the nostrum; I was asked to take part, and I contended that the physician should have no relation to the nostrum at all, but that he nevertheless had, that physicians of eminence and unquestioned reputation were constantly prescribing proprietary remedies of which they did not know the composition, and that this practice was wrong, closely verging on the criminal.

In common with others, the editor of The Journal of the American Medical Association said in an editorial that I had been led into "exaggeration;" that some eminent physicians might have "occasional lapses" (God save the mark!), but that these were few in number; that they were decreasing any way, and that, after all, the public often confused an "eminent" physician with one who is only "well known." And when I objected to his contentions, he placed the pages of his paper at my disposal, of which invitation this article is the acceptance.

I did not exaggerate when I said that a large number of the most eminent physicians in the profession prescribed nostrums of which they did not known the ingredients. And in order that we may not split straws over adjectives, I will substitute "leaders" for "eminent" and "well known," and with that perhaps clearer definition I repeat my assertion. I know exactly whereof I speak. Instead of "exaggerating," I was conservative; more conservative, in truth, than my facts warrant.

I am willing to believe, and some recent figures I am now gathering would seem to bear out this statement, that the pernicious practice among physicians of prescribing preparations of unknown composition is on the decrease. In 1905, in Philadelphia, on a basis of 5,000 prescriptions examined, I found 41 per cent. that called for remedies of unknown composition, and in 1906 it was 47 per cent. My figures for 1907 are not as yet complete. But I do know that, as late as August, 1907, 500 prescriptions were examined in Baltimore, and 32 per cent. called for proprietaries. But the question that concerns the public is not whether it is 47 per cent. or 32 per cent. or 10 per cent.

The real point is: What business has the physician to prescribe these nostrums at all?

It is not meeting the question squarely to contend that physicians are human; that they are men after all, and that they have been misled into placing too great trust in the printed assertions of the manufacturers of these preparations; in other words, that they have been fooled by advertisements. To me, this is nothing short of a cowardly dodging of the issue. The physician is human. I need not be told that, Heaven knows. His prescriptions that lie before me bear out that assertion plainly enough. I do not place the physician as above the ordinary human being, except in one respect, and there he does stand alone. Men in all other professions may make mistakes, and, generally speaking, those mistakes hurt only themselves. But in the case of the physician, the tragedy is that his mistakes do harm to others. Therefore, his exercise of care should be greater because his responsibility to others is greater. He takes human lives into his hands, and when these human beings, with their bodies ill and aching, come to him, it is no part of his profession to put into that body a preparation of which he does not, either of his own personal knowledge or experiment or from authoritative information, know the exact ingredients. No excuse excuses him here. We laymen have a right to expect that what a physician does for us he does of his own knowledge and not after the knowledge of a printed formula, often written by a man who never graduated from a medical school. We go to him for *his* advice, for *his* prescription, but not for one originated by a Wampole, a Parke Davis, a Fairchild, a Mulford, a Wyeth or any other commercial firm. He should write his own prescriptions. But so far has the average physician departed from his own individual prescriptions that, if you refuse him the right to prescribe somebody's proprietary mixture, he is immediately ready to argue with you that you are depriving him of a perfectly legitimate form of prescription, and from the way he throws his hands up to Heaven, you might imagine that he was left no alternative. He will differ with you as to what constitutes a physician's knowledge, and will claim that he has a perfect right to depend on the truthfulness of So-and-So's label. In fact, several physicians, leaders of the profession, have seriously told me that they are compelled to rely on these statements.

It is just this state of mind that the practice of prescribing ready-made remedies has brought about. It has been of such insidious growth; the manufacturers have so cleverly played their cards that the practice has grown into a positive habit. Until what? Until now we actually see printed prescriptions calling for sometimes a secretive, then a non-secretive, but always a ready-made preparation just the same—both as regards ingredients and quantities, mind you—and the only personal touch of the physician on the prescription is his autograph at the bottom, and that for the most part illegible! This is the point which has been reached; the limit, to which this practice of prescribing ready-made preparations—call them nostrums, non-secretives, proprietaries, ethicals, whatever you like—has been carried. It makes only a difference in the degree of seriousness because these printed prescriptions call, for the most part, for tonic preparations. That is, they do as *yet*. The manufacturers can be depended on to see to it that these printed prescriptions will soon be used for more serious illnesses, and, judging from the past and present, the physicians may be trusted to adopt them.

Now, I ask in all fairness, How long does the medical profession imagine that the public is going to stand for this cut-and-dried, stereotyped method of prescribing whereby the patient is fitted to the medicine instead of the medicine fitted to the patient? And yet, a number of reputable physicians have sought to argue this method with me when I criticized it, as if the principle involved could be condoned on any ground.

Surely, we are in a fair way of seeing the science of medicine degenerate into the black art, whence it began, if such methods are not only practiced but ostensibly approved by physicians of standing!

II.

A question that has come to me scores of times, consequent on my Philadelphia address, is: "Do we entirely agree on the question: What is a nostrum? Do you clearly differentiate between a 'nostrum' and a 'non-secretive'?" In other words, do I know what a nostrum is? Perhaps I do, and perhaps I do not. The question is immaterial, as applied to me. Personally, I think I know what a "nostrum" is; I certainly should. But the graver question that concerns the public is: Does the physician know a nostrum? There has been altogether too much hair-splitting over a proper definition of the word "nostrum;" and whether the particular preparation is a "nostrum" or whether it is a "non-secretive," and the whole discussion is as useless as it is evasive of the real point at issue.

There is a very single and simple definition of the word "nostrum" in its relation to physicians, and it is a definition that is accepted by the public, for the simple reason that the public believes that this is the present definition of the word by the average physician, whereas every intelligent physician knows that it is not. The definition is this:

Any preparation of which any physician does not know all the ingredients should be to him a nostrum. It makes not a particle of difference whether it is called or adjudged a "nostrum," or an "ethical," or a "non-secret." If he does not know the ingredients contained in that preparation, it is unknown to *him;* it is a secret to *him*, and, as such, it is a nostrum to *him*, and the lack of knowledge should prevent him from prescribing that preparation until he does find out, by personal analysis, by personal investigation, or by authoritative information through channels that are open to every physician, exactly what is in the medicine. In other words, a physician ought to know what is in a medicine that he prescribes; if not, he is prescribing a "nostrum" because to him it is an unknown preparation. There can be no compromise here; no middle ground regarding the only attitude that is at all scientific and honorable; either a physician knows, or he does not know.

When that simple and honorable standard of prescription among physicians shall prevail, it will no longer be possible for a physician of unquestioned standing to write to me and say that he prescribes "non-secretives" but not "nostrums;" and then, when I look up his prescriptions, to find he has called for such preparations as Thermol, Bromidia, Nutritive Elixir, Phenalgin, and the like!

The trouble in this whole discussion, so far as the relation of the nostrum to the physician is concerned, is that too much time has been taken up with an attempt at proper classification of preparations, and not enough emphasis placed on the physician's individual conscience. There is only one question that the physician should settle: "Do I know what I am prescribing?" If he does know, he is within his rights as an honorable practitioner; if he does not know, he is nôt. This whole discussion has centered too much on the drug, whereas it should be centered on the man; his conscience; his knowledge.

But this knowledge the average physician has not. And I have not the slightest hesitation in including in this statement the great majority of physicians. Medical ethics have, indeed, reached a low ebb when pharmacists find it necessary to inaugurate such a movement as was recently set on foot in New York City to check the sale of nostrums by dissuading the physicians from prescribing them, and to insist on a recognition of the U. S. Pharmacopeia as the standard of meritorious drugs. "Why come to me and ask me to stop selling these 'patent medicines'?" said a druggist to me recently. "Stop the physicians from prescribing them and then we won't have to carry them. Look at this sort of prescription," and he handed me six prescriptions calling for Radam's Microbe Killer, Phenol Sodique, Beefine, Bromo-Quinin, "and here," he concluded, "is a prescription for a particular brand of so-called tasteless 'Cod Liver Oil,' that every druggist knows is a pure fraud, which I do not even carry, yet I have to go out and get it, to fill this prescription, or else be charged with substitution, or with meddling with the physician's prerogative."

III.

Now, what is the public attitude to what has been going on in this question of physicians prescribing preparations of which they do not know the ingredients? For the public has its knowledge and is rapidly shaping a definite attitude.

During the past five years I have been in a position peculiarly favorable for securing a fairly accurate idea of the attitude of a large part of the great lay public to the medical profession. Hundreds, yes, thousands of letters have come to me, and in all of them there has been shown a tendency to question the methods of the average practitioner. This has been particularly true of the last two years, and I have seen this tendency steadily grow from a mental attitude of questioning to a distinct and definite feeling, first, of disquietude, then unrest, and, finally, of distrust of medical methods. With the public mind disturbed and upset on self-medication, it has turned with a peculiar analytical attitude toward the profession that has been instilling into it for years the great danger of taking medicines of unknown composition. And what has a part of this public found? This same profession practicing exactly the very evil which it has so unstintingly denounced as injurious and pernicious!

Now, one important fact must not be lost sight of in the attitude of the lay-public to the physician. The time was when the layman approached the "medicine-man" with awe; with an obeisance that acknowledged in him a superiority as a man possessed of some mysterious, occult power of healing. But that day is over; that time has gone by. Your layman of to-day is more intelligent; he is doing more of his own thinking; no one man possesses any magic power in his mind any more. The position of the physician in his relation to the layman has not only changed, but is changing and will change even more in the future. He is no longer, in the layman's eyes, the court of last resort on human health. To the layman have, here and there, come drippings of little leaks in the physician's knowledge, and latterly there have come to him a number of these drippings in the form of instances that the physician, in a number of cases, does not always know what he is prescribing. And he repeated these instances to others, and they, in turn, to others, and from a state of wonderment he began to ask, and, finally, he picked up his pen and wrote to those who he thought would tell him frankly, and asked, "Is this true? We are putting the lives of our loved ones into the hands of these men, and we want to know." And then later still the questions changed in tenor and they said, "We have a right to know." And, pray, what was the honest answer to give?

I ask every intelligent physician this question: Suppose the present tendency to investigation should turn itself on the medical profession and its methods? What kind of revelations would come to the public? What would the public think of the scores and hundreds of instances of densely ignorant, unintelligent and criminally careless prescription writing of which the physicians of to-day have been guilty?

Fancy a physician of undoubted standing holding forth, to my utter amazement, before a clinic only a few weeks ago, on the efficacy of a certain preparation which a special report of the Council of Pharmacy and Chemistry, published in this journal, showed had been investigated and decreed as being "perfectly worthless," and then expressing surprise when I brought him the publication! What in the world can we expect of our younger physicians if men whom the young look up to, and have a right to look up to, advise them of a preparation of the ingredients of which they are absolutely ignorant?

The whole matter resolves itself into this: There must come, and come soon, a distinct and sweeping reform from within the medical profession as to the present unintelligent method of prescribing. That there is prevalent to-day among physicians of all ranks a degeneration in scientific prescribing, of the true science of therapeutics, is not a question for argument. It exists and widely so. It is useless to deny it. It is a waste of time for one class of physicians to accuse another and to absolve themselves. It is a significant fact that, while scores of letters of denials of this practice have come to me from physicians, I have still to receive the first denial of the practice from a pharmacist; on the contrary, I have received scores of letters from pharmacists endorsing my statements. Besides all that, I have seen too many prescriptions myself; I have too many in my possession either to differentiate one class of physicians from another, or to have the slightest fear of a successful challenge of my statements. The ground under my feet is too secure for me to have the slightest hesitation in saying, firmly and positively, that, excepting a very small minority of conscientious and honorable physicians, the average practitioner of to-day has become a dependent on ready-made, hand-me-down preparations which he is prescribing to his patients without an accurate, personal knowledge of what he is prescribing. This statement admits of no doubt; I know it, and I know further that it must stop, or a public awakening is imminent which will cause an unrest and distrust on the part of the public that it will take years to restore, if it is ever restored. And the signs are everywhere on the horizon that this public awakening is already in a smouldering state, waiting only for the torch that will light it into flame. The increasing readiness of the intelligent public not only to listen to but to adopt any new pathy or science, in which the element of drugs is omitted, spells not the ignorance or the gullibility of the public, as some physicians are ever ready and fond of designating any departure from the established school, but it spells in very plain letters, with the handwriting distinctly visible on the wall, a growing feeling of unrest and of distrust of the methods of the average physician, and a proclamation of individual enlightenment on this whole question.

The physician of to-day, by reason of his own acts, and chiefly by reason of his blind acceptance of commercial statements, rather than his reliance on his own personal knowledge of the drugs that he is prescribing, is rapidly losing his individuality. The time has come, yea, it is imminently at hand, for him to reconstruct his therapeutics, to lift it out of the commercial mire into which he has allowed it to sink. It is within his power, as yet, to do this by the adoption of the simple, honorable standard of prescribing only those drugs that he himself absolutely knows. This method of honorable dealing with it the public has believed he has been following all along. And when the public comes to a full realization that it has not received a square deal from the one profession of all professions from whom it has a right to expect fair treatment, it will be a time when the man who has not dealt squarely with it wants to get from under! And it is for every individual physician to determine whether or not he is that man!

Clinical Notes

THE APPENDIX FORMING A DUODENAL-CECAL CANAL.

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The following case is not deemed of sufficient clinical importance to merit a more detailed description, but it is of interest in that it shows the possibilities of the body to react to a variety of insults. The case was apparently one of downward displacement of the duodenum, the latter coming in contact with a retrocecal type of appendix. The chronic peritonitis seemingly tied the viscera firmly together and probably the independent contractions of the appendix irritated the duodenum, causing ulceration with perforation into the appendix. The fecal matter probably came from the cecum. The appendix was not thickened and the mucous lining of the canal was intact. Histologic examination was not carried out, owing to the character of tissue preservation.

Autopsy, subject No. 40, male, colored. Cause of death, pulmonary tuberculosis. Abdomen dissectors: Collins and Bennett.

The peritoneal cavity was almost entirely obliterated by a chronic peritonitis. Adhesions were dense and were separated with difficulty, particularly about the region of the gall bladder. There was slight enteroptosis; the cecum was placed a trifle higher than usual and was found attached to the transverse duodenum by a dense adhesion which was preserved as a possible appendix. The connection was found patent to the probe, and on opening it a canal was disclosed, about 4 cm. (1½ in.) long, and with a lumen throughout the entire length of about 2 mm. (1/12 in.). This canal opened into the cecum posterior to the ileocecal valve, while the distal extremity was adherent to the transverse duodenum on the dorso-inferior aspect. The canal was filled with fecal matter and presented a slight intraluminal adhesion at either end, composed for the most part of mucous membrane. The proximal opening was free and direct, while the distal opening passed obliquely through the duodenal wall and was covered by a pocket of the duodenal mucous membrane.

THE OCULAR REACTION TO TUBERCULIN: A WARNING.

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AND
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The ocular reaction to tuberculin is the best example that we have of a local hypersusceptibility or anaphylaxis. Since attention was drawn to the practical diagnostic value of this phenomenon, its use has become widespread. The test is attended with certain inconveniences, and as we shall now point out, is liable to misinterpretation.

We show in the following experiments that the conjunctiva of man may be rendered sensitive by the application of tuberculin, so that it reacts specifically to a second instillation. In our experiments, fifty-one days elapsed betweeen the first and the second applications.

No.	Name	First Instillation								Interval in days	2d Instillation Tuberculin used. No. 2, 1 per cent.						
		Tuberculin used	Result, hours after injection								Result, hours after injection						
			1	2	3	4	5	6	24		1	2	3	4	5	7	24
1	JFA	No. 2, 1 per cent	..	..	..	..	..	..	..	51	s	m	M	M	M	M	M
2	WWM	No. 12, 0.3 per cent	..	..	..	..	..	..	..	"	..	..	..	..	..	..	..
3	RdMT	" "	..	..	..	..	..	..	..	"	..	..	..	..	..		s
4	RH	" "	..	..	..	..	..	..	..	"	..	..	..	s	m		M
5	FJH	No. 2, 1 per cent	..	..	..	..	..	..	..	"	..	..	..	..	..	s	M
6	EE	" "	..	..	..	..	..	..	..	"	..	..	s	m	m		M
7	JG	" "	..	..	..	..	..	..	..	"	..	s	m	m	M	M	M
8	CGC	" "	..	..	..	..	..	..	..	"	..	..	..	..	s		M
9	MJR	" "	..	..	..	..	..	..	..	"	..	..	..	..	..	..	s
10	JHH	" "	..	..	..	..	..	..	..	"	..	..	..	..	..		
11	RCB	" "	..	..	..	..	..	..	..	"	..	..	s	m	m		M
12	FGW	" "	..	..	..	..	..	..	..	"	..	..	..	..	..		M

s = slight reaction; m = moderate; M = marked.

Twelve adult males in apparent good health, all members of the Hygienic Laboratory corps, were treated with tuberculin, by dropping it on the right conjunctiva. Not the slightest result apparently followed this first treatment. After an interval of fifty-one days, precisely the same amount of the same laboratory number and strength of tuberculin was again used in the same eye, except in Cases 2, 3 and 4, in which a weaker tuberculin was used at the first instillation. This time ten of the twelve persons gave a typical reaction, consisting of injection, mucopurulent discharge, etc. The symptoms came on very promptly in two of the cases; in one hour in Case 1, in two hours in Case 7, in three hours in Cases 6 and 11, in four hours in Case 4, in five hours in Case 8, in seven hours in Case 5; and the redness and injection of the other cases was apparent next morning. In four of the cases the reaction was violent enough to cause some concern. In one of these, the reaction was accompanied by subconjunctival hemorrhage.

How soon after the first application of tuberculin this sensitization comes on, and how long it lasts we do not know. We have also not yet determined whether the anaphylaxis is strictly local; that is, we can not answer the question whether the other eye is also in a condition of anaphylaxis. Nor do we know whether this sensitization in the eye would be followed by general hypersusceptibility, manifested by a reaction to the subcutaneous injection of tuberculin.

Physicians must be cautious not to condemn the tuberculin of one manufacturer, if it gives a negative result, though a second application of tuberculin of another make proves positive when instilled into the same eye. In fact, we were partly led to make these experiments from the remark of a clinician who blamed the first tuberculin he used, while tuberculin of a different make used two weeks later gave a sharp reaction. Of course, the diagnostic value of the reaction in an eye that has had a prior treatment some days before is entirely negative.

The power of tuberculin to sensitize the conjunctiva is a beautiful example of the usefulness of the state of anaphylaxis. The conjunctiva or any other tissue in such a condition of hypersusceptibility is armored against bacterial invasion. Thus, if a tubercle bacillus lodges on a tissue having the power to react at once, that tubercle bacillus would immediately be surrounded with the protecting humors and cells of the body. In other words, the natural immunizing agencies of the body would at once be concentrated on the spot where they are most needed.

AN APPARATUS FOR THE INTERMITTENT POSTOPERATIVE DRAINAGE OF THE BLADDER.

APPLICATION OF THE PRINCIPLE TO THE DRAINAGE OF EMPYEMATA, ETC.

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The satisfactory postoperative drainage of the bladder has always been a most perplexing problem. Satisfactory drainage after cystostomy, for instance, drainage that is effectual and allows the patient to be kept dry is manifestly a most important factor in the attainment of a speedy, comfortable convalescence. The trouble arising from plugged tubes and catheters, and the discomforts endured by a patient constantly soaked in urine are such that life becomes burdensome to the patient and bothersome to surgeons, house officers and attendants.

Intimate contact with a number of cases in which drainage was attempted with indifferent success led me to undertake experiments which finally resulted in devising the apparatus herein described. It has been used with satisfactory results in drainage of the bladder after both suprapubic and perineal cystostomy and in the postoperative drainage of empyemata. Through the courtesy of Drs. Munro and Bottomley the suitable material in the surgical wards of the Carney Hospital was placed at my disposal.

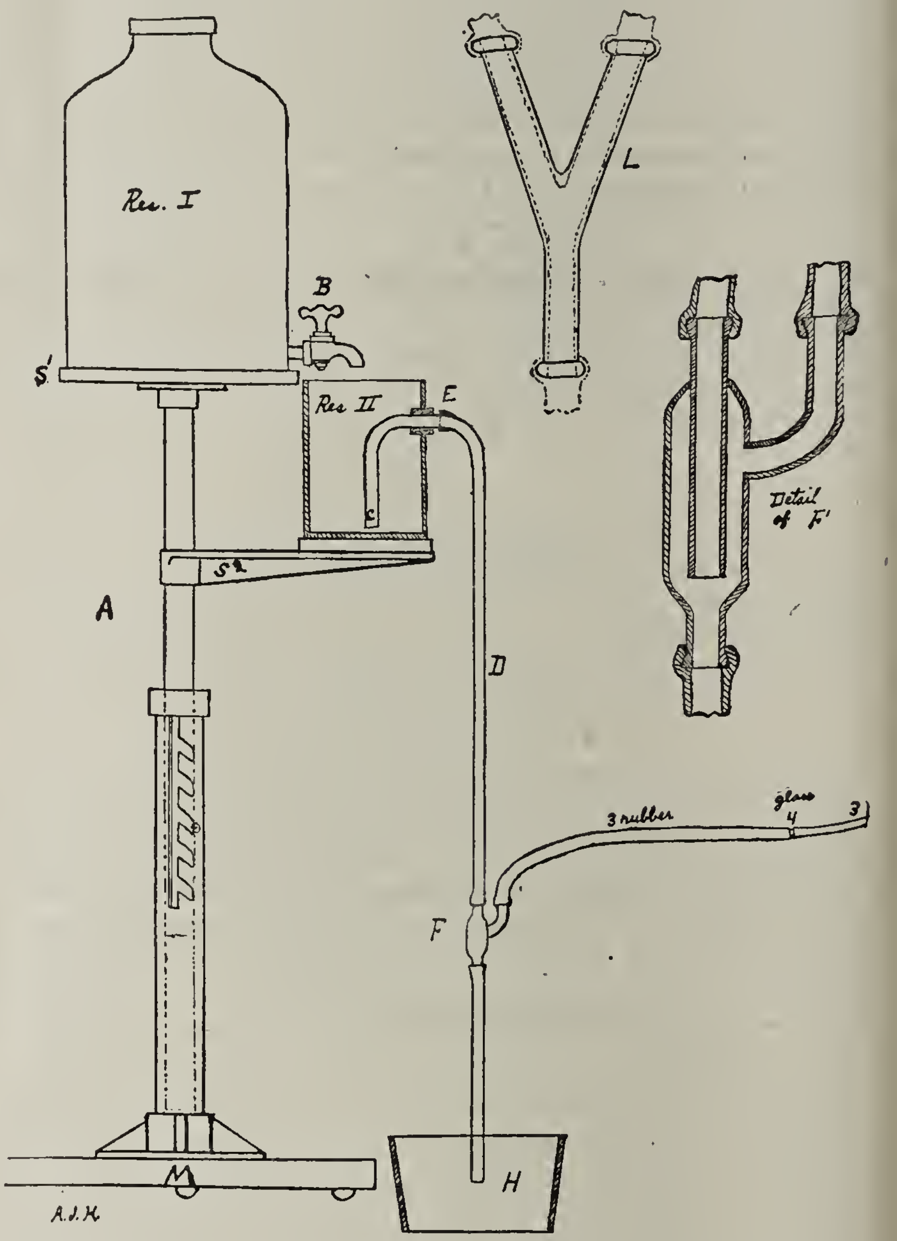
DESCRIPTION OF THE APPARATUS.

A glass reservoir (Res. I) with a capacity of about two gallons (i. e., a sufficient supply to last several hours) is placed on a horizontal shelf (S^1) supported by an adjustable standard (A) on a movable base (M). Projecting from the standard is a second shelf (S^2) for the support of a second and smaller (capacity, one pint) reservoir (Res. II) into which the larger reservoir feeds at a rate which can be regulated by an adjustable cock (B). Through a perforated cork in an opening from 1½ to 2 inches from the top of Reservoir II passes a bent glass tube (C), one end of which should be close to the bottom of the reservoir, and which forms the short arm of a siphon, the long arm of which is the rubber tube (D) attached to the bent glass tube at E; the lower end of the rubber tube (D) joins with a hydraulic pump (F) placed below the level of the cavity to be drained and connected with it by a rubber-glass connection (3, 4, 3). The pump empties into a receptacle (H) beneath the bed. The caliber of tube G should not be larger than that of tube D.

As a substitute for the hydraulic pump a glass Y-tube (L) may be used, but it does not work so satisfactorily.

THE WORKING OF THE APPARATUS.

Reservoir I is filled with water. The outflow into Reservoir II is regulated according to the quantity of discharge to be removed from the cavity which is to be drained. It is evident that the greater is the outflow from Reservoir 1 to Reservoir 2, the sooner will the latter be filled to the level of the perforated cork which allows the water to run down the tube D into the hydraulic pump which is thus put in action and drains the cavity by virtue of a well-known principle of physics. In other words, the greater the outflow from Reservoir I to Reservoir II, the oftener will the latter be emptied by siphonage, the oftener will the pump work, and the oftener will the bladder or other cavity be drained. The frequency of the action of the pump is to be regulated according to the amount of urine or other secretion to be removed.



Res I, glass reservoir with capacity of about 2 gallons; res. II, reservoir with capacity of about 1 pint; S^1, horizontal shelf; A, movable base; S^2, second shelf for support of reservoir II; B, adjustable stop-cock; C, bent glass tube; D, rubber tube forming long arm of siphon; E, junction of D, with bent glass tube; F, hydraulic pump; H, receptacle into which pump empties; L, glass Y-tube which may be used as a substitute for the hydraulic pump; G, connection of drainage tube to hydraulic pump.

ADVANTAGES OF THE USE OF THE APPARATUS.

After either suprapubic or perineal prostatectomy the apparatus may be connected with the cavity either through the suprapubic or the perineal wound, as the case may be. A brief experience will soon teach one how often it is necessary that the pump should work in order that the bladder may be emptied of urine and the dressings kept dry. After three or four days, when the urine is free from blood and pus, the tube may be removed from the operation wound, the apparatus connected with a catheter introduced into the bladder *per urethram* and the operation wounds allowed to heal. Thus the period of convalescence is not only made much more comfortable but is much shortened.

Patients who are convalescent after operations for empyema can be detached from the apparatus and move about the wards. They know the interval between successive emptyings of Reservoir II and at the proper time reattach themselves to the apparatus, have the cavity pumped out, detach themselves again, and again move about, if they so desire.

The apparatus is self-acting and needs but little attention. Reservoir I has to be filled twice in twenty-four hours; in other respects, the apparatus cares for itself. It is cheap, easily set up, movable, simple and satisfactory in its action. There is no reason why it can not be used in the drainage of any deep cavity in which an exudate accumulates.

VAGINAL HYSTERECTOMY FOR HYSTERO-VAGINO-ENTEROCELE.

EDWARD N. LIELL, M.D.
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History.—Mrs. X. for twelve years had what she termed "falling of the womb." For the past four years, especially when on her feet, there was complete eversion of the vagina and prolapse of the uterus and intestines, the whole mass being the size of a child's head. The uterus was very much enlarged, being in a condition of hyperplasia. Various supports had been tried without relief, the condition being a source of great discomfort to her. A radical operation, as well as a choice of route, was obvious. Vaginal hysterectomy was the operation elected.

Operation.—In operating in such a condition of enormous prolapse, the one difficulty naturally met with is ascertaining the line of reflection of the bladder from the cervix. The operation as performed was as follows: A curved incision was made through the vaginal wall, taking care not to injure any intestine which was included in the projecting mass of tissue. The anterior fornix was next incised down to the uterus below the line of reflection of the bladder and prolonged laterally to meet the posterior incision. The bladder wall was then separated with the fingers and scissors, the separation being extended well to the sides of the uterus in order to be well away from the ureters. In the subsequent successive ligation of the uterine and ovarian vessels, and transfixion of the broad ligament, preliminary to complete division of the uterus and appendages, silk was used, the ends being left long to facilitate their removal. The broad ligament pedicles were then drawn partially into the angles of the vaginal opening and included in the partial suturing of the latter with chromicized catgut. The central edges of the vaginal wound and peritoneum were also well approximated by similar sutures, leaving a small opening on each side into which strips of iodoform gauze were inserted for drainage.

In my opinion, it is safer to provide for drainage than to close the vaginal vault primarily in vaginal hysterectomy. The subsequent history of the patient was uneventful, the result of complete extirpation being one of permanent relief, at least up to the present.

Opsonins.—R. Walker, in the *Jour. of Med. Research*, states that for species for which but little opsonin exists in the blood, as, for example, the typhoid bacillus, comparatively fewer germs are necessary and the serum need not be diluted.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.*)

(*Continued from page 879.*)

LECITHOL.

An emulsion-like solution of lecithin containing 18 per cent. of absolute alcohol by volume, and .06 Gm. (1 grain) of lecithin per 4 Cc. (1 fluidram).

The lecithin is separated from hogs' brains.

An opalescent yellow liquid of pleasant taste and odor.

Tests: From lecithol, 10 Cc.. the alcohol is removed by evaporating on the water-bath; then water, 90 Cc., is added. Next concentrated hydrochloric acid, 2 Cc., is added, and then, with thorough shaking gradually 2 Cc. chloroform. The liquid precipitate which separates out, containing nearly all the lecithin, is collected and treated with strong sulphuric acid and fuming nitric acid. After all the organic matter is decomposed, the phosphorus is determined in the usual way. From this the percentage of lecithin is calculated.

Actions and Uses.—See Lecithin.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) immediately before or after meals.

Manufactured by Armour & Co., Chicago.

NEURO-LECITHIN—ABBOTT.

A preparation containing lecithin with small amounts of fats and cholesterin, the amount of lecithin being determined by assay.

Neuro-lecithin is said to be made from the brain and spinal cord of animals. The water and fat are separated by heat; the soluble portions are extracted from the residue with ether; this is precipitated with acetone.

For properties and tests see Lecithin. The amount of lecithin is determined by a quantitative estimation of phosphorus and nitrogen. The material is exhausted with ether-alcohol at the boiling point of the mixture, the solution evaporated, the residue fused with sodium carbonate and potassium nitrate and phosphorus determined in the fusion. The amount of phosphorus found multiplied by 26 (806/31) is taken to indicate the amount of lecithin.

Actions and Uses.—See Lecithin.

Dosage.—0.03 to .13 Gm. (½ to 2 grains) two or four times daily. Neuro-lecithin is put up in tablets and pills, each containing 0.03 Gm. (½ grain).

Manufactured by the Abbott Alkaloidal Co. U. S. trade-mark No. 65384.

SYRUP CANNABIS COMPOUND, P.-M. Co.

Each 30 Cc. (1 fluidounce) is said to be equal to cannabis indica .5 Gm. (7½ grains), heroin hydrochloride, .020 Gm. (⅓ grain), chloroform, .25 Cc. (4 min.), lobelia, .5 Gm. (7½ grains), antimony and potassium tartrate (tartar emetic), .008 Gm. (⅛ grain), with aromatics; alcohol, 10 per cent.

Dosage.—4 Cc. (1 fluidram) to 8 Cc. (2 fluidrams) every two or three hours.

Prepared by the Pitman-Myers Co., Indianapolis. Not copyrighted or patented.

(*To be continued.*)

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[*For other information see second page following reading matter.*]

SATURDAY, MARCH 21, 1908.

THE PATHOGENY OF SPASTIC RIGIDITY IN CHILDHOOD.

There occur during childhood a number of disorders of motility attended especially with spasticity, of some of which the anatomic basis has been made clear, while the origin of others is still involved in obscurity. One of the most interesting of this group of affections is tetany, which appears to be much less common in the United States than in certain parts of the continent of Europe. There is some reason for believing that a variety of conditions have been comprised under this designation so that we may be dealing with a symptomatic manifestation rather than a definite clinical entity.

The entire subject is given most thorough discussion in an admirable paper by Archambault and Baldauf,[1] who report two cases originally thought to be examples of tetany, but one of which was later found to be an instance of cerebral diplegia due to cerebral sclerosis, and the other an instance of chronic internal hydrocephalus due to cerebral tumor. In both cases there were present after death, in addition, marked thickening of the walls, more especially of the medium-sized and smaller blood vessels of parts of the cerebrospinal nervous system, partial fibrous obliteration of a few, cellular occlusion or thrombosis of many of them, perivascular dilatation and evidence of chronic fibrous leptomeningitis and ependymitis, marked thickening of the subpial and periependymal layers of neuroglia, together with various types of cellular degeneration. From their own observations in conjunction with a study of the literature of the subject Archambault and Baldauf are of the opinion that a large number of toxic substances, of varied nature and origin, are capable of causing cellular and interstitial changes in the parenchyma of the central nervous system, and many of them are capable of giving rise further to tetany of more or less complete type. Such association, however, is not invariable, depending on the intensity and duration of the irritative process and on the susceptibility or resistance of the individual.

It is thought probable that tetany possesses no characteristic anatomic substratum, the lesions that have been regarded as pathognomonic of it merely representing the reaction of nervous parenchyma to the irritating influence of an existing toxemia. The changes in the nervous system may take place without the development of tetany, while on the other hand tetany may be present without the discovery of any appreciable alteration in the central gray matter. Spastic rigidity, whether symptomatic of some well-defined nervous disorder or appearing as an isolated clinical manifestation, is looked on as the result of vitiated or disordered innervation of, or impulse-transmission to, the peripheral motor neuron, which may be dependent on either irritation or partial destruction of the central motor neuron in any part of its course from the Rolandic cortex to its point of arborization about the multipolar nerve-cells of the anterior horns of the spinal cord, or on inhibition or loss of function of the co-ordinating centers of the spinal cord in the intermediate gray matter. Extramedullary or meningeal lesions, under certain circumstances, may disturb the normal transmission of impulses sufficiently to bring about the same phenomenon. Spastic rigidity may be marked or slight, with all intermediate degrees of severity; and it may be either continuous or paroxysmal, in proportion to the intensity and extent of the underlying lesions. Spastic manifestations may result not alone from disease of the meninges, but also from that of the gray matter surrounding the aqueduct of Sylvius, the cavity of the fourth ventricle and the central canal of the spinal cord. Internal hydrocephalus unapparent or inappreciable clinically, is not particularly uncommon in infants and young children. The diagnosis is difficult and the presence of changes in the optic nerve, and often of local manifestations as well, suggest the existence of cerebral tumor.

THE DECREASE OF TUBERCULOSIS.

Several years ago Dr. T. Bulstrode, one of Great Britain's medical inspectors, wrote concerning consumption: "The object of preventive medicine is to curtail and, if possible, to prevent disease, to prolong existence and to render life happier by means of improved physical conditions." To-day it would seem that the ideal thus set is steadily nearing realization. Dr. Bulstrode, in the territory over which he has had supervision, has given evidence of such advance, as may be judged from the recent important report by the medical department of the British Local Government Board. The statistics presented show an amazing decrease in the death rate from tuberculosis in England and Wales, and they form the basis of an opinion that possibly, within the lives of those now living, this disease may become as rare as leprosy and typhus fever are to-day. In 1838 tuberculosis destroyed in England and Wales 59,025 lives; in 1906, although the population within these boundaries had greatly increased, this disease destroyed only 39,746 lives—11.5 for each 10,000 persons then living. The tuberculosis mortality in 1906 was about equal to the decrease observed in the preceding thirty years; it would follow, therefore, that the disease should disappear totally within the coming three or four decades were the decrease in the death rate to continue at the same rate.

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[1] Albany Med. Ann., January, 1908, p. 81.

We can not, of course, assume any such steady and progressive decrease; the successful prophylaxis against tuberculosis depends on too many factors. There is not only the work accomplished by the medical profession either as individuals or in the public service; there are also the efforts made, not necessarily by physicians, to destroy the germ-ridden structures, and to erect in their stead model tenements; the propaganda against the exhausting effects of woman and child labor and against impure foods, especially impure milk and meat. There are the successful efforts to enlist the cooperation of statesmen and humanitarians; architects and contractors have realized the importance of enlisting the advice and services of experts in hygiene. There are vast improvements in economic conditions. Tuberculosis has so many and so varied etiologic factors, besides the germ which is its essential cause, that a successful antituberculosis warfare means the triumphant entry of sanitary science into every phase of our complex modern civilization. Thus we may entertain the hope that before many years consumption will be bereft of most of the terrors which till now have attended it.

What are the reasons for the diminished ravages of tuberculosis? The present fortunate situation can not be ascribed entirely, or even mainly, to the discovery of the tubercle bacillus in 1882; for our treatment of the disease was instituted by Bodington and Brehmer many years previously, and was established in America several years before by Trudeau at Saranac Lake. Nevertheless, Koch's great discovery has put preventive measures against tuberculosis on a scientific and rational basis; and of these measures undoubtedly the most important and the most effective (in cities at least) has been the compulsory notification and registration of cases.

Nor does Bulstrode attribute the greatly decreased mortality to the establishment of sanatoria. Very few of these institutions were operative in 1885, yet the consumption death rate had shrunk by that year to about one-half of what it had been in 1838—from 39.9 for each 10,000 persons to 18. No matter how numerous are these institutions, they can not begin to accommodate a tithe of the consumptives. Yet, considering their number, they constitute an ideal means for the cure of the disease, for in them the patient has the best chance of recovery. While he is thus under treatment he is not infecting his family, his fellow workmen and his neighborhood; and when he leaves he goes forth a missionary, spreading throughout the community the sanitary principles which have been inculcated in him.

One reason for the decrease in the mortality rate has certainly been the gradually weakened virulence of the tubercle bacillus, coupled with a simultaneous increase (through better living conditions) in the organism's capacity of resistance, as evinced in phagocytosis, in the opsonic power and in like disease-resisting forces. The mixed infections are also probably made less easy of development by modern sanitation. In these respects tuberculosis but follows the laws which obtain in infections generally. We have become familiar with postmortem reports from many parts of the world which prove that consumption is now far less fatal than formerly, and that great numbers who have died of other diseases have shown on autopsy latent or healed tuberculous lesions.

Bulstrode coincides with the now general belief that Koch's opinion as to the harmlessness of the bovine tubercle bacillus is erroneous; and he insists, so far as England and Wales are concerned, that the milk and meat supplies need more careful supervision than has hitherto been given them.

THE SAFEGUARDING OF BIOLOGIC THERAPEUTIC AGENTS.

In introducing animal products into our therapeutic armamentarium we have also introduced opportunities for unintentional transmission of those diseases from which the animal furnishing the products may be suffering. This is a danger against which every precaution is taken by all who are engaged in the preparation of such biologic products, and the accidental transmission of disease by this method is, therefore, a most rare occurrence. The chief expense of such preparations as diphtheria antitoxin does not lie in the actual cost of producing the antitoxin, but in securing the absolute purity and safety of the product. It would be a simple matter to inject a horse with diphtheria toxin, draw off its blood and secure a large amount of an effective antitoxin at a very small cost. But it is the expert care and supervision, the skilled labor and the extensive animal experimentation that is required to insure the sterility and absence of toxicity of the antitoxic serum which makes the marketable product expensive; and it is only in consequence of this care that we feel free to use the antitoxic sera, vaccine virus and other biologic products that are available to us, knowing that harmful results are so very infrequent that they are lost sight of in the good that is done.

It is of the utmost importance that this feeling of safety should continue to exist, not only for the benefit of the particular patient on whom the biologic product is used, but, what is vastly more important, for the benefit of the community at large. An antitoxic serum contaminated with tetanus may result directly in the death of one or several persons, but the influence of this accident on the public is far more deadly, for it prevents the use of antitoxin in innumerable subsequent cases in which it is imperatively needed, and retards seriously the widespread application of all the biologic therapeutic methods. The above facts, and many others of similar import, are brought forward strikingly in the paper by Dr. Theobald Smith which we publish this week. As Dr. Smith says: "It is far easier to arouse the nervousness of the public than to allay it," and in actual experience there is little question that the remote results of each accident of immunization and serum therapy have been much more serious than the particular individual fatality it may have caused. How constantly we still hear urged against vaccination the danger of syphilization, in spite of the fact that human vaccine virus has been in almost absolute disuse for many years. For how many decades will that early German fatality from diphtheria antitoxin be brought forward as an obstacle to stand in the way of life-saving efforts?

At present the chief danger that is apparent in all the biologic products is tetanus, which has appeared as a danger not only in the use of immune sera and vaccination, but also in every subcutaneous use of animal products, as was shown by the numerous fatalities that resulted from the use of gelatin as a hemostatic. There is also reason to apprehend danger of the same kind in the new use of bacterial products in therapy—the so-called "vaccine therapy." Of course the reason for this danger from tetanus lies in the great resistance which the spores of the tetanus bacillus have to heat and to antiseptics, so that they readily pass through ordinary sterilizing processes, and, retaining their vitality for an almost indefinite period, cause their fatal effects at the first suitable opportunity. In his valuable paper Dr. Smith points out serious and widespread misunderstandings concerning the resistance of tetanus spores to heat, which misunderstandings constitute perhaps the greatest danger now existing in the preparation of biologic products. This paper should help to dispel this error and remove a very great and very real source of danger. Dr. Smith's closing remarks are so appropriate, and carry a lesson that is so seriously needed, that we quote them here for the sake of emphasis: "Whenever practice outruns the laboratory, and, more or less impatient, applies the latter's results to the prevention and cure of the disease, it frequently deals with half truths whose application may be harmful. It is this sense of being surrounded with half truths which should stimulate us all not to rest content with them, but to use our efforts unremittingly until they have been made whole."

CARCINOMA FROM ROENTGEN-RAY BURNS.

In the obituary column[1] we refer to the death of another *x*-ray worker, Dr. R. V. Wagner, of Chicago, from secondary carcinoma beginning in the skin, the seat of chronic *x*-ray dermatitis. The number of fatalities of this sort is now large, and it furnishes a pitiful tribute to the enthusiasm of the early worker in this fascinating field. The train of events in these cases is extremely interesting and throws light on the pathogenesis of carcinoma, at least as it occurs in the skin. All these cases, so far as we know, have occurred in radiologists who began the work in the early days before the dangers of the Roentgen rays were fully recognized. All the individuals were victims of long-continued low-grade *x*-ray dermatitis, kept up by persistent exposure to the rays in spite of the skin lesions. In many cases there has been a primary acute burn, in others only the subacute reaction; but in all there has resulted the chronic atrophic dermatitis which we have now learned is characteristic. In these cases the skin becomes thin, harsh and cracked, its surface reddened by lines and clusters of dilated capillaries and roughened by keratoses, the latter being the danger spots in which epitheliomata develop. The whole condition is, in fact, an exaggerated picture of the senile skin of the type in which we see epitheliomata, often multiple, develop. Indeed, so close is this resemblance that the development of epitheliomata in chronic *x*-ray burns was prophesied before their occurrence was established.[2]

There is probably a close essential resemblance between the precancerous keratoses of old age and those of chronic *x*-ray dermatitis. As Hyde[3] has strongly emphasized, there is a striking relation between the vulnerability of the skin to light and the occurrence of epidermal cancer. The most extreme illustration of cutaneous irritability to light is seen in the families with xeroderma pigmentosum. Here the exposed parts manifest all the changes of the most extreme degrees of senile skin in early childhood; epitheliomata develop and the patients die of carcinoma while still children. It is probable that the type of senile skin, filled with telangiectases and dotted with keratoses, in which epitheliomata develop, is largely an expression of the irritating effect of the actinic rays of light acting over long periods of years on skin which is inherently susceptible to this form of irritation. The notable absence of epithelioma in the negro whose skin is protected from the effects of light by a thick layer of pigment is confirmatory of this view. In the precancerous keratoses of old age and of xeroderma pigmentosum, and in those of chronic *x*-ray dermatitis, the results are the same; the only difference is that in the one case the irritating agent is light, in the other *x*-rays, which from their vastly more powerful actinic properties may produce in a short time the condition which light produces to a less degree (except in the rare cases of xeroderma pigmentosum) only after many years. Another evidence indicating that the epitheliomata from Roentgen rays do not differ from the usual senile epitheliomata is found in the fact that even such lesions may themselves be destroyed by *x*-rays. How actinic energy produces these changes we can only speculate. We know that cutaneous epithelium is distinctly irritable under actinic energy, and it is probable that in epitheliomata developing from the effects of light and the Roentgen rays we have merely one of the illustrations of the well-recognized tendency of carcinoma to develop as a result of long continued irritation of any sort. It is probably true, however, that in the effects of actinic energy (including, as it does, light) we have the most important cause of epidermal cancer.

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[1] Page 983 of this issue.

[2] Pusey and Caldwell, First Edition, p. 230.

[3] Influence of Light in the Production of Cancer of the Skin: Am. Jour. Med. Sci., January, 1906.

The prophylaxis of *x*-ray carcinoma consists, of course, in avoidance of undue exposure to the rays. The person who is nearest to the danger is the radiographer, who uses enormous quantities of this form of radiant energy in making skiagraphs. He, in particular, should avoid exposures, and should by the use of shields confine the rays closely. Fortunately, as the Roentgen rays travel only in straight lines, it is not difficult to prevent their diffusion. Now, since the grave dangers are known, there are few radiologists who are careless about exposures. The commonest danger is in the habit of testing the tube with the hand before a fluoroscope. Such a habit, if persisted in, is most dangerous.

Scores of men who already have *x*-ray burns on their hands are asking what is to be done for them. In the first place they should be protected from further irritation of the same nature, and other forms of irritation should be avoided so far as possible. In most cases some protection and comfort are obtained by the frequent greasing of the hands with a bland salve, like fresh rose ointment.

Another method which deserves mention is the application to the parts of heat, either by immersing them in hot water or by the use of hot applications. These are at times comforting and cause definite improvement. Various other modes of soothing treatment have been tried, but it must be recognized that none of them is of permanent benefit. The most important matter is the care of the keratoses, and if radical treatment is tried on them it should be vigorous enough to destroy them. The use of keratolytic agents like salicylic acid to dissolve them off is dangerous because it irritates without destroying. Many of these keratoses never give trouble. The first evidence of danger is for the base to become red and, perhaps, tender. When that condition persists it is evidence that the keratosis is epitheliomatous. The non-irritated keratoses are better destroyed; the irritated keratoses should be destroyed if it is possible. The best way to do this is to excise them, if this is practicable, and then to put on a small graft. This method has been carried out successfully in numerous instances within our knowledge. They may also be destroyed by caustic potash, zinc chlorid, the actual cautery, or by deep freezing with liquid air or solid carbon dioxid. All these methods are practicable when intelligently and patiently carried out.

The importance of destroying these keratoses which show persistent irritation while they are small can not be emphasized too strongly. They are dangerous, if let alone, and they can be handled successfully if taken before they become too extensive.

THE COUNCIL ON PHARMACY AND CHEMISTRY.

The Council on Pharmacy and Chemistry has now been in existence three years, during which time there has been no change in its personnel.[1]

The Council at first was organized in a more or less tentative way, with no definite plan as regarded its perpetuation, this being left for the future to develop. As will be noted, however, in the Pharmacology Department this week,[2] definite by-laws and regulations relating to the permanency of the Council have now been adopted. It will be noticed also that the first change in the membership of the Council has just taken place. This would seem an opportune time to call attention to the immense amount of self-sacrificing work this Council has done during these three years; to enlarge on the splendid character of this work and its far-reaching results, and to advert to the good that already has been accomplished in many ways. This, however, must be left for another time.

To the fifteen who have constituted the Council during these first years the medical profession of the United States, and, for that matter, of the world—for the influence of their work has been felt in other countries than this—owes a debt of gratitude, not alone on account of what has been accomplished, but also because those who have constituted the Council during these first years have had to endure the scoffs, the insults, and the imputations cast on their integrity by those whose financial interests were jeopardized through the investigations. During these three years no one has found ground to cast suspicion on a single member. Even those who for selfish reasons wished to see the work fail, because of the damage threatened to their business—even these have been able only to ridicule.

And the future is equally promising, so far as the character and standing of the men who constitute the Council are concerned. Certainly the profession is to be congratulated on the fact that the Board of Trustees has been able to secure as members of the Council such men as the three just elected. Dr. Capps, who is in active practice, has done and is doing considerable original investigation relating directly to internal medicine. Dr. Edsall, also in active practice, is especially a valuable acquisition to the Council on account of the work he has done in metabolism, etc. Professor Folin is recognized, both in this country and abroad, as one of the leading authorities on physiologic chemistry. His knowledge will be most valuable in helping to solve some of the questions that come before the Council, especially such as relate to the possibility of asserted chemical reactions in the system of ingested medicaments.

We print this week a complete list of the present members, with their positions. It is well worth the while for physicians to ponder over what it really means to have such a body of men represent them in this important work.

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[1] An exception to this statement should be made since Prof. Cushny was originally a member of the Council, but resigned on his removal to England to take the chair of pharmacology at the University of London, at which time, however, he was elected a corresponding member. Also, Professor Thoms, director of the Pharmaceutical Institute of the University of Berlin, has been added as a corresponding member during the time.

[2] Page 976.

Another important step forward is the creation of the Staff of Clinical Consultants, also mentioned elsewhere in connection with the above. The function of the Council is not to decide on the therapeutic value of a preparation, but on its composition; to answer the questions: What is it? Is it what it is claimed to be? Only when the statements made by the proprietor regarding the therapeutic properties of his product have been evidently at variance with accepted facts has the Council taken any cognizance of them. But such statements are made frequently, so that the need of the advice and assistance of clinicians has often been felt; and while hitherto there has been no great difficulty in obtaining such assistance from individual physicians, the desirability of forming such a consultative body—one to which the Council can turn freely at any time—has made itself more and more evident.

Here again the profession is to be congratulated on the selections made and especially on the fact that men who are busily engaged in active practice should be willing to make sacrifices for the common good. It will be noticed that on the staff of clinical consultants are to be found the general practitioner—both the country doctor and the city man—the consultant and the specialist; also that every part of the country is represented. If we are not mistaken, the creation of this body is the entering wedge of a movement for a more scientific investigation of the therapeutic value of drugs of all kinds, that will result, among other things, in eliminating not a few of those now in the Pharmacopeia, and in reaching definite conclusions as to the therapeutic value of this or that drug. This, however, is for the future.

Once again, we repeat, since all the members of the Council on Pharmacy and Chemistry, as well as those of the new Staff of Clinical Consultants, are men busily engaged in active work, since the work they do on the Council is often most perplexing, arduous and difficult, and since it is done gratuitously and solely in the interest of scientific medicine, is it too much of a request to ask for them the hearty support of every member of the medical profession? We can not think so! We further suggest that there are two ways in which practical support can be rendered: One by refusing to prescribe any proprietary remedy that has not been accepted by the Council; the other by refusing to subscribe to or to encourage any medical journal that is advertising proprietary preparations that have not been passed on by the Council. Even the former alone will be very effective, and possibly we are presumptuous in suggesting the latter.

Our readers, of course, know that there are still several pharmaceutical manufacturers who refuse to recognize the Council's work and objects, and this will continue just so long as physicians remain lukewarm in the matter.

THE KENTUCKY PURE FOOD LAW.

In another department[1] appears an abstract of the pure food and drug law recently enacted in Kentucky. The law is the result of the combined efforts of the members of the Kentucky State Medical Association, the State Board of Health, the State Pharmaceutical Association, and the Board of Pharmacy. Much credit is also due to the chief of the State Agricultural Experiment Station. In securing its passage all the influential bodies in the state that could possibly be aroused, including the State Federation of Women's Clubs, were interested. Besides being, perhaps, the best general pure food and drug law as yet adopted, some unique features are incorporated in the act. In regulating the inspection and sale of milk it is provided that no milk shall be designated as "certified milk" except on the authorization of a regularly constituted county medical society. This feature is the result of the work of the Milk Commission of the Jefferson County Medical Society, which took up the regulation of the milk supply of Louisville. The prompt recognition of the value of such services is a gratifying evidence of the spirit in which the public will endorse the work of county medical societies along practical lines. The law also provides that no physician's prescription may be refilled except for the person for whom it was written. The value of such a provision for the protection of public health is obvious. The enforcement of the law is placed in the hands of the chief of the State Agricultural Experiment Station. Great credit is due not only to the physicians of Kentucky, but also to the laymen; it is especially gratifying to learn that the members of the state legislature favored the measure with practical unanimity. More and more our legislators are appreciating the necessity of adequately safeguarding the lives and health of the people. This is surely one of the first duties of the conscientious lawmaker, as is being realized by our leading statesmen. Carefully drafted and impartially enforced health laws, together with the moral and financial support of the health authorities by both the government and the people, will save thousands of valuable lives and millions of dollars in money to the country each year.

PHYSICIANS IN POLITICS.

A member of the Committee on Medical Legislation, comments this week[1] on the work recently accomplished in Ohio, where 105 physicians went to the state convention as delegates of one of the leading parties, the result being that, for the first time in the history of this country, a state convention adopted a platform containing a declaration in favor of the organization of a national department of health. It is hardly necessary to say that such a plank would never have been adopted had not a large number of physicians been sitting as members of the convention with the right to vote. This is in marked contrast to the attitude of the medical profession heretofore, which has been to send committees to stand without and to plead for desired legislation. Physicians hereafter, if the example of Ohio is of any value, will work and vote for needed reforms as members on the floor of the conventions and legislatures, and will not merely wait as visitors in the lobbies or appear before committees. If better conditions are to be obtained in municipal and state government, it must be through an appreciation of the fact that the proper work of government is administration and not exploitation of the public. With this in view, there is no reason why the physician should not prove as good an administrator as his brother the lawyer, to whom the lion's share of political duties and opportunities has been awarded in the past. Three-fourths of the work of the average legislative body today has to do with questions of administration. There is nothing in the personality, training or experience of the successful physician that would render him less effective in dealing with administrative problems than the lawyer or the business man; neither is there any reason why a physician should not demand and exercise his full rights as a citizen, especially since he is far better fitted by education and experience for dealing adequately with many of the problems of modern legislation than is the average lawyer. It can not be denied that the management and conduct of many of our state institutions would be far better were physicians represented on the legislative committees, or that better sanitary laws would be enacted if physicians had votes in the legislature instead of merely being represented by proxy. The message of the Ohio profession to the physicians of the country is, "If you want a thing done, do not send another, but go yourself." It is hoped that physicians in many other states will follow the example of their Ohio brethren.

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[1] Department of Medical Economics, page 986.

[1] Correspondence Department, page 9.8

MEDICAL MERIT HONORED BY THE CARNEGIE FOUNDATION.

The public rewards for long and faithful service to medicine are surely not so frequent that they should pass without professional recognition when they do occur. One of the veteran workers in the field of medicine and medical education in the United States, still surviving from a fellow-studentship with Webster, Clay and Calhoun at Harvard, is Dr. Stanford B. Chaillé, of Tulane University, New Orleans. On March 20 Dr. Chaillé completed his fiftieth year of honorable, loyal and faithful service, not only to the Tulane Medical College—the Medical Department of Tulane University—but to the science of medicine at large. It is therefore as fitting as it is gratifying that to Dr. Chaillé should have been awarded, by the Carnegie Foundation for the Advancement of Teaching, its maximum retiring allowance of $3,000 a year, a distinction that has been conferred on few, and of those few, we believe, never before on a member of the medical profession. We congratulate Dr. Chaillé on his good fortune, the medical profession on the honor conferred on it by the selection of one of its members for this benefit, and the Carnegie Foundation on its perspicacity in making the somewhat unusual discovery that transcendent merit occasionally exists in the profession of medicine as well as in other fields of public service. We heartily wish Dr. Chaillé many years in which to enjoy the fruits of a well-earned leisure.

ARMY REORGANIZATION BILL PASSES THE HOUSE.

The Army Medical Reorganization Bill passed the House of Representatives Monday, March 16, under suspension of the rules, by a vote of 126 for and 15 against. The bill passed the Senate as originally drafted. Owing to changes made in the House committee the bill now goes to conference. These changes are, with one exception, amendments which are entirely satisfactory to the friends of the bill. The reduction in the number of medical officers of the higher grades, however, seriously modifies the proposed plan of reorganization. It is earnestly to be hoped, therefore, that the original provision of the bill in this respect will be adhered to.

THE FIRST CONVICTION UNDER THE FOOD AND DRUGS ACT.

The first conviction under the national Food and Drugs Act has been secured in Washington, the case being that of Robert N. Harper, manufacturer of a nostrum known as "Curforhedake," "Brane-Fude." An abstract of the case with a summary of the charge of the trial judge to the jury appears elsewhere.[1] The practical common sense interpretation of the law by the judge in this instance is especially gratifying and commendable. He instructed the jury that the law was enacted for the protection of the ordinary average citizen and was to be interpreted with this point in view and that its meaning was not to be obscured by technicalities or expert decisions. This tendency to interpret the law in accordance with the language and phraseology used by those for whose protection the law was enacted should be followed by other courts before whom violations of pure food laws, both state and national, may be tried. The intent of these laws is manifest: to protect the general, non-scientific public against imposition and deception. The question of what a given term, sentence or formula would mean to the expert chemist or the trained pharmacologist has no bearing. The important point is, what impression does the average purchaser of the preparation derive from the claims made by the manufacturer? If the impression which he derives is in any way misleading or not borne out by the facts, then the manufacturer has violated the spirit of the law. Let it be again emphasized that this entire food and drug agitation, in all its ramifications, is simply a fight for commercial honesty and square dealing with the public. It is to be hoped that the decision of the court in this case will be sustained by the higher courts and that this example in the common sense interpretation of the law will be followed by other courts before which such cases may come in the future.

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[1] Miscellany Department, page 981.

Medical News

CONNECTICUT.

Physicians Honored.—At a dinner of the Yale Medical Faculty, held in New Haven March 5, special honor was tendered to Dr. William H. Carmalt, for more than 40 years a member of the faculty of the school; president of the state medical society in 1904; for 20 years secretary of the American Congress of Physicians and Surgeons, and now president of the American Surgical Association.——At a testimonial tendered to Dr. William C. Wile by the professional men of Danbury and vicinity, Rev. H. C. Meserve acted as toastmaster. Dr. Wile was lauded as the organizer of the Danbury Medical Society, and as responsible for many good works, both in and out of professional life, and he was congratulated on his restoration to health and activity, after a long and serious illness.——Local members of the New Haven Medical Association gave a dinner March 4 in honor of Dr. Edward K. Root, Hartford. He afterward read a paper on "Blood Pressure" before the association.

ILLINOIS.

Communicable Diseases.—The public schools of Rantoul are to remain closed for a week on account of the prevalence of scarlet fever.——The State Board of Health has received word that 4 additional cases of smallpox have appeared at Auburn.——At Harlem Center 20 cases of smallpox of mild type are reported.——There are said to be 15 well-developed cases of smallpox at Robinson and a quarantine has been established.

Personal.—Dr. Albert Green, Rockford, is confined to his house as a result of the fracture of a rib.——Dr. Arthur R. Adams, Macomb, expects to leave this month for Europe.——Dr. and Mrs. Albert Weil, Peoria, have returned from a trip to Cuba.——Dr. and Mrs. Thomas E. Roberts, Oak Park, sailed for Europe March 14.

Chicago.

Unlicensed Practitioner Fined.—J. C. Dyer, 6509 Minerva Avenue, charged with practicing medicine without a license, is said to have been found guilty March 10 and fined $100 and costs.

Personal.—Dr. and Mrs. D. A. K. Steele are taking a trip to California.——Dr. and Mrs. Jacob Frank have returned from New Orleans.——Dr. Alfred D. Kohn has been reappointed a member of the board of education.——Dr. Frank J. Dewey was painfully injured in a collision between his bicycle and a street car March 8.——Dr. Albert E. Froom has moved to Mount Rose, Colo.

Deaths of the Week.—During the week ended March 14, there were 639 deaths reported; 30 fewer than for the previous week, and 45 fewer than for the corresponding week of last year, the respective annual death rates per 1,000 being 15.38, 16.10 and 16.92. The diseases showing greatest decrease as compared with last year were: Cancer, 15, a decrease of 19; scarlet fever, 8, a decrease of 10; nephritis, 31, a decrease of 9; and whooping cough, 2, a decrease of 5. The chief increases in mortality were: From acute intestinal diseases, 50, an increase of 24; typhoid fever, 7, an increase of 5; diphtheria, 11, an increase of 5; violence, 44, an increase of 8; and measles, 5, an increase of 2.

Contagious Disease Situation.—The week ended March 14, as compared with the previous week, showed a material improvement in diphtheria and scarlet fever; 25 cases fewer of the former being reported and 12 cases fewer of the latter. As compared with the corresponding week of 1907, there were 185 fewer cases of these diseases. Chickenpox decreased 61.5 per cent. and typhoid fever more than 54 per cent., as compared with the preceding week. The cases of measles increased from 156 to 232; those of whooping cough from 14 to 27 and those of tuberculosis from 23 to 51. During the week 6 smallpox patients were taken to the Isolation Hospital, none of whom had ever been vaccinated.

Fraud Order Issued.—A fraud order was issued on February 12 by the Postoffice Department against the "Chicago Medical Institute," William Wood, secretary; "Dr. Dunn," George Gordon, secretary, and S. F. Francis, alias Dr. Dunn, with offices at room 201, 130 Dearborn Street. This institution is one of the many whose advertisements state that it never disappoints its patients, that it fulfills its promises, never holds out false hopes, cures varicocele in four days without pain, operation or ligature, cures prostatitis in ten to twenty days without cutting, dilating etc. On decoy letters being written to the institute, reply was received that it would use internal medicines and also urethral suppositories for the cure of prostatitis, and requested that $10 be paid in advance. A fraud order was issued about two years ago against the firm of Francis and Francis, which after being put out of business, induced Dr. Daniel Dunn to become a partner and carry on the business.

IOWA.

Affiliation Proposed.—At the regular mid-year meeting of the Board of Trustees of the Iowa Wesleyan University, February 21, the proposition of the affiliation of the Keokuk Medical College with the university was brought up for consideration.

Personal.—Dr. Oscar Fordyce, Guthrie Center, is said to be seriously ill with pneumonia.——Dr. William W. Hawks, Colfax, has been nominated as postmaster.——Dr. Fred P. Bellinger, Council Bluffs, has returned from Europe.——Frederick A. Slyfield, Iowa City, has been appointed first assistant state bacteriologist.

Dies Without Medical Attendance.—The 10-year-old son of an eddyist of Brazil died recently from pneumonia, after an illness of two weeks. This is said to be the second child to have died in the family treated only by the prayers of eddyists. The coroner's jury placed the responsibility for the child's death on the parents.

Hospital Opened.—On February 25, the new Oskaloosa Hospital, which has been completed at a cost of $15,000, held a shower and inspection day. The institution will have accommodations for 25 patients. At the shower quantities of linen, kitchen utensils, coal, fruit and canned goods and $350 in money were received. The advisory board consists of Drs. Jay G. Roberts, Lewis A. Rodgers and Ripley C. Hoffman.

Epidemic Diseases.—Charles City reports about 65 cases of measles.——Three deaths from cerebrospinal meningitis have occurred in Harlan.——Diphtheria has appeared among the students of the State University, Iowa City, and one of the fraternity houses is under quarantine.——Smallpox is reported to be epidemic in Allamakee County.——Smallpox, measles, mumps and chickenpox are reported to be prevalent in Traer.——Several cases of smallpox are reported from Waterloo.——There are now 8 smallpox patients in the Isolation Hospital, Sioux City.——Two cases of smallpox developed March 3, in a hotel in Cedar Rapids.

LOUISIANA.

Sanitary Inspection.—The New Orleans health board has sent out 27 crews, each composed of three members, to locate all unscreened cisterns and all low lying and badly drained places in the city.

Disposition of Fever Fund.—The balance of the fund subscribed to fight yellow fever in 1905, amounting to about $20,000, has been disposed of by the New Orleans Health Association by donating two-thirds of the sum to the Antituberculosis League and one-third to the Eye, Ear, Nose and Throat Hospital.

Society Reorganizes.—The Terre Bonne Parish Medical Society has been reorganized at Houma with the following officers: President, Dr. Joseph B. Duval, Houma; vice-presidents, Drs. Adolph J. Delcourt, Houma, and R. M. Calmore, Shriever; secretary, Dr. Adolph J. Delcourt, Jr., Houma, and treasurer, Dr. Leon J. Menville, Houma.

Personal.—Dr. L. O. Clark, Lafayette, has been appointed president of the Lafayette Parish board of health, vice Dr. George R. Delaureal, Broussard, resigned.——Dr. Francis W. Brian, Alexandria, is said to have been fined in the city court $15, for failure to report a case of communicable disease, February 26.——Dr. Robert C. Kemp has moved from Echo to Baton Rouge.

Colored Medical Association Meets.—The Louisiana Medical, Dental and Pharmaceutical Association held its annual meeting in New Orleans, March 4, 5 and 6. Dr. Isaac W. Young, Alexandria, was elected president; F. M. Nelson, secretary; Dr. A. J. Aubrey, Jesuit Bend, corresponding secretary, and Dr. Leonidas T. Burbridge, New Orleans, treasurer. It was decided to establish a medical journal for the association with the following staff: Editor, Dr. C. J. Lopez, Lake Providence; associate editor, Dr. Leonidas T. Burbridge, New Orleans, and manager, R. Fredericks. The association adjourned to meet in Alexandria.

MARYLAND.

Hospital Note.—The new north wing for the Frederick City Hospital has been given by Mrs. Margaret E. S. Wood, at a cost of $10,000, as a memorial to her husband.

Tuberculosis.—By a vote of 13 to 4 the Towson Improvement Association, on March 9, passed a resolution protesting against the erection at the Eudowood Sanatorium of the proposed new hospital for advanced cases of tuberculosis.——The traveling exhibit of the Maryland Association for the Prevention and Relief of Tuberculosis was displayed at Highlandtown last week and is at Towson this week.

Personal.—Dr. John A. Sperry has been elected chief of the medical staff of the Church Home and Infirmary, Baltimore.——Dr. Archibald C. Harrison, Baltimore, has been elected chief surgeon of the United Railways Company, vice Dr. Isaac R. Trimble, deceased.——Dr. Charles L. Mattfeldt has been elected president of the Catonsville Volunteer Hose Company.——Dr. William D. Corse, Gardenville, was thrown from his carriage in a collision with a street car, and severely injured.——Dr. Arthur S. Lovenhart of Johns Hopkins University has been appointed to the chair of pharmacology and toxicology in the College of Medicine of the University of Wisconsin.

MASSACHUSETTS.

Skin Disease Prevalent.—Impetigo contagiosum is reported to be prevalent in West Springfield high school and the local board of health has started an investigation.

Cocain Peddler Sentenced.—Ernest G. Kelly of Cambridge, Boston, who is said to have been a persistent offender against the law forbidding the peddling of cocain, is said to have been convicted on March 1 and fined $100 on each of three counts. The cocain was an ingredient of an alleged remedy for catarrh, known as the "Standard Catarrh Cure," which was sold about the streets of Lynn by the defendant.

Personal.—Dr. Frederick F. Andrews has been elected a member of the board of health of Revere.——Dr. and Mrs. Arthur C. Nason, Newburyport, sail for Europe next month.——Dr. and Mrs. Ernest H. Noyes, Newburyport, expect to sail for Europe in June.——Dr. Walter Channing has been elected a member of the school board of Brookline.——Dr. John A. Leitch has been elected town physician of Andover.

MINNESOTA.

Scarlet Fever.—On account of the presence of scarlet fever at Randall the public school has been closed, and public gatherings have been forbidden until further notice.

Medical Schools Merge.—The Medical Department of Hamline University has been merged with that of the University of Minnesota, and after the present college year the Hamline medical department will be closed.

Fire in State Hospital.—A fire February 23, in the tunnel which connects the detached ward of St. Peter's State Hospital with the main structure, caused great alarm to the patients, 300 of whom were removed from the ward without injury. The building was not much damaged.

Medical Society in New Quarters.—The new rooms of the Hennepin County Medical Society in the Donaldson building, Seventh Street and Nicollet Avenue, were formally opened and turned over to the organization, March 2. The new quarters of the society consist of a library and lecture room, with committee, cloak and reception rooms.

MISSOURI.

State Medical Society Meeting.—The Missouri State Medical Association will hold its annual meeting in Springfield, May 19 to 21.

Communicable Diseases.—A few cases of smallpox are reported south of Bethany.——Cerebrospinal meningitis is reported to be epidemic in and around Princeton, where 16 fatal cases have occurred.

Medical Department Transferred.—The Medical Department of the University of Missouri will henceforth be located in St. Louis, the Barnes Medical College property, valued at $350,000, having been transferred to the university authorities.

Consumptive Home Accepted.—The board of trustees of the Missouri State Tuberculosis Sanatorium on March 3 accepted the Eaton Villa Home for Consumptives, near Aurora. The building when completed will cost nearly $23,000 and will accommodate 26 patients.

St. Louis.

Affiliation of Libraries.—The council of St. Louis Academy of Sciences has taken the initiative in an effort to render the libraries of the various scientific organizations of the city accessible to members of all. It is believed that both the Medical Library Association and the medical societies will be favorable to the plan.

Medical Society Quarters.—The St. Louis Medical Society of Missouri has recently added two rooms to its auditorium, 3523 Pine Street, making it adequate for the needs of the organization for many years to come. The larger room is furnished for the council and other business meetings; the smaller affords quarters for the secretary and stenographer, and the medical information bureau.

Personal.—Dr. Louis M. Warfield has been appointed a member of the committee on prizes for the International Congress on Tuberculosis.——Dr. John W. Marchildon will leave for Berlin in a few weeks.——Dr. Carl Barck is recovering from a serious infection of the left hand.——Dr. H. Wheeler Bond, health commissioner, has returned from a vacation trip to the south.

Forbidden to Display Sign.—Dr. Henry Schwartz is said to have been forbidden on March 3 by the St. Louis Court of Appeals to display his sign at 440 North Newstead Avenue, or to practice his profession there excepting in emergency cases. Neighbors of Dr. Schwartz applied for an injunction to prevent him from practicing at his home, on the ground that the restrictions in that part of the city forbade the conducting of business of any kind.

NEW YORK.

Hospital Notes.—The keys of the new City Hospital, Lockport, were turned over to the city authorities February 25.——The Municipal Tuberculosis Clinic and Dispensary of Rochester has been located on East Fayette Street, where a two-story building has been leased for the purpose. Dr. H. Burton Doust, who is to have charge of the clinic, reports that it will be opened to the public some time this month.

Personal.—Dr. Veranus A. Moore, Ithaca, has been appointed director of the New York State Veterinary College, vice Dr. James Law.——Dr. Willard De F. Preston has been appointed town physician of Attica.——The medical staff of the Cortland Hospital has elected the following officers: President, Dr. Henry T. Dana; vice-president, Dr. James Walsh, and secretary, Dr. S. J. Sornberger.——Dr. Dwight F. Johnson has succeeded Dr. William H. Jessup as health officer of Newark.

Communicable Diseases.—The Vine Street public school, Lockport, has been closed on account of an epidemic of diphtheria in the eastern part of the city.——A school teacher in the Stuck district, near Waterloo, is reported to be ill with smallpox.——Several cases of smallpox are reported north of Waterloo.——The public school at Forks Station, near Buffalo, has been closed on account of scarlet fever.——The public school in West Seneca, near Buffalo, was closed March 5 on account of the prevalence of scarlet fever.——There are said to be more than 200 cases of measles in Binghamton.

Society Meeting.—At the annual meeting of the Woman's Medical Society of New York State, held in Rochester, March 11, the following officers were elected: Honorary president, Dr. Elizabeth Blackwell, Hastings, Eng.; president, Dr. Sarah R. A. Dolley, Rochester; vice-presidents, Drs. Eliza M. Mosher, Brooklyn; Mary Theresa Greene, Castile, and Helene J. C. Kuhlman, Buffalo; secretary, Dr. Eveline B. Ballintine, Rochester; treasurer, Dr. Kathleen L. Buck, Rochester; and councilors, Drs. Mary H. Colton, New York City; Inez Bentley, Kings Park; Mary Gage-Day, Kingston; Florence A. Sherman, Watertown; Harriet M. Doane, Fulton; Sophy Ellen Page, Ithaca; Evelyn Baldwin, Rochester, and Mary I. Denton, Buffalo.

New York City.

Personal.—On February 29 a dinner was given by the Brooklyn Medical Association to Dr. George A. Ostrander in honor of the fiftieth year of his practice in the borough.

Censures Officials.—The coroner's jury has censured the officials of Bellevue Hospital for transferring a patient to the hospital on Blackwell's Island when she was dying of consumption.

Anesthetists Meet.—At the spring meeting of the Long Island Society of Anesthetists, held in Brooklyn, March 14, the European methods of anesthesia was the subject of discussion. Dr. Mary P. S. Rupert, Philadelphia, presented the chief paper of the evening.

Memorial Services.—The Medical Society of Kings County on March 8 held memorial services for its members who had died during the last two years. The Rev. S. Parks Cadman delivered the principal address, and an address was also made by Dr. Onslow A. Gordon, president of the society.

Resolutions Regarding Roosa.—At a meeting of the Alumni Association of the New York Postgraduate Hospital, held March 10, resolutions were adopted laudatory of the late Dr. Daniel B. St. John Roosa, as the founder of systematic postgraduate instruction; offering to his family the sympathy not of the society but of those who loved, admired and reverenced him.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended March 7, 1,465 cases of measles, with 26 deaths; 901 cases of scarlet fever, with 56 deaths; 426 cases of tuberculosis, with 200 deaths; 379 cases of diphtheria, with 48 deaths; 26 cases of typhoid fever, with 7 deaths; 10 cases of cerebrospinal meningitis, with 12 deaths; 9 cases of whooping cough, with one death, and 215 cases of varicella, making a total of 3,432 cases, with 350 deaths.

The Problems of Congestion of Population.—A conference on the problems of congestion of population in connection with an illustrative exhibit was held in the Museum of Natural History on March 9, 10 and 11. The exhibit will be open to visitors until March 23. Among the topics discussed were: "The Housing Problem," by Robert W. DeForest; "Moral Standards and Family Life in the Tenements," by Felix Adler; "Congestion and Preventable Diseases," by Dr. Abraham Jacobi; Prof. L. H. Bailey of Cornell University, and C. W. Larmon of the State Department of Agriculture set forth the advantages of farm and country life. Many requests have been received from other cities that the exhibit be sent to them as an educational factor.

OHIO.

Fire in Hospital.—Fire in the Piqua Memorial Hospital March 3 necessitated the removal of the patients from the hospital. The fire was confined to the basement.

Boy Phenomenon Sent to Jail.—R. E. Brake, who is known throughout Ohio as the "boy phenomenon," is said to have been sentenced on March 11 at Lisbon to pay a fine of $25 for contempt of court, and in default was committed to jail.

Academy Election.—The Cincinnati Academy of Medicine, at its annual meeting March 2, elected the following officers: Dr. William E. Gillespie, president; Drs. Rufus B. Hall and Stephen E. Cone, vice-presidents; Dr. Mary K. Isham, secretary, and Dr. Alexander G. Drury, treasurer.

Local Option Law Violators.—Dr. Thomas N. Dean, Hicksville, against whom an indictment was recently returned for issuing prescriptions for whisky, withdrew his appeal to quash the indictment and entered a plea of guilty to issuing prescriptions for whisky and is said to have been fined $250 and costs.——Dr. George W. Mehl, Ashland, charged with prescribing whisky, is said to have pleaded guilty recently and was fined $250 and costs.

Communicable Diseases.—Smallpox is reported to be epidemic at Holloway.——There are now three smallpox patients at the Isolation Hospital, Toledo.——There are reported to be 25 smallpox patients in Vanceburg and its vicinity.——A case of cerebrospinal meningitis was reported at Cleveland, March 10.——Two deaths from cerebrospinal meningitis were reported March 10 in Columbus.——Germantown is at present threatened with an epidemic of scarlet fever.

Hospital Notes.—Articles of incorporation of Grant Hospital, Columbus, were filed February 24. It is proposed to erect a six-story brick hospital, to cost $150,000.——Plans are being prepared for the new hospital at Massillon, to be three stories in height, of brick and stone, and to cost $50,000, the expense being borne by J. F. Pocock, who will present the institution to the city.——Ground was broken March 10 at the Franklin County Infirmary, Columbus, for the building for the County Tuberculosis Hospital. Mrs. Samuel L. Black, president of the Columbus Society for the Cure and Prevention of Tuberculosis, turned the first spadeful of earth.——Youngstown Hospital celebrated the twenty-fifth anniversary of its foundation March 7.

Personal.—Dr. John J. Kinney, Wooster, was operated on February 21 for appendicitis at the Charity Hospital, Cleveland.——Dr. Robert H. Grube has been elected vice-chairman, and Dr. Lawrence H. Brundage, health officer of Xenia.——Dr. William H. Taylor, Cincinnati, was tendered a dinner at the Queen City Club March 2, in honor of his fiftieth year in the practice of medicine in Cincinnati.——Dr. George D. Gohn, Dayton, has been appointed jail physician, vice Dr. Alvin L. Light.——Dr. Myron S. Clark has been elected vice-president of the board of health, and Dr. Harry E. Welch, health officer, of Youngstown.——Dr. James H. Fisher, Malinta, while returning from a call March 3, fell on the ice and broke his leg at the ankle.——Drs. A. C. McNutt and Jerome Bland have been elected honorary life members of the Crawford County Medical Society.——Dr. Henry G. Gibson has been elected health officer of Glouster.

PENNSYLVANIA.

Need City Bacteriologist.—At a meeting of the Physicians' Association of Chester the adverse action of the city councils, in defeating the proposition to appoint a city bacteriologist was considered, and every member of the association was urged to attend the next meeting of councils and explain the necessity of such an official.

Smallpox Spread by Mail.—Eight more cases of smallpox in Dauphin County were reported to State Health Commissioner Dixon March 14. They are the result of the infection spread through the mails several months ago, when a postal clerk who had smallpox handled mail distributed to various parts of the state.

County Society Meeting.—The Northumberland County Medical Society held a meeting March 6, at which Dr. John B. McAlister presented a paper on the proposed one board bill, wherein it was shown that, instead of an examining board for each school of medicine, there should be but one standard for the licensing of a person to practice medicine. The society was notified that three persons were illegally practicing medicine in the county, two without a state certificate and one without either state certificate or a diploma. The secretary was instructed to ascertain if these facts were true from the secretary of the state medical council, and, if so, to notify these individuals that unless they properly qualify they will be dealt with according to law.

Philadelphia.

New Laboratory for College.—The new laboratory for the analysis of food and drug products, being completed for the College of Pharmacy, will be formally opened the beginning of April. The cost of the building will be $40,000 and it will contain facilities for all kinds of qualitative analyses, as well as an equipment for the education of food and drug chemists.

Elections.—At the annual election of the Northern Medical Association of Philadelphia the following officers were selected: President, Dr. Herman A. Brav; vice-president, Dr. Ralph E. Shrom; treasurer, Dr. John W. Millick; secretary, Dr. William R. Bready, Jr.; librarian, Dr. Robert J. Hess; recording secretary, Dr. Thomas R. Currie, and censor, Dr. David Riesman.——The officers of the Section on General Medicine of the College of Physicians for 1908 are: Chairman, Dr. J. Alison Scott; clerk, Dr. George W. Norris; executive committee, Drs. Samuel McC. Hamill, Aloysius O. J. Kelly and George W. Norris.

Building New College.—Work has been started on the new building for the College of Physicians and it is expected that it will be completed late in the fall. It will be a two-story stone structure, 120x180 feet. The first floor of the building will be divided into offices and a large room for the display of anatomic specimens owned by the college. Nearly all the second floor will be given up to library and lecture hall. Space will be made for the large number of valuable works of reference. Andrew Carnegie gave $100,000 to the college, thus rendering it able to begin building at once. The cost of the new home will be about $300,000.

Doctors and Druggists Meet.—A joint meeting of pharmacists and physicians was held at the College of Physicians March 11, for the purpose of remedying abuses in the sale of nostrums and proprietary medicines. Dr. Albert M. Eaton presided. Dr. Joseph P. Remington, dean of the College of Pharmacy, contended that if physicians would make a united stand the sale of secret preparations could be stopped. It was shown that there was greatly increased growth in the proprietary medicine industry, increasing from 1,127 establishments in 1890, having a working capital of $18,600,000 and producing $32,000,000 worth of preparations, to 2,245 establishments in 1905, with $46,000,00 capital and producing $75,000,000 worth of nostrums from material costing $21,000,000.

Health Report.—The total number of deaths reported for the week ended March 14 was 527, a decrease of 44 from the previous week and a decrease of 61 from the corresponding week of 1907. The principal causes of death were: Typhoid fever, 17; measles, 5; scarlet fever, 6; diphtheria, 5; consumption, 71; cancer, 21; exophthalmic goiter, 2; apoplexy, 6; paralysis, 7; heart disease, 55; acute respiratory diseases, 90; gastritis, 6; enteritis, 13; cirrhosis of the liver, 5; acute nephritis, 8; Bright's disease, 42; puerperal septicemia, 5; congenital malformation, 6; premature birth, 12; congenital debility, 9; old age, 5; suicide, 5; accidents, 20, and marasmus, 2. There were 255 cases of contagious diseases reported, with 28 deaths, compared with 244 cases and 30 deaths reported in the preceding week.

Physicians War on Malpractitioners.—Because of the arrest of several physicians and the evidence obtained against them by the police, the county medical society has conducted investigations from which it has learned of the existence in this city of a class of physicians of good repute who are guilty of malpractice. Physicians found guilty will be forced to leave the city or submit to prosecution. There were three cases of physicians charged with malpractice taken up by the coroner March 9. Dr. Albert A. Appel, charged with having performed an illegal operation on a woman who died in the Jewish Hospital on March 5, was held without bail to await the action of the grand jury. He is said to have served a term of two years in prison for an offense of a similar nature. Dr. Charles Johnson was discharged for lack of evidence, as the statement made by the girl was while she was under the influence of morphin. Dr. Malcolm Henry, charged by a colored girl with malpractice, was arrested March 7, and held in $2,000 bail.

WASHINGTON.

Society Meeting.—At the semi-annual meeting of the Kings County Medical Society, held in Seattle, February 17, two new clinical cases were reported by Dr. J. C. Moore. The paper of the evening was read by Dr. Park W. Willis on "The Treatment of Asthma with Diphtheria Antitoxin."——The first annual meeting of the Washington Association for the Relief and Prevention of Tuberculosis was held in Seattle, February 19, when addresses were given by Dr. Pottenger, Monrovia, Cal.; Dr. Edward A. Pierce, Portland, Ore.; Dr. Charles J. Fagan, Victoria, B. C.: Dr. Conrad M. Suttner, Walla Walla, and Dr. Robert C. Coffey, Portland, Ore. Governor Mead and others also delivered addresses.——The meeting of the Washington State Association has been set for September 1, 2 and 3, at Walla Walla.

GENERAL.

Optical Firms Amalgamate.—The Bausch and Lomb Optical Company, the Bausch, Lomb, Saegmuller Company of Rochester, N. Y., and the Carl Zeiss Optical Works of Jena, Germany, have united their interests with the expressed purpose of carrying to the highest possible development the production of optical instruments.

Indignant Over Quarantine Order.—The authorities of Havana are said to be surprised and indignant over the announcement of the Public Health and Marine-Hospital Service that quarantine against Cuba will be declared April 1, an unusually early date. The local health authorities consider the enforcement of the regulations entirely unjustifiable, as the last known case of yellow fever was discharged February 28.

Personal.—Dr. William M. Chambers, consular agent at Puebla, Mexico, has resigned and removed to Texas.——Dr. P. M. Monroe has been unanimously reappointed surgeon of the American Hospital, City of Mexico, for the ensuing year. ——Dr. William W. Mangum, formerly of Eufaula, Ala., has moved to the City of Mexico.——Dr. E. W. White, physician of the Mexican Central Railway at Chihuahua, Mexico, accidentally shot himself recently while cleaning his revolver.—— Dr. Carlos J. Finlay, chief of the department of health and sanitation, Havana, was presented by Governor Magoon with the Mary Kingsley medal in recognition of his services in developing the mosquito theory of yellow fever.

Mexican Notes.—The governing board of the medical institute which was formerly under the Department of Fomento, has been reappointed by the Department of Public Instruction. ——The National Academy of Medicine announces that its next meeting will be devoted to the report of the special committee, appointed to study the necessary steps to be taken to prevent the propagation of venereal diseases among the young. ——With the support of the state government and of the Compania Industrial de Orizaba, the local authorities will build a hospital at Orizaba to accommodate 200 patients.——Dr. Eduardo Liceago, president of the Superior Board of Health of the City of Mexico, pronounces unfounded the reports that cholera has broken out at Acapulco.

Society Meetings.—The American Medico-Psychological Association will hold its meeting in Cincinnati, May 12 to 15.—— The International Medical Association held its annual session January 23 to 25 in Monterey, Mexico, and elected Dr. Jamison, Torreon, president; Dr. Mary L. Burnham, Monterey, vice-president; and Dr. J. S. Steele, Monterey, secretary. Tampico was chosen as the place of meeting for 1909.——The surgeons of the Lackawanna Railroad Company met at Scranton, Pa., February 3, and organized the Lackawanna Railway Surgeons' Association, with the following officers: President, Dr. Jonathan M. Wainwright, Scranton; vice-presidents, Drs. Henry A. Argue, Corning, N. Y., and Henry T. Dana, Cortland, N. Y., and secretary-treasurer, Dr. Walter Steadman, Hoboken, N. J.

Prevention of Unnecessary Blindness.—In a recent issue of "The Outlook for the Blind," a quarterly record published by the Massachusetts Association for Promoting the Interests of the Blind, appears a paper on "The Prevention of Unnecessary Blindness a Public Duty," by Dr. F. Park Lewis, chairman of the New York Commission for the Blind, in which, after dilating on the prevalence of the blindness due to ophthalmia neonatorum, he urges the adoption of the plan approved by the American Medical Association providing, first, for the enactment of laws, supervising the control and licensure of midwives by the boards of health; requiring that they be examined and registered in each county, and that they be required to report each case of the disease occurring in their practice under penalty of forfeiture of license and fine; second, the distribution by health boards of circulars of advice to midwives and mothers, giving instruction as to the dangers, methods of infection, and prophylaxis of the disease; third, the preparation and gratuitous distribution by health boards of the chosen prophylactic; fourth, to obtain at stated periods from midwives and obstetricians a report of the number of cases of ophthalmia neonatorum, which have occurred in their practice during this period, together with a statement as to whether or not a prophylactic was used in each case.

International Congress on Tuberculosis.—The central committee of the congress has announced the offer of prizes of $1,000, besides gold and silver medals, each prize to be accompanied by diplomas or certificates of award, for each of the following: 1. For the best evidence of effective work in the prevention or relief of tuberculosis by any voluntary association since the last International Congress, in 1905. 2. For the best exhibit of an existing sanatorium for the treatment of curable cases of tuberculosis among the working classes. 3. For the best exhibit of a furnished house, for a family or group of families of the working class, designed in the interest of the crusade against tuberculosis. 4. For the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor. 5. For the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis. Other prizes offered are following: 1. The Hodgkins Fund Prize of $1,500 is offered by the Smithsonian Institution for the best treatise that may be submitted on "The Relation of Atmospheric Air to Tuberculosis." 2. A gold medal and two silver medals for the best exhibits sent in by any states of the United States, illustrating effective organization for the restriction of tuberculosis. 3. A gold medal and two silver medals for the best exhibits sent in by any state or country (the United States excluded), illustrating effective organization for the restriction of tuberculosis. 4. A gold medal and two silver medals for each of the following exhibits: (A) For the best contribution to the pathologic exhibit. (B) For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any state of the United States. (C) For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuoerculosis by any state or country (the United States excluded). (D) For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any municipality in the world. (E) For the society engaged in the crusade against tuberculosis having the largest membership in relation to population. (F) For the plans which have been proved best for raising money for the crusade against tuberculosis. (G) For the best exhibit of a passenger railway car in the interest of the crusade against tuberculosis. (H) For the best plans for employment of arrested cases of tuberculosis. 5. Prizes of two gold medals and three silver medals for the best exhibit of a workshop or factory in the interest of the crusade against tuberculosis. 6. Prizes for educational leaflets: A prize of $100, a gold medal, and two silver medals in each class, for the best educational leaflet submitted in each of the seven classes defined below: (A) For adults generally (not to exceed 1,000 words). (B) For teachers (not to exceed 2,000 words). (C) For mothers (not to exceed 1,000 words). (D) For indoor workers (not to exceed 1,000 words). (E) For dairy farmers (not to exceed 1,000 words). (F) For school children in grammar school grades (not to exceed 500 words). (G) Pictorial booklet for school children in primary grades and for the nursery. Dr. Charles J. Hatfield, Philadelphia, is the chairman of the committee, and Dr. Thomas G. Ashton, Philadelphia, is the secretary.

CANADA.

Hospital News.—A new hospital was opened at Wetaskiwin, Alberta, March 2. There are 6 patients in the hospital.—— Moose Jaw Hospital, Saskatchewan, has been benefited by a ball to the extent of $500. The city council has been asked to assume a debt of $7,000 against the hospital. The medical staff was refused power to elect its own members.

New British Columbia Medical Council.—For the next three years the following will constitute the medical board of the College of Physicians and Surgeons of British Columbia: President, Dr. O. M. Jones, Victoria; secretary, Dr. C. J. Fagan, Victoria; and Drs. R. E. McKechnie, Proctor, and S. J. Tunstall, Vancouver; Dr. R. Eden Walker, New Westminster; Dr. Sutherland, Revelstoke.

FOREIGN.

Influenza Epidemic in Scotland.—Influenza has been epidemic in Edinburgh, but fewer cases are now being reported. Many of the nurses of the Royal Infirmary were laid up, and several of the resident physicians and surgeons were off duty from the same cause. Curiously enough, says the *British Medical Journal*, of all large institutions in the city the jail suffered least.

Suit for Possession of Renal Calculi.—A Munich specialist removed two exceptionally large kidney stones from a patient and kept them for a scientific demonstration. The patient laid claim to the stones, and the surgeon then raised his fee from $100 to $200, claiming that he had charged at first the lower amount as he had calculated on retaining the interesting kidney stones. The patient appealed to the courts, which decided in favor of the surgeon. The judge stated that the great responsibility and skill required for such an operation justified the increased fee.

School for Red Cross Helpers at Rome.—A five months' course of instruction for volunteer Red Cross helpers has been inaugurated at Rome, in charge of Colonel Parisi and Professor Postempski. The lectures are to be delivered by Professors Bisso, Memmo, Piva and Pasca, and large numbers of students have registered, including a number of society women, some of them belonging to the foreign colony. The volunteer helpers who have completed the course are morally bound to respond to the summons of the Italian Red Cross at any time when circumstances demand the mobilization of the forces.

Second Congress of French Practitioners.—The "vigilance committee" appointed by the first "free lance" congress issues a summons to a second congress to be held at Lille in June. The questions to be discussed are "Reform in the Medical Courses" and "Free Choice of a Physician," both referring to conditions peculiar to Europe or France alone. The regulations of the congress provide that medical societies and associations can each send one or more delegates to the congress and that the delegation is entitled to as many votes as there are members in the association which it represents. These congresses are exclusively for discussion of economic and material questions and no strictly scientific papers will be received. The aim is to break away from the ruts of tradition and usage which interfere in France with progress in medical education and other matters. The secretary is M. Aubert, rue de Thiers 5, Lille, France.

The Medical Entente Cordiale in Europe.—In 1904 a party of 155 French physicians visited London, and in 1905, 160 English physicians visited Paris in a body, to return the call of their French confrères. Soon after this a society was organized to promote friendly relations between the physicians of the two countries, the "Entente Cordiale Médicale," which now numbers 600 members. Fifty-five leading French and English professors belonging to the association have accepted an invitation to lecture in the others' country and, as mentioned March 7 in these columns, Sir Dyce Duckworth opened the series at Paris with an address, delivered in French, on the "Diatheses." He was given an actual ovation by the French profession. These "Entente Cordiale" lectures are to be delivered at the various university centers of the two countries. The *Progrès méd.*, February 22, gives the list of the lecturers who have thus promised their cooperation.

Medical Secrecy and Contract Practice.—The French courts recently condemned a physician to a fine of $100 and costs for violation of professional secrecy under the following circumstances: He was engaged as physician for an industrial corporation which gave medical and financial aid to its disabled workmen when the disability did not result from epidemic disease or misconduct. He was called to a certain sick workman and discovered signs of recent syphilitic infection. He informed the patient of his infection and also the patient's wife, who was present, and told her to refrain from intercourse with her husband to avoid contagion. At the same time he reported to the firm that as the workman had a contagious disease he could not resume his work for some time. He did not specify the name of the disease in his report. The patient then applied to a specialist, who wrote to the firm, stating that the workman did not have syphilis but only psoriasis. His employers refused to hire him again, basing their refusal on the statement of their own physician, and the workman then brought suit against the latter for violation of professional secrecy. Three medical experts testified in the case that the presence of syphilis was beyond question, that its existence had been revealed to others by the workman himself and his wife, and not by the firm's physician, and consequently that there was no case against him. The court, however, declared that no contract releases an individual from compliance with the law, and that the physician must comply with the regulations for professional secrecy unless voluntarily released by the patient himself, informed as to the facts. The plaintiff had lost his sick benefit and his position in the factory and had suffered from his wife's knowledge of his infection, and he claimed large damages. On account of the physician having acted in good faith and other extenuating circumstances, the court reduced the damages to $100 and costs. The full text of the decision is given in the *Semaine méd.*, February 26.

LONDON LETTER.

(*From Our Regular Correspondent.*)

London, Feb. 22, 1908.

A Physician Receives $2,500 Damages for Libel in Connection with a Postmortem Examination.

A physician has received $2,500 damages for a libel made under unusual circumstances. Last year a man named Brinkley was found guilty of murder by poisoning with strychnin and was executed. When the police inquired into his antecedents they found that toward the end of 1906 a woman living in the same house had a fit and that Mr. M. J. Williams, who had been called in to attend her, had found her dead on his arrival. He was asked by Brinkley to certify as to the cause of death, but refused and made a postmortem examination under the coroner's order. His evidence was that the deceased died from apoplexy. No question of foul play arose and the question of poisoning was not investigated. When Brinkley was charged with poisoning it was thought desirable to look for evidence of crime in the former case. By order of the home secretary the woman's body was exhumed and was examined by Sir Thomas Stevenson. No trace of poison was discovered. The organs were found replaced in the usual manner in the cavity of the chest, except the brain, which evidently had disintegrated during the interval since the first postmortem. In a newspaper—the *Star*—the version given of the facts was erroneous. It was stated that no poison could be found and that some of the parts which it was desired to examine were missing. The comment was added: "This circumstance does not reflect on any person now concerned in the case, but may be a consequence of the first postmortem examination made at the time of death." This serious imputation on the physician compelled him to bring an action to vindicate his character. The defense was made that the words were not capable of the defamatory meaning assigned to them and also that they were true. This latter plea was aggravated by placing on the record of "particulars of justification" a list of portions of the body alleged to be missing in consequence of the plaintiff's conduct. The physician gave evidence that his practice had been injured by the publication of the libel. The case was settled by arrangement between the parties, the *Star* agreeing to pay $2,500 damages. The result is all the greater satisfaction to physicians, as this journal has distinguished itself as a persistent enemy and maligner of the profession on every possible occasion and is a constant champion of the antivaccinationists and anti-vivisectionists.

The Royal College of Surgeons.

Mr. Arthur Keith, lecturer on anatomy at the London Hospital, has been appointed conservator of the museum of the Royal College of Surgeons, a position rendered vacant by the death of Professor Stewart. The appointment was not unexpected in medical circles, for Mr. Keith by his original researches into those questions which lie at the boundaries of anatomy and physiology, and which have, therefore, been neglected by the students of both sciences, has made a unique reputation. A circular has been sent to the fellows and members of the college asking their opinion as to whether or not women should be admitted to examination for the diplomas of the college. A small committee has been appointed with the object of keeping the council informed as to what is being done from time to time regarding the medical inspection of school children, and the arrangements for teaching elementary hygiene in training colleges and schools.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Alcoholic Cerebral Edema (Wet-Brain).

Dr. Charles K. Stillman, New York (*New York Medical Journal*, Jan. 25, 1908), discusses this condition. He believes that the stupor following alcoholic delirium is due to cerebral edema, but admits that many serous effusions are found in the meninges on the postmortem table in patients who have shown no cerebral symptoms during their illness. The wet-brain caused by alcohol seems to be a "transudate from the piarachnoid and occasionally from the small blood vessels penetrating the brain substance." He finds the stupor due to alcohol almost invariably preceded by delirium. From a study of the alcoholic patients of Bellevue Hospital, during the year from Sept. 1, 1905, to Sept. 1, 1906, who have had alcoholic wet-brain or alcoholic stupor, he has found the mortality to be as high as 81 per cent.

Stillman speaks of having seen many instances of transitory wet-brain in pneumonia patients, the symptoms sometimes being so short-lived as to have escaped notice.

It certainly is not uncommon to see, on the one hand, cerebral excitation from the medicinal overuse of alcohol in acute diseases, as pneumonia or typhoid fever, and also, on the other hand, symptoms of wet-brain from its misuse in these diseases.

While there is no rule as to the time of onset of stupor after delirium tremens or in pneumonia complicated with delirium tremens, Stillman finds the symptoms of wet-brain manifest themselves about the third or fourth day. The early symptoms of this condition are "restlessness, marked altered facial expression, and gray pallor." During the alcoholic excitation the pupils are likely to be contracted, and may be even contracted to a pin point. As the cerebral transudate occurs the pupils dilate and generally remain so, although they will usually react to light, though sluggishly. The pulse is feeble, may be rapid or may be rather slow, and shows variations from time to time. The temperature during this alcoholic depression is low and there may be muttering and often a picking at the bedclothes. The condition is more likely to be a stupor than a coma.

Stillman would head off this alcoholic wet-brain by forced feeding. He gives enormous amounts of food, including eggs, eggnog and broths, together with powerful stimulation, when the pulse flags and the vital processes get low. He says that the patients do not react to normal stimulating doses, and it is surprising how much stimulation they can take care of with apparent benefit. He advises:

℞.	gm. or c.c.		
Strychninæ sulphatis	01		gr. 1/6
Camphoræ	1	or	gr. xv
Spiritus frumenti ....ad	100		fl℥iii

M. et Sig.: A tablespoonful every three hours, if needed.

He also finds the following useful:

℞.	gm.		
Caffeinæ citratæ	6	or	ʒiss

Fac capsulas 20 (dry).

Sig.: One capsule every six hours.

Or:

℞.	gm.		
Caffeinæ sodio-benzoatis (N. F.)	6	or	ʒiss

Fac capsulas 20 (dry).

Sig.: One capsule every six hours.

He finds that spinal puncture is of benefit for a short time if the cerebral pressure has produced stupor and that the relief from such puncture will last a day or so.

Patients with wet-brain from alcohol should probably not receive alcohol. Also, when there is any such condition of the brain, absorption from the stomach is uncertain, and of course enormous doses of any stimulant so administered may be tolerated. It should be distinctly understood that when there is severe cerebral disturbance sufficient to cause stupor or coma, the stomach for the time being becomes practically outside of the body, and it would be just as efficacious to bathe the body with the medicament as to put it into the stomach. On the other hand, if suddenly the condition of the circulation improves and the cerebral pressure is relieved, dangerous absorption from drugs in the stomach may occur. Consequently, the medicinal treatment of coma or stupor should be hypodermatic or intravenous.

For the above condition no treatment is perhaps better than the intramuscular injection of an aseptic ergot, a syringeful of the pure fluid extract or the active principle, repeated in three hours, for two or three doses, and then once in six hours, if needed.

The hypodermatic administration of strychnin sulphate or nitrate in doses of 1/30 of a grain, is a necessity for cardiac and respiratory stimulation.

The advantages of a hypodermic injection of a saturated solution of camphor in pure olive oil can not be questioned. It is a quick and efficient cardiac and cerebral stimulant, and if aseptic precautions are taken, will never produce an abscess.

Caffein, best given in the form of black coffee, and administered by the stomach, is certainly valuable in all cases of cerebral depression when there is no excitation.

Starchy Drinks.

The food value of a starchy drink during certain illnesses is considerable; also, many thin, cereal liquids are very soothing to patients with gastrointestinal disturbances. With seriously ill patients a happy arrangement of a mixed diet of some milk, some beef juice and some thin, digestible, well-cooked starch makes the most appropriate food.

The following suggestions of the way such nutritious drinks should be prepared are from "Practical Dietetics," by Alida F. Pattee:

BARLEY WATER.

Pearl barley, 1½ tablespoonfuls.
Cold water, 1 quart.
Salt, enough.

"Wash the barley, add cold water, and let it soak several hours; drain and add the fresh cold water, boiling gently over direct heat for two hours, down to one pint, adding water from time to time; salt to taste, and strain through muslin. Cream or milk may be added, or lemon juice and sugar." This makes a demulcent drink, slightly constipating.

RICE WATER.

Rice, 2 tablespoonfuls.
Cold water, 1 pint.
Boiling water or hot milk, enough.
Salt, enough.

"The carefully washed and cleaned rice should be added to the cold water and cooked an hour, or until the rice is tender. Strain, and dilute with the boiling water or hot milk to the desired consistency, and season with salt." Sugar or cinnamon may be added if desired or advisable.

OATMEAL WATER.

Oatmeal, 1 tablespoonful.
Cold water, 1 tablespoonful.
Salt, a little.
Boiling water, 1 quart.

"Mix the oatmeal and cold water, add the salt, and stir into the boiling water. Boil three hours, adding water as it boils away. Strain through a fine sieve or cheesecloth, season, and serve cold."

TOAST WATER.

Stale bread, toasted, 1 cup.
Boiling water, 1 cup.
Salt, enough.

"Dry in an oven until crisp and brown, thin, inch squares of the bread. Take a cupful of this toast broken into crumbs, add water, and let it stand one hour. Strain through cheesecloth, season, and serve hot or cold." If advisable, milk or cream and sugar may be added.

Chilblains.

The following simple combination is of benefit for chilblains, painful corns or bunions:

℞.	c.c.		
Tincturæ opii			
Tincturæ iodi	āā 15	or	āā, fl℥ss

M. et Sig.: Paint once daily over the painful part.

The following are quoted from the *New York Medical Journal*, Jan. 25, 1908:

℞.	gm. or c.c.		
Acidi tannici	10		ʒii
Alcoholis	20	or	flʒiv
Phenolis	2		m. xxiv
Aquæ	ad 50		fl℥i

M. et Sig.: Paint on the chilblains night and morning.

The following ointment is also recommended for the same purpose:

℞.	gm.		
Mentholis	1		gr. xv
Methylis salicylatis	8	or	ʒii
Adipis lanæ hydrosi	25		ʒvi

M. et Sig.: Apply a small quantity frequently, rubbing in until absorbed.

Pulvis Antisepticus, N. F.

SOLUBLE ANTISEPTIC POWDER.

It contains:

Phenol (carbolic acid)	.10
Eucalyptol	.10
Menthol	.10
Thymol	.10
Salicylic acid	.50
Zinc sulphate	12.50
Boric acid	86.60
	100.00

This may be used as a dry dressing wherever a dry antiseptic powder is required. Its solubility in water is about that of boric acid, viz., 4 or 5 per cent., making a saturated solution. Weaker solutions may be made, if the physician desires, for douches and washes.

This non-poisonous, antiseptic, mildly astringent National Formulary powder renders similar proprietary preparations superfluous.

Treatment of Chancroidal Bubo.—Pressure exerted over a chancroidal bubo by means of a pad of absorbent cotton and a snug spica bandage will at times abort the suppurating process and allow the infected gland to go on to restitution. Simultaneously, however, the ulcer must be kept scrupulously clean and free from all detritus. If absorption is not established within three days, the gland must be incised, curetted and drained.—N. E. Aronstam, in *Central States Medical Monitor.*

Pharmacology

THE COUNCIL ON PHARMACY AND CHEMISTRY.

List of the Physicians Elected New Members—Staff of Clinical Consultants Added.

Dr. M. L. Harris, secretary of the Board of Trustees of the American Medical Association, sends the following for publication:

At the meeting of the Board of Trustees held at Atlantic City, June, 1907, the following by-laws relating to the Council on Pharmacy and Chemistry were adopted:

> The Council on Pharmacy and Chemistry shall consist of fifteen members and shall be composed of physicians, pharmacologists, chemists and pharmacists. They shall be elected by the Board of Trustees on nomination by the Council in such manner as shall be provided by the Board of Trustees. Members shall serve five years, and the term of office shall be so arranged that the terms of three members shall terminate each year. The Board of Trustees shall designate one member of the Council to act as Chairman.
>
> The functions of this Council shall be to examine into the composition, properties, action, etc., of proprietary and other articles offered to physicians or to the public as remedial agents, and to publish such information concerning the same as may be of value to the profession or as the judgment of the Council may dictate.
>
> The Trustees shall appoint a chemist, who shall have charge of, and be chief of the chemical laboratory of the Association, and who shall be the secretary of the Council and, *ex-officio*, a member thereof. His term of office and his salary shall be determined by the Board of Trustees.

At its meeting held in Chicago, Oct. 25, 1907, provision was made for arranging the time of expiration of the services of the present members of the Council. A resolution was also adopted asking the Council to nominate to the Board of Trustees twice as many persons as there would be vacancies on the first of March, 1908, "such nominations to be conducted in such a manner that the final votes shall be secret, and shall be opened in the presence of the Board of Trustees."

In accordance with the above resolution the Council submitted to the Board of Trustees eight candidates, and from these the board elected the following: Dr. J. A. Capps, Chicago; Dr. D. L. Edsall, Philadelphia; Prof. Otto Folin, Boston, and Dr. Robert A. Hatcher, New York (re-elected).

The extra vacancy on the first of March, necessitating the election of four instead of three members, came from the fact that Professor Puckner had become the chief chemist of the Association, and in accordance with the by-law adopted last June, became the secretary of the Council and, *ex-officio*, a member thereof.

The Board of Trustees adopted a resolution directing the secretary of the board to express in writing its thanks to the retiring members.

PRESENT MEMBERS OF COUNCIL.

The following is a complete list of the Council as at present constituted, with the date of expiration of terms:

C. S. N. Hallberg, Ph.G., M.D., Professor of Pharmacy, University of Illinois, School of Pharmacy, Chicago (March 1, 1909).

L. F. Kebler, M.D., Ph.C., Chief of the Drug Laboratory, Department of Agriculture, Washington, D. C. (March 1, 1909).

J. O. Schlotterbeck, Ph.C., Ph.D., Professor of Pharmacognosy and Botany and Dean of the School of Pharmacy, University of Michigan, Ann Arbor, Mich. (March 1, 1909).

F. G. Novy, M.D., ScD., Professor of Bacteriology, University of Michigan, Ann Arbor, Mich. (March 1, 1910).

G. H. Simmons, M.D., LL.D., Editor of The Journal of the American Medical Association, Chicago (March 1, 1910).

H. W. Wiley, M.D., Ph.D., Chief of the Bureau of Chemistry, Department of Agriculture, Washington, D. C. (March 1, 1910).

Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica, Medical Department, Western Reserve University, Cleveland, Ohio (March 1, 1911).

M. I. Wilbert, Ph.M., Apothecary at the German Hospital, Philadelphia (March 1, 1911).

Otto Folin, S. B., Ph.D., Professor of Biologic Chemistry, Harvard Medical School, Boston (March 1, 1911).

Reid Hunt, M.D., Chief of the Division of Pharmacology, U. S. Public Health and Marine-Hospital Service, Washington, D. C. (March 1, 1912).
J. H. Long, M.S., Sc.D., Professor of Chemistry, Northwestern University Medical School, Chicago (March 1, 1912).
J. Stieglitz, Ph.D., Professor of Chemistry, University of Chicago, Chicago (March 1, 1912).
R. A. Hatcher, Ph.G., M.D., Professor of Pharmacology, Cornell University Medical College, New York City (March 1, 1913).
J. A. Capps, A.M., M.D., Assistant Professor of Medicine, Rush Medical College, University of Chicago, Chicago (March 1, 1913).
David L. Edsall, A.B., M.D., Professor of Therapeutics and Pharmacology, Department of Medicine, University of Pennsylvania, Philadelphia (March 1, 1913).
W. A. Puckner, Ph.G., Chief of the Chemical Laboratory American Medical Association, Professor of Chemistry, University of Illinois, School of Pharmacy, Chicago, member *ex-officio*.

ASSOCIATE MEMBERS.

A. R. Cushny, A.M., M.D., Professor of Pharmacology, University of London, London, England.
H. Thoms, Ph.D., Director of the Pharmaceutical Institute, University of Berlin, Germany.

STAFF OF CLINICAL CONSULTANTS.

The Council on Pharmacy and Chemistry presented to the Board of Trustees, at its meeting in February, 1908, a request for the appointment of a body of clinicians to whom could be referred questions relating to therapeutics. In its communication to the board the Council stated that in the course of its work the subcommittees had frequently encountered questions a solution of which required the experience and opinions of clinical therapeutists. The suggestion of the Council was agreed to and the following were elected as the staff of clinical consultants:

Lewellys F. Barker, M.D., Professor of Medicine, Medical Department of the Johns Hopkins University, Baltimore.
H. A. Christian, M.D., Assistant Professor of Theory and Practice of Physic, Harvard Medical School, Boston.
LeRoy Crummer, M.S., M.D., Professor of Medicine and Clinical Medicine, John A. Creighton Medical College, Physician to St. Joseph's Hospital, Omaha.
George Dock, A.M., M.D., Sc.D., Professor of Theory and Practice of Medicine and Clinical Medicine, University of Michigan, Department of Medicine and Surgery, Ann Arbor, Mich.
George E. de Schweinitz, M.D., Professor of Ophthalmology, Department of Medicine, University of Pennsylvania, Philadelphia.
John T. Halsey, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine, Medical Department (Undergraduate) Tulane University of Louisiana, New Orleans.
C. F. Hoover, A.B., M.D., Professor of Physical Diagnosis, Medical College, Western Reserve University, Cleveland, Ohio.
Alexander Lambert, A.B., Ph.B., M.D., Professor of Clinical Medicine, Physician to Bellevue Hospital, Cornell University Medical College, New York City.
J. L. Miller, M.D., Assistant Professor of Medicine, Rush Medical College, University of Chicago, Chicago.
H. C. Moffitt, B.S., M.D., Professor of Principles and Practice of Medicine, University of California, Medical Department, San Francisco.
A. T. McCormack, M.D., M.A., Secretary Kentucky State Medical Association, Bowling Green, Ky.
Alfred Stengel, M.D., Professor of Clinical Medicine, Department of Medicine, University of Pennsylvania, Philadelphia.
Charles G. Stockton, M.D., Professor of Principles and Practice of Medicine and Clinical Medicine, Medical Department, University of Buffalo, Buffalo.
J. A. Witherspoon, M.D., Professor of Practice of Medicine and Clinical Medicine, Medical Department Vanderbilt University, Nashville, Tenn.
A. S. Taussig, M.D., Lecturer on Medicine, the Denver and Gross College of Medicine, Medical Department of the University of Denver, Denver.

ENTERONOL.

An Illustration of the Unreliability of Formulas Furnished by Manufacturers.

"Enteronol" is another illustration of the use of the fake formula to satisfy the demand for at least the semblance of non-secrecy. The manufacturers declare that Enteronol is the "greatest antiseptic and germicide known to science," and that it "destroys the germs of typhoid fever, acute and chronic diarrhea, dysentery, cholera infantum, cholera morbus, summer complaint, Asiatic cholera, etc., within two hours." Accompanying these wonderful statements is published the following "formula":

"Ipecac, sub. nit. bismuth, latalia rad., camphor, lupulin, caffein and rheum."

WHAT IS LATALIA RAD.?

A correspondent has written us concerning some interesting facts discovered by him. On receiving a sample of Enteronol he noted the name "latalia rad.," and sought enlightenment in regard to it in books on botany and pharmacognosy. Failing to find any mention of it, he wrote to the Enteronol Company, asking for a small sample of the drug "latalia rad.," that he might study it botanically. He enclosed $1 for the sample. He expected to receive a small piece of root or bark; but, instead, the company wrote: "On account of the cost of latalia rad., viz., $25.45 per lb., we do not send out any samples of the drug." In another letter the company stated that the plant grows in the wilds of the Himalaya mountains, and that it was not able to procure enough for its own uses. We have no doubt that this last statement is entirely correct. Further correspondence was no more satisfactory. Our correspondent remarks that his conclusions led him to terminate his correspondence with the Enteronol Company by informing it that he is firmly convinced that no such plant as "latalia rad." is in existence.

The inference is that the company has no "latalia rad." From the romantic-sounding habitat of the mysterious plant, the exceedingly high price put on it by the company, and the absence of any knowledge of it on the part of any one save the company, it is probable that no such plant exists.

RESULTS OF MICROSCOPIC EXAMINATION.

To get at some facts regarding this nostrum samples were sent to Prof. Henry Kraemer, professor of pharmacognosy in the Philadelphia College of Pharmacy, and to Prof. W. B. Day of the University of Illinois, each of whom examined Enteronol microscopically. Professor Kraemer reported:

> I have made a microscopic examination of Enteronol tablets. The mixture appears to consist of rhubarb and a starchy drug resembling zedoary, which I take to represent the "latalia rad." of the formula, although I have found no reference to the latter in the literature. There is also present a considerable amount of a water soluble crystalline substance which tastes and crystallizes like alum. I have also been able to detect a stone cell resembling that of capsicum, and a single fragment which I take to be a tracheid of ipecac. I may add that the tablets are not uniform, that is, the material does not appear to have been well mixed, and hence the tablets not only vary in microscopic appearance but also in taste.

The results of Professor Kraemer's examination are practically identical with those of Professor Day, who reports:

> I have examined microscopically the proprietary preparation known as Enteronol. I note that Enteronol is said to be "a remedy consisting of the following ingredients: Ipecac, sub. nit. bismuth, latalia rad., camphor, lupulin, caffein and rheum." On referring to well-known reference works on botany and pharmacognosy, such as the Dispensatories, the Pharmacographia, Hager's Praxis, the Treasury of Botany, Lyon's Plant Names, Hobbes' Botanical Handbook and the general index to the Proceedings of the American Pharmaceutical Association, I find no mention of a drug or plant known as "latalia" and I must conclude, therefore, that this title is a misnomer. I have seen Professor Kraemer's report, which my results confirm. Rhubarb is present in considerable quantity; there is also much of a crystalline substance which I take to be alum, and there is starchy powder which corresponds closely to zedoary. Lupulin, in substance at least, is absent, and ipecac, if present at all, is in very small amount. Since zedoary is an East Indian drug, it, possibly, is the mysterious "latalia rad." which "grows in the wilds of the Himalaya mountains." The resemblance ends here, however, for zedoary brings but 30 cents a pound wholesale, and the U. S. Dispensatory says of it, "produces no effect which can not be as well or better obtained from ginger."

This report adds strongly to the impression that "latalia rad." is simply a ruse to catch the unwary and trusting physician who has not the time to look into the botany of every new plant discovered, and who is willing to trust the presumed honesty of every manufacturer.

RESULTS OF CHEMICAL EXAMINATION.

"Latalia rad.," however, is not the only fake about the stuff, as will be noted in the following report from the chemical laboratory of the American Medical Association on the analysis of Enteronol:

> Enteronol as examined by us was in the form of compressed tablets varying, in different boxes, from a light to a dark brown color and also varying considerably in weight. The tablets have the odor and bitter taste of rhubarb. Rubbed up in water, they impart a yellow color and their characteristic odor to the solution. Since the advertising matter states that Enteronol contains caffein and bismuth subnitrate, tests were made to determine whether it did or not; carefully conducted experiments, repeatedly carried out, failed to disclose even a trace of either drug. As Professors Kraemer and Day suggested the possible presence of alum, tests were made to substantiate this further. The aqueous solution of the tablets is acid in reaction and responds to tests for aluminum, potassium and sulphates, a combination which points strongly to the presence of potash alum. Quantitative estimations were made to determine if the constituents were present in the proper proportions to form alum. On ignition the Enteronol tablets left a residue of 7.31 per cent. of ash which, on subsequent analysis, showed the presence of 2.76 per cent. aluminum oxid corresponding to a content of 25.65 per cent. of crystallized potash alum in the tablets. Determinations of sulphates in every case gave results which showed that there was present sufficient sulphate ions to correspond to the quantity of alum demanded by the aluminum content.
>
> The chemical analysis also confirmed the observations of Professor Kraemer in regard to the lack of homogeneity of the tablets. They vary in size, color and taste, all of which facts point to a poorly mixed preparation. Aside from the qualitative observations the quantitative estimations showed that the composition of the tablets varies considerably, for in the analysis of eight samples the aluminum oxid content varied from 2.05 per cent. to 3.00 per cent., corresponding to a variation in the alum content of from 19.50 per cent. to 27.95 per cent. The chemical examination, therefore, leads to the conclusion that alum is the chief constituent of Enteronol.

Since there is alum present, but no lupulin, no caffein, no bismuth, and possibly no "latalia rad.," one is forced to the conclusion that the "formula" was never intended to give any real information, that it is meaningless and worthless, and that it is used simply to satisfy the demand for formulas for proprietary remedies.

THE DANGER OF USING PREPARATIONS OF UNKNOWN COMPOSITION.

This preparation furnishes another illustration of the frauds perpetrated by the nostrum manufacturers. A common and inexpensive drug is made the basis of an unscientific mixture that is marketed at an exorbitant rate. No intimation is given in the "formula" of the presence of a drug, which, while of value when indicated, may be harmful if used in certain conditions. Physicians who prescribe such products unknowingly give drugs which may be not only useless but positively dangerous. The fact can not be impressed too often that he who depends for his knowledge of materia medica on the literature of proprietary manufacturers is exposing his patients to unwarrantable risks.

QUINA LAROCHE.

A Cocain Preparation and Its Exposure in Massachusetts.

From the November *Monthly Bulletin* of the State Board of Health of Massachusetts we quote:

> "COCAIN PREPARATIONS ADVERTISED AS UNSALABLE."
>
> "During the month of November the following proprietary preparations containing cocain were examined in the laboratory of the board and added to the list of unsalable articles:
>
> "Opal Catarrh Powder, Standard Remedy Co., Boston.
>
> "Quina Laroche, T. Laroche."

Thus it appears that "Quina Laroche," which the promoters say is "far superior to all other quina wines," does not depend for its seductive qualities entirely on the active principles "of the three cinchonas."

This preparation is put out by E. Fougera & Co. To the medical profession this firm is known as a promoter of "ethical proprietaries;" to the public—or a certain element of it—it is equally well-known as the exploiter of various "patent medicines" such as Laville's Pills for rheumatism, Eade's Pills for gout, Ducro's Alimentary Elixir, Roche's Herbal Embrocation, Santal Midy, etc. By the way, the therapeutic efficiency of this last remedy as an antigonorrheic is evidently depreciating for whereas the older advertisements claimed that it "cures in 48 hours," it now merely "relieves in 48 hours."

The Massachusetts board also calls attention to another fact: "Quina Laroche," like its relative, "Vin Mariani," is manufactured in New York, although the labels, circulars, etc., are calculated to convey the impression that it is not only of French origin, but also of French manufacture. The Food and Drugs Act, among other good provisions, contains one that provides that a product must not be misbranded, even as to the place of manufacture, and as a result a small label is now attached stating that "Quina Laroche" is now manufactured in New York.

When American physicians and the American public wake up to the fact that a foreign label is not, in itself, *prima facie* evidence of superior merit, the "Quina Laroche" and "Vin Mariani" type of humbug label will die a natural death. An imposing French title applied to a tonic is no guarantee that the article is not composed of the refuse wines of the California vineyards, any more than the possession of an unpretentious American title is any reason for the rejection of the product as unworthy of consideration.

It is a pleasure once more to note the good work done by the Massachusetts State Board of Health in warning the public of both the dangers and fraudulence of many "patent" and proprietary medicines. The pity is that the reports of these investigations can not get more publicity among the people. The work is by no means lost, however, as the educational campaign now being waged by many of the more progressive boards of health must inevitably result in an awakening of the public.

Correspondence

Ohio Physicians in Practical Politics.

Chicago, March 14, 1908.

To the Editor:—Last year you published the very valuable article from Dr. Charles A. L. Reed, chairman of the Committee on Medical Legislation, on "Medical Legislators of Two Republics." In this article and in other contributions, Dr. Reed has called attention to the lessons of his own experience in matters of legislation. He has learned, as have others, that if physicians want something done in the legislatures, or anywhere else, they must do it themselves, not send agents who know nothing about what is wanted. When physicians get together and agree on what they want and then move forward in numbers, they generally succeed. A new era has arrived in the history of the profession, one in which strong representative physicians, busy men in large practice, find it consistent with their dignity and profession to take part in practical politics for the good of the profession and the community.

It is evident that Dr. Reed has been practicing what he preaches in the recent campaign for election of the members of the Ohio State Republican Convention.

The *Cincinnati Enquirer*, March 3, in its Columbus despatches relating to the Ohio State Republican Convention, states, among other things:

> The physicians of the state were organized by Dr. Charles A. L. Reed of Cincinnati, for the purpose of getting representation in the convention. They have succeeded beyond their expectations and there are the names of 105 physicians on the roster of the great body now in session here.

The published details of the convention show some additional facts of interest. The physicians number one-eighth of the whole convention. They were all representative men. They met in caucus and determined what they wanted in the organization and in the platform. The presidency went to Secretary Garfield, but Dr. Reed was made the first vice-president of the convention. The committees on rules and on permanent organization, and, most important of all, on resolutions, each contained a strong representation of physicians. The result, according to published reports, was the full realization of the object that the physicians had in view, namely, the adoption by the convention of a plank in its platform committing the party to "the organization of all existing national public health agencies into a single national health department."

The movement for a national department of health was begun by the American Medical Association very early in its history and has been agitated since then with more or less zeal by the Association and the profession. This is the first time, however, that a plank favoring the proposed national department of health was ever adopted by a political convention. It is no small cause for congratulation that Dr. Reed and his Ohio colleagues have succeeded in making this beginning.

They, no doubt, appreciate better than any one else that this is only a beginning. The declarations of a platform, to amount to anything, must be ratified at the polls and redeemed in the legislatures and in Congress. To do this means participation in the campaign. It means, furthermore, that physicians must go to the legislature, not as supplicating committees craving a favor, but as members with power to vote. It means that physicians must go in increasing numbers to Congress—to the House and to the Senate. The movement for a national department of health probably never will succeed until the medical profession sends at least some of its strong men like Reed, Welch and Mayo to champion the cause of public health in the halls of Congress.

The political activity that has been displayed by the physicians of Ohio ought to be taken up in every other state. Declarations in behalf of a movement to unite under one head all of the national agencies of public health ought to be made by every party in every convention in every state, and in every national convention held this year. There are urgent reasons why this should be done. The cause of the proposed department of health is one and a sufficient one. But in addition to this, it is known that within the next eighteen months a prearranged effort will be made to destroy the force of existing medical laws in several states, but particularly in Ohio, New York, Massachusetts and Illinois. The conspiracy has already been hatched. It behooves the medical profession of all the states to be on guard all the time, but in the four states mentioned it is imperative that the guard be placed directly within the halls of legislation. The physicians of the different states ought to furnish 20 per cent. of the members of every legislature elected this year. If this is done state medical laws will be safe and, with additional representation of the medical profession in the Senate and House of Representatives at Washington, the legislation on public health so necessary will speedily become an assured fact.

C. S. BACON,
Member Committee on Medical Legislation, American Medical Association.

The Prophylaxis of Venereal Diseases.

DETROIT, March 13, 1908.

To the Editor:—Much has been said and written on this subject; arguments have been advanced either for or against the periodical examinations and possible licensing of prostitutes. In a recent paper in the *American Journal of Public Hygiene*, Dr. Abner Post, Boston, says: "I believe it would be best for us in New England absolutely and definitely to surrender the idea (for the present, certainly) of license and periodical examination of public women. This expression of belief is not intended to express any opinion, pro or con, as to the value of this method as employed in many foreign cities, but simply a belief that it is not adapted to New England." What Dr. Post says of New England is true, I believe, of the entire world. Periodical examinations have been discontinued in nearly every city and country in which it has been thoroughly tried. In Detroit such a system was in vogue for five years, but was abandoned as worse than useless; in fact, harmful. In the first place, the principle of recognizing the women as a class is wrong; again, the examinations, unless made by public physicians, are unreliable, and even when properly made they can never be made often enough to warrant giving any prostitute a clean "bill of health" to be relied on until the next examination.

What then shall boards of health do with this problem? That question presented itself to the Detroit board of health when it decided to abandon the periodical examinations with their useless certificates of good health, and I believe we have found the remedy. The following method as practiced here has been in use but about two months.

The keepers of all houses of prostitution known to the police have been notified that certificates of health will no longer be required nor accepted by the board of health. The board does not care about certificates, but does care about health. It is its duty to prevent, so far as possible, the spread of all contagious diseases, and venereal diseases are contagious. Therefore, on and after January 1 the health officer, or some physician delegated by him, will visit these houses at unannounced and irregular intervals and examine the inmates. If any are found with a contagious disease (gonorrhea or syphilis) the house will be quarantined.

The placard used on these houses is a large yellow card with the one word "quarantined" printed on it in conspicuous, heavy, black letters. Up to the present four houses have been quarantined. In each case after the placard had been on the house a short time, from one to four days, the keepers of the houses have asked permission to remove the diseased inmate to a hospital for treatment at the expense of the "landlady." This was done, and the patient was in each case isolated at the hospital until reported recovered by her attending physician. Then, after a thorough examination, clinical and bacteriologic, by a physician of the board of health, when found recovered, she was allowed to go.

The new method presents great possibilities and is, in my opinion, the solution of this part of the great problem. It puts the responsibility of keeping well entirely on the women and relieves boards of health from the position of licensing these houses. The contagious diseases, however, are treated as other contagious diseases would be after they have been reported or became known to the public health authorities. In order to make the system more efficient, a physician should devote his entire time to looking up these cases and reporting them, when found, to the board of health.

GUY L. KIEFER, M.D., Health Officer.

Poisoning from Eggs.

MIDDLETOWN, DEL., March 12, 1908.

To the Editor:—Dr. A. J. Anderson, Newport, R. I., in a letter to THE JOURNAL, March 7, page 785, said that he never had seen in the literature a report of poisoning by eggs. Several months ago I was called to such a case.

B. L., a young man aged 19, whose general health is good, always suffers like attacks on consuming food containing the slightest trace of egg. He can not eat griddle cakes, minus the egg, if they are cooked on a griddle which previously had been used for cakes containing eggs. He can not eat cake without eggs if in cutting it the knife has been used to cut a cake containing eggs. One day he called my attention to his idiosyncrasy for such food and declared an attack peculiar to his condition was then raging.

Later in the evening I was called to his home and found him pacing the floor suffering from the following symptoms: Extreme nervousness, conjunctivæ congested, nasal membrane hyperemic, swollen visage, lips twice their normal size, tongue swollen, and the symptoms descending to arms and hands; he was nauseated, and there was general urticaria with wheals over the body. On removal of his clothing I found a blush scarlatinoid in character over the skin.

I prescribed a saline, a nerve sedative—one of the bromids—and ordered a lotion consisting of phenol flʒii, boric acid ʒi, and water Oi. This treatment produced an excellent and satisfactory result.

The symptoms of an attack are not always alike. The attack may show the symptoms named and in addition nausea and a violent diarrhea. From infancy the smallest amount of egg would produce vomiting and severe restlessness, but not until he was 3 years of age, after eating an egg omelet, was the cause fully ascertained. The extreme symptoms generally last about two hours, but recovery is not complete for two days.

On the father's side there is a slight rheumatic tendency, otherwise the history is good; on the maternal side it is excellent. During gestation the mother was breakfasting on eggs when she found one in a very unsatisfactory condition and suffered an attack of vomiting. The supposition is that the man's idiosyncrasy for eggs arose from the maternal impression.

Edward M. Vaughan, M.D.

Physical Diagnosis.

Lincoln, Neb., March 11, 1908.

To the Editor:—Kindly grant me space to answer the criticism by Dr. Ritter (The Journal A. M. A., March 7, 1908, 767), of my article urging revision of physical diagnosis. The term "tonality" is used in preference to "quality" in order to accord with pitch, rhythm and tempo. I said nothing of its being a percussion note. There are no percussion notes—resonance only. The word "time" is not the equivalent of "tempo." Time denotes the hour of a day, month or year. Tempo is speed of rhythm. To rely on râles (sorry to disturb the American mind by using a French term) even as confirmatory, is to exhibit a compound of uncertainty or timidity—a confession of inability to make a diagnosis. As an example of bad form it is on a par with seeking to establish the well authenticated loyalty of your wife or sweetheart by irrelevant and immaterial confirmatory evidence.

No one has ever clinched a diagnosis by a râle over an area the size of a silver dime. Reason: If a raised pitch is not in evidence, a perverted rhythm will be. I repeat that there is no such thing as pitch in percussion so far as the lungs and bronchi are concerned—nothing but degrees of resonance—normal, excessive or defective. The carpenter percussing a wall, given by Dr. Ritter as an example, is not looking for pitch, but for precisely the same degrees of resonance named above. I did not say that percussion ranks all other methods, but exactly the reverse. Auscultation comes first, because the functional ability of the lung is best ascertained by the ear, not by the fist nor the eye. To begin examination by percussion is putting the cart before the horse. In fairness to twentieth century methods as contrasted to those of the days of Charlemagne, I would ask Dr. Ritter to peruse my article once more—with something approaching a receptive attitude.

J. H. Tyndale, M.D.

Mortality from Syphilis and Alcohol in Paris Hospitals and Asylums.—C. Fernet has been collecting statistics on this subject for several years, and his latest compilation was recently published in the *Bull. de la Soc. Méd. des Hôp.* In the insane asylums alcohol was directly or indirectly responsible for about half the number of deaths, and in the general hospitals for about a third of 1,059 deaths recorded during the last six months. The proportion of deaths for which acquired syphilis was responsible during this period was 2.22 per cent. of 677 deaths in the general hospitals, and 37.93 per cent. in the insane asylums. Inherited syphilis is more deadly, fully 6 per cent. of abortions being due to this cause, and from 15 to 20 per cent. of the infant death rate in the maternities, and 10 per cent. in the crèches which receive the children up to 2 years old.

Association News

OFFICIAL CALL.

Fifty-Ninth Annual Session of the American Medical Association, Chicago, June 2-5, 1908.

The Fifty-Ninth Annual Session of the American Medical Association will be held on Tuesday, Wednesday, Thursday and Friday, June 2, 3, 4 and 5, 1908, at Chicago.

The House of Delegates will convene at 10 a. m., on Monday, June 1, 1908.

In the House of Delegates the representation of the various constituent associations for the years of 1907, 1908 and 1909 is as follows:

Alabama	3	Montana	1
Arizona	1	Nebraska	2
Arkansas	2	New Hampshire	1
California	3	New Jersey	3
Colorado	2	New Mexico	1
Connecticut	2	New York	11
Delaware	1	Nevada	1
Dist. of Columbia	1	North Carolina	3
Florida	1	North Dakota	1
Georgia	2	Oklahoma	2
Hawaii	1	Oregon	1
Idaho	1	Pennsylvania	8
Illinois	7	Rhode Island	1
Indiana	4	South Carolina	2
Iowa	3	South Dakota	1
Kansas	3	Tennessee	2
Kentucky	3	Texas	5
Louisiana	2	Utah	1
Maine	1	Vermont	1
Maryland	2	Virginia	3
Massachusetts	6	Washington	1
Michigan	4	West Virginia	1
Minnesota	2	Wisconsin	3
Mississippi	2	Wyoming	1
Missouri	4	Philippine Islands	1
Ohio	6		

The twelve sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health and Marine-Hospital Service are entitled to one delegate each.

The first General Meeting, which constitutes the opening exercises of the scientific functions of the Association, will be held at 10:30 a. m., Tuesday, June 2.

The Registration Department will be open from 8:30 a. m. until 5 p. m., on Monday, Tuesday, Wednesday and Thursday, June 1, 2, 3 and 4, and from 9 to 10 a. m., on Friday, June 5.

Joseph D. Bryant, President.

George H. Simmons, General Secretary.

MEETING PLACES.

List of the Places Assigned for the Various Section Meetings Next June.

The meeting places of the various Sections have been tentatively selected as follows:

Practice of Medicine.—Sinai Temple, Twenty-first and Indiana Avenue. Capacity, 1,200.

Obstetrics and Diseases of Women.—Second Presbyterian Church, Twentieth and Michigan Avenue. Capacity, 1,000.

Surgery and Anatomy.—Orchestra Hall, 169 Michigan Avenue. Capacity, 2,800.

Hygiene and Sanitary Science.—First Regiment Armory, Sixteenth and Michigan Avenue. Capacity, 200.

Ophthalmology.—First Presbyterian Church, Twenty-first and Indiana Avenue. Capacity, 1,000.

Diseases of Children.—Second Presbyterian Church, Twentieth and Michigan Avenue. Capacity, 250.

Stomatology.—First Regiment Armory, Sixteenth and Michigan Avenue. Capacity, 75.

Nervous and Mental Diseases.—Calumet Club, Twentieth and Michigan Avenue. Capacity, 250.

Cutaneous Medicine and Surgery.—Grace Parish House, Fifteenth and Wabash Avenue. Capacity, 250.

Laryngology and Otology.—Sinai Temple, Twenty-first and Indiana Avenue. Capacity, 450.

Pharmacology and Therapeutics.—First Presbyterian Church, Twenty-first and Indiana Avenue. Capacity, 250.

Pathology and Physiology.—First Regiment Armory, Sixteenth and Michigan Avenue. Capacity, 125.

Hugh T. Patrick,
Chairman Committee on Halls and Meeting Places.
34 Washington Street, Chicago.

CLINICS FOR CHICAGO SESSION.

Members of the Association to Have Great Clinical Opportunities Next June.

During the week preceding and the two weeks following the session of the American Medical Association next June, public clinics will be given in all the larger hospitals and medical schools in Chicago. These will be free to the members of the American Medical Association. There will be no clinics in any hospital during the four days of the meeting, but clinics will be given on Monday, June 1, and Saturday, June 6, the days before and after the meeting.

An accurate schedule is being prepared, giving the day, hour and place of each clinic, the location of the various hospitals, the street-car facilities and all other desirable information. It will be possible for each physician to be occupied continuously in any one special line or to cover various specialties during this period.

Hospitals having small amphitheaters will issue tickets, which may be obtained at headquarters, in order that clinics may not be uncomfortably crowded. A number of clinics will be conducted in various hospitals at the same hours, which will make it possible for every one who desires to do clinical work during this period to obtain ample facilities in whatever department he may be especially interested.

It has seemed best to stop all clinical work during the four days of the meeting, June 2, 3, 4 and 5, in order to make the work in the various scientific sections the only attraction during this period. This will insure good audiences for those who have prepared papers. Albert J. Ochsner,

Chairman of the Committee on Clinics.

710 Sedgwick Street.

Hotel Reservations.

The Hotel Association of Chicago has promised 2.500 rooms for the members of the American Medical Association. A list of the principal hotels will be printed next week, with rates, etc. Meanwhile it is suggested that those who expect to attend the session should make arrangements for hotel accommodations as early as possible. Applications for such accommodation can be addressed to the individual hotels or to me.

L. L. McArthur,
Chairman Committee on Hotels.

100 State Street.

Miscellany

THE FIRST CONVICTION.

First Case Under the Food and Drugs Act Resulting in Conviction.

Dispatches from Washington indicate that the jury in the case of Robert N. Harper has returned a verdict of guilty on the charge of violating the national Food and Drugs Act. Mr. Harper is a wealthy business man of Washington, president of the Chamber of Commerce and of the American National Bank. He is engaged in the manufacturing drug business and has been making and selling a preparation called "Curforhedake." "Brane-Fude." The indictment alleged violation of the Food and Drugs Act in four counts, as follows:

1. The name as given above was misleading and constituted misbranding.
2. The manufacturer states that it "does not contain any poisonous ingredients" when as a matter of fact, it does.
3. The phrase "a most wonderful, certain and harmless relief" was a misrepresentation.
4. The fourth count relates to the sale of a misbranded product.

A sample of the preparation was purchased in the district by an inspector. The druggist from whom the article was purchased was given a hearing, at which the manufacturer was present. The case was put in the hands of the proper authorities and a criminal action was brought against the manufacturer. A seizure was made of all misbranded goods in the hands of the manufacturer and of a number of local druggists. The case was tried in the police court before a jury. Evidence for the prosecution showed that the drug consisted of a hydro-alcoholic solution of acetanilid, antipyrin, caffein, and sodium and potassium bromid, alcohol being present to the extent of 24.2 per cent. A number of physicians testified that in their opinion there was no such thing as a "brain food," and that the drug was not harmless nor free from poisonous ingredients. The defense endeavored to show that the dosage as prescribed on the package could not be considered harmful. Before the case went to the jury the government abandoned the second and third counts and rested its case on the first and fourth, viz., those relating to the manufacture and sale of a misbranded drug preparation.

In his charge to the jury, the trial judge discussed a number of points which are of especial interest, as this is the first prosecution under the new law. In considering the meaning of the word "misbranding" the judge informed the jury that, if it found from the evidence that, in any particular, the product known as "Harper's Curforhedake" misstates or states falsely, then the law has been violated. The court also said: "The jury are instructed that in determining the meaning of the words 'brain food', 'cure,' 'poisonous,' and 'harmless,' the definition of which has been called into question by this inquiry, they are to give such words their ordinary and customary meaning as understood by the general public and not a technical meaning. This law was passed . . . for the purpose of protecting ordinary citizens. . . . In determining the meaning of the words used on these cartons, bottles and circulars, they are to be taken in the way that an ordinary plain, common citizen, without scientific knowledge would understand them if they were put before him. With regard to this 'Curforhedake' . . . if that word, spelled in the two different ways that it is spelled, would convey to the ordinary citizen the idea that it was a food for the brain as distinguished from the idea of a food for the whole body, then it is misleading and a violation of the law, and if you find that such a definition is what the ordinary citizen would apply to it, then you would be compelled to bring in a verdict of guilty. . . . Unless you further find from the evidence that there is a known and distinct kind of food that feeds and nourishes the brain as distinct from a food that feeds and nourishes the whole body and that said drug or preparation is such a food and that it feeds and nourishes the brain particularly as distinguished from the food that nourishes all parts of the body, then the jury are instructed as a matter of law that the words 'Brain Food' or 'Brane Fude' are false and misleading."

On the question of dosage the instructions of the judge are equally clear. He says: "The question is not raised whether it (the preparation) is a poison in the doses prescribed in the preparation. That is not the question before the jury. You have nothing to do with the question of whether it is poisonous in the doses prescribed or in larger doses. The sole question raised here for you to consider is whether the said drug contains poisonous ingredients of any kind. If you find from the evidence beyond a reasonable doubt that it did contain poisonous ingredients, whether contained in the doses named, whether they would or would not be harmful, if you find that the drug contained a poisonous ingredient, then your verdict must be guilty, because that is a plain issue."

The jury returned a verdict of guilty. Sentence has been stayed pending an appeal.

Ear Complications of Influenza.—A. O. Pfingst, in the *Louisville Monthly Journal of Medicine and Surgery*, states that probably the most common complication of influenza is inflammation of the middle ear, either purulent or catarrhal. The catarrhal form causes pain in the ears, tinnitus and defective hearing. The drum or drums are reddened, usually in proportion to the symptoms, but do not bulge. In purulent otitis, the pain is usually severe, the temperature higher and the drum bulges. Abscesses of the middle ear accompanying influenza are characterized by the suddenness of the onset, by the tendency to frequent and early complication of the mastoid, which in turn is characterized by rapid destruction of bone and by the persistence of fever, pain and subjective noises, even after a free discharge of pus has been established. Pfingst also states that a peculiar feature of otitis due to this cause is the formation of blood vesicles on the drum and in the auditory canal.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

THE SIGNIFICANCE OF PHOSPHATURIA.

Clarkson, Ky., March 7, 1908.

To the Editor:—Kindly give me an opinion in regard to the following case: Patient, a male, aged 32, married; family history good, general health good, digestion satisfactory, sexual relations normal, habits good, no diathesis, nervous temperament. For years he has had an almost constant alkaline urine loaded with phosphates. The sediment of phosphates (after urine stands for one or two hours) sometimes equals as much as 20 per cent. of the volume of urine, giving it an almost semi-solid appearance; the urine otherwise is normal. 1. Is this excess of phosphates due to an unstable condition of the nerve tissue, or does the condition probably depend on the products of secondary digestion? 2. In either case, if this condition persists is it not probable that these phosphates acting as an irritant will produce serious organic disease of the kidneys?

B. C. Wilson, M.D.

Answer.—1. The condition commonly known as phosphaturia is due to a precipitation of the earthy phosphates, the phosphates of calcium and magnesium, which becomes insoluble in consequence of the alkaline reaction of the urine. The presence of such a deposit is no evidence of an increased production or excretion of the phosphates, but simply shows that the urine has become alkaline. The condition is, therefore, improperly named phosphaturia, but should rather be called alkalinuria. No reliable investigation has shown any increase in the amount of phosphoric acid, above the normal. In some cases a larger amount of earthy phosphates has been excreted because of the increased amount of calcium or magnesium ingested. Normally, calcium is excreted by the intestines, but in some cases the amount of calcium excreted by the intestines is less than normal, and in such cases an increased amount of earthy phosphates appears in the urine. The alkaline reaction of the urine may be due to a large amount of vegetables and fruits. Temporarily, an alkaline reaction of the urine may be produced (a) By the absorption into the blood of salts of the vegetable acids, such as the acetates, citrates, etc. This form of temporary alkalinity may occur from a meal of vegetables or fruit, the urine becoming alkaline from three to six hours after the meal. (b) By the direct ingestion of alkalies such as soda, magnesia, alkaline mineral water, etc. (c) From the secretion of a highly acid gastric juice. In this case the urine becomes alkaline and may be loaded with phosphates shortly after a meal containing a large amount of meat or other proteid food. If there is frequent vomiting of acid the urine may be almost continuously alkaline. The urine is liable to become almost continuously alkaline in patients suffering from hyperacidity of the stomach, who use large doses of alkali to neutralize the acid. No positive evidence has been afforded that the nervous system can influence the reaction of the urine, otherwise than by its influence on the reaction of the gastric juice, but our knowledge of metabolism is by no means sufficient to exclude such a possibility. In a case such as above described the cause of the condition should first be sought in the character of the diet, and if it can not be accounted for in this way, the condition of the digestive organs should be carefully investigated. If neither the diet nor the digestion will account for the condition one might refer it to the action of an unstable nervous system.

2. The phosphates are precipitated in an amorphous condition, and apparently do not produce irritation of the genitourinary tract. They may, however, favor the formation of calculi by collecting around some already formed nucleus. Organic disease of the kidneys is not likely to result from this condition.

WEIL'S DISEASE.

Concord, N. H., Feb. 28, 1908.

To the Editor:—Please direct me where to find information on Weil's disease (acute infective jaundice).

Marion L. Bugbee.

Answer.—Weil's disease is described in most of the standard treatises on the practice of medicine. The following is a list of articles which may be referred to. Some of them may not be on Weil's disease, but it is impossible to differentiate them by the title.

Runyon, F. J.: Epidemic Catarrhal Icterus as a Complication of Pregnancy, *Memphis Med. Month.*, June, 1902

Brooks, Grave H.: A Case of Weil's Disease with Delirium, *Arch. Neurol. and Psychopath.*, iii, 3.

Elnhorn, M.: Two Cases of Weil's Disease Complicated by the Temporary Appearance of Small Tumors in the Liver, *Am. Jour. Med. Sc.*, November, 1904.

Curwen, E.: Epidemic Catarrhal Jaundice, *Brit. Med. Jour.*, Jan. 11, 1902.

Sandwith, F. M.: Weil's Disease in Egypt, *Jour. Trop. Med.*, Jan. 15, 1904.

Anderson, S.: An Epidemic of Catarrhal Jaundice in Buxar Central Jail, *Indian Med. Gaz.*, November, 1903.

Satterlee, G. R.: A Case of Bacteriuria Resembling Weil's Disease, *Med. News*, June 6, 1903; abstracted in The Journal, June 20, 1903, p. 1756.

Sandwith, F. M.: Infectious Jaundice, *Brit. Med. Jour.*, Sept. 17, 1904.

Nicolaysen, L.: Epidemic Icterus, *Deutsche Med. Wochschr.*, xxx, 24; abstracted in The Journal, July 16, 1904, p. 231.

Robertson, E. W.: Six Cases of Epidemic Jaundice in the Young, *Virginia Med. Semi-monthly*, July 12, 1906.

Ross, H. H.: Acute Epidemic Jaundice, *Journal of Kansas Medical Society*, October, 1906.

Addison, J. L.: Epidemic Catarrhal Jaundice, *Canada Lancet*, April, 1906.

Tucker, E. F. G.: Epidemic of Malignant Jaundice in Bombay, *Indian Medical Gazette*, January, 1907.

Kuauth: Weil's Disease, *Deutsche med. Wochschr.*, xxxi, 50.

Thornburg, R. M.: A Fatal Case of Acute Infectious Jaundice (Weil's Disease), The Journal A. M. A., Aug. 3, 1907, p. 415.

ELECTROTHERAPY WITH THE AUTOMOBILE.

Arkansas City, Kan.

To the Editor:—Since writing an article to The Journal on my experience with automobiles I have utilized my electric in a new field. I have had wires run from the rheostat switch in the garage to my office and connected with a wall plate consisting of a milliamperemeter, a rheotome, a rheostat and induction coil. This gives an ideal electrical apparatus with a sixty-volt pressure and amperage sufficient to melt a screw-driver in ten seconds. The current is under perfect control, giving from one milliampere to the heaviest cautery. This will appeal to any electrotherapeutist who realizes the value of the direct current and the annoyance and expense in keeping up a galvanic apparatus. The cost is almost nothing. A day's work will not be noticed on the meter or mileage of the machine. When I run the automobile into the garage I plug in as for a charge, and the current is available at the office night or day. Should the automobile be out and the current needed I have but to throw the switch and the current is delivered from the generator.

J. H. Guinn.

Cleveland, Ohio, Feb. 28, 1908.

To the Editor:—During the past two years I have used my electric victoria with my electro-magnet for removing steel and iron from the interior of the eye. The strength of the magnet is greater than that from the street current. My electrician tells me that it is fully one-third stronger. It has saved me the expense of a motor generator, and can be used anywhere. I have used it at least thirty times, and it has never failed me.

A. R. Baker.

HENOCH'S DISEASE—EPONYMIC NOMENCLATURE.

New York, Feb. 21, 1908.

To the Editor:—In The Journal, Feb. 15, 1908, page 545, you mention Henoch's disease as a cause of hematuria. Can you tell me of any book that will tell me in the index where I can find all about Henoch's, Brown's or Smith's diseases. Would it not be a good rule to accept no article with a proper name classification unless along with it there is a name by which it can be looked up in text-books. The more I think about "Henoch's disease" the more "I want to know."

John Woodman.

Answer.—Henoch's disease is a form of purpura, and is usually called Henoch's purpura. On consulting nine text-books on the practice of medicine we found it indexed in all but one. In two cases it was referred to as "Henoch's disease;" in the other cases as "Henoch's purpura," the name being put only under purpura in a few cases. The name of this disease is one of those called eponymic, being arbitrarily derived from proper names. Such names are correspondingly lacking in connotation, and consequently impose an extra, and entirely unnecessary, burden on the memory. Their use should be widely discouraged, in spite of the arguments for the historical feature and the honor to the original investigator. In a few cases, however, the eponymic title has brevity decidedly in its favor, as, unfortunately, it is not possible to use a title sufficiently descriptive to identify the disease in all cases. To detail the symptoms characteristic of Adams-Stokes disease in all cases where this is referred to, would be very cumbersome. The same is true of some other diseases which are conveniently characterized by a special name, usually that of the one who first described it.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending March 14, 1908.

Davis, W. B., deputy surgeon general, and Van Dusen, J. W., asst. surgeon, appointed members of an Army retiring board, to meet at Omaha, for the examination of such officers as may be ordered before it.

Wilson, W. H., surgeon, detailed to accompany the 35th Company Coast Artillery Corps from Fort Monroe, Va., to San Francisco. He will proceed at the proper time to Fort Monroe, Va., reporting on arrival to the company commander. On completion of this duty to return to Fort Hamilton, N. Y.

Corbusier, W. H., deputy surgeon-general, is relieved from further duty as chief surgeon, Department of the Columbia, and will proceed to his home, where, for his own convenience, he is authorized to await retirement from active service.

Carswell, R. L., asst.-surgeon, granted two months' leave of absence, with permission to apply for an extension of one month.

Shortlidge, E. D., asst.-surgeon, granted leave of absence for three months.

Reasoner, M. A., asst.-surgeon, is relieved from further duty in the Philippines Division, and assigned to duty in the Army Transport Service, with station at San Francisco.

Bratton, T. S., asst.-surgeon, on arrival at San Francisco, will proceed to Fort Des Moines, Iowa, and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the Missouri.

Parkman, W. E., contract surgeon, ordered to return from Fort William H. Harrison, Mont., to his proper station, Fort Keogh, Mont.

Suggs, Frank, contract surgeon, ordered from Fort Niagara, N. Y., to Madison Barracks, N. Y., for temporary duty.

Stallman, G. E., dental surgeon, granted leave of absence for one month, with permission to apply for an extension of two months.

Voorhies, H. G., dental surgeon, relieved from treatment at Fort Leavenworth, Kans., and ordered to return to his proper station, Fort D. A. Russell, Wyo., for duty..

McAllister, J. A., dental surgeon, ordered from Fort Sheridan, Ill., to Chicago, Ill., for duty at Headquarters, Department of the Lakes.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending March 14, 1908:

Richards, T. W., surgeon, detached from the *Colorado* and ordered to the Naval Hospital, Mare Island, Cal., for treatment.

Brown, E. M., P. A. surgeon, granted sick leave for three months, when discharged from treatment at the Naval Hospital, New Fort Lyon, Colo.

Moran, C. L., asst.-surgeon, ordered to duty at the Naval Hospital, Norfolk, Va.

Stanley, A. C., asst.-surgeon, ordered to duty at the Naval Medical School Hospital, Washington, D. C.

Bogert, E. S., Jr., surgeon, detached from the *Pennsylvania* and ordered to the Naval Academy.

Urie, J. F., surgeon, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the *Pennsylvania*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended March 11, 1908:

Pettus, W. J., asst.-surgeon general, granted leave of absence for 3 days, from March 9, 1908.

Stimpson, W. G., surgeon, directed to report to commanding officer of the revenue-cutter *Thetis* for temporary duty.

Oakley, J. H., P. A. surgeon, directed to assume temporary charge of the Marine-Hospital at Port Townsend, Washington, during the absence of Surgeon W. G. Stimpson.

Cumming, H. S., P. A. surgeon, directed to proceed to Kobe, Japan, for special temporary duty, on completion of which to rejoin his station.

Von Ezdorf, R. H., P. A. surgeon, directed to proceed to New Orleans, for special temporary duty, on completion of which to rejoin his station.

Frost, W. H., asst.-surgeon, granted leave of absence for 2 days, from Feb. 29, 1908, under Paragraph 191, Service Regulations.

de Valin, Hugh, asst.-surgeon, granted leave of absence for 2 days from March 3, 1908, under Paragraph 191, Service Regulations.

Duke, B. F., acting asst.-surgeon, granted leave of absence for 7 days, from March 10, 1908.

Stanton, J. G., acting asst.-surgeon, granted extension of leave of absence for 7 days, from March 6, 1908.

Wetmore, W. O., acting asst.-surgeon, granted leave of absence for 8 days in February, 1908, under Paragraph 210, Service Regulations.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general, Public Health and Marine-Hospital Service during the week ended March 13, 1908:

SMALLPOX—UNITED STATES.

California: Berkeley, Feb. 8-15, 1 case; Los Angeles, Feb. 15-22. 11 cases; San Francisco, Feb. 8-22, 11 cases.

District of Columbia: Washington, Feb. 22-29, 2 cases.

Illinois: Springfield, Feb. 20-27, 3 cases.

Indiana: Indianapolis, Feb. 22-March 1, 3 cases; La Fayette, Feb. 23-March 2, 1 case; Muncie, Feb. 22-29, 1 case; South Bend, Feb. 22-29, 1 case.

Iowa: Ottumwa, Feb. 22-29, 2 cases.

Kansas: Kansas City, Feb. 22-29, 11 cases.

Kentucky: Covington, Feb. 22-29, 4 cases.

Louisiana: New Orleans, Feb. 22-29, 13 cases (11 imported).

Massachusetts: Fall River, Jan. 4-11, 1 case.

Michigan: Saginaw, Feb. 15-22, 6 cases.

Missouri: Kansas City, Feb. 15-29, 26 cases; St. Joseph, Feb. 15-22, 17 cases.

Montana: Butte, Feb. 18-25, 1 case.

New York: Buffalo, Feb. 22-29, 1 case.

Ohio: Cincinnati, Feb. 22-28, 25 cases; Toledo, Feb. 15-22, 2 cases.

Tennessee: Knoxville, Feb. 22-29, 8 cases; Nashville, 8 cases.

Texas: San Antonio: Feb. 8-22, 6 cases.

Washington: Spokane, Feb. 15-22, 14 cases.

Wisconsin: La Crosse, Feb. 22-29, 9 cases; Manitowoc, Feb. 15-22, 1 case.

SMALLPOX—FOREIGN.

China: Amoy, Jan. 4-25, present; Hongkong, Jan. 11-25, 37 cases, 33 deaths.

India: Bombay, Jan. 28-Feb. 4, 8 deaths; Calcutta, Jan. 11-18, 8 deaths.

Italy: General, Feb. 6-13, 117 cases.

Japan: Nagasaki, Feb. 6, 2 cases; Tokyo, Feb. 12, 300 cases; Yokohama, Dec. 28-Feb. 12, 197 cases, 63 deaths.

YELLOW FEVER.

Barbados: Bridgetown and vicinity, Jan. 29-Feb. 18, 4 cases, 2 deaths.

Cuba: Santa Clara, Feb. 28, 1 death.

Venezuela: Ciudad Bolivar, Feb. 26, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Jan. 11-Feb. 1, 127 cases, 106 deaths; Zambales Province, to Feb. 1, 158 cases, 108 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Jan. 11-18, 27 deaths; Madras, Jan. 25-31, 7 deaths; Rangoon, Jan. 18-25, 3 deaths.

PLAGUE—FOREIGN.

China: Hongkong, Jan. 11-18, 4 cases, 4 deaths.

India: Bombay, Jan. 28-Feb. 4, 35 deaths; Calcutta, Jan. 11-25, 13 deaths; Rangoon, Jan. 18-25, 6 deaths.

Peru: Catacaos, Jan. 23, 8 cases, 6 deaths; Chepen, 2 cases, 1 death; Lambayeque, 2 cases, 3 deaths; Lima, 5 cases, 3 deaths; Paita, 2 cases, 1 death; San Pedro, 1 case, 1 death; Trujillo, 18 cases, 5 deaths.

Marriages

Edwin J. Schisler, M.D., to Mrs. Lily Chipley, both of St. Louis, March 2.

Edward Brent Mitchell, M.D., Lawton, Okla., to Miss Florence Manaugh of Indianapolis, March 3.

Augustus Maverick, M.D., San Antonio, Texas, to Miss Elizabeth A. Baxter of Philadelphia, March 6.

J. Melvin Newbern, M.D., Jarvisburg, N. C., to Miss Lillian Mendora Burke of Bealeton, Va., January 30.

Ambrose Louis Hammerel, M.D., Glendive, Mont., to Miss Anna Martha Wolf of Stillwater, Minn., February 26.

Alice Robinson Evans, M.D., Youngstown, Ohio, and William Grey Miller, M.D., New Castle, Pa., in London, Eng., February 14.

Deaths

Oliver John David Hughes, M.D. Long Island College Hospital, Brooklyn, N. Y., 1875; a member of the American Medical Association; town physician of Meriden, Conn., for four years; and a member of the board of school visitors and health board; in 1897 appointed United States consul at Sonneberg, Germany, and later consul general at Coburg; since 1904 a practitioner of New Rochelle, N. Y.; a veteran of the Franco-Prussian War; died suddenly at his office in New Rochelle, March 5, from cerebral hemorrhage, aged 52.

Rome V. Wagner, M.D. Central College of Physicians and Surgeons of Indiana, Indianapolis, 1889; of Chicago; for one year a practitioner, and thereafter engaged in the manufacture of electric apparatus and appliances for physicians' use; president of the R. V. Wagner Company; who was operated on in December and again in January for cancer of the face and neck, due to prolonged x-ray exposure; died from secondary carcinoma of the liver, March 12, at Passavant Memorial Hospital, Chicago, aged 38.

Dennis J. Brannen, M.D. Eclectic Medical Institute, Cincinnati, 1881; a member of the American Medical Association and Association of Santa Fé Railway Surgeons; for 20 years physician to the Arizona Lumber and Timber Company, Flagstaff; at one time a member of the territorial legislature; health officer of Coconino County, and major surgeon in the National Guard of Arizona; died suddenly March 4 in Washington, D. C., where he was spending the winter, from cerebral hemorrhage, aged 50.

David Maclay, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1875; a member of the American Medical Association; formerly a member of the Pennsylvania legislature, and one of the founders and a trustee of Chambersburg (Pa.) Trust Co.; treasurer of Franklin County and postmaster of Chambersburg, died at his home from spinal disease, March 3, after an illness of several months, aged 56.

Edwin R. Brush, M.D. University of Vermont, College of Medicine, Burlington, 1858; a member of the Vermont State and Lamoille County medical societies; surgeon of the Second Vermont Volunteer Infantry in the Civil War; president of the board of pension examiners at Morrisville; for 28 years justice of the peace; died suddenly at his home in Cambridge, Vt., February 27, from angina pectoris, aged 71.

James Williams Dalby, M.D. College of Physicians and Surgeons in the City of New York, 1889; of Cedar Rapids, Iowa; a member of the Iowa State and Linn County medical societies; for 15 years professor of ophthalmology in the University of Iowa, College of Medicine, Iowa City; died at St. John's Hospital, Springfield, Ill., March 4, from diabetes, after an illness of three days, aged 44.

John Duncan McMillan, M.D. Jefferson Medical College, Philadelphia, 1876; of Lumberton, N. C.; a member of the Medical Society of the State of North Carolina and president of the Robeson County Medical Society; died at the James Walker Memorial Hospital, Wilmington, N. C., March 4, from peritonitis, a week after an operation for intestinal obstruction due to malignant disease, aged 57.

Will L. McGavic, M.D. Keokuk Medical College, College of Physicians and Surgeons, 1900; a member of the Tri-State Medical Society of Tennessee, Arkansas and Mississippi; consulting surgeon to St. Bernard's Hospital, Jonesboro, Ark.; president of the Hardy, Ark., board of health; local surgeon for the Frisco System; died at his home, February 19, aged 43.

Edward Dubois Woodhull, M.D. Dartmouth Medical School, Hanover, N. H., 1895; a member of the medical societies of the State of New York and County of Orange; of Monroe, N. Y.; died in St. Augustine, Fla., March 8, having never recovered after an operation for appendicitis performed at Roosevelt Hospital, New York City, in January last, aged 45.

Samuel O. DeFreece, M.D. St. Joseph (Mo.) Hospital Medical College, 1883; a member and president of the school board of Sidney, Iowa, for several years; a member of the pension board and coroner of Fremont County; died at his home in Sidney, March 4, from fatty degeneration of the heart, after an illness of about three years, aged 48.

John Milton Sadler, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1873; a member of the American Medical Association; visiting physician to St. Margaret's Hospital, Montgomery, Ala.; died suddenly March 7, from cerebral hemorrhage, while attending a meeting of the Montgomery County Medical Society, aged 59.

Norman Watson Judd, M.D. Rush Medical College, Chicago, 1899; from 1898 to 1900 inclusive a faithful member of the editorial staff of The Journal, who was obliged to leave Chicago on account of tuberculosis in 1901; and has since traveled over the west; died in Santa Barbara, Cal., March 7, from tuberculosis, aged 36.

Orin C. Lamb, M.D. Hospital College of Medicine, Medical Department, Central University of Kentucky, Louisville, 1893; a member of the American Medical Association; local surgeon at South Chicago, of the Chicago City Railway Company; died suddenly, March 12, while leaving his office to answer an emergency call, aged 52.

John Backus Taylor, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1902; M.R.C.S., England, 1904; a member of the American Medical Association and a prominent practitioner of Vinita, Okla., died at his home in that city, March 3, from typhoid fever, after an illness of 12 days, aged 30.

William Morris Urquhart, M.D. University of Pennsylvania, Department of Medicine Philadelphia; assistant surgeon of the Sixteenth Pennsylvania Infantry, U. S. V., throughout the Spanish-American War; died at his home in Orange, N. J., February 20, from pneumonia, after an illness of two days, aged 34.

Samuel P. Hickman, M.D. Medical College of Indiana, Indianapolis, 1874; a member of the American Medical Association; coroner of Miller County, Mo.; member of the local pension examining board; died at his home in Ulman, February 16, from pneumonia, after an illness of eight days, aged 58.

Armand L. F. Dufloo, M.D. Academy of Medicine, Paris, France, 1860; surgeon of the Seventieth New York Volunteer Infantry, and later of the Third New York Volunteer Cavalry, during the Civil War; died at his home in New York City, February 29, after an illness of three months, aged 75.

Archie Campbell White, M.D. College of Physicians and Surgeons in the City of New York, 1891; of New York City; formerly resident physician at the Willard Parker Hospital, New York City; died at the home of his parents in Wakefield, R. I., March 1, from acute nephritis, aged 39.

Benjamin Franklin Mathas Blake, M.D. Bellevue Hospital Medical College, New York City, 1890; a member of the Florida Medical Association, Hillsboro County Medical Society, and Brooklyn (N. Y.) Medical Society; died at his home in Tampa, Fla., Nov. 28, 1907, aged 52.

George F. Coutant, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1872; coroner of La Salle County, Ill.; a member of the city council of La Salle and visiting physician to St. Mary's Hospital; died at his home, March 3, after an illness of about six months, aged 69.

Samuel M. Brown, M.D. Missouri Medical College, St. Louis, 1875; a member of the Missouri State Medical Association and Monroe County Medical Society; died at his home in Monroe City, Mo., March 2, from peritonitis, three days after an operation for appendicitis.

Frederick W. Goodwin, M.D. Halifax (N. S.) Medical College, 1885; M.R.C.S. (Eng.), 1899; L.R.C.P. (Lond.) 1899; president of the Halifax Branch of the British Medical Association, and professor of materia medica in Halifax Medical College; died Dec. 18, 1907, aged 51.

James R. Gow, M.D. George Washington University, Department of Medicine, Washington, D. C., 1906; of Washington, D. C.; an employé of the State Department; died at the Emergency Hospital in that city, February 29, from asthma, after a short illness, aged 41.

Jacob Chamberlain, M.D. College of Physicians and Surgeons in the City of New York, 1859; one of the pioneer medical missionaries in the Telegu district of India; died from paralysis at his home in Madanapalle, Madras Presidency, South India, March 2, aged 72.

Thomas D. Hairston, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1890; of Clifton, S. C.; a member of the South Carolina Medical Association and Spartanburg County Medical Society; died at Manatee, Fla., March 1, aged 39.

Elmer Wesley Mitchell, M.D. Jefferson Medical College, Philadelphia, 1905; of Fall River, Mass.; a member of the Massachusetts and Bristol District medical societies; died at St. Anne's Hospital, Fall River, March 5, from pneumonia, after a brief illness.

Samuel M. Carrigan, M.D. Missouri Medical College, St. Louis, 1879; a member of the American Medical Association, and once president of the Arkansas Medical Society; died suddenly from heart disease at his home in Hope, Ark., March 9, aged 51.

W. P. Smallwood, a retired practitioner of Paris, Tenn., a Confederate veteran and representative in the legislature from Henry County in 1880; died at his home near Paris, January 31, from nephritis, after an illness of one year, aged 70.

Granville Albert Harlow, M.D. Medical School of Maine, Medical Department of Bowdoin College, Brunswick, 1881; a member of the American Medical Association; died at his home in Tyngsboro, Mass., March 10, from pneumonia, aged 50.

James Metcalfe Horne, M.D. Medical School of Harvard University, Boston, 1855; city physician of Lawrence, Mass., for two years; and for a number of years a practitioner of that city; died in Boston, March 1, from pneumonia.

Miar McLaughlin, M.D. Bellevue Hospital Medical College, New York City, 1865; a member of the Michigan State and Jackson County medical societies; of Jackson, Mich.; died March 2, in Tampa, Fla., from paralysis, aged 68.

Frank Byron Look, M.D. Medical School of Maine, Medical Department of Bowdoin College, Brunswick, 1885; of Vineyard Haven, Mass., died suddenly from cerebral hemorrhage at West Tisbury, Mass., Dec. 13, 1907, aged 50.

Astyana M. Douglas, M.D. University of Nashville (Tenn.) Medical Department, 1861; of Covington, Texas; formerly state senator; died at the Cleburne Sanatorium, March 1, after an illness of several weeks, aged 69.

J. G. Gaines, M.D. Kentucky School of Medicine, Louisville, 1894; proprietor of the Pinnacles Sanitarium, near Sturgeon, Mo.; formerly a practitioner of Columbia, Mo.; died recently from heart disease, aged 45.

Egbert H. Lathrop, M.D. Cleveland (Ohio) University of Medicine and Surgery, 1881; a veteran of the Civil War; died at his home in Hastings, Mich., March 7, from nephritis, after a long illness, aged 69.

Samuel Preston Cropper, M.D. College of Physicians and Surgeons in the City of New York, 1877; of New York City; inspector of the department of health; died Dec. 19, 1907, after a long illness, aged 60.

Henry Clay Fish, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1896; died at his home in East End, Pittsburg, from pneumonia, March 2, after an illness of one week, aged 52.

William C. Richards (License, Connecticut, 1893); an eclectic practitioner of Bristol, Conn.; a veteran of the Civil War; died suddenly near his home, March 6, from cerebral hemorrhage, aged 62.

E. L. Drummond, M.D. Memphis (Tenn.) Hospital Medical College; died at his home in Calvin, La., Dec. 30, 1907, from mitral heart disease, after an illness of four or five weeks, aged 32.

E. Hall Richardson, M.D. University of Maryland School of Medicine, Baltimore, 1891; died at his home in Belair, Md., March 7, from pneumonia, after an illness of ten days, aged 40.

John M. Ripple, M.D. Jefferson Medical College, Philadelphia, 1868; a veteran of the Civil War; died at his home in Waynesboro, Pa., March 9, after an illness of several weeks, aged 65.

Charles K. Ladd, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1887; died at his home in Towanda, Pa., Oct. 21, 1907, from chronic nephritis, aged 57.

John J. McLaughlin, M.D. Jefferson Medical College, Philadelphia, 1891; a member of the American Medical Association; died at his home in Philadelphia, Nov. 24, 1907, aged 56.

Napoleon Matte, M.D. Laval University Medical Department, Quebec, 1882; of Keene, N. H., died at the home of his family in Worcester, Mass., March 4, from pneumonia, aged 56.

Charles F. Zimmerman, M.D. Chicago Homeopathic Medical College, 1885; died at his home in Braddock Heights, Frederick County, Md., from tuberculosis, March 5, aged 56.

Evander C. Ellis, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1881; died suddenly at his home in Hot Springs, Ark., March 7, aged 66.

William S. Bryan, M.D. Rush Medical College, Chicago, 1882; died at his home in Cambridge, Ill., March 5, from pneumonia, after an illness of three weeks, aged about 50.

Vincent E. Rader, M.D. College of Physicians and Surgeons, Baltimore, 1892; died at his home in Pittsburg, Pa., March 4, after an operation for appendicitis, aged 42.

Israel Brundage (License, Ohio), died at his home in Delphos, Ohio, February 8, from chronic bronchitis, from which he had suffered for 40 years, aged 80.

Nelson Hunting, M.D. New York Homeopathic Medical College and Hospital, New York City, 1869; died at his home in Albany, N. Y., Dec. 22, 1907, aged 70.

Henry D. Renner, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1854; died at his home in Philadelphia, Dec. 9, 1907, aged 74.

Clark W. Dunlop, M.D. Eclectic Medical College of the City of New York, 1880; of New York City; died at his home in New York City, March 6, aged 63.

Charles T. Jones, M.D. Marion-Sims College of Medicine, St. Louis, 1897; died at his home in Toronto, Kan., February 23, after an illness of three days.

Elmer E. J. Barney, M.D. University of Vermont, College of Medicine, Burlington, 1905; died at his home in Berlin, N. H., Dec. 18, 1907, aged 33.

Rowland T. Hart, M.D. Eclectic Medical Institute, Cincinnati, 1867; formerly of Macomb City, Miss.; died recently at Pickens, Miss., aged 75.

M. Elizabeth Schugens, M.D. University of Buffalo (N. Y.) Medical Department, 1901; died at her home in Buffalo, Dec. 25, 1907, aged 42.

Mary Du Bois, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1871; died at her home in Hyde Park, N. Y., March 2.

William Lyons, M.D. Pennsylvania Medical College, Gettysburg, 1866; of Philadelphia, died at Secane, Pa., Oct. 23, 1907, aged 73

Gerald Sheil, M.D. Bellevue Hospital Medical College, New York City, 1894; died at his home in New York City, March 5.

Henry W. Fowler, M.D. Physio-Medical College, Cincinnati, 1856; died at his home in Cincinnati, March 3, aged 83.

Deaths Abroad.

Robert Sydenham Fancourt Barnes, M.D. Aberdeen, 1878; M.B., C.M., 1875; M.R.C.P., London, 1877; F.R.S., Edin., a brilliant gynecologist, writer and operator, was educated in France, at Lincoln College, Oxford, and Aberdeen University. Compelled to retire from practice several years ago by reason of ill health, he had been senior physician to the Chelsea Hospital for Women; physician to the General Lying-in Hospital; obstetric physician to the Great Northern Central Hospital; consulting physician to the British Lying-in Hospital and to the Royal Maternity Charity; editor of the *British Gynecological Journal*, and formerly subeditor of the *British Medical Journal;* joint author, with his father, the late Robert Barnes, M.D., whose death was chronicled only a few months ago, of a "System of Obstetric Medicine and Surgery," and author of a "Manual of Midwifery for Midwives," which ran through nine editions. He was an honorary and corresponding fellow of several foreign gynecologic societies, among them that of Boston, U. S. A. He died recently at Worthing, England, after a prolonged period of invalidism, aged 59.

Reginald Harrison, F.R.C.S. Eng., L.S.A.; past vice-president and a member of the council of the Royal College of Surgeons; for many years surgeon to the Liverpool Royal Infirmary; lecturer in the Royal Infirmary School of Medicine and Victoria University; Hunterian professor of surgery in 1890; president of the Medical Society of London in 1896, and two years later vice-president of the Royal Medico-Chirurgical Society; who moved from Liverpool to London in 1889; whose treatise on "Surgical Disorders of the Urinary Organs" placed its author in the forefront of genitourinary surgeons; died February 28, at his home in London, from pneumonia following influenza, after an illness of eight days, aged 69.

E. Moritz, M.D., one of the leading surgeons of Russia and a writer on surgical subjects; chief of the Obuchow and later of the Alexander Hospital at St. Petersburg; founder of the *St. Petersb. med. Wochschr.* in 1876; died at St. Petersburg, February 1, from croupous pneumonia, aged 70.

Sir Alfred Cooper, F.R.C.S. (England and Edinburgh), of London; formerly vice-president of the Royal College of Surgeons of England and a member of its council; consulting surgeon to the West London Hospital, St. Mark's and the Lock Hospital; died at Mentone, France, March 10, aged 69.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Kentucky's New Pure Food Law.

Kentucky has just passed a pure food and drug law, based on the national Food and Drugs Act, and incorporating some of the important features of other state legislation, especially of Tennessee. A summary of the bill follows:

Section 1 makes it unlawful to manufacture or have for sale any food or drugs which is adulterated or misbranded within the meaning of the act, and provides a fine of from $10 to $100 and imprisonment not to exceed fifty days, or both.

Section 2 defines the term food, for the purposes of the act, as including every article used for or entering into the composition of food or drink for man or domestic animals, including spirituous, vinous or malt liquors.

WHAT IS MISBRANDING OF FOOD.

Section 3 defines misbranding as follows: (1) If the package or label shall bear any statement purporting to name any ingredient or substance as not being contained in such an article, which statement shall not be true in any part, or any statement purporting to name the substances of which such an article is made, which statements shall not give fully the name or names of all substances contained in any measurable quantity. (2) If the article is branded or labeled in imitation of or sold under the name of another article, or is an imitation either in package or label of any other substance of a previously established name, or if it is labeled or branded so as to deceive or mislead the purchaser or consumer as to where the article is made or as to its true nature or substance or as to any identifying term whereby the purchaser or consumer might expect the article to possess any property or degree of purity or quality which the article does not possess. This provision applies to all statements made in the label or the advertisement or any means by which representations regarding the product are made to the purchaser or consumer. (3) In the case of certified milk, if it is sold or labeled certified milk and has not been so certified under rules adopted by any county medical society or if when so certified it does not conform to that degree of purity and quality necessary for infant feeding. (4) Misrepresentation as to the weight or measure, length of time the product has been ripened, stored or aged, where packed or produced or the length of time it has been kept in tin or other receptacle.

WHAT IS ADULTERATION OF FOOD.

Adulteration is defined to be, (1) Mixing or packing any substance with the article so as to reduce or injuriously affect its quality or strength; (2) if any substance is substituted either wholly or in part for the article; (3) if any valuable constituent of the article has been wholly or in part abstracted or if the product is below the standard of purity or quality represented to the purchaser or consumer; (4) if it is mixed, colored, coated, polished, powdered or stained so that damage is concealed; if it is made to appear better or of greater value than it is, or if it is colored or flavored in imitation of the genuine color or flavor of another substance of a previously established name; (5) if it contains poisonous ingredients, dangerous to health, or antiseptics or preservatives injurious to health or not stated on the main label; (6) if it contains or is manufactured from a diseased, contaminated, filthy or decomposed substance, either animal or vegetable, unfit for food, or is in any part the product of a diseased animal or of an animal that has died otherwise than by slaughter or that has been fed on the offal from a slaughter-house, or if it is the milk from an animal fed on a substance unfit for food for dairy animals or of an animal kept and milked in filthy or contaminated surroundings.

DRUGS AND REQUIREMENTS CONCERNING THEM.

Section 5 defines drugs to include all preparations recognized in the latest editions of the United States Pharmacopeia or the National Formulary, and any substance or mixture intended to be used for the cure, mitigation or prevention of diseases of man or animals.

Section 6 provides that drugs shall be deemed adulterated if, when sold under the name recognized in the U. S. P. or N. F. they differ from the standards laid down in those authorities; (2) if the standard of purity falls below the professed standard or quality under which it is sold; (3) if one article is substituted for a different article or if a greater or less quantity of any ingredient specified in the prescription is used.

Section 7 provides that drugs shall be regarded as misbranded (1) if the package or label bears any statement which is false or misleading in any particular (including place of production); (3) if the original contents of the container have been removed in whole or in part and any other contents placed therein; (4) if the container fail to bear a statement of any alcohol, morphin, opium, cocain, heroin, alpha or beta eucain, chloroform, cannabis indica, chloral hydrate or acetanilid or any derivative thereof. Special clauses provide that this shall not apply to the dispensing of prescriptions written by a regularly licensed practicing physician, veterinary surgeon or dentist; that it shall not interfere with the existing laws regarding the practice of medicine or pharmacy, and that no prescription shall be knowingly refilled except for the person for whom it was written.

TESTS TO BE MADE.

Section 8 authorizes the director of the Kentucky Agricultural Station to make examinations of samples of food and drugs manufactured or on sale in the state or which the State Board of Health or the State Board of Pharmacy or any county and city attorney of the state may suspect of being adulterated or misbranded. For the sake of uniformity the director is instructed to confer with the United States Department of Agriculture. All rulings pertaining to sanitation shall be collaborated in connection with the State Board of Health. The Kentucky Pharmaceutical Association and the Kentucky State Medical Association are authorized to select one representative who shall act with the director to make and establish all rules and regulations for governing and carrying out the provisions of the act relating to drugs.

METHOD OF PROSECUTION.

Section 9 provides that when any article is found to be adulterated or misbranded, the director of the Agricultural Station shall certify the facts to the commonwealth attorney of the district, county or town in which the adulterated article was found, together with a sworn statement of the results of the examination. Every commonwealth attorney to whom such a report shall be sent or to whom the State Board of Health, the State Board of Pharmacy or the chief health officer of any county, state or town shall report any violations, shall constitute proceedings against the party violating the act. Manufacturers or dealers are to be notified of the findings and given a hearing within fifteen days before the report is made.

Section 10 provides for annual reports to the government on the part of the director, and for the issuing of bulletins from the State Agricultural Station, giving the results of inspections and analyses.

Section 11 authorizes the Experiment Station to receive $7.50 for the analysis or examination of any sample taken in accordance with the act or for inspections of factories, grocery stores, bakeries, slaughter-houses, etc. The board of control of the Experiment Station is directed to render an itemized account to the state auditor each year.

Section 12 provides that manufacturers shall file with the director of the Agricultural Station the name of the product, place of manufacture, and a true copy of all labels used.

Section 13 provides for a guaranty to be made by the manufacturer or wholesaler for the protection of the purchaser.

The section regarding drugs and liquors is not to take effect until Jan. 1, 1909.

The New Jersey Antivivisection Bill.

The *Journal of the Medical Society of New Jersey* for March comments on the hearing on the antivivisection bill introduced into the general assembly of that state. This hearing was held by the legislative committee, to which it had been referred. Four men and two women were present as advocates of the bill and spoke in favor of its adoption. About 250 prominent physicians from all parts of the state, together with leading men from New York City, Philadelphia, Princeton University, Rutgers College and the Rockefeller Institute for Scientific Research were present to present the scientific side of the case.

According to the *Journal*, the advocates of the bill disclaimed opposition to animal experimentations, but wanted such regulations, restrictions and inspections as would practically prevent the progress of medicine. They wished such experimentation confined to medical schools. They magnified the number of cases of abuse, and stated that many able surgeons were opposed to animal experimentation, deeming it unnecessary. In reply to questions asked by members of the legislative committee, the supporters of the bill could cite no cases, of their own knowledge, of cruelty which had occurred in the state. They based their statements on newspaper reports. They were not able to give the name of a single surgeon who was opposed to animal experiments.

In opposition to the bill, Dr. E. J. Ill, president of the Medical Society of the State of New Jersey, spoke as the representative of 1,400 physicians. Dr. Lowery stated that he introduced the bill at the request of another member, that he did not think it was a proper bill, and that he was opposed to its passage. He was followed by Dr. F. D. Gray of Jersey City, Dr. Herman H. C. Herold, president of the Newark Board of Health, Professor Scott of Princeton University, Professors Lee and Curtis of Columbia College, New York, Dr. Hare of Philadelphia, Dr. Flexner, director of Rockefeller Institute, Drs. Le Fevre and Coakley of New York and Dr. Kipp of Newark. These gentlemen, most of them recognized authorities in different lines of scientific research, presented the objections to, and the fallacies of, such legislation.

The bill closely resembles the one now before the New York legislature, as well as the bill introduced in New York last year, which was killed by the committee after a public hearing. This bill is of particular importance, inasmuch as the Rockefeller Institute is located in New Jersey, and the adoption of the bill would put an end to research work on the cause and prevention of many diseases of man and animals. It is to be hoped that the united stand taken by the scientific men of New Jersey will be sufficient to defeat the bill summarily.

Needed Legislation Defeated in Virginia.

The *Bulletin of the Virginia Board of Health*, February, contains an item regarding the sanitary legislation recommended by the board with particular reference to a bill for the prevention of tuberculosis, now before the Virginia legislature. The *Bulletin* says: "The above bill with reference to the segregation of the tuberculosis patients in hospitals, prisons, asylums, almshouses and other institutions is about all the legislation that will be accomplished, of that asked for by the state board of health, at this session of the legislature. This bill has passed both houses and has doubtless been signed by the governor and is now a law. When it is contemplated that the legislation asked for was endorsed by the state board of health, by the Medical Society of Virginia and by the profession throughout the state, it seems that the medical profession and the state board of health has but little if any influence with the law makers. It was almost impossible to get any member of the legislature interested in these measures. The best that could be done with several of them was to have them introduced by request. When this is the case, the bill has very little prospect of passing, for unless you can get the influence of some individual member behind a bill, it is usually buried in the committee to which it is assigned."

The conditions described as existing in Virginia are in most particulars those which obtained in all the states previous to reorganization. These conditions, happily, have improved markedly in many of the states in the last few years. If there is one lesson which the medical profession has learned it is that state medical societies, meeting once a year and confining themselves solely to scientific discussion, have little if any influence in legislative or practical affairs. Experience in other states has shown that an active county society, meeting weekly or at least monthly in each county in the state, and taking an active interest in all matters relating to the health of the public and the good of the profession, is the only effective kind of medical organization. When the physicians of Virginia learn this, and profit by it, they will rapidly improve conditions so far as their influence is concerned. There is no state which has a finer individual personnel in the medical profession than has the Old Dominion. The trouble is with her methods and not with her men.

Three Postgraduate Courses by One Society.

The Barbour-Randolph-Tucker Medical Society (W. Va.) has three postgraduate courses in successful operation, one at Elkins, one at Philippi, and one at Belington.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

Dr. John H. Blackburn, Director.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month.

Fourth Weekly Meeting.

Pseudoleukemia.

Pathologic Anatomy: Lymph glands. Chains usually involved, gross appearances, size, density, periadenitis, infiltration. Microscopic changes, lymphadenoma.

Spleen: Microscopic changes. General distribution of lymphomata. Changes in bone marrow and liver.

Symptoms: Enlarged glands, location and rate of growth. General symptoms of anemia. Hemorrhages. "Chronic relapsing fever." Mechanical effects. Circulatory and nervous symptoms. Gastrointestinal disturbances. Cutaneous symptoms. Blood changes.

Addison's Disease.

Pathology: Usual lesion of suprarenal bodies, gross and microscopic. Other morbid changes occasionally found. Abdominal sympathetic, changes in cells and fibers. Deposit of pigment.

Diagnosis: (1) Pigmentation of skin and mucous membranes, (2) anemia, (3) asthenia, (4) feeble heart's action, (5) gastric disorders.

Differentiate from pigmentation of: (1) abdominal growths, (2) hepatic disease, (3) pregnancy, (4) "vagabond's disease," (5) melanotic sarcoma, (6) exophthalmic goiter, (7) syphilitic discoloration.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Rhode Island State Board of Health, Room 313, State House, Providence, April 2-3. Secretary, Dr. Gardner T. Swarts, Providence.

Georgia Eclectic Board of Medical Examiners, Atlanta, April 4. Secretary, Dr. Charles H. Field, 235 Capitol Ave., Atlanta.

Arizona Board of Medical Examiners, Phoenix, April 6-7. Secretary, Dr Ancil Martin, Phoenix.

Utah State Board of Medical Examiners, Salt Lake City, April 6-7. Secretary, Dr. R. W. Fisher, Salt Lake City.

Colorado State Board of Medical Examiners, Denver, April 7. Secretary, Dr. S. D. VanMeter, 1723 Tremont Place, Denver.

Minnesota State Board of Medical Examiners, St. Paul, April 7. Secretary Dr. W. S. Fullerton, 214 American National Bank Building, St. Paul.

California State Board of Medical Examiners, San Francisco, April 7. Secretary, Dr. Charles L. Tisdale, 1879 Sutter St., San Francisco.

Idaho State Board of Medical Examiners, Cœur d'Alene. Secretary, Dr. W. F. Howard, Pocatello.

Montana State Board of Medical Examiners, the Capitol, Helena, April 7. Secretary, Dr. W. C. Riddell, Helena.

North Dakota State Board of Medical Examiners, Grand Forks, April 7-9. Secretary, Dr. H. M. Wheeler, Grand Forks.

Florida Regular Board of Medical Examiners, Ocala, April 13-14. Secretary, Dr. J. D. Fernandez, Jacksonville

New Mexico Board of Health and Medical Examiners, Santa Fe, April 13-14. Secretary Dr. J. A. Massie, Santa Fe.

Arkansas Homeopathic Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. V. H. Hallman, Hot Springs.

Arkansas Eclectic Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. A. J. Widener, Little Rock.

Arkansas Regular Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. F. T. Murphy, Brinkley.

District of Columbia Board of Medical Supervisors, Washington, April 14-17. Secretary, Dr. George C. Ober, 210 B St. S.-E., Washington.

West Virginia State Board of Health, Parkersburg, April 14-16. Secretary, Dr. H. A. Barbee, Point Pleasant.

Illinois State Board of Health, Northwestern University Building, Chicago, April 15-17. Secretary, Dr. J. A. Egan, Springfield.

The Carnegie Foundation and Uniformity in Education.

That part of the work of the Carnegie Foundation having for its object the institution of more uniform standards and methods in educational work is of vital importance to those interested in medical education. The lack of uniformity of standards, at present existing, is not confined to medical colleges, however, but is to be found also among academic colleges and high schools. Each college, each state and each section of the country, heretofore, has adopted its own standards without regard to requirements that are in any way national in their scope. There are high schools whose courses extend over periods ranging all the way from one to four years. Some, too, claiming a four years' course, do not strictly belong in that class, as but one or two years at most are devoted to secondary studies, the work in the other years being elementary in character. The same may be said of our colleges and universities; while some give work equal to that given anywhere in the world, others offer but one or two years of actual college work, and still others are but little better than high schools. There is another group, happily becoming smaller each year, which, having no claim to the title of college or university, exists purely from mercenary motives. The result of all this is a confusion of educational standards that has become a standing reproach.

The Carnegie Foundation is doing much to convert this chaos into some semblance of order and uniformity. It has prepared a list of colleges and universities which are such in fact as well as in name. Although the list does not include state universities and other high-grade privately endowed colleges, fortunately other organizations exist which are working for uniformity of those institutions. The influence of the Carnegie Foundation is well shown by the fact that some universities are making extensive changes in order to meet the requirements. One raised its entrance requirements at once from a three-year to a four-year high school course, while another which was requiring only eight units of high-school work for admission is rapidly changing to the fourteen units required by the foundation.

The influence on medical education is not small. Members of medical faculties of universities which are acceptable to the foundation are eligible to its benefits. The work toward uniformity of high schools and universities will aid much in the establishment of a uniform standard of preliminary education. In the preliminary requirements of medical colleges of a year in physics, chemistry and biology, a knowledge of the standards held by the institutions offering this work is essential. Those working for uniformity in educational standards will certainly wish the Carnegie Foundation all success in the work it has undertaken.

The Training of Physicians.

That the public press is beginning to take an interest in medical education and that it has a fairly clear conception of what a physician's training should be is evidenced by the following extract from a recent editorial in the Pittsburg *Post:*

> In no profession should the exaction of due preparation be as rigidly enforced as in the medical. In none can inadequate training work such dire results. Time and cost are secondary matters when human life is the hazard. But properly safeguarded by examinations that examine, and do not accept diplomas as conclusive, six years might do, provided that less was required of the academic and more of the strictly medical. The culture must be symmetrical, but natural aptitude for medical work demands as much as possible of medical education. No compulsion rests on any community to permit men to practice medicine solely as a means of livelihood and not primarily to alleviate or cure the maladies of mankind. When at last the medical student emerges, even after bitter struggles, from the long and rigorous course, he has the immediate return in a confidence not otherwise begotten.

Another Medical School Merger.

From authentic information it is learned that the Minneapolis College of Physicians and Surgeons, the Medical Department of Hamline University, the oldest chartered medical college in Minnesota, and a school which has held an honorable position in medical education in the Northwest, has been merged into the College of Medicine and Surgery of the University of Minnesota. Its ninety students will be transferred to the state university next fall. The amalgamation is the result of a recognition by the faculty of the greater demands of modern medicine which make a larger financial income and a larger equipment absolute necessities. Thus medical education in Minnesota is now centered in the state university and another step toward higher standards has been taken.

Medical Colleges Advance Preliminary Requirements.

The University of Colorado School of Medicine announces that beginning with the course for 1910-11 all matriculants, in addition to a four-year high school course, must have completed two full years of work in a college of liberal arts, including courses in physics, chemistry, biology, English, German and French.

The College of Medicine of Syracuse University has announced that beginning in 1910 or before, it will require for admission two years of work in a college of arts or sciences which is recognized by the Board of Regents of New York.

The College of Physicians and Surgeons of Chicago has decided to require a year in a college of arts or sciences to include work in physics, chemistry, biology and modern languages. This requirement will become effective Jan. 1, 1910.

Indiana Medical College, the School of Medicine of Purdue University, has likewise adopted the preliminary year in physics, chemistry, biology and one modern language, the requirement to begin with the session of 1910.

This makes 26 medical colleges which by 1910 will be requiring two or more years and 57 colleges which will be requiring one or more years of work in a liberal arts college for admission to the study of medicine.

Illinois January Report.

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, Jan. 15-17, 1908. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 29, of whom 23 passed and 6 failed. The following colleges were represented:

College.	Year. Grad.	Total No. Examined.
PASSED.		
Arkansas Industrial University	(1891)	1
Georgetown University	(1896)	1
American Med. Miss. Coll.	(1, 1906) (2, 1907)	3
Illinois Med. Coll.	(1, 1906) (2, 1908)	3
Jenner Med. Coll.	(1906)	1
National Med. University	(1907)	1
Northwestern University	(1, 1899) (1, 1907)	2
Rush Med. Coll.	(1907)	3
Hospital Coll. of Med., Louisville	(1907)	1
Harvard Medical School	(1896)	1
Barnes Med. Coll., St. Louis	(1906)	1
University Med. Coll., New York City	(1890)	1
Medical Coll. of Ohio	(1891)	1
Western Pennsylvania Med. Coll.	(1907)	1
Jefferson Med. Coll.	(1906)	1
College of P. and S., Edinburgh, Scotland	(1905)	1
FAILED.		
Illinois Med. Coll.	(1908)	1
Jenner Med. Coll.	(1907)	1
National Med. University	(1906)	1
Indiana Med. Coll.	(1907)	1
Barnes Med. Coll., St. Louis	(1906)	1
St. Louis Coll. of P. and S.	(1895)	1

Nevada February Report.

Dr. S. L. Lee, secretary of the Nevada State Board of Medican Examiners, reports the written examination held at Carson City, Feb. 5, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 7, all of whom passed. Three reciprocal licenses were issued at this examination. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
College of P. and S., San Francisco	(1906) 85.8; (1907)	92.2
Cooper Med. Coll.	(1897)	83.6
Denver College of Med.	(1884)	81.9
Harvard Medical School	(1900)	87.1
College of P. and S., New York	(1892)	92.5
Kaiser Wilhelms University, Strassburg, Germany	(1904)	75.4

LICENSED THROUGH RECIPROCITY.

	Year Grad.	Reciprocity with.
Detroit Coll. of Med.	(1906)	Texas
Barnes Med. Coll.	(1898)	Michigan
Washington University, St. Louis	(1899)	Texas

Utah January Report.

Dr. R. W. Fisher, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, Jan. 6-7, 1908. The number of subjects examined in was 22; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 7, of whom 4 passed and 3 failed. Three reciprocal licenses were issued at this examination. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Colorado School of Med.	(1906)	75.3
George Washington University	(1906) 82.5; (1907)	82.6
Rush Med. Coll.	(1907)	81.9
FAILED.		
University of Louisville	(1905)	67.5
Creighton Med. Coll.	(1907)	73.5
University of Munich, Germany	(1903)	73.7

LICENSED THROUGH RECIPROCITY.

		Reciprocity with.
Denver and Gross Coll. of Med.	(1907)	Colorado
College of P. and S., Chicago	(1903)	Illinois
Homeopathic Med. Coll. of Missouri	(1902)	Missouri

Virginia December Report.

Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports the written and oral examination held at

Lynchburg, Dec. 17-20, 1907. The number of subjects examined in was 22; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 70, of whom 53 passed and 17 failed. Eleven reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
George Washington University	(1902)* (1903)* (1905) 75; (1907)	75, 76.
Howard University, Washington	(1907)	80
Hospital Coll. of Med., Louisville	(1905)* (1907)	75, 79, 81, 82, 83.
Baltimore Med. Coll	(1897)*	
Maryland Med. Coll	(1904)* (1907)	80
Johns Hopkins Med. School	(1901)*	
University of Maryland	(1905) 75; (1907)	76
College of P. and S., Baltimore	(1907)	75, 76
University of Michigan	(1870)*	
Missouri Med. Coll	(1896)*	
Long Island Coll. Hosp	(1894)*	
Leonard Med. School	(1905) 75; (1907)	75, 76,77
North Carolina Med. Coll	(1902)*	
University of Pennsylvania	(1864)*	
Med. Coll. of South Carolina	(1905)	87
Meharry Med. Coll	(1897)* (1899)*	
Chattanooga Med. Coll	(1906)	75, 82
University of Virginia	(1904) 84; (1905) 76; (1906) 77; (1907)* (1907)	75, 75, 76.
Medical College of Virginia	(1906) 80, 80; (1907)	77, 80, 83, 83, 84, 84, 87.
University Coll. of Med., Richmond	(1907)	77, 81
University of Kief, Russia	(1896)*	

FAILED.

College.	Year. Grad.	Per Cent.
George Washington University	(1907)	72
Independent Med. Coll	(1898)*	
Baltimore Med. Coll	(1907)	64, 66, 72
Medico-Chirurgical Coll. of Christ's Institution†	(1904)	72
Leonard Med. School	(1905) 72; (1906)	60, 73
Hahnemann Med. Coll., Philadelphia	(1906)	71
University of the South	(1906) 73; (1907)	68, 70
Tennessee Med. Col	(1907)	66
University of Virginia	(1907)	73, 73

* Took oral examination.

† See note regarding this school in THE JOURNAL A. M. A., Oct. 19, 1907, page 1385.

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
George Washington University	(2, 1905)	Dist. Colum.
University of Maryland	(1903) West Virginia; (1907)	Maryland
Baltimore Med. Coll	(1897)	W. Virginia
Johns Hopkins Med. School	(1904) (1905) (1906)	Maryland
Jefferson Med. Coll	(1896)	Penna.
University Coll. of Med., Richmond	(1905)	W. Virginia
Med. Coll. of Virginia	(1907)	W. Virginia

Wisconsin January Report.

Dr. J. V. Stevens, secretary of the Wisconsin Board of Medical Examiners, reports the written examination held at Milwaukee, Jan. 14-16, 1908. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 17, of whom 14 passed, 2 were conditioned and 1 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Rush Med. Coll. (1882) 81; (1886) 85; (1887) 90;	(1907)	92
College of P. and S., Chicago	(1907)	85
Bennett Coll. of Ecl. Med. and Surg	(1889)	89
Chicago Homeo. Med. Coll	(1893)	85
Bellevue Hosp. Med. Coll	(1893)	86
University of Pennsylvania	(1894)	90
University of Western Pennsylvania	(1906)	79.5
Milwaukee Med. Coll.	(1907)	77, 78
Queen's University, Ontario	(1904)	87
Trinity Med. Coll., Ontario	(1900)	88

FAILED.

College.	Year. Grad.	Per Cent.
Barnes Med. Coll., St. Louis	(1907)	72

CONDITIONED.

College.	Year. Grad.
Marion Sims Coll. of Med., St. Louis	(1894)*
Wisconsin Coll. of P. and S	(1907)*

* Conditioned in pathology.

Representatives from the following colleges have removed their conditions at this examination:

College.	Year. Grad.
Rush Medical College	(1900)
Milwaukee Med. Coll	(1907)
Wisconsin College of P. and S	(2, 1907)

Wyoming February Report.

Dr. S. B. Miller, secretary of the Wyoming Board of Medical Examiners, reports the written examination held at Laramie, Feb. 12-14, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 3, all of whom passed. Three applicants were licensed through reciprocity at this examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Denver and Gross Coll. of Med	(1907)	84.7
College of P. and S., Chicago	(1907)	75
College of P. and S., Baltimore	(1903)	83.8

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Northwestern University Med. School	(1907)	Illinois
University Med. Coll., Kansas City	(1907)	Missouri
Med. Coll. of Ohio	(1888)	Nebraska

Medicolegal

The Prescribing of "Tissue Foods" is the Practice of Medicine.

The Supreme Court of Iowa says that the indictment against the defendant in the case of State vs. Bresee charged, not only in general statutory terms that she practiced medicine without a necessary certificate, but that she unlawfully professed to be a physician and assumed the duties of a physician; that she prescribed and furnished medicine for the sick, and publicly professed to cure and heal, for a valuable consideration. It was shown and admitted that she maintained an office or place in the city of Council Bluffs, Iowa, where she kept and sold to others a preparation known as "Schuessler's Tissue Food," the use of which was supposed or claimed to be a benefit to the sick, but whether it was sold or used as a medicine or remedy for diseases, or as an article of diet, was a matter on which the testimony was in some conflict.

If the witnesses were to be believed, the defendant assured the sick applying to her of her ability to cure them, and professed to be able merely by looking at them to determine the nature of their diseases. Such was her confidence in her skill that she boasted that she had never lost a patient, and declared she would not take any patient whom she could not cure. To those desiring her aid she dealt out what she claimed to be "bio-chemical remedies." or tissue food. On her door she placed a card or sign advertising her business as a "bio-chemist," whatever that may mean.

According to her statement, the remedies or tissue food dealt out by her were prepared by a distinguished German scientist, Professor Schuessler, who was alleged to have discovered that the human system is made up of fourteen different elements or properties, and that with a sufficient tissue food or remedy for the building up of these elements or component parts all diseases would become curable. Twelve of these ultimate elements and their proper tissue food had been discovered by Professor Schuessler, and, when the other two had been found, "you simply need never die."

These remedies she had in tablet form, and her manner of dealing them out was thus described by one of the witnesses, who had applied to her for this valuable secret of earthly immortality: "She said we should come to her because, while the tablets did the work, they should be administered in just such a form. She would take one bottle, then another, and, when people were sitting around the table, she would not give them all from the same bottle. She would kind of give them in a certain way. They were tablets. She called them 'tissue food,' I believe. I don't know as I ever heard her call them that, but I suppose she was referring to the remedies—the tissue food and the benefits to be derived from the use of these remedies taken in just such form as she prescribed. These remedies were in bottles. My father ate them from plates she put them on, taking same from particular bottles. I think I asked her once how she could know which to give to the different patients. Her only answer was she said she never got mixed up. I don't know whether the manner in which these remedies were to be administered were on the bottles or not."

Another witness said: "I live in this city; am acquainted with defendant; have consulted her for my ailments about two years ago last August. I told her what my condition was. She said she thought she could help me. She gave me some tablets and some paste made from the tablets. The paste was an external application. I took treatment several months, don't remember exactly how long. I think the price was $1 a treatment. My husband paid her. She was paid for the services rendered me. The number of these tablets she gave me varied; sometimes I took more than at other times. She would give me directions how to take the tablets. I took some of them home. She directed me how to take them."

At the close of the testimony the trial court instructed the jury that there was no evidence that the defendant publicly professed to be a physician, or that she assumed the duties of a physician, or that she publicly professed to cure or heal; and that the only question remaining for their consideration was whether during the time covered by the indictment she made a practice of prescribing, or prescribing and furnishing, medicine for the sick. The court also instructed the jury that the defendant had the right to keep and sell Schnessler's Tissue Food and other proprietary medicines, and, if a customer indicated to her the nature of his complaint, she could rightfully give her opinion what remedy she had therefor, and state her judgment as to which was best, and give gratuitous advice as to their use, but that she would have no right to diagnose a case and determine for the purchaser the character of the remedy he should use.

The trial resulted in a conviction, the judgment for which is affirmed by the Supreme Court.

The Supreme Court says that it was argued that to prescribe and furnish medicines is part of duties of a physician, and, as the trial court withdrew from the jury the allegation of the indictment that the defendant wrongfully assumed such duties, the charge that she unlawfully prescribed and furnished medicines necessarily fell with it. The court thinks the reasoning is unsound. The Iowa statute specifically and separately enumerates each of these acts: (a) Publicly professing to be a physician and assuming the duties of the profession; (b) prescribing medicines for the sick; (c) prescribing and furnishing medicine for the sick, and provides that any person making a practice of either shall be held to be practicing medicine within the meaning of the law. It is quite clear from the statute that the legislature did not understand that these phrases are merely different expressions of the same idea. Both expressions appear to have been used in order to bring within the scope of the act both the person who professes to be a physician and assumes the duties of that profession and the person who, while not claiming to be a physician, and not assuming the duties of the profession generally, yet undertakes to prescribe and furnish remedies for the sick and afflicted. There was no error, therefore, of which the defendant could complain in submitting the case to the jury on the theory that the practice of prescribing, or prescribing and furnishing, medicines for the sick is not necessarily included in the charge of publicly professing to be a physician and assuming the duties pertaining to such profession.

Again, the point was made that under the trial court's instructions as to what acts would amount to prescribing and furnishing medicines, and as to the plaintiff's right to sell tissue food, there was no evidence on which a verdict could be upheld. But, on a careful reading of the record, the Supreme Court finds no such lack of testimony in support of the indictment as called for its interference with the finding of the jury.

The instructions were to the effect that, if the accused after diagnosing a case undertook to determine for a sick person applying to her the character of the remedy best suited to his ailment, said act would be prescribing medicine for the sick within the meaning of the statute. The Supreme Court is of the opinion that this definition was correct as far as it went and, if it was not as full, exact, and complete as might be framed, the error was one of which the defendant could not be heard to complain. The fact that the defendant was careful to call the article which she supplied to the sick "food," instead of "medicine," was not at all decisive of the merits of the case. It was evident she was catering to the patronage of the sick who were asking relief from their ills, and, if she listened to their statements, assured them of her ability to help them, and supplied them with her alleged appropriate remedies giving instructions for their application or use, this would seem to come within the definition given by the court, as well as within the ordinary and usual signification attached to the words "prescribing" or "prescribing and furnishing medicines," as they are commonly used and understood. Medicine as defined by Webster is "any substance administered in the treatment of disease; a remedial agent; a remedy." The fact that the substance so employed as a remedial agent may have value as a food, and have a tendency to build up and restore wasted or diseased tissue, will not deprive it of its character as a medicine if it be administered and employed for that purpose.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

March 5.

1 *Surgical Treatment of Various Conditions as Influenced by Pregnancy. M. Storer, Boston.
2 Case of Acute Dilatation of the Stomach and Duodenum, in a Moribund Phthisical Patient, Simulating a Terminal General Peritonitis. T. Ordway, Boston.
3 The Boston Medical Library; Its Past, Present and Future. J. F. Ballard, Boston.

1. Operations During Pregnancy.—Storer investigates the common belief that pregnancy constitutes a sort of *noli me tangere*, so far as operation is concerned. Of course, any operation that can be deferred without detriment, it is as well to defer, rather than to subject the already strained organism to additional strain. He therefore considers only operations that, if there were no pregnancy, one would not hesitate to say ought not to be deferred, and the bearing of pregnancy thereon. From a critical survey of about 700 papers Storer says: "It is evident that nearly all operations have practically no influence on the course of pregnancy, except to favor its continuance, provided that they are not followed by a septic process, which, by reason of continued high temperature, may cause the death of the fetus and abortion." He tabulates a number of operations performed during pregnancy without affecting it, not only minor operations, but such grave operations as splenectomy, nephrectomy and thyroidectomy. Even when abortion occurs at an appreciable interval, in many of the cases it is open to question whether or not it was caused by the operation. His conclusion is: "An examination of the foregoing list will show that operations of the most varied nature can be performed with very little danger of interrupting pregnancy, with two exceptions; in 9 operations for vesicovaginal fistula abortion followed in 4, and in 25 operations for crural hernia it took place six times; just why, in the latter case, it is difficult to see." Storer confines himself to the consideration of operations on the uterus and its appendages and the neighboring parts. The first consideration is what effect the condition calling for intervention will have on the mother and fetus if left alone. It is well to repress reflex excitability by morphin or bromids before operation, and to combat wound infection, if it occurs, with cold baths and antipyretics. He discusses in detail various conditions calling for interference, and reports five cases of his own, of operation during pregnancy, the fourth and fifth being of special interest. In the fourth case, pregnancy was denied and not established, and operation was to remove an intrauterine fibroid. This was done, but a three months' pregnancy was found. The patient did well until the eighth day when constitutional symptoms occurred. The vaginal examination showed a rupture at the seat of the myomectomy with the lower half of the fetus in the abdominal cavity tightly gripped by the uterine wall. Storer emphasizes the following points: The difficulty of diagnosis, the danger of infection by a gauze drain, the mistake in closing the uterine wound with catgut, the danger, if miscarriage occurs, of the line of least resistance being toward the abdominal cavity rather than toward the vagina, the necessity of prompt intervention in case of danger signals, and above all, the fact that the tumor would much better have been left alone. The fifth case was also one in which pregnancy was denied, and it was taken to be a probable left salpingitis. In dilating the uterus preparatory to curetting, the cervix gave way. A gauze covered forceps passed in entered for four inches, and on the supposition that the uterine wall had been perforated the abdomen was opened, when a three months' normal pregnancy was found, with nothing the matter but left lateroversion, which had been mistaken for the tube. The patient was promptly relieved of her symptoms and that, strange to say, without miscarriage taking place.

Medical Record, New York.

March 7.

4 Opportunities of a Great Medical Society. T. E. Satterthwaite, New York.
5 Report of Three Years' Work at the Sea Breeze Hospital for the Treatment of Surgical Tuberculosis in Children. L. W. Ely and B. H. Whitbeck, New York.
6 *New Facts Regarding Heart Disease. Wachenfeld, Bad Neuheim, Germany.
7 "The Flowers That Bloom in the Spring," with Variations and Digressions. W. B. Konkle, Montoursville, Pa.
8 *Plea for the Correction of Uterine Displacements. F. H. Hancock, Norfolk, Va.

6. **Heart Disease.**—Wachenfeld gives reasons for rejecting the theory of work hypertrophy, or increase of the ability of hypertrophied muscle to perform work. Hypertrophy of the cardia should never be considered as a source of increased power. In like manner, the theory of dilatation is discarded because it would entail a negative pressure. Such a pressure can not exist in any portion of the circulatory apparatus, since a vacuum in the circulatory system is not to be thought of. Extension of the limits of cardiac dulness is always due either to hypertrophy or to a change in the position of the heart. Postmortem hearts, whose cavities seem to be dilated, are an illusion, due to the fact that cavities whose walls are gaping always appear larger than those that collapse. Besides, normal hearts may be of different dimensions, one being even more than double the size of another. As regards valvular disease, it must not be forgotten that such lesions never develop in an instant. It is impossible for the blood to regurgitate through a diseased valve in quantity to have any influence on intraventricular pressure. Could it do so it would follow that in due course the relation between the quantity of blood in the pulmonary and systemic systems would be altered very considerably. The conditions that are found accompanying valvular diseases are not caused by the trouble at the valve, but are the consequences of abnormal metabolism induced by the slowing of the blood current. Valvular lesions which are not sufficient to produce a very material slowing of the circulation are never dangerous to life. The changes that really take place are due to interference with metabolism of the heart muscles. The treatment, then, consists in a strong stimulation of general metabolism by means of thermal baths, massage, and suitable diet, acting through the lymphatics as the carriers of cell nourishment, with the addition of digitalis and rest in bed, which help to increase to a maximum the period of rest between the contractions and to retard the heart's action.

8. **Uterine Displacements.**—Hancock, as the result of a study of 600 pelvic examinations, finds that out of 147 retroversions only 40 were accompanied by discernible perineal or cervical tears, and that out of 183 displacements only 51 were associated with a relaxed vaginal outlet. He deduces from this that deficient perineal support is not the most important factor in their production; the ligaments can not be left out of account. He does not believe that tears should be let alone, but he does believe that the symptoms directly produced by them have been greatly exaggerated. Endometritis and pain and usually leucorrhea are almost invariably associated with a displacement, and sterility is often due thereto, though not because of mechanical obstruction, as was formerly supposed, but in consequence of the attending endometritis. In Hancock's opinion, therefore, all these cases should receive treatment.

New York Medical Journal.

March 7.

9 *Psychiatric Expert Evidence in Criminal Proceedings: Its Imperfection and Remedy. G. W. Jacoby, New York.
10 *Need of Care for the Convalescent from the Hospital Standpoint S. T. Armstrong, New York.
11 Brief Study of the Prostate with Reference to the Curability of Gonorrhea. A. L. Wolbarst, New York.
12 *Operative Tendencies in Modern Obstetrics. A. Stein, New York.
13 Gall-stone Disease and Its Surgical Aspect. F. Hawkes, New York.
14 Diagnosis and Treatment of Benign Tumors of the Rectum. H. A. Bray, Philadelphia.
15 *Colorimetric Analysis of the Saliva, with Clinical Significance. B. R. Le Roy, Athens, Ohio.

9. **Psychiatric Expert Evidence.**—Jacoby considers the existing confusion in our method of utilizing expert testimony, and proposes as a remedy the establishment of a permanent class of forensic physicians, to be public officials, not of the city or county, but of the state, having a permanent tenure, freed from all political influence and paid by the state, neither receiving nor accepting instructions from anyone in the composition of the expert written opinion by them uttered at call of court. Their qualifications should be a certain minimum age limit, a special training in legal medicine and legal psychopathology, with clinical psychiatric work in a state hospital, and a diploma on special examination by the state board of medical examiners, conferring a special title of physician to the courts. The appointment should be made by the state from the number of successful candidates. He considers the ethical aims of expert testimony and urges the duty of the public prosecutor as having for its object, not a conviction, but the discovery of the absolute truth. Jacoby considers the hypothetical question hardly ever necessary. He fully appreciates the opposition that this plan is likely to encounter, as voiced in a statement of a judge of the Supreme Court of New York, to the effect that this idea of official witnesses is a departure from established English and American principles of jurisprudence, and even if an improvement, is radically different from the principles that have given rise to our free institutions. To this Jacoby replies that it places the expert above all party lines and in accordance with the high conceptions of expert scientific duty, and that some such measure ought to be adopted, even though the ideas of American and English jurisprudence would perforce have to adapt themselves to the progress of the times. Many countries, notably Germany, have already gone to some extent in this direction.

10. **The Convalescent.**—Armstrong urges that proper hospital treatment for convalescents should be provided to restore the patient as expeditiously as possible to physical efficiency. For economic reasons the treatment of convalescence should be separated from that of acute conditions. But for the same reasons a hospital for convalescents may be associated with one to treat chronic diseases. Urban accommodation for convalescents is impracticable and undesirable, and accessible suburban sites should be selected to locate hospitals for convalescents. Convalescent hospitals should be constructed at moderate cost, should provide for patients likely to require a long as well as a short duration of convalescence, should be equipped with all necessary apparatus, and the patients should be subjected to proper medical supervision. A committee or society to advocate convalescent hospitals should be formed to cooperate with a charity organization society, or association for improving the condition of the poor, or state board of charities. Such a society in England has accomplished good results.

12. **Operative Obstetrics.**—Stein discusses the various measures designed for the replacement of embryotomy: Cesarean section, dilatation of the cervix with hard and soft dilators, Dührssen's operation, which represents a real advance in modern operative obstetrics and which he briefly describes, and also the operations of symphyseotomy and pubiotomy. He concludes that a new science of obstetrics has developed in the last two decades, due chiefly to the adoption of modern surgical principles, and that obstetrics no longer fails to keep pace with the advances in the other branches of medicine.

15. **Analysis of the Saliva.**—Le Roy describes the methods of analysis of saliva, colorimetric and qualitative. The smallest quantity of reagents compatible with color reaction is to be used and the test solutions are usually 5 per cent. in strength. He details the method of testing for sulphocyanids, ammonia, chlorids, oxalic acid, urea, formaldehyd, acetone, sodium, potassium, calcium, nitrites, lactic acid, opium and morphin

(the latter two tests are useful in detecting drug addiction), the rosolic acid test paper for acids or alkalies and proteids. He then discusses the clinical significance of the finding of these various substances.

Medical Fortnightly, St. Louis.

February 10.

16 The Opsonin Theory and the Probable Future for Bacterial Vaccines. L. H. Warner. Brooklyn, N. Y.
17 Drug Medication Regnant in Therapeutics, the Key to Exact Medical Science. J. Clements, Wichita, Kans.
18 A Useful Iodo-Proteid in the Treatment of Tertiary Syphilis. J. R. Thrasher. Indianapolis.
19 *Control and Prevention of Tuberculosis. G. Homan, St. Louis.

February 25.

20 Northern India. R. G. Eccles, Brooklyn, N. Y.
21 Evolution of Man Is Evolution of Nature. A. S. Ashmead, New York.
22 *The Falsetto or Eunucoid Voice. E. E. Clark, Danville, Ill.
23 Appendiceal Perforation. C. H. Shutt, St. Louis.

19. This article will be dealt with in the Department of Medical Economics.

22. **Eunucoid Voice.**—Clark discusses this condition, not of frequent occurrence, but a true affliction when it occurs, if for no other than esthetic reasons, though in many cases esthetic conditions have a good deal to do with the economic success of the individuals. He asserts that the eunucoid voice does not mean abnormal sexuality, for in all cases the genital organs are found normal. Clark says that treatment, which is usually effective, consists in a rigid course of vocal gymnastics and monotone exercises with development of a proper method of breathing, especially by the cultivation of the abdominal respiration. It is well to assure the patient as to his prospects of improvement. His directions are as follows: Begin by singing a high note and have the patient repeat it, then sing on down the scale until he has reached his lowest register, then have him keep the voice at this pitch and repeat the low notes in a loud forced expiration for ten or fifteen minutes. Have him read aloud in a deep register in a monotone. The low register for reading can be secured by singing his way down, then continuing in the low tone. Have him refrain from all unnecessary use of the voice, except when he is practicing his vocal gymnastics, and let him practice reading in the low tones in the evenings and any other time possible, and soon he will be using the deep masculine tones unconsciously. The family practitioner, by attention to this matter, which is commonly accepted as an unavoidable misfortune for which it is useless to seek relief, may here enlarge his sphere of usefulness.

American Journal of Obstetrics, New York.

February.

24 *Influence of the Central Nervous System in the Causation of Uterine Hemorrhages. H. Ehrenfest, St. Louis.
25 Phlegmonous Sigmoiditis—Resection—Recovery. I. Olmstead, Hamilton, Ont.
26 Intrapartum Vaginal Ovariotomy for Ovarian Cyst Obstructing Labor. Report of Case. K. I. Sanes, Pittsburg, Pa.
27 *Scopolamin-Morphin Anesthesia in Gynecology. E. Ries, Chicago.
28 Vesicouterine Fistula. W. H. W. Knipe, New York.
29 Obliterating Thrombosis of the Ovarian Artery. H. Grad, New York.
30 *Normally There Should Be No Hemorrhage from the Placental Site at the Time of Delivery. J. G. Drennan, St. Thomas, Ont.
31 *Neurasthenia in Its Relation to Pelvic Symptoms in Women. E. A. Weiss, Pittsburg, Pa.
32 *Curettage and Puerperal Sepsis. C. E. Ruth, Denver.
33 Cases Illustrating Common Mistakes in Gynecologic Diagnosis. W. S. Smith, Baltimore.

24. **Uterine Hemorrhages.**—Ehrenfest says that any acceptable explanation of the exact mechanism by which an impulse originating in the central nervous system—a mental cause—or one transmitted from the central nervous system—a reflex cause—could result in the sudden appearance or the sudden cessation of a uterine hemorrhage must be limited to the following physiologic and histologic facts: 1. The blood circulation in the uterus in a very marked degree stands under the influence of the vasomotor system, the uterus being an erectile organ. 2. The uterine musculature shows rhythmic spontaneous contractions. 3. Changes in the tonus of both the uterine musculature and the vessel walls are subject to the influence of the central nervous system. 4. Uterine contraction at times (as when the pulse reaches the uterus by way of the nervi erigentes) is accompanied by active vasodilatation. 5. The sudden cessation of a menstrual flow or a temporary amenorrhea developing as the result of an emotion or in the course of certain diseases of the nervous system, often can not be due to organic lesions in either uterus or ovaries. 6. The sudden appearance of a hemorrhage as the result of a mental shock can not be explained, like the menstrual flow, as immediately due to certain degenerative processes in the walls of the endometrial vessels. 7. A sclerosis of some of the arterial vessels must be considered a physiologic condition of the multiparous uterus. In view of the conditions prevailing at the time of the beginning of the menstrual flow we seem forced to assume that the local blood pressure in the uterus at times may fall and rise independently of the general blood pressure. Such an assumption is entirely in harmony with physiologic facts. A local increase of the blood pressure in the uterus, Ehrenfest thinks, will result from any tonic contraction of the uterus slight enough not to cause a compression of the arteries, but strong enough to effect a cessation of the rhythmic contractions of the uterus. Such a contraction is probably better termed a temporary increase of the uterine tonus. What will be its effect? The compression of the thinner walled veins will interfere with the defluxion of the venous blood. Since the arteries remain unaltered, a congestion results which will be augmented by the absence of the rhythmic contractions which certainly help to propel the venous blood. In this way a passive hyperemia is produced. The hyperemia must show its most pronounced effect in the capillaries of the endometrium for two reasons: 1. The capillary system of the endometrium in development greatly outranks the two other systems, namely, the subperitoneal and the intramuscular (Werth, Freund), as the largest portion of the arterial blood entering the uterus passes through the capillaries of the endometrium. 2. While the capillaries of the two latter systems, on account of their situation between the muscle fibers, are directly compressed by the contracting muscle, such a compressing effect is not exerted on the capillaries lying in the mucosa. As the result of the passive hyperemic condition and the locally increased blood pressure, therefore, the endometrial capillaries must become dilated and finally will rupture. This explanation seems also applicable to menstruation. The passive hyperemia, just described as the result of an increased tonus of the uterine musculature, here would be preceded by the active hyperemia of the premenstrual stage, which in itself causes a locally increased blood pressure with a passive dilatation of the capillaries. This theory of the mechanism by which certain uterine hemorrhages are started is in harmony with, and is actually supported by, the observation that uterine hemorrhages are common in the presence of all those anomalies which (a) cause an increase in the general blood pressure; (b) produce an active or passive hyperemia of the pelvic organs; or (c) impair the integrity of the endometrial capillaries. The theory offered in this paper explains, in an apparently satisfactory manner, the appearance of a uterine hemorrhage (including normal menstrual flow), the sudden cessation of an existing hemorrhage, an amenorrheic condition, menorrhagia, and finally certain forms of uncontrollable or intractable metrorrhagia.

27. **Scopolamin-Morphin Anesthesia in Gynecology.**—Ries concludes from his experience that scopolamin-morphin anesthesia is, with certain restrictions, of great advantage to the patient as well as to the operator, and that its judicious use can be safely recommended.

30. **Placental Attachment.**—Drennan points out that the villi of the fetal placenta are inserted into the interglandular spaces of the maternal placenta so that the capillaries of the one do not come into direct contact with those of the other, and that the fetal and maternal blood do not mingle, but that an osmotic interchange takes place, as in the lungs, where the blood does not come directly into contact with the air. The cells lining the uterine glands secrete a mucus, and this, with the secretion from a breaking down of the lining cells of the interglandular spaces, is interposed between the maternal and fetal portions of the placenta. At the time of delivery this, if the condition is normal, is readily absorbed, and the villi of the

chorion should slip out without any vascular rupture from the interglandular spaces. But if adhesions have formed during pregnancy, then either rupture of a portion of the villi, which will be left behind adherent to the interglandular space, will occur, affording an insignificant hemorrhage, or the interglandular space wall, with the uterine capillary walls, will be torn, and serious hemorrhage will result.

31. **Neurasthenia.**—Weiss concludes that neurasthenic pelvic symptoms in women frequently exist without pathologic changes in the pelvis; that a careful differentiation between neurasthenia and real morbid anatomy must be made before deciding on the treatment; and that this form of neurasthenia is not only unimproved but frequently aggravated by surgical treatment.

32. **Curettage and Puerperal Sepsis.**—Ruth argues against the use of the curette in septic cases.

Annals of Surgery, Philadelphia.

February.

34 *Ludwig's Angina. T. T. Thomas, Philadelphia.
35 *Experimental Surgery of the Lungs. S. Robinson, Boston.
36 *Should Cholecystitis and Cholelithiasis Be Any Longer Considered Medical Affections, and What Are the Usual Consequences of So Treating Them? C. B. G. De Nancrede, Ann Arbor, Mich.
37 *Value of the Differential Leucocyte Count in Acute Appendicitis. A. H. Noehren, New York.
38 A New Technic for Dealing With the Appendix Stump. C. W. Barrett, Chicago.
39 Obstruction of the Internal Urinary Meatus by Folds of Mucosa. W. Jones, Portland, Ore.
40 *Postoperative Roentgen-Ray Treatment of Malignant Disease. R. H. Boggs, Pittsburg, Pa.
41 *Endoaneurismorrhaphy (Matas) in the Treatment of Traumatic Aneurism of the Femoral Artery. J. M. Elder, Montreal.
42 Treatment of Paralytic Talipes Calcaneus by Astragalectomy and Backward Displacement of the Foot. R. Whitman, New York.
43 *Trough-Suspender Forearm Sling. W. C. Wermuth, Chicago.
44 Partial Resection of Upper and Lower Maxillæ for Congenital Deformity of the Face. R. T. Morris, New York.

34. **Ludwig's Angina.**—This is the first instalment of an article in which Thomas discusses the history, etiology and pathology of Ludwig's angina, discussing the various views that have been presented. In Thomas' opinion, one of the basic causes of confusion lies in the obscurity associated with the cause of death, whether it results from septic intoxication or from invasion of the air passages. The author gives his reasons for believing that practically all deaths in this disease are due mainly to interference with respiration.

35. **Experimental Surgery of the Lungs.**—Robinson directs attention to the consideration of the avoidance of lung collapse in operations on the pleural cavity. Fatal collapse must be avoided, either by not allowing air to enter between the visceral and parietal layers, or by keeping the lung artificially inflated. The latter may be effected by negative pressure applied to the outer surface or by positive pressure applied to the inner aërating surface. The last mode is the one adopted by Robinson, and he describes an apparatus of his own construction which has proved most satisfactory. He reports thirty experimental operations, which he considers show a lower death rate than has hitherto been recorded. He recapitulates the eight objections raised by Sowerbrook against positive pressure respiratory apparatus for experimental surgery when the animal's recovery is desired, and answers them in detail.

36. **Cholecystitis and Cholelithiasis.**—De Nancrede answers the question asked in his title by stating that there are many serious hepatic and biliary conditions that can be met properly only by the use of the knife. If these conditions must be recognized early to secure the best results, a diagnosis often must be reached by discarding the group of symptoms usually relied on, and reaching the correct conclusion by a careful analysis of the symptoms, viewed in the light of anatomy, physiology and modern pathology. In certain rare cases, as already said, only an exploration will decide the question.

37. **Leucocyte Count in Appendicitis.**—Noehren considers blood examination in acute appendicitis of great value in determining whether or not immediate operation is indicated. The degree of leucocytosis is too variable, and the relative disproportion between percentage of polynuclears and the degree of leucocytosis, while reliable in the majority of cases, is of little practical value. The percentage of polynuclears alone is more reliable than either and is easily made; 90 per cent. or more demands immediate intervention; below 78 indicates a mild process, and intermediate relations *pro rata*.

40. **Postoperative X-Ray Treatment.**—Boggs urges the early referring of malignant cases for postoperative x-ray treatment, instead of waiting until recurrence has taken place. The site of operation and the adjacent lymphatic glands should be early saturated with radiation. In prescribing mercury for syphilis great fear of producing salivation would not induce us to prescribe 1/100 of a grain when two grains were indicated. The same is true in treating carcinoma with the x-ray. Inadequate treatment not only is useless, but Boggs believes stimulates tissue growth, while sufficient radiation retards and destroys new growths.

41. **Endoaneurysmorrhaphy** (Matas).—Elder reports a case of Matas' operation in a traumatic aneurism of the femoral artery, and concludes that this operation, both in its rationale and its results, is certainly much preferable to the risks of the ligature, which can always be resorted to should suture fail.

43. **Forearm Sling.**—Wermuth describes a sling made in three pieces. The main or body piece is formed out of a square piece of strong muslin cloth, with dimensions 18 by 18 inches, once folded together open above, sewed together at one end, rounding its lower border, giving to this body piece the form of a trough with one end open. The open edges are reinforced by a 1½-inch hem. To the main or trough piece are sewed two suspensory slings, each 42 inches long, 3½ inches wide at the proximal end, where they are stitched to the upper margin of the inner or body wall of the trough piece. These slings taper to a 2½-inch wide distal end. The attachment of these sling pieces to the body piece, the one 3 inches from the elbow end and the other flush with the free, or carpal, end, is likewise reinforced by 1½-inch hem. Through this reinforced attachment on each side is made an opening, a buttonhole, also reinforced, and large enough for the distal extremity of the suspensory sling to pass through. Likewise, in the upper margin of the outer wall of the body piece, two buttonholes are made, directly opposite the former two, to receive these distal ends. The distal ends pass through the buttonholes of the walls of the trough piece, and are drawn taut as occasion demands, securely locking and fixing the arm sling. If necessary, the inclination or declination can be changed by shortening the pin fixation on the sling and elongating that of the other side to a corresponding degree. By reversing or turning the body piece of the sling inside out, it adapts itself to either side of the body, so that the suspender sling wall is in juxtaposition with the body.

Indiana Medical Journal, Indianapolis.

February.

45 *Facts Regarding Hydrophobia. T. V. Keene, Indianapolis.
46 Seventeen Years of Tuberculin Diagnosis and Treatment. T. Potter, Indianapolis.
47 *The Indiana Movement. J. N. Hurty, Indianapolis.
48 In Memoriam, Nicholas Senn. J. A. McDonald, Indianapolis.

45. **Hydrophobia.**—Hydrophobia may develop in a community through the introduction of an infected dog, a year elapsing before the animal presents symptoms. It may develop at any time during the year. The average incubation period in man is about fifty days. Differentiation has to be made from strychnin poisoning, tetanus and hysteria. Keene particularly cautions against killing a dog that has bitten any one; it should be kept for observation. Not all persons bitten by a rabid dog are infected. All animals known to be bitten and all stray curs should be killed and all dogs should be muzzled for eighteen months on appearance of infection in the community. Chloral and hyoscin, in rather large doses, are the most trustworthy drugs. As regards the Pasteur treatment, each case is a law unto itself in the matter of dose, depending on the length of time between infection and treatment, age, nervous temperament, nature and location of bite, and manner of reaction to each treatment. An average of twenty-one days is required to complete a series of Pasteur treatments.

47. **The Indiana Movement.**—Hurty says that education does not and can not eliminate degeneracy. The only way is to

prevent the creation of degenerates. He refers to the Indiana marriage law on this subject, and gives the text of a new bill authorizing operative measures for the prevention of procreation by degenerates. Vasectomy is the operation approved.

Montreal Medical Journal.

49 Biblical Medicine and Hygiene. H. B. Murphy, Lansdowne, Ont.
50 Machine for the Forcible Correction of Deformed Feet. J. A. Sutter.
51 *Tabes Dorsalis and Its Re-educative Treatment. C. K. Russell, Montreal.
52 Epidemic Cerebrospinal Meningitis. J. G. Browne, Montreal.
53 *Renal Tuberculosis. R. P. Campbell, Montreal.
54 *Infantile Scurvy. W. F. Hamilton, Montreal.

51. **Tabes Dorsalis.**—Russell discusses the various etiologic theories of tabes and considers especially Edinger's exhaustion theory, of which he approves. The cells may be congenitally debilitated, or they may become so in consequence of an abnormal amount of work, or because owing to impairment by some circulating toxin the work required of them is relatively too great. The toxin, in most cases, is syphilitic in origin, and the neurons normally most active and most constantly at work are those which principally suffer, namely, the sensory nerves from the muscles that take an important part in the regulation of muscular contraction. Naturally, these are chiefly in the lower extremities, but instances are given showing that this theory accounts for occasional affection of the upper extremities and explains skin, mucous membrane and eye symptoms, especially the Argyll Robertson pupil, bladder disturbances, etc., consequently it is no longer necessary to consider every tabetic as a syphilitic. Trauma, exposure to cold and wet, excesses, may all be predisposing causes, and the exacerbations following exhausting illness are thus explained. The relation of tabes to sex, also, thus becomes explicable, as well as the relative immunity of certain colored races. For treatment, rest and watchfulness against over-exertion, improvement of the general condition and metabolism, emptying of the bladder every three hours, the correction of errors of refraction, and the use of colored glasses in a strong light, are recommended. Massage and faradic stimulation of muscles on alternate days, to stimulate metabolism in lieu of exercise, are required. He then describes the exercises, consisting of the practice of various movements by ataxic limbs, at first under the guidance of the eyes. The exercises, which should be undertaken not oftener than twice a day, are practiced, respectively, in the recumbent and sitting positions and by walking on a specially figured strip of linoleum.

53. **Renal Tuberculosis.**—Campbell reports 12 cases, 3 in women, 9 in men, from which he concludes that 10 at least were cases of primary renal tuberculosis. He considers primary tuberculosis of the bladder rare. While renal tuberculosis is, in his opinion, clinically primary, pathologically the true primary focus may lie in some obscure lymph gland. The early diagnosis of unilateral, primary renal tuberculosis should render prognosis favorable.

54. **Infantile Scurvy.**—Hamilton says that the anemia, the restlessness or fretfulness when handled, the presence of blood in the urine, and unaccountable blood in the feces, should lead one to look carefully at the food the child is taking and should make one suspicious of early scurvy. If these cases do not develop into pronounced scurvy, the explanation may possibly lie in individual resistance.

Journal of the Medical Society of New Jersey, Orange.

February.

55 Value of the Leucocyte Count as a Diagnostic Aid. J. W. Martindale, Camden.
56 *Diagnosis of Chronic Endocarditis Prior to Disturbance in Compensation. L. G. Rowntree, Baltimore.
57 Treatment of Cancer by the *X*-rays. G. E. Pfahler, Philadelphia.
58 Sudden Death in Early Childhood. A. Stern, Elizabeth.
59 Hygiene of the Oral Cavity. H. H. Sherk, Camden.

56. **Chronic Endocarditis.**—Rowntree discusses the importance of routine in order to secure accurate diagnosis. He then discusses separately the physical examination for mitral incompetency, mitral stenosis and aortic regurgitation. True organic mitral regurgitation conforms to the following picture: 1, Soft blowing systolic murmur, best heard at apex, but transmitted to axilla and to angle of left scapula; 2, accentuated pulmonic second sound; 3, enlargement of the heart—apex displaced downward and to the left, so that inspection and auscultation afford the greatest information in this condition. In mitral stenosis the chief clinical findings are (1) a presystolic thrill, rough grating, felt in fourth or fifth interspace inside nipple line, ending in (2) a sudden, snappy shock, synchronous with ventricular systole; (3) a rough presystolic murmur heard in and usually limited to the area of thrill, ending in (4) a loud, snappy first sound at the apex; (5) accentuation of second sound in pulmonary area. Aortic incompetency presents the following group of signs: 1, The greatly displaced apex beat; 2, a long drawn diastolic murmur heard at the base of the heart and best in the aortic area; 3, pulsating vessels in the neck, and 4, the water-hammer pulse of Corrigan.

Texas State Journal of Medicine, Fort Worth.

February.

60 *The Unsuspected but Dangerously Tuberculous Cow. E. C. Schroeder.
61 Dermoid Cyst Complicating Labor. W. M. Yater, Cleburne.
62 Cerebrospinal Meningitis. M. L. Graves, Galveston.
63 Foreign Bodies as Etiologic Factors in Appendicitis. F. S. Barnes, Trinity.

60. **The Tuberculous Cow.**—Schroeder points out that the dangerously tuberculous cow may long retain the appearance and general semblance of good health. The present methods of detecting the presence of the bacillus are too crude to insure positive results unless the bacilli are numerous, wherefore he insists on the necessity of employing the tuberculin test. The danger from tuberculosis among dairy cows is not confined to the use of milk as a beverage. It is transmitted to other articles of food prepared with it, especially butter. The public must be aroused to its obligation, if not for its own sake, at least for that of children, among whom the frequency of tuberculosis due to milk from tuberculous cows is considerable. After years of observation, the tuberculin test has been shown to be a more nearly infallible means for diagnosing tuberculosis than any diagnostic measure for other diseases of men and animals. Our dairy herds can be cleaned of tuberculous cows by the proper application of the tuberculin test and the segregation of all reacting animals.

Northwestern Lancet, Minneapolis.

February 15.

64 Inguinal Hernia—Types of Operation—Results in 1,652 Cases. E. S. Judd, Rochester, Minn.
65 Present Status of Smallpox in Minnesota. H. M. Bracken, St. Paul.
66 *Medical Fees. S. M. Hohf, Yankton, S. D.
67 *Appendicealgia or Non-inflammatory Diseases of the Appendix. F. E. Walker, Hot Springs, S. D.

March 1.

68 Care of Premature Infants, with Special Reference to the Use of Home-Made Incubators. J. C. Litzenberg, Minneapolis.
69 President's Address to Hennepin County (Minn.) Medical Society. J. E. Moore, Minneapolis.
70 From a Business Standpoint. A. D. Hoidale, Tracy.
71 Hyosein-Morphin-Cactin Anesthesia. W. P. Lee, Fairfax.

66. Abstracted in THE JOURNAL, March 14, 1908, page 907.

67. **Non-Inflammatory Disease of the Appendix.**—Walker describes a condition of pain in the abdomen usually referable to the right iliac region, due to a pathologic condition of or within the appendix, and unaccompanied with an increased pulse rate or rise in the temperature. The etiologic conditions are given as congenital deformities of the appendix, such as twists, shortened mesentery, absence of a mesentery, angulation, flexions, attachment of the distal end of the appendix to the peritoneum, mesentery, or other abdominal organs, narrowed lumen, contractions, foreign bodies within the appendix, constipation, digestive disturbances, overwork, over-exercise, especially of the right side, over-indulgence in food, injuries and neurosis. A classification of 300 patients operated on for appendicular conditions gives 34, or 11.33 per cent., of subjects coming within this class, in which there was absolutely no clinical evidence of trouble other than continued pain. The types are divided into: 1, Those with constant but mild pain; 2, constant pain with frequent exacerbations; 3, periodical pain. The author admits the likely possibility of

the condition being an early stage of appendicitis, and considers that it fully justifies removal of the appendix at the earliest opportunity.

Bulletin of the Johns Hopkins Hospital, Baltimore.

February.

72 *Conditions Which Have Influenced the Development of American Medicine, Especially in the Last Century. W. H. Welch, Baltimore.
73 *Diagnosis and Treatment of Neurasthenia. J. K. Mitchell, Philadelphia.
74 *Abscess of Bone Caused by an Intermediate Bacillus (B) Allied to *B. Paratyphosus.* F. G. Bushnell, Brighton, Eng.
75 *Sudden Death in Pleurisy with Effusion Due to Change of Position. W. J. Calvert, Columbia, Mo.

72. This article takes up all the essential points dealt with in a similar article published in THE JOURNAL, Jan. 4, 1908, page 1.

73. **Neurasthenia.**—Mitchell refers to the fact that recognizable changes occur in the nerve centers from fatigue, and suggests that some of the conditions in neurasthenia may be consequent on functions being so continuous or severe as not to allow of proper repair, and that this is a cumulative effect. The subjective symptoms may be divided into the following groups: Fatigue symptoms, irritable weakness, disorders of the will and psychic depression, with a host of subsidiary or secondary symptoms. The group symptoms overlap and run into one another, but they constitute the positive pathognomonic signs. He discusses the differential diagnosis from locomotor ataxia, early paralytic dementia and hysteria. The indications for treatment are to repair the damages caused by over-exertion, to get rid of the depression, and to combat a host of lesser but distressing symptoms from asthenopia to constipation, and last and most serious to strengthen the will and to control and change the mental habit. It is desirable, though not absolutely necessary, to success, that the patient be convinced that a cure will be effected. The disability of will and decision is the most trying symptom to those who have not lost their self-respect. To break a bad habit a good one must be substituted. When improvement is well under way is time enough for reproof and exhortation; until then let there be advice and encouragement and helpful counsel. A written statement thereof is often especially valuable to the patient. In the after-treatment patients should be gradually trained into hard physicial conditions.

74. Published in *British Medical Journal* and *Lancet*, Dec. 21, 1907.

75. **Sudden Death in Pleurisy.**—Calvert discusses sudden death in pleurisy due to change of position, and arrives at the following important conclusions: Sudden death in some cases of pleurisy with effusion, on changing position, is preceded by dyspnea, irregular pulse, and general anemia caused by collapse of the venæ cavæ and heart; and is due to failure of the venous congestion to compensate the constant variable hydrostatic pressure. Clinical conclusions he summarizes as follows:

1. Dependent as it is on one physical factor (pleural pressure) the venous pressure affords a reliable sign of the intrapleural pressure. Changes in the degree of venous pressure show the activity of the lesion producing the effusion, either increasing or decreasing, especially after the walls of the cavity are stretched. Maximum venous pressure heralds the approach of a period of unstable venous compensation, or the beginning of a failure of the veins to compensate. During this period the patient is exposed to attacks of syncope, sudden death on changing position, or to sudden death from a rapid rise of factor of the pleural pressure.
2. During this period the necessary precautions should be taken to prevent unnecessary change in the position of the patient—a horizontal position should be maintained.
3. Maximum venous pressure is a signal for immediate interference—tapping.
4. The importance of the venous pressure suggests a general application, by clinicians, of the present methods for measuring venous pressure, to all cases in which venous congestion is present, for the purpose of determining the range of pressure in each pathologic condition.
5. In cases of sudden death, the clinician should remember the success following continued stimulation of the heart in experiments in physiologic laboratories, when the heart has failed; and should apply, over a number of hours, and so far as possible, the same measures to the human heart. By so doing, a portion, at least, of these cases might be saved. The first step is to reduce the pleural pressure and increase the venous. Turning the patient on the affected side and nearly in a perpendicular position, would serve to transfer the variable from the cava to the outside wall of the pleural cavity and to add to the venous pressure the column of blood in the large veins. This change in pressure would add much to the effective force of the venous pressure, and might, with the aid of the stronger heart stimulants, revive the heart. Artificial respiration would, at least, slightly change the small amount of blood which might be forced through the lungs to the left heart. At this stage, arterial blood would materially aid in further reviving the heart. If by these means the heart begins to act feebly, the next step is to remove a little fluid from the pleural cavity, a few cubic centimeters. If too much fluid is removed the heart will not be able to do the increased work. As the heart is better supplied with blood and increases in strength, more fluid can be withdrawn. Repeated withdrawal of small amounts of fluid, until the venous pressure falls below the maximum pressure, is indicated; after this the heart is better supplied with blood and more capable of performing its increased work. Later the fluid may be withdrawn in larger amounts.

Louisville Monthly Journal of Medicine and Surgery.

February.

76 *Practical Management of Lesions of Bile Passages. H. H. Grant, Louisville.
77 Anesthesia and the Anesthetist. W. H. Loeg, Louisville.
78 Chronic Appendicitis: Postoperative Omental Thrombosis. L. Frank, Louisville.

March.

79 Hypertrophied Prostate Gland. J. G. Sherrill, Louisville.
80 Vital Force. J. Glahn, Owensboro, Ky.
81 Case of Cesarean Section. L. Frank, Louisville.

76. **Lesions of the Bile Passages.**—Grant gives the following indications for guidance in suspected lesions of the biliary passages: 1. When the symptoms are mild, consisting of a protracted dyspepsia, more or less severe, with occasional pains shooting up into the shoulder, a general loss of vitality, coupled with a persistent tenderness in the gall-bladder region, and after a reasonably patient medical treatment, the time for exploratory incision has arrived. 2. The presence of repeated attacks of pain, due to evident subacute inflammation in this region, the presence of a tumor more or less constant, of any appreciable size whatever; the existence of recurrent or possibly persistent jaundice, with or without clay-colored stools; attacks, one or more, of acute inflammation, with fever and pain; the history of the so-called biliary colic attacks; an assemblage of two or three of these symptoms, coupled with a persistent tenderness in the region of the gall bladder, probably reinforced by Moynihan's sign of tenderness posteriorly over the shoulder blade, constitute an absolute indication for exploratory surgery, with the prospect of almost certain relief.

Lancet-Clinic, Cincinnati.

February 29.

82 Plea for Better Obstetric Technic. A. B. Davenport, Columbus, Ohio.
83 *Case of Chronic Parenchymatous Nephritis in Which Decapsulation of Both Kidneys Was Practiced. J. C. Oliver, Cincinnati.
84 Clinical Methods in the Education of the Medical Student. J. A. Thompson, Cincinnati.
85 Case of Large Wound of the Scalp. R. Bellantoni, New York.

83. Abstracted in THE JOURNAL, Jan. 28, 1908, page 233.

Annals of Ophthalmology, St. Louis.

October.

86 Double Perforation of the Eyeball by Metallic Foreign Bodies. E. A. Shumway, Philadelphia.
87 Case of Subretinal Cysticercus. F. Lopez, City of Mexico.
88 Comparison Between Hysterical and Simulated Blindness. H. F. Hansell, Philadelphia.
89 Traumatic Irideremia. T. Faith, Chicago.
90 Veronal Conjunctivitis Showing Unusual Corneal Conditions. W. C. Posey, Philadelphia.
91 The Visible Remains of the Vitreous Canal, with Report of Case. B. Chance, Philadelphia.
92 The Motais Operation for Ptosis. Report of Three Cases. W. T. Shoemaker, Philadelphia.

Southern California Practitioner, Los Angeles.

January.

93 Surgery of the Thyroid Gland. W. W. Beckett, Los Angeles.
94 *Ideals of a County Medical Society. F. M. Pottenger, Monrovia, Cal.
95 Pathology of Plague. W. M. Horton, Los Angeles.
96 Symptomatology of Plague. L. M. Powers, Los Angeles.
97 *Prevention of Plague. R. M. Blue, San Francisco.

94. Abstracted in THE JOURNAL, March 14, 1908, page 907.

97. Similar articles by this author appeared in THE JOURNAL, Feb. 1, 1908, page 327, and in the *California State Journal of Medicine*, December, 1907.

Virginia Medical Semi-Monthly, Richmond.

February 21.

98 Malignant Disease of the Stomach; Diagnosis in Early Stages. M. J. Payne, Staunton.
99 Diseases of the Antrum. J. A. White, Richmond.
100 Enlargement of the Prostate. H. M. Trout, Roanoke.
101 The Stomach and Its Abuses. M. O. Burke, Richmond.
102 Physiology of the Spleen and the Indications for Its Removal. M. E. Nuckols, Richmond

103 Pneumonia. R. S. Martin, Stuart.
104 Electrotherapeutics in the Commoner Diseases. F. K. T. Warrick, Richmond.

American Journal of Urology, New York.

February.

105 Surgery of the Prostate. H. J. Scherck, St. Louis.
106 A Good Working Plan for the Treatment of Chronic Gonorrhea. E. Reissman, Newark, N. J.

Denver Medical Times.

February.

107 Featural Surgery. F. E. Waxham, Denver.
108 The Permanent Frown and Its Surgical Eradication. C. C. Miller, Chicago.
109 A Case for Venesection. A. T. Monismith, Fort Lupton, Colo.
110 Report of One Hundred and Fifty Cases of Pulmonary Tuberculosis. J. D. Gibson, Denver.
111 Rational Treatment of Pneumonia. J. Burke, Manitowoc, Wis.

March.

112 Acute Gonorrhea. W. H. Davis, Denver.
113 Symptoms and Diagnosis of Influenza. H. W. Rover, Denver.
114 Eye Complications of Influenza. G. F. Libby, Denver.
115 Throat, Nose and Eye Complications of Influenza. R. Levy, Denver.
116 Purulent Pericardial Effusion. H. B. Whitney, Denver.
117 Surgical Sequelæ of Influenza. L. Freeman, Denver.
118 Therapy of Influenza. M. Kleiner, Denver.
119 Laboratory Diagnosis for the Practitioner. J. C. Todd, Denver.

Utah Medical Journal, Denver.

February.

120 Surgery of the Thyroid Gland (concluded). A. C. Behle, Salt Lake City.
121 Treatment of Compound Fractures. R. S. Joyce, Ogden.
122 Atropin. R. J. Smith, Schenectady, N. Y.

March.

123 Knee-Joint Disease. H. M. Mayo, Salt Lake City.
124 Treatment of Sciatica. A. S. Bower, Salt Lake City.
125 *X*-Ray Treatment of Skin Diseases. E. D. Hammond, Salt Lake City.
126 Tuberculosis and Phthisis. F. Clift, Salt Lake City.

Buffalo Medical Journal.

March.

127 Present Status of Physiologic Therapy in Medical and Surgical Practice. S. H. Monell, New York.
128 Feeding in Tuberculosis. J. R. L. Daly, New York.
129 Lipoma Arborescens of the Knee Joint. R. O. Meisenbach, Buffalo.
130 Extracts from a Doctor's Ledger. B. H. Colegrove, New York.
131 Experiments on the Application of Suprarenin in Obstetrics. M. Neu, Heidelberg, Germany.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

February 22.

1 *Pyogenetic Activities of the Pneumococcus. J. W. H. Eyre.
2 *Functions of the Stomach and the Operation of Gastroenterostomy. H. M. W. Gray.
3 *Night Blindness. J. H. Parsons.
4 Aneurism of the Femoral Artery in a Man, Aged 78, in Which Suppuration Took Place from Pneumococcal Infection; Recovery. H. H. Clutton and L. S. Dudgeon.
5 Three Cases of Poisoning by Carbonic Oxid; One Recovery. R. S. Pearson.
6 Method of Roentgen Examination in Cases of Urinary Calculus. C. J. Morton.
7 *Dammed Circulation and Interrupted Circulation; a Note in Nomenclature. W. Ewart.

1. **The Pneumococcus.**—Eyre describes the growth of our knowledge of the pneumococcus, and catalogues the various names that have been given to it, eighteen in number, three of which have survived, viz., *Pneumococcus*, *Diplococcus pneumoniæ*, and *Streptococcus lanceolatus*. Among the lesions that have been occasioned by the pneumococcus are meningitis, ulcerative endocarditis, suppurative pericarditis, pleurisy, otitis media, arthritis, peritonitis, localized abscess, conjunctivitis, epiphysitis, osteomyelitis, periostitis and necrosis, thyreoditis, parotiditis, tonsillitis (follicular and membranous), gastritis, nephritis and perinephritis, endocervicitis, etc. He describes the characteristics and types of coccus, the degree of virulence and the toxic dose, and then discusses the important factor of cell resistance of the subject attacked, which he considers contains undoubtedly the solution of the problem given by the varying nature of the lesions produced by one organism. He then discusses the applications of Wright's work to the pneumococcus and the production of antipneumococcic serums. The latter, while useful, never reached the measure of usefulness attained by diphtheria antitoxin, but by the use of killed cultivations or "vaccines" a much greater measure of success is attained.

2. **The Stomach and Gastroenterostomy.**—Gray sums up his conclusions as follows: 1. The cardiac and pyloric portions of the stomach are distinct in development, structure and pathology. 2. During the early stage of gastric digestion the pyloric portion is normally empty and tonically contracted. When food has attained a proper chemical reaction in the cardiac enlargement it passes into the pyloric portion. 3. Bearing this in mind, care should be taken in performing gastroenterostomy to make the opening in the stomach wall within the pyloric portion, as near the pylorus as possible. If the stomach has not irremediably lost its muscular power, this will provide against an "uncontrolled escape of the acid gastric contents," asserted by some to occur in cases of gastroenterostomy. If pyloric spasm is present the opening will act as a safety valve and remove the spasm. If pyloric stenosis exists, the natural condition of things will be most nearly approached, and the "regulating action" (Pawlow) of the pylorus, so necessary to perfect digestion, be most nearly approximated.

3. **Night Blindness.**—Parsons explains night blindness as follows: In night birds the retina contains only rods, no cones. Visual purple is associated with the rods only, and is absent when they are absent. With low illumination in man there is more rapid depreciation of central than of peripheral vision, so that vision under these circumstances is principally carried out by the rods. Form sense, dependent on the cones, quickly diminishes in passing from the point of fixation toward the periphery; but at night, acute appreciation of variation of light and shade is more important than accurate delineation of objects. The cones, of course, do not escape destruction in the affected zonular area in retinitis pigmentosa, but their loss is discounted by their relative unimportance in that region. A group of cases deserving special notice is that associated with jaundice; bile salts are a solvent of the visual purple. A fact hard to correlate with the cases occurring with jaundice is that the night blindness common among badly nourished natives in India disappears when they are fed on liver, a mode of treatment advocated in the Ebers papyrus (B. C. 1500).

7. **"Dammed Circulation."**—Ewart, commenting on the suggestion of Allen (*Medical Record*, Jan. 4, 1908, abstracted in The Journal, Jan. 18, 1908, page 237) to adopt the original German expression, *Stauungs-Hyperämie*, in place of the various terms now in use to denote Bier's constriction method, objects that the German term is not original, but is itself an inadequate translation of the prior English term "dammed circulation." He suggests "Bier's dammed circulation."

British Medical Journal, London.

February 22.

8 *Abdominal Tumors Simulating Malignant Disease and Their Treatment. A. W. M. Robson.
9 Surgical Aspects of Subphrenic Abscess. H. L. Barnard.
10 *Incidence and Spread of Cancer. G. L. Cheatle.
11 Form of Oral Filter to Be Worn During Operations by All Persons Inside the Operating Room. C. E. Duncan.
12 Appendicitis at Sea, with Remarks on the Surgical Equipment of the Mercantile Marine. A. E. Johnson.
13 The Ocular Reaction for Tuberculosis. A. D. Roe.
14 Urotropin in Night Blindness. S. Mallannah.

8. **Tumors Simulating Cancer.**—Robson refers to five patients sent to him, suffering from supposed cancer of the rectum or sigmoid with obstructive symptoms necessitating a colotomy, in whom, after periods varying from one to three years, he had to close up the artificial anus because of the disappearance of the supposed growth. In a subsequent case, remembering his former experiences, Robson decided to wait, keeping the bowels open and administering belladonna and nux vomica; the patient recovered completely. These cases he regards as probably chronic infiltrating colitis associated with pouches of lodging fecal matter, or perhaps simply due to infection spreading through the intestinal wall. Other cases were pouched cecum with hard fecal concretions (removed), chronic tuberculous tumors, stone in the ureter, a case apparently cancer of the esophagus, in which gastrostomy was performed, the patient being alive seven years later and occasionally resorting to feeding through his gastric stoma, the diagnosis remaining still doubtful. Robson states that he

could report a large number of cases of gastric tumors, apparently malignant, that disappeared after gastroenterostomy. From these he cautions against a too hopeless prognosis after gastroenterostomy for tumor, and recommends an exploratory operation in nearly all cases of tumor of the stomach; for, even though the growth may be irremovable, the rest engendered by a gastroenterostomy will always afford relief; and in some cases, at first thought to be malignant, a cure may follow. The duodenum, the liver and gall bladder, inflammatory enlargement of the pancreas, often give rise to conditions simulating malignant disease; the kidneys and suprarenals, the abdominal lymphatic glands, the uterus, ovaries and tubes all afford similar examples. Exploratory operations *per se*, he asserts, are now so harmless in most cases with proper care and skill that even if no real good ensues, no serious harm should follow.

10. **Cancer.**—Cheatle has collected 56 cases in which cancer began in the skin of the hand, in 54 of them on the dorsal surface. The commonest point of incidence was on the skin covering the posterior surface of the second metacarpal bone and on its radial side. He connects with this Dr. Henry Head's experiments on himself. Head excised segments of his radial and two branches of the external cutaneous nerves, with the result that sensation was lost for tactile, pain and temperature impressions in the skin of the area which the nerves supplied. Eventually a trophic ulcer developed over a point on the radial side of the posterior surface of the second metacarpal bone; just on the point, indeed, which is the commonest site for the incidence of cancer on the hand. Cheatle also quotes from a forthcoming work by Mr. James Sherren on "Nerve Injuries and Their Treatment," to the effect that, on complete division of sensory nerves, blisters may occur spontaneously, even when sensibility to prick is beginning to return in the affected area; and that in incomplete division blisters may appear, not only over the area of sensory loss, but over that in which there is hyperalgesia but no loss of sensibility. The clinical connection between external irritation and cancer is a factor too marked to be regarded only as a popular fallacy. "Why," he asks, "should it be that cancer most often starts along a line two inches broad drawn obliquely inward and upward across the back of the hand?" And he replies: "Within that line the nerves supplying the skin become cutaneous, and, as I have pointed out before, the incidence of cancer appears to me closely associated with those points." Further, in two cases he has found inflammatory changes in the posterior spinal root ganglion on whose cutaneous distribution each cancer began while no inflammatory changes appeared within the ganglia into whose distribution the cancers spread. These and other facts that he adduces render pertinent the query whether cancer itself may be rendered possible only when there is a disturbance of nerve supply. He also publishes, with illustrations, certain cases in which the spread of the cancer appeared to be delimited by the area of distribution of certain nerves.

Medical Press and Circular, London.

February 12.

15 *Cancer of the Uterus. C. Lockyer.
16 Lumbar Puncture in Optic Neuritis. S. Stephenson.
17 Recent Investigations on Dysentery. R. Kruse.
18 Extrauterine Pregnancy. H. Briggs.
19 *Symptoms and Etiology of Mania. L. Bruce.
20 *Vomiting of Anesthesia. L. G. Gunn.

15. **Cancer of Uterus.**—Lockyer asserts that, when we remember that there are cases on record where women have remained well for twenty years after operation for cancer of the cervix, it is not going too far to say that in certain favorable conditions the disease can be cured. At least 80 per cent. of cases of uterine cancer that have come under his observation have been inoperable from the vaginal hysterectomy point of view when first seen. He urges the crusade for publicity. Cancer of the body of the uterus is far less virulent than cancer of the cervix, is rarer, and is generally found in elderly spinsters or in women who have borne but few children. In these cases vaginal hysterectomy is, in his opinion, the treatment. He does not favor vagino-perineal section. Cancer of the cervix is more prone to affect mothers of large families. His plan of dealing with erosions of the cervix is to mop away all discharges through a Fergusson's speculum with sodium bicarbonate solution, swab with iodized phenol, remove the excess, and insert a tampon soaked in 10 per cent. ichthyol in glycerin every week until the lesion is healed. If the disease shows signs of spreading he removes a piece for histologic examination before deciding on operation. He objects to vaginal hysterectomy in these cases, because it opens up an enormous risk of implanting cancer cells on surfaces severed during operation; it is impossible to remove the parametric tissues surrounding the cervix; and high lying cancerous glands are not discoverable. He is impressed with the superiority of Wertheim's method of abdominal panhysterectomy over all others in these cases; he describes the technic thereof in detail.

19. **Mania.**—Bruce considers mania due to bacterial poisons formed in the intestinal tract and absorbed into the blood, which, having an affinity for the nerve elements, produce brain intoxication. He has produced evidences of lesions in rabbits, showing the facts on which he bases his opinion. In mania the leucocyte count shows a marked abnormality. The mouth secretions teem with bacteria. The digestive and bactericidal powers of the gastric juices are poor. The feces often show the *Bacillus coli* absent, or at least greatly diminished, and their place taken by streptococci. The pulse is rapid, the blood pressure low, except at the period of excitement. Agglutinating properties with regard to streptococci are present.

20. **Anesthesia Vomiting.**—Gunn endorses, from his own personal experience, McArthur's plan (*Montreal Medical Journal*, June, 1907), which consists of giving two ounces of fresh cold water to drink after midnight on the morning of operation, repeating this every fourth hour until two hours before operation, when ten ounces are given and repeated just before anesthetization begins. He does not, however, entirely endorse McArthur's explanation that the vomiting is due to swallowing of anesthetic laden saliva, which a stomach full of water dilutes. His observations do not bear out McArthur's data. He offers no other explanation, but considers the method worth trial.

Clinical Journal, London.

February 19.

21 *Treatment of Injuries of the Uterus. J. Bland-Sutton.
22 *Pneumococcus Infections. W. Osler.
23 *Alcohol in Treatment of Pneumonia. G. A. Sutherland.
24 Fracture of the Acetabulum. R. W. Fell.

21. **Injuries of the Uterus.**—Bland-Sutton divides injuries of the uterus into gynecologic injuries, including perforation by sound, dilator, curette or the nozzle of a syringe, and the introduction of strong irritant solutions into the peritoneal cavity. 2. Obstetric injuries, from forceps or turning, as also spontaneous injuries. 3. Injuries to the pregnant uterus (a) from kicks, horn wounds, etc.; (b) in the course of abdominal operations. He discusses each of these classes in detail.

22. **Pneumococcus Infections.**—Osler refers to the great increase, in late years, of pneumococcic infections, both in frequency and gravity. This increase is especially pronounced in the United States. He thinks that we may be on the crest of a pneumococcic wave, similar to the waves of other infectious diseases, plague, for example. The condition demands organized study from a preventive medicine standpoint quite as much as cancer or tuberculosis. He refers to the great variety of conditions that may be due to pneumococcic infection much as does Eyre (see Abstract No. 1). As to the mode of transmission, whether lymphatic or hematogenous, etc., there is yet much work to be done. He comments on the widespread prevalence of pneumococci in apparently healthy persons and on the extraordinary variability of the germs in virulence. He quotes Wadsworth's recommendation of alcohol—as an alcoholic solution of sodium bicarbonate and sodium chlorid with the addition of glycerin—as a mouth disinfectant.

23. **Alcohol in Pneumonia.**—Sutherland discusses the use of alcohol on the assumptions that the commonest cause of cardiac failure in pneumonia is poisoning and paralysis of the medullary center, and that alcohol is, in the majority of cases, a stimulant of that center. He considers the indications for its use, the proper time to give it, the contraindications, the form and the dosage.

Dublin Journal of Medical Science.

February.

25 The Future Teaching of Practical Midwifery. W. Smyly.
26 Acetonuria. H. B. Leech.
27 Pulmonary Embolus Following Operative Interferences. C. G. Cumston.
28 Treatment of the Epileptic. E. T. Jameson.

Bulletin de l'Académie de Médecine, Paris.

February 4, LXXII, No. 5, pp. 129-160.

29 *Radium Treatment of Vascular Nevi. Fournier.
30 *Dangers for Public Health from Arsenical Insecticides in Agriculture. P. Cazeneuve.

February 11, No. 6, pp. 161-212.

31 *Emergency Medication by Reduction of Amounts of Fluid in Body. (Médication d'urgence par la réduction des liquides.) H. Huchard and C. Fiessinger.
32 *Influence of Chilling in Etiology of Tetanus. (Tétanos rhumatismal.) H. Vincent.

29. **Radium Treatment of Vascular Nevi.**—Fournier supplements his previous communication on this subject, summarized in The Journal, March 7, 1908, page 806, by stating that the radium is applied to a flat nevus daily for several consecutive hours, or the treatment is divided into hours or half-hours. The nevus loses its color—after the reaction—in from six weeks to two months, approximately. For the angiomatous nevus the exposures are short, but frequently repeated, with longer or shorter intervals of suspension at the first sign of a reaction. The entire course of treatment in this form may require several months.

30. **Dangers of Arsenical Insecticides.**—Cazeneuve calls attention to the danger to the public health from the widespread use by farmers and market gardeners of paris green and other insecticides with an arsenic base. Besides the danger of direct poisoning from fruits and vegetables thus treated, the rains may wash the arsenic into the wells or springs. He cites an instance of multiple poisoning from the use of wine for which he thinks the insecticide with which the vines had been treated was probably responsible; he also quotes instances of rabbits killed by grazing under a vine recently sprayed with an insecticide.

31. **Emergency Medication by Reduction of Fluids in the Body.**—Huchard compares the effect of reduction of the fluids in the body to that of venesection in acute edema of the lungs—both are liable to ward off impending death and tide the patient past the crisis. He refers especially to the acute dilatation of the cavities of the heart in the course of certain valvular and heart affections, especially mitral lesions complicated by aortic insufficiency, fatty degeneration of the heart and "beer heart." As a rule, in arterial cardiopathies the patients are told to drink freely and to take plenty of milk, to favor the elimination of toxic elements. When the dilatation of the heart increases and becomes permanent, and the veins become irremediably dammed up, ingested fluids do not pass out through the kidneys, but remain in the tissues, flooding the blood, raising the pressure in the veins and distending the heart more and more, thus augmenting the dyspnea, the edema and the asystolic symptoms, against which digitalis and other drugs are impotent. At this perilous moment the indications are to reduce the amount of fluids in the body by reducing the intake. An injection of morphin may be useful as an adjuvant; it reduces the congestion in the kidneys and thus indirectly promotes diuresis. Nothing should be allowed the first day but a pint of milk and a quart of water, mixed, to be taken in wineglassful doses every hour; the second and third day half milk and half water, and by the fourth day some solid food is allowed. At the same time the patient should take digitalin, 0.0001 gm. (1/640 grain)—the crystallized form—daily for ten days, then intermit five days and resume for five or ten days. This obviates all danger of cumulative action. Theobromin, "the dechloridating agent," should be taken at the same time, about 15 grains a day, in divided doses. The amount of urine generally increases to about three quarts a day and then gradually subsides to about three pints, in proportion to the amount of edema to be absorbed. It may be necessary to tap an effusion or hard edema in the legs, but once these obstacles are removed, diuresis occurs. If it does not appear even under 4 grains (0.26) of caffein a day, then the prognosis is grave.

32. **Chilling in the Etiology of Infectious Diseases, Especially Tetanus.**—Vincent relates experimental research which demonstrates anew that peripheral local chilling is an extremely powerful adjuvant to infection with tetanus. The peripheral local chilling arrests for the time the vital processes in the member chilled. The local defensive activity of the leucocytes is annulled, and the germs of infection then are able to make inroads. A combination of various secondary causes may open the portals to infection when neither alone would accomplish it.

Presse Médicale, Paris.

February 12, XVI, No. 13, pp. 97-104.

33 *Diagnostic and Therapeutic Importance of Esophagoscopy. M. Guisez.
34 Disinfection of Uterus in Puerperal Infection. A. Schwab.

February 15, No. 14, pp. 105-112.

35 Lower Segment of Uterus. C. Jeannin.
36 Can Roentgen Rays Generate Cancer? G. Haret.
37 Palpation of Normal Stomach. G. Fischer.

33. **Advantages of Esophagoscopy.**—Guisez gives an illustrated description of his experience with 300 applications of the esophagoscope. He says that with a little cocain the introduction of the tube is not painful nine times out of ten. Many affections formerly deemed incurable, such as spasm, idiopathic dilatation, and cicatricial and congenital strictures, can be effectually cured or their effects remedied by the aid of esophagoscopy.

Revue de Gynécologie, Paris.

December, 1907, XI, No. 6, pp. 963-1152.

38 Female Epispadias and Its Surgical Treatment. G. Nové-Josserand and G. Cotte.
39 Symtomatology and Nature of Genito-ano-rectal Sclerema; 13 Cases. (Esthiomène de la vulve.) R. Dupuy and G. Rullier.
40 *Lessons from Five Hundred Gynecologic Operations. F. Jayle.

40. **Lessons Learned from 500 Major Gynecologic Operations.**—Jayle reviews a continuous series of 500 operations for inflammatory processes or neoplasms in the uterus or adnexa, summarizing in conclusion the causes of death. His experience indicates that the vaginal route is as dangerous as the abdominal one from the point of view of infection from without. Two patients succumbed to infection from the use of insufficiently sterilized compresses. They had been placed in the autoclave but not heated sufficiently, the "control tubes" usually placed in the compresses having been forgotten. Fatal endogenous infection was observed only with fetid or gaseous pus and in cancer of the cervix. Postoperative hemorrhage was always traced to slipping of the ligature on the infundibulo-pelvic ligament. Acute dilatation of the stomach followed several operations; the patients had always suffered previously from gastric disturbances, with much gas, and none had vomited after the operation. To prevent this complication Jayle examines the stomach and keeps the patients on a strict diet, administering ferments, such as lactic and paralactic bacilli, and after the operation he supervises the stomach very carefully, especially if the patient does not vomit. The delay of even a few hours before resorting to lavage of the stomach may prove too late to save the patient. The fluid found in the acutely dilated stomach was sometimes almost exclusively bile. Fatal embolism occurred in three cases. Jayle believes that refraining from injury of large vessels and absence of infection will render embolism less frequent. Total hysterectomy is less liable than the partial to be followed by embolism owing to the better drainage. He warns further to refrain from the Trendelenburg position in case of fat women, or at least, to use it as briefly as possible. The heart is generally soft and flabby in these women, and with the head low they become cyanosed, and are liable to succumb a few days later to heart failure. Since he has refrained from raising the pelvis in such cases he has ceased to have cardiopulmonary disturbances of this nature. His experience emphasizes the necessity for tapping ascites two or three days before the laparotomy in case the effusion is estimated at three quarts or more. Reflex heart trouble is liable to appear when this rule is disregarded. When the kidney is not functioning well, in much debilitated patients, he prefers ether to chloroform to avoid the toxic action of the latter on the kidney.

Berliner klinische Wochenschrift.

January 27, XLV, No. 4, pp. 133-180.

41 *Conjugal Diabetes. (Zuckerkrankheit bei Eheleuten.) H. Senator.

42 Anatomy in Respect to Affections of the Pancreas. A. W. Mayo Robson.

43 Septic Arteritis and Aneurism in a Child. A. Baginsky.

44 *Extraperitoneal Cesarean Section. (Extraperitonealer Kaiserschnitt.) F. Fromme.

45 *Differential Diagnostic Value of Wassermann's Serodiagnosis of Syphilis for Internal Medicine and Neurology. K. Kroner. Id. W. Fischer.

46 Ocular Reaction to Tuberculin. (Ophthalmoreaktion.) A. Rosenberg.

47 Suppurative Affections of the Prostate. (Eitrige Erkrankungen der Prostata.) J. Vogel.

February 3, No. 5, pp. 181-292. James Israel Number.

48 *Surgical Syphilis. F. Karewski.

49 *Paralysis from Traumatic Hysteria. (Hysterotraumatische Lähmungen.) J. Grunewald.

50 *Aggravation of Tabes and Progressive Paralysis by Accidents. (Verschlimmerung der Tabes und Progressiven Paralyse durch Unfälle.) L. Feilchenfeld.

51 *Four Cases from the Borderland of Surgery and Hysteria. (Beiträge Zu den Grenzgebieten der Chirurgie und Hysterie.) Adler.

52 *Twenty Years in Israel's Clinic. A. Rosenbaum. Id. Anesthetics. L. Caro.

53 *Radical Operations for Hernia in Children. (Brüche bei Kindern.) H. Maass.

54 Diagnosis and Treatment of Rectal Fistulas. (Mastdarmfisteln.) G. Ruben.

55 Successful Removal of Tumor in the Trachea and of Tumor in the Carotid Gland. (Trachealtumor und Tumor der Glandula Carotica.) M. Zondek.

56 *Surgical Treatment of Chronic Dysentery. (Colitis ulcerosa chronica.) Steiner.

57 Influence of Nephrectomy on the Osmotic Pressure of the Amniotic Fluid and Blood Serum. (Einfluss der Nierenexstirpation auf den osmotischen Druck des Fruchtwassers und des Blutserums trächtiger Tiere.) B. Wolff.

58 Origin and Treatment of Injuries of Meniscus in the Knee Joint. M. Katzenstein.

59 Surgery of Tuberculous and Stone-Containing Kidneys. (Chirurgie der tuberkulosen und Steinniere.) P. Wulff.

60 *Treatment of Tuberculosis of Bladder with a 6 Per Cent. Solution of Carbolic Acid. (Behandlung der Blasentuberkulose nach Rovsing.) P. Rosenstein.

61 Inflammation in the Shoulder Region. (Periarthritis scapulohumeralis.) A. Schlesinger.

62 Inflammatory Changes in Kidney Resembling Hypernephroma. (Hypernephromähnliche entzündliche Veränderung der Niere.) H. Neuhäuser.

63 Ten Cases of Actinomycosis. R. Baum.

64 Angioma of the Parotid. E. Lewitt.

65 Ocular and Cutaneous Reactions to Tuberculin. (Neuere Untersuchungsmethoden zur Erkennung der Tuberkulose.) S. Levi.

66 *Leukemia and Infectious Diseases, with Special Regard to Acute Infections. J. W. Samson.

67 Opsonins and Their Diagnostic Importance. M. Arinkin and C. Schneider.

68 Bladder Stones in Art. (Der Blasenstein in medico-kunsthistorischer Beziehung.) E. Holländer.

69 The Dynamic-Mechanical Principle in Appendicitis. (Zur Perityphlitisfrage.) Id.

41. **Conjugal Diabetes.**—Senator discusses the contagiousness of diabetes, and cites a number of examples which seem to suggest possible transmission. Among them is a case of diabetes in a woman whose husband's brother and his wife both had the disease; also a case of diabetes developing in a man after marrying into a diabetic family, both parents of his wife having diabetes. In another case, a physician, 42 years old, developed diabetes not long after he had amputated, in another town, the leg of a patient on account of diabetic gangrene. There were also in the same street with the diabetic physician four other men with diabetes, one of whom had a diabetic wife. Six cases of diabetes in a town of only 2,500 people, and all among close friends and neighbors, one of whom kept a saloon frequented by the others, is certainly a remarkable coincidence. In Senator's own experience he found the husband or wife also affected in 22 cases among 516 married patients with this disease. From this list he subtracts 3 cases in which the diabetes developed in both simultaneously after some great emotion, such as the burning or death of a child. In the 19 cases of conjugal diabetes an interval ranging from 1 to over 15 years elapsed between the development of the diabetes in the second party, the couples having all been married for from 23 to 42 years. In 4 cases there were evidences of a diabetic inheritance. The total proportion of 3.7 per cent. is too small, he declares, to justify the assumption to date that diabetes can be transmitted from one person to another, not a blood relation. Further research and compilations are needed to decide the question. His experimental researches all gave negative results.

44. **Extraperitoneal Cesarean Section.**—Fromme has had opportunity to perform the operation recently advocated by Frank, described in THE JOURNAL, June 22, 1907, page 2132. In one case labor had been in progress six hours, the still pulsating cord was protruding from the vulva. The true conjugate diameter measured only 6.25 cm., and infection was probable. The face presentation was changed by version, and the living child delivered, after which the uterus was sutured with silk and the peritoneum with catgut. The wounds healed by primary intention. Equally favorable results were obtained in three other cases. Fromme prefers a longitudinal to the transverse incision recommended by Frank.

45. **Serum Diagnosis of Syphilis.**—Kroner found the diagnosis invariably positive in the cases of certain syphilis, either existing or in the anamnesis, but he does not regard negative findings as conclusive in regard to the absence of syphilis. Fischer found the reaction positive in 84 per cent. of the cases of suspected syphilis. In one case of beginning tabo-paralysis forty years had elapsed since the primary infection, but the reaction was positive.

48. **Surgical Syphilis.**—Karewski urges local antiseptic measures and the scraping out of the focus in all syphilitic ulcerative processes, and insists on the importance, further, of surgical interference in all processes in bones and joints. He warns against relying too implicitly on constitutional treatment. A suppurative process in a bone promotes casual septic infection; two patients succumbed to pyemia during syphilitic necrosis of the upper jaw. In another case the patient, with one foot in the grave, was saved by removal of the entire bony framework of the face. Cleansing out the focus and general treatment are usually all that is necessary. In some cases prompt improvement follows sweating procedures in cases refractory to iodid or mercury. Arsenic may also prove useful. The benefit reported from arsenic in certain cases of sarcoma, he suggests, may be due to the fact that the sarcoma had developed on a gumma. Serum diagnosis and Roentgen examination are valuable aids in surgical syphilis.

49. **Ten Cases of Traumatic Hysteria and Paralysis.**—Transient benefit was obtained with hypnosis in three cases, but it gradually lost its power. Three patients were cured or immensely improved by electric treatment, superheated air and suggestion, while no improvement was observed in another case. The accident insurance legislation in Germany is an important factor in traumatic hysteria.

50. **Aggravation of Tabes and Paralysis by Trauma.**—Feilchenfeld reports 17 cases of tabes and 8 of progressive paralysis in which a trauma evidently cooperated in the development of the affection or aroused it when latent.

51. **Borderland Between Surgery and Hysteria.**—Adler reports a case of hysterical fever developing after an operation on an ankylosed hip joint. In another case the hysterical fever developed after tonsillectomy. The patient complained of pain and other symptoms suggesting mastoiditis, but operation revealed normal conditions. The nurses were warned of the probable hysterical nature of the "fever," but it persisted high until the physician, himself, took the temperature in the axilla and rectum, and it was found normal, as occurred also in another instance. In all these cases the "fever" developed after an operation, and the wound was reopened to discover the source of the temperature. In another case, a man of 22 presented a hysterical pseudoappendicitis which was recognized in time to prevent a useless operation; the patient has been in the best of health during the three years since the sham operation. In conclusion the literature on the subject of surgery in these dubious hysterical cases is reviewed.

52. **Statistics of Israel's Clinic.**—This number of the *Wochenschrift* is dedicated to Israel, on the occasion of his sixtieth birthday, and contains twenty-five papers by his present and former pupils on various phases of surgery and internal medicine, with reports of the work in Israel's private clinic during the last twenty years. Israel has been a pioneer in surgery of the kidneys, based on his long training in internal medicine under Traube. In respect to the anesthetics used at the clinic, Caro states that chloroform, or ether combined with

morphin, is the preferred technic. Spinal anesthesia is given the preference, however, for all operations below the costal arch. The scopolamin-morphin technic is never used unless the heart is known to be sound, and even then great caution is regarded as indispensable with this technic. It was applied in 134 cases, with subsequent atony of the intestines in 27 cases. Spinal anesthesia was applied in 54 cases, with vomiting in 60 per cent. and headache in 90 per cent. Chloroform was given in 851 cases, with vomiting in 60 per cent. and pneumonia in 13 instances. Chloroform plus ether was given in 128 cases, with vomiting in 90 per cent., as occurred also in 45 cases of chloroform plus oxygen. Ether plus morphin was given in 201 cases, with vomiting in 20 per cent., and pneumonia in 10 cases.

53. **Hernia in Children.**—Maass calls attention to the inadvisability of trying to close up the hernial opening in children, as their continued growth soon obliterates it in the most satisfactory manner. The main point is to isolate the neck of the sac and ligate it so high that the stump will retract entirely into the abdominal cavity.

56. **Surgical Treatment of Chronic Ulcerative Colitis.**—Steiner reports two cases in which he succeeded in curing apparently inveterate dysentery by making a temporary artificial anus into the cecum to allow local treatment and to rest the inflamed colon.

60. **Treatment of Tuberculosis of the Bladder According to Rovsing.**—Rosenstein reports two cases of tuberculosis of the bladder in which he applied Rovsing's technic of local application of a 6 per cent. solution of carbolic acid. The results, he thinks, confirm the opinion that this method represents important progress, especially in the cases in which the bladder affection persists after removal of the kidney. He warns that it is a heroic measure and may lead to slight collapse, but with cautious dosage and close supervision the patients can be relatively or completely cured.

66. **Effect on Leukemia of Intercurrent Infection.**—Samson discusses the effect of an intercurrent acute infection on leukemia and reports a case in which the signs and symptoms of lymphoid leukemia in a child vanished at the onset of noma. They returned later, however, after the recovery from the acute infection, and the child died.

Correspondenz-Blatt für schweizer Aerzte, Basle.

January 15, XXXVIII, No. 2, pp. 33-72.

70 Treatment of Suppurative Otitis Media by the General Practitioner. (Mittelohreiterung.) F. Siebenmann.
71 Differentiation and Questionable Value of Serum Treatment of Epidemic Cerebrospinal Meningitis. C. Müller. Commenced in No. 1.
72 Ocular Reaction to Tuberculin. (Ophthalmo-Reaction.) O. Stoll.

February 15, No. 4, pp. 105-136.

73 *Idiopathic Dilatation of Esophagus. (Speiseröhrenerweiterung.) A. Huber.
74 *New Edition of Swiss Pharmacopeia. (Pharmakopœa Helvetica.) M. Cloetta.

73. **Idiopathic Dilatation of Esophagus.**—Huber gives skiagraphs of a patient with extreme dilatation of the esophagus, and reports also a second case. Roentgen examination showed the lack of conditions indicating operative treatment. Much benefit was derived from feeding through the stomach tube—one patient gained several pounds in less than three weeks. There was nothing to indicate spasm of the cardia; the trouble seemed to be merely primary paralysis of the walls of the esophagus.

74. **New Edition of Swiss Pharmacopeia.**—Cloetta remarks in concluding his review of the new (fourth) edition of the Pharmacopeia Helvetica, that it is to be hoped that physicians will be able to find what they want for each patient among the 853 medicines listed in this book, and that they will henceforth refrain from prescribing "patent medicines." The pharmacopeia commission did not wish to promote the sale of patent-protected medicines, and consequently the fancy, trade name of a drug is given only when the patent has expired. Otherwise only the chemical name of the drug is given in the text, but in the index the protected name is given, with reference to its chemical name. One section of the work is devoted to sterilization; it is not intended to compete with aseptic methods, but merely to enlighten the druggist in case the physician's directions are not explicit enough. The only serums listed are those for diphtheria and tetanus and Koch's tuberculin. The others are excluded for the same reason that ichthyol and strophanthin are excluded, namely, because chemists and pharmacists are not satisfied that these drugs have sufficiently reliable identity reactions. The maximal dose of cocain has been reduced from 0.05 to 0.03 gm. (0.5 grains); of digitalis, from 2 to 1 gm. (30 to 15 grains) a day, and of scopolamin, raised from 0.0002 to 0.0005 gm. (1/120 grain). The initials P. I. stand for the unified methods of preparing drugs agreed to in the international pharmacopeia. About 151 new articles are included in this last edition and 95 were dropped. It makes great demands on the apothecaries, and Cloetta thinks that this is the best means to enhance the dignity of this profession. The demands for testing the purity, etc., of the various drugs are so high that only scientifically trained men can comply with them. Physicians should bear this in mind when it is a question of self-dispensing, and apothecaries, in their turn, should remember their principles when clients ask them for medical advice.

Deutsche medizinische Wochenschrift, Berlin.

February 13, XXXIV, No. 7, pp. 265-312.

75 *What Has Been Learned Lately in Regard to the Stomach. (Neuere Ergebnisse der Therapie, etc., des Magens.) J. Strasburger.
76 *Conjunctival and Cutaneous Application of Tuberculin. E. Stadelmann. Commenced in No. 5. Id. O. Gaupp.
77 Biologic Research with Solution of Iron Albuminate. (Liquor ferri albuminati.) W. Schultz.
78 Suture of the Heart After Bullet Wound. (Herznaht.) G. Sultan.
79 Research on O. Schmidt's Alleged Protozoon-like Parasite of Malignant Tumors and "Cancroidin" (Schmidt.) B. Baisch.
80 Blindness in Eyes that Squint. (Amblyopia strabotischer Augen.) F. Becker.
81 Powder Insufflator for the Trachea. (Kehlkopfpulverbläser.) J. Eiselt.
82 New Remedies, Specialties and Proprietaries. F. Zernik.
83 Progress in Appliances for Care of the Sick. (Krankenpflegetechnik.) P. L. Jacobsohn.
84 Text of Proposed Bill to Regulate Practice of Medicine by Irregulars and the Sale of Proprietaries.
85 Importance of Chair of Orthopedics. Mamlock.

75. **Physiology and Treatment of the Stomach.**—Strasburger reviews what has been learned in late years in regard to the physiology, pathology and treatment of the stomach. Grützner's research has confirmed the fact that the food as it is taken into the stomach lies in layers and does not become mixed. The food first taken into the stomach lies around the periphery and that taken later lies inside of this and thus does not come in contact with the mucous membrane, even when the food is more or less fluid. These facts show that the Sahli and Mathieu tests of stomach functioning are liable to give misleading findings. They also throw new light on the therapeutic administration of hydrochloric acid. When the hydrochloric acid is given after a meal it lies in the middle of the top layer of the stomach content and thus does not come in contact with the pepsin secreted by the mucosa. The digestion is not improved by its administration unless pepsin is administered with it. Experience has shown, also, that larger amounts can be given to advantage. Leo prescribes for adults from one-half to two teaspoonfuls of a mixture of 5 or 10 parts each of hydrochloric acid and dried pepsin with water to 50 parts, taken in sweetened tea during or after the meal. If the aim is to prepare the stomach mucosa for secretion of gastric juice on ingestion of food, or to stimulate the production of bile and pancreatic juice, the hydrochloric acid should be given alone, just before the meal, without pepsin, and in smaller doses.

76. **Ocular and Cutaneous Reaction to Tuberculin.**—Stadelmann's extensive clinical research with these reactions has failed to explain the occasional tardy reaction to the cutaneous inoculation of tuberculin, but it shows that this form of reaction has no diagnostic importance so far as can be learned. He found that the cutaneous or ocular reaction is liable to flare up again if tuberculin be injected for the ordinary exploratory test, or in treatment, even weeks after the primary ocular and cutaneous tests. In all probability, he says, the positive response to the ocular test indicates the existence of an active tuberculous process in the organism, and

a positive reaction to the cutaneous test the existence also of an inactive focus. He advises combining both tests.

Medizinische Klinik, Berlin.

February 16, IV, No. 7, pp. 217-250.

86 Marriage of Nervous and Psychopathic Individuals. E. Redlich.
87 Fibromas in the Stomach. (Bindesubstanzgeschwülste des Magens.) E. Bircher.
88 *Potassium Iodid to Arrest Incipient Cataract. von Pflugk.
89 Amyotrophic Lateral Sclerosis. Scheel.
90 Treatment of Whooping Cough with Inhalation of Fumes of Bromin. (Keuchhustenbehandlung.) W. R. Schottin.
91 Thermometer Case with Disinfectant. (Neuheiten aus der Technik.)
92 Deafness from Affection of Labyrinth. (Labyrinthschwerhörigkeit.) H. L. Lachmund.

88. Potassium Iodid in Treatment of Incipient Cataract.—von Pflugk reports excellent results from subconjunctival injection of a 1 per cent. solution of potassium iodid, containing 2 per cent. sodium chlorid, in the earlier stages of cataract. Experimental research has also confirmed the benefits of this treatment and explained its mechanism. Since Badal's first recommendation of potassium iodid for this purpose, in 1901, 239 cases have been published, including von Pflugk's own experience with 55, and Verderau's with 48. Improvement was marked in all but 14 and 6 patients, respectively, and the cataract did not progress in any instance. Badal and his followers merely instill and bathe the eye with .025 and 2.5 per cent. solutions and the results are not so good as with the subconjunctival injection. It is well to commence with their technic, however, and resort to the injections if improvement does not become evident under the instillations. The potassium iodid technic is regarded by von Pflugk as one of the most important achievements of the last few years, and he urges its general adoption and perfection of the technic. Capsular and nuclear cataract are not benefited to any extent, the potassium iodid having its main effect on ordinary subcapsular cortical cataract.

Münchener medizinische Wochenschrift.

February 11, LV, No. 6, pp. 265-320.

93 *Keating-Hart's Method of Sideration or Fulguration of Cancer with Powerful Electric Spark. (Blitzbehandlung der Krebse.) Czerny.
94 Immunization by the Mouth. K. Wolff.
95 *Polycythemia. F. Lommel.
96 Experimental Research to Explain Action of Constriction Hyperemia. (Wirkungsweise der Bierschen Stauung.) E. von Graff.
97 *Study of the Serum in Thyroid Disturbances. R. Hoffmann.
98 Lysol and Cresol Soap. M. Schottelius.
99 Electricity and Magnetism of Human Skin. (Hautelektrizität und Hautmagnetismus der Menschen.) E. Harnack. Commenced in No. 5.

93. Electricity in Treatment of Cancer.—Keating-Hart of Marseilles described at the Electric Congress at Milan in 1906 a method of destroying cancer by application of a powerful electric spark. His method, called sideration, fulguration or lightning treatment, has been extensively applied at Paris by Pozzi, and Czerny has given it a thorough trial in 35 cases. Although the interval since treatment is too brief for a definite conclusion, he is convinced that the method represents an important advance in treatment of cancer; it can be readily applied with any Roentgen equipment. It is especially adapted for superficial, ulcerating cancers on the skin or mucous membranes, as it destroys the diseased tissues with an elective action while respecting sound tissue, and is thus more conservative than is possible with the knife. Many patients submit more readily to this treatment than to an operation, and can thus be earlier delivered from their cancer. Whether the cure from this technic is more permanent and recurrences rarer than after a knife operation can not be decided until after five years. Treatment of recurrences will be easier by this technic than with the knife, if it is applied at the first signs of recurrence. It has the advantage of greater certainty and more rapid action in comparison with radium and Roentgen treatment. Whether the fulguration acts on deeplying cancers is still a question. Czerny has modified Hart's technic to induce also what he calls fulguropuncture and fulgurolysis with bipolar application of the high-tension and high-frequency current. Hart's technic is to apply as powerful an electric spark as possible from a metal electrode at a distance of 2, 3 or 4 cm., focusing the spark at different points in the cancer, the entire exposure lasting from 5 or 10 to 40 minutes, with the patient under the influence of an anesthetic. The radiated, softened cancer substance is then scraped out and the "lightning" is then applied again for 10 or 15 minutes to the raw surface to destroy any possible cancer nests that may have been left. The apparatus used by Hart can be attached to the Roentgen apparatus, using a 50 cm. inductor and Wehnelt interrupter. The electricity is conducted to a petroleum condenser with a spark interrupter and solenoid. This is connected with an Oudin resonator, as shown in the illustrations, which can be arranged to send out a spark brush from 10 to 20 cm. (7 inches) long. It is said that the total amount of electricity is not very large, so the actual electrochemical action is comparatively slight. It seems to stimulate the connective tissue to granulation and normal growth. The powerful outward current of lymph that follows fulguration washes out the cancer cells and brings an army of phagocytes to the spot, but if any cancer cells remain unaffected by the fulguration they are liable to continue to proliferate.

95. Polycythemia with Enlarged Spleen.—Lommel reports three cases, and states that repeated venesection gave great subjective relief in one of his cases.

97. Study of the Serum in Thyroid Affections.—Hoffmann ascribes great importance to the behavior of the other glands with an internal secretion in the symptom-complex induced by excessive or deficient functioning of the thyroid gland. He believes that the thyroid and the suprarenals are antagonists and that the former has much to do with the functioning of the vagus, and the suprarenals with the functioning of the splanchnic nerve. The hypophysis can act vicariously for the thyroid to a certain extent, while the functioning of the ovary rises and falls with that of the thyroid. Extract of testicles acts like suprarenal extract in increasing muscular energy. When a gland with an internal secretion is doing extra work, its antagonist also has to increase its functioning to keep up with it or the balance is upset, and the excessive functioning of the one gland becomes accompanied by deficient functioning in its antagonist. In exophthalmic goiter, for example, the excessive functioning of the thyroid is accompanied by deficient functioning of the suprarenals. In myxedema, on the contrary, there is relative hyperfunction on the part of the suprarenals. He presents a number of arguments to sustain these assertions, and urges that in case of an affection traceable to one of the glands with an internal secretion, the others should be examined systematically at autopsy. He found that the pupil of the frog dilated under the influence of an extract of certain glands and contracted under the influence of others. He urges further experimental research with extirpation of certain glands, followed by feeding or injecting the animals with extracts of the antagonist glands. The practical results of his research are that affections of the various glands should be treated with organotherapy from the antagonist glands. He states that a patient with osteomalacia showed marked improvement, subsidence of the pains and increased weight, under treatment with the serum of thyroidectomized sheep, which also benefited notably patients with mongolism and abortive forms of myxedema. Ovarian and testicular extract would probably, he thinks, prove still more effectual in these latter cases. The serum of thyroidectomized sheep is also indicated in hay fever and bronchial asthma, in hemorrhage and diabetes. On the other hand, the pupil-contracting substance in the serum of patients with abortive myxedema and mongolism might be used to advantage in treatment of glaucoma.

Therapeutische Monatshefte, Berlin.

January, XXII, No. 1, pp. 1-56.

100 Treatment of Epilepsy. E. Meyer.
101 Chemical Individuality. W. Heubner.
102 *Nocturnal Enuresis in Children. Fürstenheim.
103 *Treatment of Puerperal Pyemia. Liepmann.
104 *Tuberculosis of the Eye. (Augentuberkulose.) E. Lichtenstein.
105 Cholesteatoma of External Ear. (Epidermispfröpfe des äusseren Gehörganges.) Klau.
106 Treatment of Psoriasis. E. Saalfeld.
107 *Cutaneous Reaction in Diagnosis of Tuberculosis. H. Naegeli-Akerblom and Vernier.
108 Potatoes with Starch Removed. (Speisen aus entmehlten Kartoffeln.) Wolfner.

102. **Nocturnal Enuresis in Children.**—Fürstenheim dwells on the necessity for "rhythmifying" the urinary functions. Children should be trained to urinate at regular two or three hour intervals, and should be waked for the purpose at night, if necessary, to stop enuresis. He ascribes to abnormally profound sleep the lack of control over the urinary functioning, and urges that children should take a nap during the day to render the sleep at night less profound. Change of scene is the most effectual of all measures against enuresis, supplemented by psychic treatment, especially praise and insistence when the child has once succeeded in passing a night without wetting himself. Rewards and punishments soon lose their effect, and have a bad influence. Actual hypnosis, he thinks, has an effect beyond what is generally recognized. After its application the children sleep restlessly, grow listless and lose color and appetite. Waking suggestion is generally sufficient. Fall or spring weather is liable to bring back the enuresis, but the wearing of an abdominal band at night generally arrests the tendency. Urinals and similar appliances do not answer the purpose so well as absorbent cotton folded in a diaper or something of the kind.

103. **Treatment of Puerperal Pyemia.**—Liepmann advocates surgical intervention, removing the cause at one stroke, merely waiting for subsidence of the acute manifestations. The discovery, through the vagina, of something resembling a varicocele, in a vein, is the signal for operating. The indications are best met by ligating the diseased ovarian and hypogastric veins, not forgetting the possibility of the existence of a second internal or median iliac vein, such as Kownatzki has recently discovered. Proper opening up of the field and ligation of the venous trunks actually involved in the process is the aim in operating. The diseased vein should not be resected, as this is liable to distribute the germs. To date, 7 patients have been cured out of 20 operated on, and faulty technic was evidently responsible for several of the failures.

104. **Tuberculosis of the Eye.**—Lichtenstein states that this affection is observed in about 0.5 per cent. of all the applicants at the Berlin eye clinic, and he describes the various forms observed. A primary process generally remains restricted to the eye, and may heal in time without much impairment of vision—the only exception is granulating tuberculosis. This usually entails the loss of the eye, if not general infection also.

107. **Cutaneous Reaction to Tuberculin.**—This article states that the mere rubbing on the skin of a dead culture of tubercle bacilli or a little tuberculin—after the skin has been shaved—will induce the typical specific reaction after twenty-four hours, without the necessity for scarifications. The reaction results from the action of the tuberculin on the soluble products of the tubercle bacilli in the skin. The reaction is not dependent on the presence of living bacilli in the tissues.

Wiener klinische Wochenschrift.

February 13, XXI, No. 7, pp. 213-246.

109 *Pathogenesis of Cholelithiasis. A. Exner and H. Heyrovsky.
110 *New Formed Element in Milk. (Neuer Formbestandteil in der Milch: Laktokonien.) A. Kreidl and A. Neumann.
111 *Simplified Serum Diagnosis of Syphilis. E. Klausner.
112 Adrenalin Anemia. (Adrenalinämie.) M. Goldzieher and B. Molnar.
113 *Two Cases of Paratyphoid Meningitis in Infants. L. Arzt and J. Boese.
114 Two Cases of Aseptic Nephrolithiasis. G. Nicolich.

109. **Pathogenesis of Gallstones.**—Exner and Heyrovsky relate research which demonstrates that the bile acid salts are precipitated under the influence of bacteria added to the bile. This occurs with various bacteria, but is nearly ten times more marked with typhoid bacilli than with others, as is shown by the tabulated findings of tests with seven varieties. The typhoid bacillus must play a prominent part in the pathogenesis of cholelithiasis; when other germs are found in the gallstones, they are probably a secondary invasion. See editorial in The Journal, March 14.

110. **New Formed Elements in Milk.**—Kreidl and Neumann state that study of the milk of various species with the ultramicroscope has shown the presence of innumerable small particles, in lively molecular motion, in the plasma of every specimen of milk, except human milk, in which none could be discovered. They call these little bodies "lactoconias," like the hemoconias in the blood. They are now studying the nature of this "milk dust."

111. **Simplified Serum Differentiation of Syphilis.**—Klausner announces that he has obtained constantly positive results in 31 cases of syphilis and constantly negative results in 23 cases of non-syphilitic cutaneous affections with the simple diagnostic test he proposes. In a glass, 0.5 cm. in diameter and 7 cm. tall, he mixes 0.2 c.c. of the patient's serum with 0.7 c.c. of distilled water. After thorough mixing, the glass is set aside at room temperature. In the course of about fifteen hours a precipitate forms, in the syphilitic cases, from 2 to 4 mm. in depth, or flakes float in the fluid, gradually sinking to the bottom. The control glasses show no precipitation during this period; if a little precipitation occurs by the end of twenty-four hours it is insignificant compared with the marked amount in the syphilitic serum. As the precipitate dissolves in physiologic salt solution and in acetic acid, he believes it to be formed of globulin, and that it may possibly prove to be characteristic of all processes accompanied by formation of antibodies. The reaction was positive also in 2 cases of severe croupous pneumonia and in 1 of typhoid, but by diluting the serum to 1 to 5 or 1 to 10, there was no further reaction in these cases, while the reaction occurred unmodified even with this dilution in the cases of syphilis.

113. **Paratyphoid Meningitis in Infants.**—Arzt and Boese relate experiences and research which establish, they think, that paratyphoid infection is by no means uncommon among infants. It probably originates in the intestinal tract and may lead to bacteriemia. A fibrous-suppurative meningitis may follow, and this form of meningitis may prove to be more frequent than hitherto supposed. The article concludes with a bibliography of 144 articles bearing on paratyphoid infection and meningitis.

Zentralblatt für Chirurgie, Leipzig.

February 15, XXXV, No. 7, pp. 185-216.

115 *McBurney's Point. Lanz.
116 Urine Findings After Spinal Anesthesia. (Urinbefunde nach Lumbalanästhesie mit Stovain—Billon.) B. Csermak.

115. **Location of Appendix.**—Lanz noted a fold in the skin over the iliac fossa in a bronze sleeping faun at the Naples museum and also in another classic statue, and has found that an incision corresponding to this constant fold in the skin allows the best access to the appendix while giving the best cosmetic results. In by far the larger majority of cases the mouth of the appendix is at a point one-third of the distance on a straight line from spine to spine. He gives an illustration of his "girdle incision" which crosses this point. He also describes experiences which warn against aggravation of the inflammatory process by injury from palpation, and also against the danger of creating inflammation, where such did not previously exist, by rough and repeated palpation. A "palpatory hematoma" resulted from such maneuvers in one case with a healthy appendix.

Zentralblatt für Gynäkologie, Leipzig.

February 15, XXXII, No. 7, pp. 201-232.

117 *Healing After Pubiotomy Wound. (Zur Frage der Heilung der Hebosteotomiewunden.) Oberndorfer.
118 Necrosis of Myomas in Pregnancy. F. Schenk.
119 Chorioepithelioma. (Ueber das Chorionepitheliom im Anschluss an einen interessanten Fall.) T. v. Wenczel.
120 Perforation of Uterus. E. Herz.
121 Importance of Retention of Fetal Membranes and Best Method for Removing Them. (Bedeutung der Eihautretention.) C. Louros.

117. **Healing of Pubiotomy Wounds.**—Oberndorfer's experience and experimental research show that there is no actual bone formation after pubiotomy, the space merely filling up with connective tissue. He thinks that the smoothness of the sawed surfaces is probably responsible for the absence of ossification. He found in one case that the callus protruded on each side, and cast a shadow with the Roentgen rays which apparently showed ossification; application of the rays from another point showed the persisting light interval between the stumps.

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Address

IMPORTANCE OF OCULAR LESIONS AND SYMPTOMS.*

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In his presidential address to the American Medical Association, in 1881, John T. Hodgen, of St. Louis, put his thought regarding specialism into such clear, suggestive, forcible language that it is still quoted with approval as the summing up of professional wisdom with regard to this matter. He said: "It can not be denied that the early and exclusive study of the affections of a part, and that often a very small part of the body, has a tendency to narrow the intellectual grasp, and to cramp the powers of a man who yields to the influences incident to such partial and one-sided training."

Sixteen years before, at the first scientific meeting of the American Ophthalmological Society, Henry D. Noyes said: "The specialist has no claim to be an honorable physician who has not first gained the degree by study and fair examination. He must be well educated in general medicine and surgery, and in all their departments. . . . No part or organ can be isolated from the rest of the body in health; nor can it be isolated in the phenomena of disease."

This ideal has been nobly lived up to by the older American ophthalmologists, Agnew, Norris, Thomson, Williams of Boston, and Williams of Cincinnati. For their present high standing in the general medical profession, the ophthalmologists of America owe much to these men and to their colleagues, and especially to him who for so many years as chairman of the committee on membership of the American Ophthalmological Society, made sure that the members of that organization conformed to its high standard of ethical requirements. I mean the elder John Green of St. Louis.

In the present movement toward specialism in medicine the harm and danger of the specialist separating himself from the general profession were clearly perceived from the beginning. The figure of the vine and its branches has the same significance now as it had 1900 years ago. The separated branch, unfruitful, withered, and cast forth to destruction, has as often been seen in the history of medicine as in the history of the church. There will always be need to oppose the dangers of a narrow specialism; but that need being clearly recognized, the risk of falling into such narrowness, or resting content with it, became less.

THE DANGER OF IGNORING SPECIAL ORGANS.

There is another danger attendant on the specialization of practice; one more insidious and more general. The mass of physicians who do not undertake to treat a particular part of the body may remain ignorant of physiologic and pathologic processes as exhibited in that part of the body. Through such indifference, not only does the general profession fail to avail itself of the new discoveries and improved methods arising in a specialty, but it even forgets the older knowledge of which its predecessors availed themselves. Dr. Hodgen in the address to which I have referred, employs two instances drawn from ophthalmology, namely, sarcoma of the chorioid and sympathetic ophthalmia, to illustrate the importance of early operations; and in doing so he shows a familiarity with these conditions that many who are to-day prominent in the practice of general surgery, do not possess.

The reality of this danger is shown by the willingness of many of the profession to remain quite ignorant regarding the diseases of the organs they do not treat; and the failure of medical writers to appreciate the importance of symptoms arising in organs cared for by the specialist. It is quite common to hear the physician who regards himself as a general practitioner avow, unshamed, if not with boastfulness, his complete ignorance regarding the eye and its diseases. Such avowals show that the essential unity of the body has been largely lost sight of by the general profession. The specialist was in grave danger of thinking of the human organism as divisible, so that medically one part might receive attention while the remaining parts were ignored. He was carefully warned against this error. But, even while warning the specialist, the general profession has walked straight into this pit.

The earliest and most accurate diagnosis and the most effective treatment are no more possible to the practitioner of internal medicine, or the general surgeon who ignores the eye, then they are to the oculist who ignores the lesions and symptoms occurring in other parts of the body.

The point here urged is that the physicians and surgeons who remain ignorant of ophthalmology and ignore the eye lesions are more common than the oculists who remain ignorant of the advances in general medicine and surgery. General surgeons have learned but slowly facts with regard to antisepsis and asepsis that were early manifest in ophthalmic practice. Teachers of medicine, if they refer to pupillary symptoms at all, frequently give their students the views of an older generation. The light thrown on pathologic processes by the study of vascular disease in the eye has not been diffused very far in the realm of general pathology. Even William Osler, that master in general pathology and symptomatology, in most respects a model for broad outlook and catholic interest, in his classical paper on Chronic Cyanosis and Enlarged Spleen; A New Clinical Entity,[1] both in his analysis of the cases and in his critical remarks on the condition, makes no mention of the ophthalmoscopic symptoms. His own cases, both of which were under observation for considerable periods, do not seem to have been subjected to ophthalmoscopic examination, although it is likely that such examination would have thrown as much light on the general condition he had to deal with as any other single diagnostic procedure.

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* Address before the St. Louis Medical Society, December 7, 1907.

[1] Am. Jour. Med. Sciences, August, 1903.

In general medicine, surgery and neurology, a few eminent workers, like Hughlings Jackson, Clifford Allbutt, Sir William Gowers and Jonathan Hutchinson, entered on their larger fields of practice through the gateway of ophthalmic work. These have all borne positive and emphatic testimony to the immense value they have derived from their ophthalmic experiences as a preparation for subsequent practice in other fields.

ATTENTION TO THE EYE IN THE PAST AND ITS ADAPTATION TO OBSERVATION.

Enough has been said to show that the subject is worthy of more general, careful consideration of the profession at large. In former times, when it was still recognized that the eye belonged to the body, and the general physician or surgeon felt it as important an organ to be interrogated for symptoms of disease as the stomach or the heart, it played no small part in the progress, the teaching and the practice of medicine. From Hippocrates and Celsus to Sydenham and Rush, it had its full share in symptomatology—from the deviating eyes of the convulsed infant, to the ocular signs of death.

Stillé tells us that Robert Hamilton, who first called attention to the antiphlogistic action of mercury, which assumed such overshadowing importance in the medical and surgical practice of English speaking countries a century ago, based his views on the effects of this drug in hepatitis and the ophthalmias. The melting away of iritic exudates under the influence of mercury was a favorite illustration of the power of that drug down to my own student days. At that same period the views of Cohnheim and Stricker, based on the study of inflammation of the cornea, colored all the teaching regarding inflammatory processes.

The services the eye can render to general pathology and general diagnosis have not been exhausted in the past. The situation and construction of the organ of vision are peculiarly favorable for its accurate and minute investigation. Its delicacy of structure and processes make it peculiarly sensitive to pathologic influences. The minute differentiations of the impressions received through it render the subjective phenomena of vision of peculiar importance in symptomatology, and as a basis for the study of mental processes. There is no reason to assume that the wealth of results it is capable of yielding to the careful observer has been fully developed or exhausted by the students of earlier generations.

The edema of the lids, noted by the older clinicians as a symptom of chronic nephritis does not depend, like the edema of the ankles in cardiac failure, on a peculiar mechanical relation of the parts. It is, rather, the local manifestation of a general process noticeable in the lids simply because of their delicacy of structure and their ready response to a general pathologic influence.

The same delicacy of response is manifest in the lid edema which may be brought on in susceptible individuals by the eating of fish, or other articles of diet which cause obscure autointoxication or reflexes from irritation in the alimentary canal. There remain a certain number of instances of lid edema, yet to be connected with their exciting causes, by patient study on the part of the rhinologist, the neurologist, or the specialist who devotes himself to internal medicine.

What other portion of the mucous membrane of the body can be compared with the conjunctiva for favorable situation and general fitness for the study of the physiologic and pathologic processes of the mucous membranes in general? Why have not the ophthalmo-reactions to the tubercle and typhoid bacilli been thought of until this year? Its thinness, transparency, normal adaptation to exposure, all especially prepare it for a field of intentional experiment, or one where we may best study the effects of accidental irritation and infection. As a result of this favorable situation, the reactions of the conjunctiva to living bacteria, constituting the various forms of conjunctivitis, have been more generally and more closely studied than those of any other portion of the body. There exists already with regard to this department of ocular pathology information of such extent and importance, that an acquaintance with it might well be made a point of departure for further studies regarding the bacterial diseases of other portions of the organism.

It would be hard to imagine a tissue better adapted or better placed than the cornea for the observation of the effects of injury or disease, or the processes of repair. Transparent and easily accessible, it is yet, by the closure of the lids, fairly embedded within the body. Normally free from vessels, it is rendered vascular by continued irritations. The development of vessels and the retrogressive changes of their removal, the deposit of new material and its subsequent organization into tissues, or its elimination, are all open to free inspection at the will of the observer, and without disturbing the process studied. And with the corneal microscope our studies may be carried on under lenses of considerable magnifying power.

The anterior chamber is a great lymph space, comparable for purposes of experiment to that of the peritoneum. But like the cornea, it is open to inspection and study, without disturbance of the processes continuously carried on within it. Naturally it is the lymph space of the body about which most is known. The currents of fluid within it, their chief entrances and exits; the changes in the composition of the lymph, brought about by adventitious circumstances; the progress of pathologic developments within it; its ability to dispose of the débris of disease processes; have all been studied attentively and lie open to farther investigation. It is the normal starting point for a study of lymph spaces in general.

In the iris we have open to inspection and experiment unstriated muscle, pigment epithelium, blood vessels and lymph channels; and withal a wonderfully delicate manifestation of the effects of motor nerve impulses.

In the crystalline lens there is a mass of modified epithelial tissue, the transparency of which affords the most delicate test known for the action of influences that may disturb its nutrition. With certain gross changes produced in it by sugar and naphthalin, the general profession is already somewhat familiar. More extended studies of this subject, such as have been carried on by Leber and Römer in searching for the causes of cataract, will bring to light facts of importance with reference to all tissues of epithelial origin.

OPHTHALMOSCOPIC STUDY OF DISEASE.

But it is through the ophthalmoscope that ophthalmology is able to bring its greatest contributions to general medicine. In the words of Sir William Bowman: "The important invention of Helmholtz, by opening to the view of all instructed men the marvelous background of the transparent chambers of the eye, has gradually awakened inquiries on the part, first of the oculists, and then of physicians, which even in their infancy have yielded results of rare and unexpected value." With equal inspiration and eloquence has this been set forth by our own leader in ophthalmoscopy, Edward G. Loring: "In the whole history of medicine there is no more beautiful episode than the invention of the ophthalmoscope, and physiology has few greater triumphs. With it, it is like walking into Nature's laboratory and seeing the Infinite in action."

So vivid are the impressions that we obtain through this instrument; so fascinating are the lines of investigation that it opens up to him who has learned to use it; so intoxicating is this close contact with the phenomena and laws of life, that among the physicians who had the ophthalmoscope first placed in their hands, some, like Jaeger, devoted their lives to the path of study which it rendered possible. In the collection of sketches of ophthalmoscopic appearances which were purchased of Jaeger's heirs by the late William F. Norris, now in the College of Physicians of Philadelphia, is one on which Jaeger is said to have spent two hundred hours of labor. Think of it; twenty days, ten hours a day, in portraying a single eyeground. Such are the possibilities of ophthalmoscopy!

Of the early American students who first mastered the new instrument of precision, every one made ophthalmology his life work. You may have noticed that in the list of great general physicians and surgeons who early became acquainted with the ophthalmoscope and made their ophthalmic training a fruitful source of achievement, I mentioned the name of no American. Without exception, the able young men who went from this country in the first years of the ophthalmoscopic era to study in the German and French ophthalmic clinics, returned to devote their lives to the line of work which had so awakened their enthusiasm. Williams of Cincinnati, Noyes and Agnew of New York, Dyer and Norris of Philadelphia, Holmes of Chicago, Green of St. Louis, Pope of New Orleans, and their many colleagues, came back to create American ophthalmology, which is in some important respects the most developed branch of medical science the world has yet seen.

But whether working in a more general field or following ophthalmic practice as a specialty, the trained ophthalmoscopist has everywhere contributed to the depth, breadth and definiteness of medical knowledge. The importance of a few of his contributions to symptomatology begin to be appreciated everywhere. What he accomplished for general pathology was well indicated by Rudolph Virchow, when in portraying the change wrought in medical science by the anatomic method of investigation he said: "This change has been carried out to the greatest extent by ophthalmic surgery. . . . Since the wonderful discovery of the ophthalmoscope, anatomic analysis, even without the use of the knife, has become capable of penetrating so far into the individually remote. that we can immediately observe and study by themselves the smallest features of the fundus oculi, even, indeed, its single cells, or groups of cells, just as in an artificial preparation of an eye that has been excised."

Such enthusiasm is easily understood by any one who has watched disease process develop, through the ophthalmoscope. Recently great advance has come to medicine and surgery through exact diagnosis made possible by use of the Roentgen ray. Even ophthalmology acknowledges its important debt to the German physicist.

Yet the revelations of the Roentgen ray, compared with those of the ophthalmoscope, are as the groping among twilight shadows to clear vision in strong sunlight. Not only do we see things with the ophthalmoscope, but we see them clearly, and see them with the magnification of a good working microscope, and we see them alive. Compare the herbarium specimen with the living plant; the stuffed skin in the museum with the flying, nesting, singing bird; the best injected preparation, with the blood currents streaming through the capillaries of the frog's foot; and you may have some appreciation of the difference between the study of pathologic anatomy with the aid of the microtome, and the anilin dyes, and its study in the living eye. The great author of cellular pathology was swept away by enthusiasm for the invention of Helmholtz, because he knew that men watching the pathologic processes actually go forward in the living body, would gain an understanding and appreciation of them that could never be gained in the dead-house.

It would, indeed, be interesting to support the main proposition of this paper by passing in review a few of the contributions of ophthalmoscopy to general pathology and diagnosis. But when I recall the elaborate articles of Foerster and Norris, the three hundred to six hundred page volumes of Allbutt, Gowers, Knies and Schmitt-Rimpler, I recognize that I must respect the limitations imposed by human endurance and patience.

It would be fascinating to review the ophthalmoscopic studies of cerebral disease—cerebroscopy, Bouchut called it, with poetic license so moderate that it was admissible even in a scientific work. It would be interesting to trace the development of our knowledge of the fundus changes in renal disease, until the physician with the ophthalmoscope in his hand, becomes, through his knowledge of the sequences of disease, a prophet. The recognized ophthalmoscopic changes occurring in connection with acute specific fevers are gradually accumulating; and will in future constitute an important chapter in the descriptions of several of these diseases. The ophthalmoscope, as in the case reported by Dr. Clarence Loeb, of this city, has made the diagnosis between typhoid fever and acute miliary tuberculosis. What ophthalmologist has not been called on for positive evidence regarding syphilis? And is there any group of lesions more completely pathognomonic than those of syphilitic chorioretinitis with dust-like opacities of the vitreous?

But leaving unmentioned a list of other general and local diseases with regard to which the ophthalmoscope gives important information, let us, to bring out the growth of our knowledge of pathology through ophthalmoscopic observation, take some diseases of the circulatory apparatus. I will exclude diseases of the heart, like aortic regurgitation, causing a retinal arterial pulse; or persistent foramen ovale, with its dilated retinal veins; and the diseases which chiefly affect the constitution of the blood itself, as chlorosis, leucocythemia, polycythemia, and pernicious anemia with all their striking retinal changes. Let us consider simply the vessel walls, and the conditions affecting the circulation of the blood immediately within the retina.

VASCULAR DISEASE IN THE RETINA.

In 1854, Jaeger reported his first observation of the visible movement of blood in the veins of the retina, the intermittent blood column subsequently seen and described by others. About 1856, Virchow predicted that with the ophthalmoscope we would be able to study during life the changes connected with embolism in the retinal arteries; and in December, 1858, von Graefe observed these changes in an eye suffering from sudden blindness, the patient having an endocarditis. In 1866 other cases were published by Saemisch and Hirschman. Knapp, in 1869, reported a case in which the obstruction affected only a visible branch of the central artery and caused blindness of but part of the visual field. After this, cases of so-called embolism of the retinal artery multiplied rapidly. Many, like Knapp's, were only partial. Benson, in 1883, reported the first case, since followed by many others, where the macula escaped damage by being supplied through a cilioretinal vessel. Some cases, like Graefe's, fit perfectly with the diagnosis of embolism. But of the hundreds of cases of so-called retinal embolism now on record, a comparatively small proportion have any clear claim to that diagnosis. This fact has been pointed out, from time to time, by various observers, especially by Haab.

In 1894, Benson reported a case of transient blindness where, during the brief attack, he had the opportunity to observe a retinal artery temporarily empty; but soon becoming refilled and normal in appearance. Since then cases of the sort have been reported by several observers. The most complete is that of Harbridge, which was examined during the attacks by de Schweinitz, Zentmayer and others. It has thus been established that spasm of an artery may occur, causing complete loss of function for the time being. We have in such spasm an explanation for the visual and other sensory disturbances that attend migraine; an explanation probably applicable to other important pathologic conditions. We have thus demonstrated, also, a very important factor in the causation of more permanent vascular obstructions. Patients suffering from permanent obstruction not rarely give a history of previous attacks of transient blindness. A striking case of the kind has fallen under my own observation.

There have also gradually accumulated a very large number of ophthalmoscopic observations of permanent organic changes in the walls of the retinal vessels, with a smaller number of observations with reference to the vessels of the chorioid. These have been made most frequently in cases of renal retinitis, syphilitic diseases of the retina and chorioid, ocular lesions of gout, so-called senile changes, and some of the anemias. But such vascular lesions have also been noted in connection with acute infections and other conditions.

With the clinical histories of various forms of obstruction of the retinal circulation there have been accumulated observations of the conditions found in these cases postmortem, or on excision of such eyes for absolute glaucoma. As a result of these ophthalmic studies of vascular obstruction, the more crude notions regarding embolism, thrombosis, and endovasculitis imported into ophthalmology from the other realms of general pathology have been corrected, developed, rendered more definite, and brought into relation with one another.

Although these observations have not yet been thoroughly digested, the work of Harms and of Coats in the last few years has thrown a good deal of light on the connection of changes in the vessel walls, with different forms of obstruction occurring in the retinal vessels. It appears that obstruction in the retinal circulation, arising primarily in the arteries, is quickly attended by thrombosis in the veins; while obstruction arising from primary lesions in the veins produces thrombotic closure of the corresponding arteries. The primary changes causing obstruction are, perhaps, in the order of their frequency, (a) alteration in the intima of the vessel; (b) lowering of the arterial pressure, either by general disease, or by local spasm, and (c) the lodgment of an embolus from some distant organ. We have learned, too, that in the retina arterial obstruction is not constantly, if, indeed, generally, attended with hemorrhagic infarction.

I have made no mention of the ischemia of the retina originally described by von Graefe, or that brought about by severe hemorrhage in distant organs, or that caused by the toxic influences of quinin and other drugs. It would have been interesting, also, to review some of the experimental studies based on observation of the retinal circulation; as that by Hughlings Jackson, regarding the probable influence on the cerebral circulation of ice applied to the spine; or that by Wadsworth and Putnam on the effects of obstruction of the return of blood through the jugulars, and the influence of amyl nitrite. Neither have I mentioned retinal hemorrhage, a subject on which a volume might be written, and which is of great importance with reference to diagnosis and prognosis in many general diseases, and which is suggestive as to the pathology of conditions produced by injury. Even unusual forms of retinal hemorrhage, as those due to compression of the child during birth, compression of the thorax by violence, or those associated with cranial fracture and cerebral traumatism, are of general pathologic interest.

I have tried to suggest the enormous importance of these vascular lesions that are so frequently encountered and so readily studied by those who use the ophthalmoscope. Is this importance generally appreciated by the profession at large? I think not. In the last edition of one of our best treatises on pathology (Stengel), I find in thirty-five pages devoted to such diseases of the circulatory apparatus a single reference to the eye; a discrimination coming down to us from Cohnheim, that the retinal arteries are end arteries, like those of the base of the brain, the spleen, kidney and lung; and their obstruction is, therefore, followed by infarction. But among pages of descriptions and illustrations of postmortem appearances nowhere is it suggested that any lesion, to the elucidation of which these thirty-five pages are devoted, much less that nearly every lesion there mentioned, can be studied with greatest profit in the living body by means of the ophthalmoscope.

THE EYE DECLARES LESIONS OF RELATED PARTS.

Finally, in addition to lesions affecting the eyeball and the parts immediately adjoining and accessory to it, we are able to study through it, and these adjoining parts, and only through these, the results of lesions lying farther back—the symptoms manifested through the vascular and nervous connections of the eye.

The ophthalmic artery coming from the carotid within the skull, and the orbital veins emptying into the cavernous sinus, disease or injury within the cranial cavity is often manifest chiefly through disturbances of circulation in the orbit.

Of the twelve pairs of cranial nerves, six, including those most expressive of deep lesions, are wholly, or in part, distributed to the eye and its appendages. The facial nerve reaches the lids and the lachrymal gland by a circuitous route through the temporal bone and the deep cavities of the face. The other motor nerves, the abducens, pathetic and oculomotor, the latter with its distant connections through the sympathetic, are all devoted entirely to ocular movements. The fifth, the nerve of general sensation of these parts, has its trophic function best revealed in the disturbances of the cornea. Lastly, the optic nerves have a high differentiation of function, and wide connections that fit them for revealing the presence and location of deep-seated lesions, with a definiteness and diagnostic value of a higher order than is possible through any other nerve in the body.

Die Neurologie des Auges, of Wilbrand and Saenger, is a work that has already reached three volumes, including some 2.400 octavo pages, and promises to continue to develop at least throughout the lives of its authors. It is the abstract of a literature as important from the point of view of general symptomatology and general pathology as any literature of equal extent to be found on the shelves of our medical libraries. Let me illustrate the diagnostic value of these symptoms by instances drawn from the domain of disturbances of the field of vision.

Diseases involving the pituitary body, and immediately adjoining parts, have in recent years attracted much attention on the part of pathologists and clinicians. In acromegaly disturbances of the field of vision are among the most significant signs of the disease in 58 per cent. of the cases (Putnam). Certainly, in a case of my own the peculiar impairment of the field of vision furnished the basis for the earliest diagnosis of the disease. In a large proportion of these cases the symptoms bring the patient first to the ophthalmologist.

In pituitary disease not attended by the gross hypertrophies of acromegaly, disturbances of the field of vision, and later atrophy of the optic nerve, are almost the only symptoms to indicate the essential character of the case. Within a year I have seen a case probably of this character. This patient had been under medical observation for several years. She was 27; menstruation commenced at 16, had always been deficient, and had ceased two years later, and from that time she had been out of health. Impairment of vision had existed for three years. But it was not until perimetry showed that the temporal fields had been especially invaded that the true seat of the essential lesion was revealed. It may be noted that the best clinical paper and bibliography on cases of this class, although in many respects they are outside the domain of ophthalmology, is one by Yamaguchi. in the Manz-Sattler *Festschrift.*[2]

Homonymous hemianopsia, when complete, is such a striking symptom, is so often fairly understood by the patient himself, that it has not been ignored in the general discussion of cerebral disease. But smaller homonymous defects in the visual field, quite generally ignored and easily overlooked, if not carefully sought for, are equally important for purposes of general diagnosis. I have met three cases that strikingly illustrate this.

An inmate of the Actor's Home, near Philadelphia, returned from the city one evening with flushed face, slight disturbance of coordination, evidences of excitement. and inability to remember where he had been since the middle of the afternoon. The superintendent accused him of drunkenness, and admonished him accordingly. He was, in fact, a total abstainer. An indefinite impression that something was wrong with his vision, although he could read small type, brought him to me, and examination showed a hemianopsia, doubtless due to cerebral hemorrhage, from a second attack of which he died.

The father of a physician, a banker, thoroughly respected by his community, had recently plunged into wild dissipation. His son brought him to me because of some difficulty with sight, and examination revealed a perfectly distinct homonymous defect of the lower left quadrant of each visual field. This was the first evidence of organic disease of the brain. He died a few weeks later of acute cerebral softening.

A man of 53, suffering from obscure nerve disturbances, was sent to me a few weeks ago by a careful neurologist in the hope that examination of the eyes might throw some light on the case, which the attending physician and the neurologist were inclined to think might be hysterical. There was no especial complaint regarding the eyes, and other methods of ocular examination threw no light on the case. In seeking for evidence of hysteria in the field of vision, however, I came on a perfectly definite homonymous defect of the left upper quadrant in each field, and on this symptom based a diagnosis of organic disease of the central nervous system. Ten days later, while on his way to Chicago in search of further counsel and treatment, the patient died suddenly, the newspapers said, of "heart disease."

PECULIAR AND UNAPPRECIATED IMPORTANCE OF OCULAR LESIONS.

The lesions of the eye have peculiar importance with reference to general pathology and general diagnosis. For hundreds of years every complete description of disease has told of the condition of the pulse at the wrist. This was not because the radial artery was the most important artery in the body; not because it was particularly susceptible to the influence of disease; not because it presented alterations that other arteries did not present, but simply because it was accessible. The changes it had in common with other parts of the arterial system could here most readily be studied. The educated finger of the physician was most familiar with the sensations produced by the radial pulse, and on that account, by examination of it, could best appreciate the changes occurring throughout the arterial system. So will it be with the eye, when the changes in it, indicative of general disease, come to be more generally appreciated. Here pathologic processes are accessible to direct examination during life. Here they have been most thoroughly and minutely studied. With regard to these lesions we are arriving at the best estimate of their general significance.

In time the ocular symptoms of disease will again be understood and appreciated by the general medical profession. More highly appreciated than ever before, since with our present knowledge they are enormously more significant and important. It is not strange that recently they have been neglected. If there was danger that the specialist studying one little organ might neglect the diseases of all other parts of the body, it was certain that the general profession, turning the care of that little organ over to the specialist, while undertaking to look after all other parts of the body, would come to neglect it more generally, more certainly, and more completely than the specialist could ever neglect general medicine. Only no one seems to have felt the importance of warning the profession of this greater danger. The oculist regarded the eye as his peculiar province; was inclined to think contemptuously of any acquaintance with it possible to the general practitioner, and was selfishly willing that information regarding it should always be sought through himself. He has now for years recognized that the process of confining this knowledge to the specialist has gone too far, and he has tried, in elementary papers and addresses before general medical societies, to combat the prevailing ignorance. But the results of efforts along these lines have not been sufficient to bring the general profession to any adequate appreciation of what all physicians and surgeons might learn, and ought to learn through careful study of the eye.

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[2] Klin. Monatsbl. f. Augenh., 1903.

With the development of modern ophthalmology, in the last half-century, have come the special journals, aggregating now between twenty and thirty thousand pages per year, into which have been poured the records of the enormous number of observations regarding newly discovered facts in this domain of medicine. There have grown up, too, the special societies, and sections of general societies, to which were relegated the discussion of these newly observed facts. The general practitioner of to-day is thus distinctly at a disadvantage, with regard to keeping posted in the new knowledge of ophthalmology, as compared with the general practitioner of fifty years ago. The fact that the practice of ophthalmology is destined to be in the hands of the specialist has robbed this branch of any interest for the general medical student, beyond a sufficient knowledge of it to pass his examination in those schools in which an examination in it is required as a step toward the medical degree.

If the general medical profession is to be brought to appreciate the importance to it of modern ophthalmology, we must begin with the medical student. Admit that the average medical student does not look forward to practicing ophthalmology, neither will he practice chemistry for a profession, nor dissection, nor pharmacology. The great mass of medical men will leave bacteriology and pathologic histology in the hands of specialists. Yet these branches claim a very large proportion of the years spent in undergraduate study. Their educational and developmental value, which are unquestioned, and which justify the attention paid to them, is less closely related to practical medicine and surgery than that of a similar training in the examination of the eye, particularly with the ophthalmoscope.

The anatomic method, sedulously developed and cultivated for one hundred and fifty years, since Morgagni systematically sought "the seat of disease," has made its contribution, has laid its foundation stone in the great temple of medical science. No man working in the dead-house, though, like Rokitansky, who will celebrate his thirty thousandth postmortem examination, will ever again make a revolutionary contribution to our knowledge of disease. In the enormous swelling of the choked disc and the great changes in the color of the disc and in retinal or chorioidal pigmentation compatible with full vision, we have evidence that anatomic appearances may prove misleading. Appreciation of the fact that the anatomic method was approaching the limit of its development may be found in the London and Rome addresses of its greatest exponent, Virchow.

We are turning again to the study of disease in the living body. This is well exemplified in the address of William H. Welch on Adaptation in Pathologic Processes, delivered in Washington ten years ago, and in that on Neurology, by Putnam, at the Congress of Arts and Science, in connection with the World's Fair in this city. In the accurate study of pathologic processes during life, the skilled examination of the eye, particularly with the ophthalmoscope, must always play an important and in the near future a leading part.

Twenty-eight years ago Gowers suggested that all medical students should be taught to use the ophthalmoscope as a part of their course on anatomy. Has not the time arrived when this suggestion should be carried out? There are other directions in which clinical anatomy, as distinguished from postmortem anatomy, needs to be cultivated. But here, surely, is one point in which the training of the medical student might bring him into closer relation with the clinical problems of disease. Only when we have a generation of medical men so prepared for their life work will the importance of ocular lesions in general pathology and general diagnosis be fully appreciated.

Original Articles

INFANT MORTALITY IN THE SUMMER MONTHS.

METHODS ADOPTED IN YONKERS FOR ITS REDUCTION AND THE RESULTS.*

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Surgeon St. Johns' Riverside Hospital.
YONKERS, N. Y.

Infant mortality in Yonkers during the early nineties was increasing at a greater ratio than the growth of the city. The deaths were at the maximum in July and August, and the chief causes of death were the various forms of digestive disorders. If this unnecessary waste of infant life had been allowed to go on unchecked it would have assumed alarming proportions. Two thoughtful men, one a physician, the other a layman, considered the subject and decided to take some steps to reduce the mortality. In 1893 the Nathan Strauss Milk Dispensary was opened in New York, and it was deemed a wise move to establish a similar dispensary in Yonkers, and in consequence the Milk Dispensary of St. John's Riverside Hospital was opened in 1894 and has been in operation during the summer months every year since with the exception of the summer of 1904, when it seemed impossible to procure a supply of pure milk. The founders believed that if such a dispensary were successful it would be more effective in a small community, as Yonkers had at that time a population of about 37,000, and a larger proportion of the children living in the tenements could be reached, and all physicians urged and encouraged to help in the movement, and it would be a comparatively easy matter to study accurately the death rate.

With the establishment of the milk dispensary a vigorous campaign of education was inaugurated through the press, by personal interviews with physicians, and by means of cards of instruction for mothers. Up to this time no municipal action had been taken to insure a supply of clean milk. The city officials were urged to take the necessary steps and the dairymen were encouraged to send clean milk to the city. A close watch was kept of the deaths and careful statistics compiled. The result of the first season did not show a lowering of the death rate; the second season a marked decrease was shown, and the third season a decrease of 50 per cent. in the number of deaths from digestive diseases.

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* Read before the First District Branch of the Medical Society of the State of New York, Oct. 28, 1907.

In the *New York Medical Journal,* Oct. 9, 1897, appeared a statistical study of the effect of the campaign on infant mortality in Yonkers, and the claim was then made of a 50 per cent. reduction in infant mortality due to digestive disturbances and that the reduction could be maintained, and it is proposed now to give figures of infant mortality in Yonkers for the succeeding ten years and draw deductions from them.

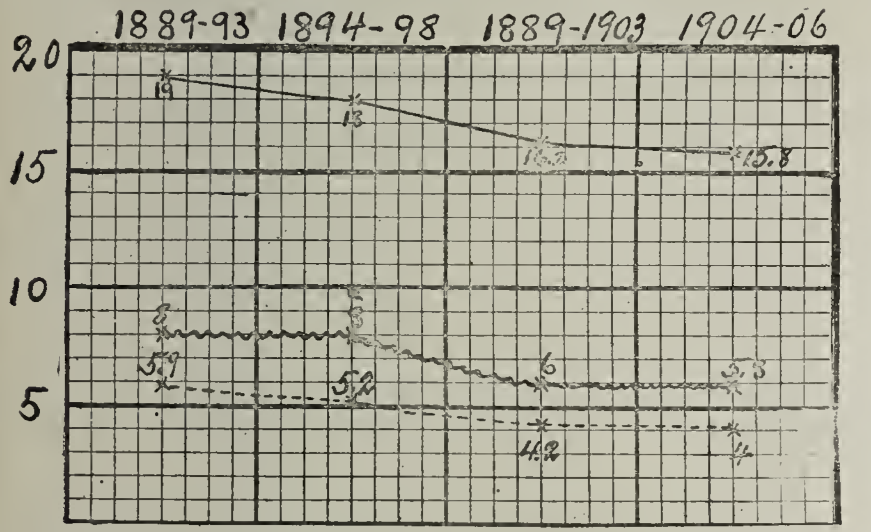

Chart 1.—Death statistics, 1889-1906. Solid line, death rate all ages per m. of population; wavy line, children under 5, per m. of whole population; dashed line, infants under 1, per m. of whole population.

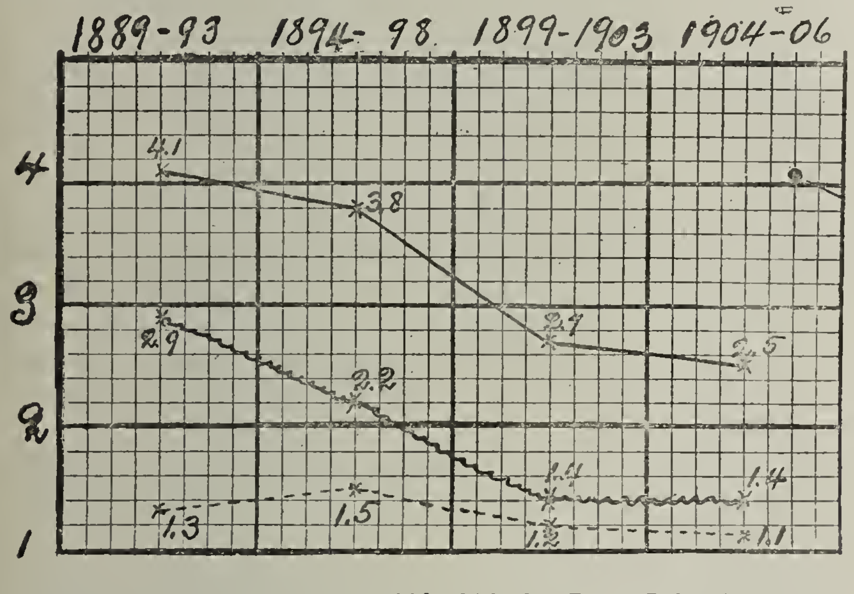

Chart 2.—Death statistics, 1889-1906, for June, July, August and September. Solid line, deaths children under 5, per m. of whole population; wavy line, deaths children under 5 from digestive diseases per m. of whole population; dashed line, deaths children under 5, all other diseases, per m. of whole population.

The problem of infant mortality in the summer months is not wholly one of impure milk, although it is the largest factor; the other factors are overcrowding in the tenements, ignorance of mothers in caring for and feeding their babies and (in the early years of the campaign) imperfect attention on the part of physicians to the feeding of infants brought up on the bottle, and, further, the irrational method of treating these babies when they are suffering from digestive disorders and toxemias. As a result of the agitation inaugurated fourteen years ago great advances have been made in all directions, not so much, perhaps, as had been hoped for, but a slow, continued progress, which will be accelerated as the public becomes enlightened and realizes the importance of the movement.

The steps of our advancement in Yonkers may be enumerated as follows: Twelve years ago the city appointed a milk inspector, and soon afterward came the adoption of a sanitary code pertaining to the production and sale of milk, registration of all producers and dealers in milk, inspection of all local dairies, and inspection of stores retailing milk, with the result that the number of places where milk is sold at retail has been more than halved, although the population has doubled.

For the past five or six years the city has employed a veterinarian to examine all cows within the city limits. The milk coming into the city from without has improved in quality, but the dairies where it is produced are not inspected, and here is the weak point in our defense. An assistant milk inspector has been appointed, and it is planned to maintain a rigid inspection of all dairies sending milk to Yonkers.

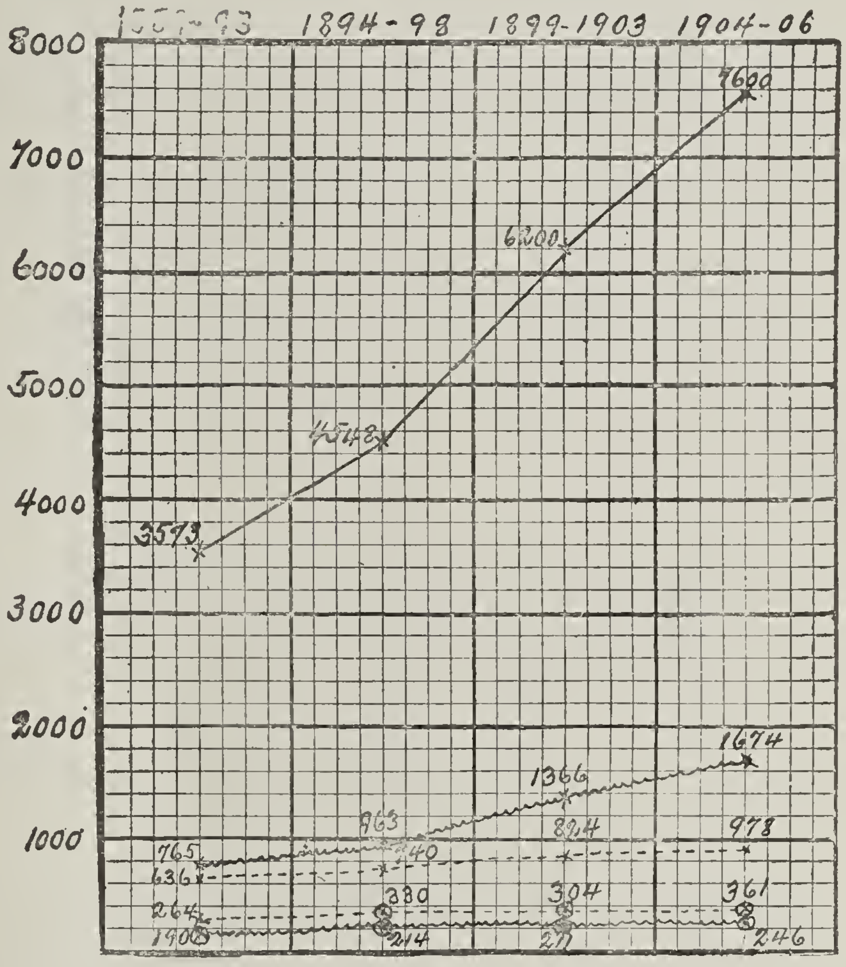

Chart 3.—Death statistics, 1889-1906. Solid line, average population children under 5, in 5-year periods (estimated on U. S. census, 1890-1900); upper wavy line, average population in infants under one; upper dashed line, total deaths in 5 year periods; lower dashed line, deaths children under 5, in 5-year periods; lower wavy line, deaths infants under 1, in 5-year periods.

About ten years ago the first sanitary inspector was appointed, a woman of rare intelligence, zeal and training, and largely through her efforts the sanitary condition of the tenements has been improved, a number of the old houses have been condemned and vacated by the Board of Health and many others have been placed in a sanitary condition. More recently a practical plumber has been appointed, an additional sanitary inspector, and a systematic inspection of tenements was begun.

The first district nurse was put to work about eight years ago and at present four are regularly employed, the funds being supplied by voluntary subscriptions, and during the past three summers the board of health has employed two additional nurses to look after sick infants. One other cause for betterment which will largely count in the future was the adoption two years ago by the board of health of regulations requiring in all new tenements a sufficiency of light and air.

The mothers are still ignorant, but in most cases they will listen to reason, and the physicians, especially the younger ones, have learned and appreciate the art of infant feeding and some few have become experts. The treatment of diarrheal diseases has been revolutionized in the last fifteen years; the old shotgun prescriptions are things of the past, and the physician to-day takes steps to prevent the summer digestive disturbances, and attempts to cure the sick infant in a rational manner.

There are two other supposed factors in the causation of these deaths, not controllable, the high temperature and the humidity of the summer months, and the prevalence of an epidemic of one of the exanthemata, in the preceding winter or spring, leaving a lot of children in a weakened condition, ill prepared to withstand and overcome the toxemias so liable to occur in the summer months. A close watch has been kept of the deaths to enable us to form some opinion on these points. Careful observation has failed to show increased mortality traceable to continued high temperature or humidity. The highest temperature and humidity of recent years in this latitude was in 1901, and the infant mortality during that summer was the lowest of which we have any record. The deaths apparently increase after rapid and frequent changes in temperature and are most frequent after a sudden drop in temperature following a heated term.

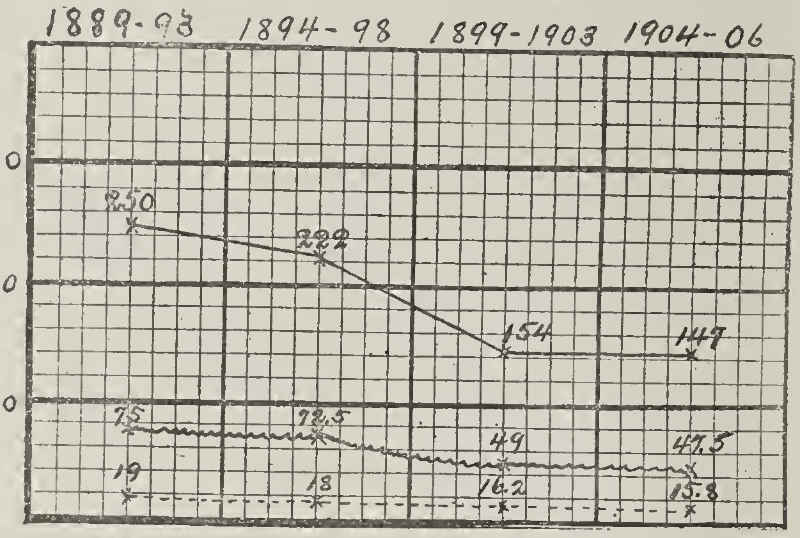

Chart 4.—Death statistics, 1889-1906. Solid line, death rate infants under 1, per m.; wavy line, death rate children under 5 per m; dashed line, death rate all ages per m.

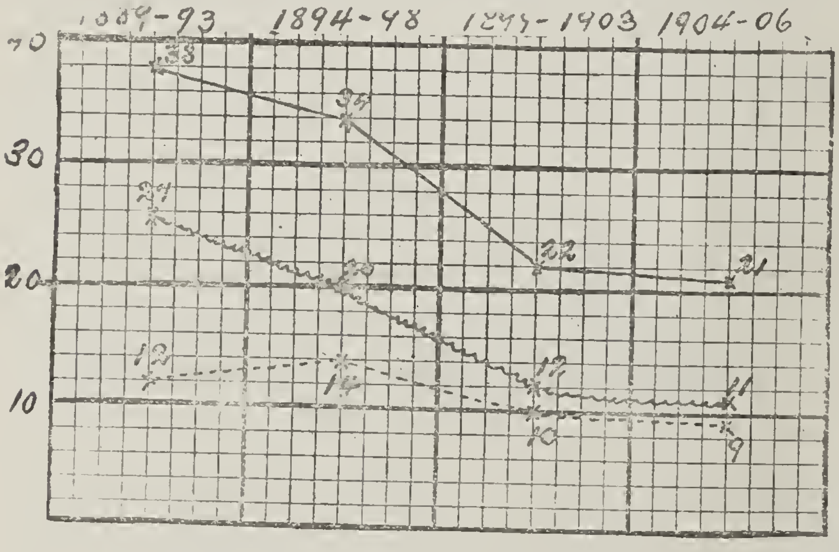

Chart 5.—Death statistics, 1889-1906, children under 5 for June, July, August and September. Solid line, total deaths children under 5; wavy line, deaths, digestive diseases, children under 5; dashed line, deaths from all other causes, children under 5.

An epidemic of measles in the late winter or early spring seems to predispose to an increase in the number of deaths from digestive diseases in the following summer months. The same is true of whooping cough, but to a larger extent. In the case of scarlet fever and diphtheria no observations have been made, these diseases being endemic in recent years. As comparatively few cases of measles and whooping cough are reported to the board of health, these observations can not be put into figures.

The statistical summaries now presented will show the results accomplished in Yonkers. They cover a period of eighteen years, from 1889 to 1906, inclusive, and have been averaged in four periods, three of five years each and one period, the last, covering three years. The first period represents the five years preceding the establishment of the milk dispensary; the last three periods, thirteen years in all, are the years the milk dispensary has been in operation.

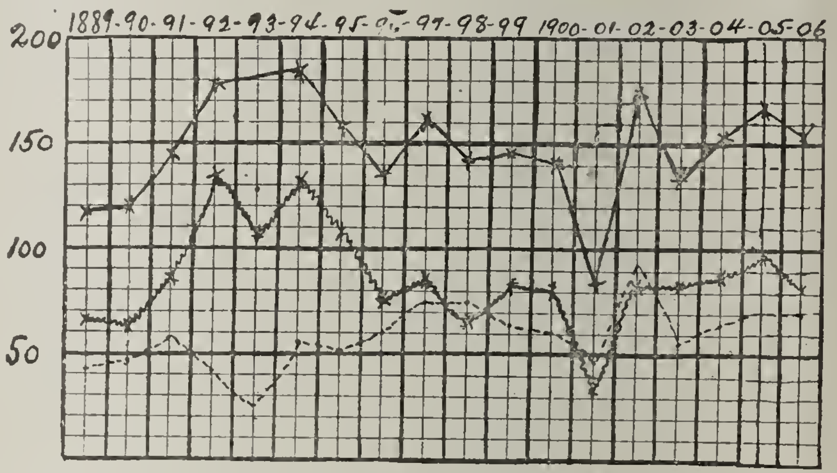

Chart 6.—Death statistics, 1889-1906, for June, July, August and September. Solid line, deaths children under 5 years from all diseases; wavy line, deaths children under 5 years from digestive diseases; dashed line, deaths children under 5 years from other diseases.

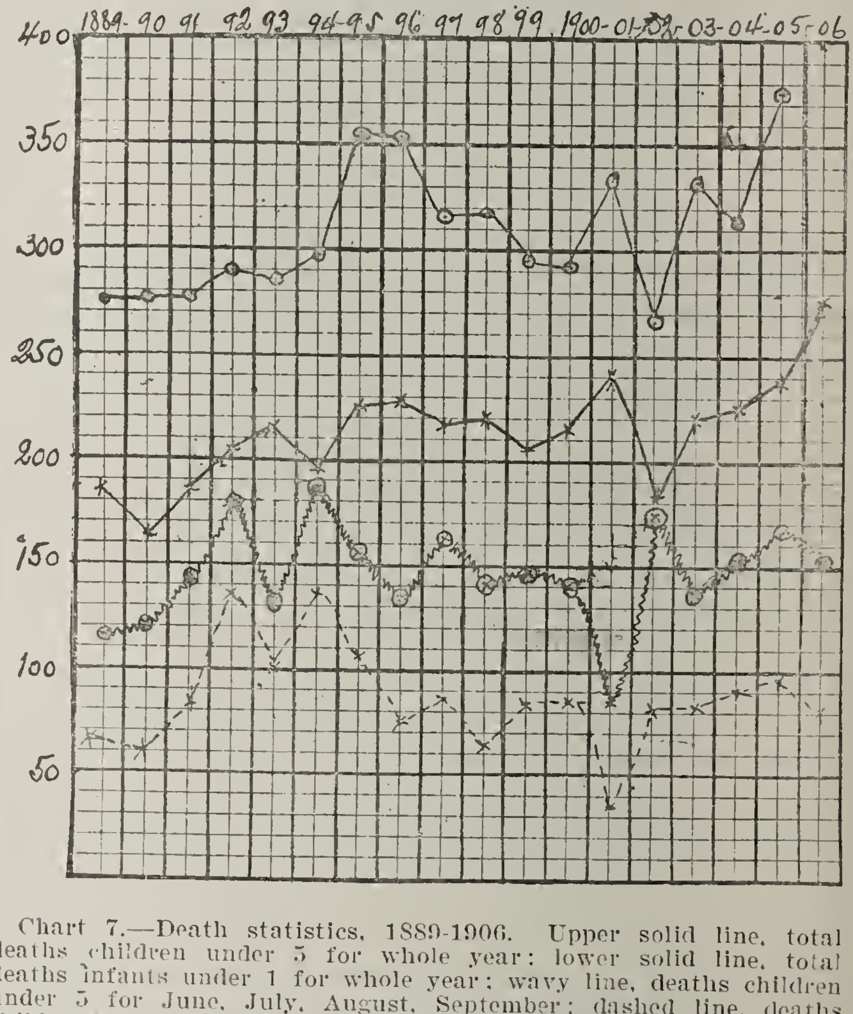

Chart 7.—Death statistics, 1889-1906. Upper solid line, total deaths children under 5 for whole year; lower solid line, total deaths infants under 1 for whole year; wavy line, deaths children under 5 for June, July, August, September; dashed line, deaths children under 5 for June, July, August, September, from digestive diseases.

Chart 1 shows a decrease of the total death rate from

19 per 1,000 to 15.8 per 1,000. The death rate of children under 5 has decreased from 80 per 10,000 of the total population to 58 per 10,000, and among infants under 1 year from 59 per 10,000 to 40 per 10,000 of the total population. There has been a decrease in the total death rate of 32 per 10,000, and 22 per 10,000 of the decrease has been among children under 5 years and 19 per 10,000 among infants under 1 year. That is, about 70 per cent. of the decrease in the total death rate has been among children under 5 years, and most of this decrease is among infants under one year.

In Chart 2 the deaths of children under 5 years, occurring during the months of June, July, August and September from 1889 to 1906 inclusive, have been averaged in the same manner as in Chart 1. The deaths have decreased from 41 per 10,000 of the total population to 25 per 10,000, and the deaths from digestive diseases show a decrease from 29 per 10,000 to 14 per 10,000, a fall of over 50 per cent. Of the decrease of 22 per 10,000 of total population shown to have occurred in the mortality of children under 5 years 16 per 10,000 has occurred in the four summer months and 15 per 10,000 from digestive diseases in these months. More than two-thirds of the total decrease in mortality noted in children has occurred in the four summer months and among diseases of one class—digestive disorders.

Chart 3 shows the average number of children under 5 years living in Yonkers at the various periods, estimated on the basis of the United States census of 1890 and 1900.

Chart 4 is based on these estimates and shows a decrease in the death rate of children under 5 years from 75 per 1,000 to 47.5 per 1,000, and a decrease among infants under 1 year from 250 per 1,000 to 147.5 per 1,000.

As shown by Chart 5, the deaths among children under 5 years in the four summer months have decreased from 38 per 1,000 to 21 per 1,000. The deaths from digestive diseases have dropped from 27 per 1,000 to 11 per 1,000. The decline in the death rate of children under 5 years, as shown by this table, is abrupt and striking, and especially among those dying from digestive diseases, the decrease being more than 60 per cent. The deaths from all other causes have decreased but 1 per 1,000.

Chart 6 shows graphically the large excess in the first period of deaths from digestive diseases during the summer months over all other causes of death and the rapid fall in the deaths due to digestive diseases after the establishment of the milk dispensary, and the approximation of deaths from digestive diseases to the deaths from all other causes.

In Chart 7 the total number of deaths among children under 5 years are shown as occurring each year, also the deaths of infants under 1 year, and the lower line gives the total number of deaths of children under 5 years for the months of June, July, August and September for the same years. The two upper lines ascend gradually, somewhat in keeping with the growth of the city, which has more than doubled its population in the last eighteen years. It will be noticed that the deaths of children in the summer months have not increased, notwithstanding the growth of the city.

The claim made ten years ago that a reduction of 50 per cent. had been effected in the deaths of children from digestive diseases has been more than substantiated; furthermore, the saving of life in the summer months has reduced the death rate of the city 15 per 10.000 as compared to a reduction of 17 per 10.000 from all other diseases at all ages and during the whole twelve months. In other words, half of the reduction in the mortality in Yonkers was effected in the four summer months from one class of diseases and among children under 5 years of age.

If the death rates of 1889 to 1893 had prevailed in the summers of 1906 and 1907 there would have been an increase in the number of deaths of children from digestive diseases of 108 and 101 respectively, a good showing for four months in a population of 70,000.

We firmly believe the measures adopted in Yonkers to reduce infant mortality were the means which produced the results, and we are of the opinion that the most effective of the means adopted was the establishment of the milk dispensary. Taken as a whole, the value of the work in Yonkers has been educational, and here is where much of its success lies. It has been impossible to feed all the bottle babies or even a large proportion of them—the largest average number fed was something over 200. The seed was planted by the milk dispensary and it has taken root and grown. To conduct a campaign successfully as planned in Yonkers requires enthusiasm, dogged perseverance and intelligence, and my opinion is that if we had injected more of these qualities the results would have been greater.

One word about pasteurized milk. We have always looked forward to the day when public opinion would demand a milk which would not require pasteurization, and we fully believe it to be almost at hand. For the children living in the tenements pasteurization and proper modification will always be necessary, as the mothers often are busy, and more often are ignorant and can not attend to many details, so that the cleanest milk becomes contaminated in the hot tenement. Consequently the milk dispensary has an established place in all cities where efforts are being made to reduce infant mortality from digestive diseases.

The milk dispensary of St. John's Riverside Hospital has been placed on a permanent basis, this summer having been moved to a building especially constructed for its use and a strong committee organized to conduct it.

CONCLUSIONS.

The problem of reducing infant mortality from digestive diseases in cities can be summed up in a few words. Clean milk, properly proportioned, for those infants and young children who can not be fed on the breast, and intelligent care and feeding by the physicians and parents. To produce these results we would suggest the following as the necessary means:

First.—Rigid state or municipal inspection of all milk from the producer to the consumer.

Second.—Milk dispensaries properly to modify clean milk in feeding bottles ready for use. The milk may be pasteurized if it is to be used in the tenements.

Third.—Campaign of education to instruct both physicians and parents in the art of infant feeding and urge on the officials the necessity and economic value of clean milk.

Fourth.—Employment of trained nurses in the summer months to follow up cases of digestive disturbances in infants and to aid physicians in their work.

Fifth.—The continued improvement of tenement houses so that the dwellers may have the benefits of proper sanitation and plenty of fresh air and sunlight.

84 Ashburton Avenue.

ADIPOSIS DOLOROSA.

JULE B. FRANKENHEIMER, M.D.
SAN FRANCISCO.

Since the original papers of Dercum (1888, 1892) only about 45 cases of adiposis dolorosa have been recorded in the literature. It is rather difficult to make a complete study of these cases, for some of them are doubtful and some are reported too briefly. The rare occurrence of this condition and the haze which still surrounds it prompts me to report the following case from the City and County Hospital, service of Dr. J. O. Hirschfelder, to whose kindness I am indebted for the opportunity to study the patient:

Patient.—Mrs. M. E. F., housewife, was born in Ohio, 77 years ago. The family history is negative as to tuberculosis, cancer and alcoholic excesses. The father, at the age of 35, was insane for six weeks on account of business troubles; he recovered completely and died at the age of 75 years. One of three brothers was paralyzed in the legs for one year; he has gradually recovered, though not entirely.

History.—Patient married at 24 years and lived with her husband, who said he had had syphilis twenty years. Six weeks after marriage, a rash appeared and later the hair on her head fell out in patches. She has had five children, all living and well. There was one miscarriage before the first child was born. Menstruation began at 14 years. The periods were always regular, lasted eight days, and were never painful. Excessive amounts of blood were lost. The menopause began at 62 years, and continued without any symptoms. Sexual indulgence was excessive. The patient's habits are good. She has worked hard and does not use alcohol. She had mumps and measles when a child, malaria twice. About two years ago she had rheumatism (?) in the legs without joint enlargement. She says that one year ago she had an attack like the present one, when her arms became numb. This lasted three days. These numb spells would come on for an hour or two occasionally.

Present Illness.—At present she complains of pain in the neck, lower back and feet. There is a feeling of general lassitude and her arms and legs feel heavy, and occasionally numb. There are painful areas on the legs on pressure. She has had palpitation for years, and is somewhat short of breath at times Her feet have been swollen twice. She voids urine once or twice at night. Three weeks ago the present trouble began with headache and vomiting. She would vomit several times a day, with no preceding nausea. The vomiting was projectile in character; only occasionally after these attacks would she feel sick. This lasted several days, and then gradually stopped one week ago. She complained of a severe, dull headache all the time—it seemed to be worse on the top of the head. The patient is very forgetful; she can not think of the word she wishes to use. Her eyesight has been failing during the last five years.

Examination.—The patient was in a stuporous condition, apathetic. She could raise herself in bed. She was found to be well-developed, poorly nourished, slightly cyanotic and dyspneic. The skin is cool and dry. The movements of the eyes were normal, and the pupils equal; they reacted to light and accommodation. There was no paresis of the muscles of head or face. The tongue was dry, red and coated, the papillæ were enlarged toward the tip; there was a granular condition of the soft palate and pharynx. The cervical glands were slightly enlarged; the thyroid was palpable and the middle lobe was enlarged. The vessels in the neck pulsated. There was enlargement principally downward and outward of the area of cardiac dulness. Loud systolic murmurs could be heard at the apex and were transmitted to the axilla; they were also heard over the aortic area and were transmitted upward. The pulse was irregular in force and rhythm; the pressure was low. The chest was well-formed; the lungs were negative. There was no enlargement of the liver; the spleen was not palpable. The abdomen was very pendulous, with a thick fatty wall of jelly-like consistence. The inguinal and epitrochlear glands were not enlarged. There was slight edema of the feet and legs. The knee jerks were present; the plantar reflex was lively with flexor response of big toe. The abdominal reflex and the reflexes of the upper extremities were not present. No tenderness was found over the nerve trunks. Owing to the condition of the patient's mind great difficulty was experienced in obtaining results in testing sensation; however, there seemed to be an hypesthesia, principally of the arms and legs, though the trunk was also involved. The localizing sense was good; co-ordination was good; the stereognostic sense was not much impaired. An examination of the background of the eyes and of the field of vision could not be made on account of cataract in both eyes. The special senses were otherwise unimpaired. Around both legs, just above the malleoli was a cuff of fatty tissue about 6 cm. wide and 3 cm. high, which was rather painful on pressure. The fat was of firm consistence, and on palpation gave the impression of a mass of worms. On the inner sides of the knees and thighs there were large deposits of fatty tissue, painful on pressure. Large masses of fat, not so tender as the preceding, were found on the outer sides of the thighs and gluteal regions. The abdominal fat deposits were diffuse and only moderately sensitive. When the upper arms were raised a flap of diffuse fat hung from them; they were also sensitive on pressure. There was a large ecchymotic spot on the outer side of the right arm where pressure was used in raising the patient. All the muscles of the body seemed atrophied. The muscular power was much diminished; dynamometer, right, 30; left, 20. Patient could not raise herself to a sitting posture in bed.

Blood Examination: Hemoglobin, 75 per cent.; red cells, 4,700,000; white cells, 9,500. Differential count: Polymorphonuclears, 68 per cent.; small mononuclears, 23 per cent; large mononuclears, 7 per cent.; eosinophiles, absent; mast cells, 2 per cent.; coagulation time, 2 minutes and 10 seconds.

Urine: Sp. gr., 1.020, acid; albumin, 1 per cent.; no sugar. Microscopically, a few granular casts and pus cells were found.

Treatment.—The patient was given 5-grain thyroid tablets, one tablet three times daily. There has been marked improvement. The mind has become much clearer and she is now able to sit up in a chair. The masses of fat have diminished considerably in size and have become softer and less painful to pressure. Other measures such as diet, massage and hydrotherapy were not resorted to.

ETIOLOGY.

Cases of adiposis dolorosa have occurred in families. Cheevers[1] reported a case in a male whose father and sister both had the same disease, and Hammond[2] reported two cases occurring in sisters. Women are affected much more frequently than men. A collection of the cases in the literature[3] which was accessible showed the ratio to be about six women to one man. The age of onset is variable, the youngest patient being 12 years old and the oldest 78 years. The majority of cases in men occur between the ages of 30 and 40; in women between 30 and 50 years. Neuropathic and alcoholic personal or family histories have been noted, while syphilis and trauma figured in a few cases. Disturbance of the sexual organs, such as excessive menstrual flow and uterine hemorrhage, have frequently been found. Spiller's case dated from pregnancy, while Schlessinger's case occurred after an abortion. The menopause seems to predispose to the disease.

PATHOLOGY.

Only five autopsies are recorded in the literature at my disposal. In these, as well as in a few in which small portions of tissue have been excised, the fatty tissue is of normal structure. In one of Dercum's patients there was an interstitial neuritis, with a moderate sclerosis of the columns of Goll. The sclerosis, in all probability, was a concomitant affection. The most constant lesions appeared in the thyroid gland, which was enlarged and calcareously infiltrated in two cases, was partially atrophied in two cases, and was normal in one case.

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[1] Brit. Med. Jour., 1904, i.

[2] Brit. Med. Jour., 1904, ii.

[3] The following articles may be of interest in addition to those referred to elsewhere: Weiss: Centrlb. f. d. Grenzgeb. Med. et Chir., 1904, vii. Gordonier: Vermont Med. Monthly, 1903, ix. Marcou: Archiv. Gen. d. Med., 1903, ii. Ballet: Presse Méd., 1903, i. Hall and Walbrach: Am. Jour. Med. Sc., 1904. Schwenkenbecher: Deutsch. Archiv. f. klin. Med., 1904, lxxx. Debove: Archiv Gen. de Med., 1903, ii. Fulconis: Thesis. Lyons, 1904. Fuchs: Wiener klin. Wochschr., 1905. Wingate: Wisconsin Med. Jour., 1905, iv, 6.

The other important and significant lesions were found in the pituitary body, which was abnormal in three of the five cases. There was enlargement and gliomatous degeneration in two cases, and adenocarcinoma in one.

It is of some interest to compare the condition of the thyroid and pituitary body in adiposis dolorosa and acromegaly.

		Cases.	Normal.	Abnormal.
Adiposis Dolorosa:	Thyroid......	5	1	4
	Pituitary	5	2	3
Acromegaly:	Thyroid......	24	5	19
	Pituitary	34	0	34

Clinically, adiposis dolorosa is a disease characterized by four cardinal symptoms: (1) The accumulation of fat, usually localized; (2) pain and tenderness in the fatty swellings; (3) asthenia, and (4) psychic disturbance.

The abnormal deposition of fat may be nodular, diffuse but circumscribed, or generalized diffuse. It may vary in consistence from rather soft (pultaceous) to firm; the latter variety, on palpation, sometimes giving the impression of a mass of closely intermingled worms. These masses are usually symmetrical, but may be irregular in size and distribution. The face, hands and feet are not involved. The lipomatosis may be preceded, accompanied or followed by the pain; usually they occur synchronously, though occasionally the lipomatosis may precede the pain by years.

The pain may be spontaneous, or caused and increased by pressure and movement. It may be sharp or dull, and is described as neuralgic or rheumatic. It does not follow the course of the nerves, and is seldom constant. It may be paroxysmal in character, and is sometimes dependent on movement, excitement, digestive disturbances, insomnia and changes in the weather.

The asthenia is variable; it may be very marked. There is no reaction of degeneration in the muscles, and there are no paralyses. In a majority of cases, the knee jerk and tendon reflexes in general are diminished or absent. The psychic phenomena consist in marked apathy and depression, great irritability and occasionally dementia.

Other symptoms include headache, disturbance of sensation, paresthesia and usually an hypesthesia to touch, pain and temperature. Lessened perspiration is the most common and important of the vasomotor phenomena; though cyanosis of the extremities, ecchymoses, trophic ulcers, dermographia and vesicles on the palms and soles (during attacks of pain) may occur.

The disease is rarely fatal and death is due to some intercurrent affection. Exacerbations occur in the form of paroxysms of pain and increase in size of the fatty accumulations which become more firm. After the paroxysm, the pain lessens in severity and the masses decrease in size; however, there is always a permanent increase of the fatty deposits after each exacerbation.

My case is typical and could be classified as of the mixed form; that is, localized (diffuse) and generalized (diffuse). The asthenia was very marked and striking, while the psychic phenomena consisted in an apathy, with occasional short periods of irritability, the "causeless quarreling" of which Dercum speaks. The pain was usually described as "rheumatic," though at times the patient complained of "neuralgia." Pressure over the fatty deposits always caused pain, more or less severe.

The lack of perspiration, the later development of a small bed-sore, and the ecchymoses resulting from slight injuries were the lesser symptoms which occurred. Unfortunately, the history was obtained with great difficulty, and the time and sequence of the occurrence of the different symptoms is unknown.

SUMMARY.

If we compare the incidence of sex in patients affected with obesity, adiposis dolorosa and diseases of the thyroid gland, such as myxedema and exophthalmic goiter, we find that the disproportion between the two sexes in the incidence of obesity is not at all comparable to the disproportion which occurs in adiposis dolorosa, exophthalmic goiter and myxedema; the figures for the three last named diseases showing a striking similarity, as follows:

	Men.	Women.
Obesity	1	2
Adiposis dolorosa	1	6
Exophthalmic goiter	1	4.6
Myxedema	1	6

That the thyroid is involved in adiposis dolorosa is evidenced by the pathologic findings (atrophy, hypertrophy), and the presence of myxedematous symptoms, such as a lack of perspiration, and changes in the skin. The psychic condition (apathy) is also similar to that in myxedema, while the positive therapeutic results with thyroid extract should likewise be considered. From his study of adiposis dolorosa, von Schroeter concludes that it is a "dysthyroidismus," while Pineles considers the disease an expression of disturbed function of "numerous blood glands, including 'hypothyroidismus,' genital atrophy and changes in the hypophysis." In regard to the disease being due (among other causes) to hypothyroidismus, the concomitance of exophthalmic goiter would indicate that the cause is more of a dysthyroidismus than a hypothyroidismus; that is also suggested by the fact that in cretins (hypothyroidismus) there is an atrophy of the thyroid and genitals with no symptoms of adiposis dolorosa.

That the genitals are a factor in producing the disease can only be proved by further study. It would be rather interesting in the light of later knowledge, to investigate particularly the condition of the genital organs. Billings'[4] patient was sexually impotent two years preceding the onset of the disease, while in Staley's[5] patient the ovaries had been removed some time previously. However, significant symptoms and facts are: (1) Excessive menstrual flow; (2) uterine hemorrhage; (3) early menopause; (4) commencement of disease at menopause; (5) exacerbation following abortion; (6) inception of disease at delivery.

In conclusion I would suggest that adiposis dolorosa, like acromegaly, is a dystrophy, the one affecting the fatty, the other the osseous structures; and that there is present a toxemia dependent on a dysthyroidismus and the disturbed function of the pituitary body and the genital organs.

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[4] Illinois Med. Jour., April, 1903.

[5] Brit. Med. Jour., 1905, i.

EPIDIDYMITIS AND ORCHITIS COMPLICATING TYPHOID.*

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Among the unusual complications and sequellæ of typhoid fever, epididymitis and orchitis are always of interest, and their comparative rarity is sufficient excuse for recording additional cases. That these conditions are infrequently seen can not be doubted, but that they are as rare as the statements in the text-books and in the reviews of current literature would lead us to believe is open to question.

As in other infectious diseases, notably parotitis and variola and to a less extent in pneumonia, inflammatory affections of the testicle and epididymis occur in typhoid fever, or more often, during convalescence from this disease.

Three of the cases reported in this paper were under my care, while the fourth case occurred in the practice of another physician.

Case 1.—The first case was seen in the practice of Dr. Philip Marvel, of Atlantic City, and occurred in a young man, 19 years of age, who was convalescing from a mild attack of typhoid fever. The complication occurred three weeks after the patient's temperature had become normal and after he had been sent from a distant city to Atlantic City to convalesce. While on the Boardwalk, in a wheel chair, the patient was suddenly seized by a severe chill and severe pain in the groin. When first seen, he was complaining bitterly of pain in the region of the scrotum, and his temperature was 102 degrees.

An examination revealed a slightly swollen left testicle and a sensitive spermatic cord and epididymis. A few hours later the patient had another chill, less marked than the first, but during which he vomited freely. At this time there was a marked increase in the size of the left testicle, and the epididymis was also swollen. The condition subsided after three days, and the testicle resumed its ordinary size. Slight induration was felt in the epididymis when the patient was examined three weeks later. The patient denied any history of gonorrhea. There was no history of trauma, but the patient had had a well-marked parotitis as a child, with a left-sided orchitis.

Case 2.—This case was also seen in Dr. Marvel's practice. The patient was a colored man, aged 24 years, who consulted me because of a swollen testicle. The patient stated that when the testicle first enlarged, four weeks before, he had a marked chill, and the pain in the testicle kept him in bed some days, but no physician was consulted. On examination, I found the right testicle was twice the size of the left and tender to the touch. The epididymis and spermatic cord were not involved at this time, but the patient stated that at the beginning of the trouble the scrotum was red, puffy and extremely painful. On questioning the man, I found that he had been discharged from a hospital in Baltimore six weeks before, having had a moderately severe attack of typhoid fever.

The patient admitted that he had had gonorrhea many years previously. He had no urethral discharge at this time, and there was no history of the possibility of an infection in some weeks.

Under treatment, the size of the testicle was reduced slightly, but when last seen, about two months after the original trouble, the testicle was still enlarged.

Case 3.—This patient, seen at the out-patient department of the Jefferson Hospital, was a man, 36 years of age, who came to the dispensary for treatment for a swollen leg. We found that the patient had been discharged from a New York hospital three weeks before after suffering a severe attack of typhoid fever, during which he had many cold baths and was kept in bed seven weeks. A few days after his discharge he noticed a pain in his left groin, and he had a chill and was nauseated. He went to bed and remained there a week, during which time his left testicle became enlarged and painful.

On examination we found that the left testicle was twice the size of the right and tender. The left leg was somewhat edematous, and there was pain on pressure along the course of the internal saphenous vein. The man was to enter the hospital for treatment, but disappeared and was not seen again.

Case 4.—This case occurred in the practice of Dr. C. K. Kistler, of Reading, Pa., through whose courtesy I am allowed to report it. The complication occurred in a young man, 27 years of age, during convalescence from a moderately severe attack of typhoid fever. Two weeks after the patient's temperature had become normal there occurred a chill, following which the left saphenous vein showed a marked phlebitis, and two days later there was a marked orchitis, the left testicle becoming three times as large as the right. The epididymis and spermatic cord were also slightly involved, and there was effusion into the tunica vaginalis testis. The patient recovered in two weeks, but when seen, two months later, there was still some enlargement of the testicle and the epididymis was slightly indurated. No history of venereal infection was obtainable, and there had been no trauma.

In the literature on this complication, orchitis and epididymitis are considered together for, although either may occur alone or preceding the other, as a complication of typhoid fever the association of the two conditions is so frequent as to render their separation unnecessary. The earliest record is in the writings of Velpeau, in 1844. He alluded to the fact that at the close of certain grave fevers, such as typhoid, variola, etc., acute orchitis, without demonstrable cause, was sometimes seen. Beginning with the report of Chedevergne, in his Paris thesis, in 1864, we find scattered through the literature isolated instances of this complication, and occasional reviews of a series of cases. Sadrain, in 1883, collected sixteen cases, and later in the same year Ollivier reported twenty-four cases, with three from his own observation. Wescott, in 1898, collected thirty-two cases for Keen's monograph on the surgical complications of typhoid fever, while Eshner, who gave the subject the most careful review, was able, in the same year, to find forty-four cases in the literature and to add one case of his own. Since this time Kinnicutt has reported two cases and has given references to several other cases, while Blumenfeld, in his Paris thesis, for 1905, reviews the entire literature up to that date, and, adding the case under his care, increased the number of reported cases to sixty-nine. Adding a few cases, which were overlooked, to those which have been reported since Blumenfeld's report, in 1905, I have been able to collect 102 cases.

It is difficult to understand why there have been so few cases reported, for inquiry among physicians of experience reveals the fact that the condition is considered by no means rare, while a continued inquiry also reveals the fact that although cases have been seen by many men they were not reported, or if so, were simply mentioned in a discussion where other complications were receiving attention. Failure to report the cases seen, then, is the first reason for this complication being considered a rare one. The second reason, and to my mind quite as important as the first, is the popular misconception as to the cause of these complications.

For many years, in fact, until recently, when orchitis or epididymitis occurred during or following typhoid fever the true cause was not, as a rule, known, and various reasons were ascribed for the appearance of the condition. The most popular theory was that the complication was due to a pre-existing gonorrheal infection, and this view was strengthened by the knowledge that not infrequently there was at the time of the complication a urethal discharge, and at times the patient complained of burning pain on urination.

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* Read before the Section of Medicine of the College of Physicians, Philadelphia, Dec. 9, 1907.

Next in favor was the traumatic theory, and, in many instances slight traumatisms, such as injury by contact with a urinal or bed pan, or injury of the genital tract during catheterization, was held accountable for the production of the condition. Other theories advanced were that the condition was caused by masturbation during convalescence from typhoid fever, or, as was sometimes stated, that the condition was brought about by a "rheumatic" condition of the blood. Schottmueller, in 1902, was the first to point out and to prove conclusively that typhoid fever was primarily a septicemia, and since this date the abundance of proof as to the truth of his statements has brought about a general adoption of the view that typhoid fever is a general infection, and this has been repeatedly proved by research work with blood cultures, which reveal the presence of typhoid bacilli, even as early as the third day of the fever and apparently without regard to the severity of the attack. Not only have the investigations revealed that typhoid bacilli enter the circulation in the great majority of typhoid fever cases, but it has been proved that in 30 per cent. of the cases the bacilli are eliminated by the urine, while the bacilli are isolated from the stools in at least 20 per cent. of the cases.

With the knowledge derived from these important investigations it is much more easy to explain why orchitis and epididymitis occur. Bacilli reach these organs both by the blood stream and through the urethra by way of the vas deferens. It is probable that the blood stream is the mode of infection in the majority of cases, but now that we know how often bacilluria exists, we must consider the possibility of the infection by way of the vas deferens, and in one patient, reported by Kinnicutt, the course of the disease could be watched in the cord, the disease eventually involving the epididymis and testicle.

Thrombosis of the spermatic veins has been held accountable for the complication in certain cases and in several cases the condition has been complicated by phlebitis of the saphenous veins. This last theory was advanced by Widal, and supported by Hutchinson, while Gwyn more recently reports a case which appears to support this theory, and he thinks that many of the cases of orchitis in which there is little pain are due to phlebitis of the veins of the tesicles.

A brief analysis of this series of 102 cases shows that the complication occurred during convalescence following typhoid fever in 71 instances, and during the fever in but 17, while no note of the time of occurrence was made in the remaining 14 cases. In 37 cases the right side was affected, in 27 the left. In three cases the complication was bilateral, while in 35 instances no note was made as to side affected. There were 43 instances in which both the testicle and epididymis were involved; the testicle alone being involved 31 times and the epididymis alone 10 times; while in 18 the conditions were not differentiated. In a number of cases the cord was also involved. Suppuration occurred in 22 of the 102 cases and in many of these there was loss of testicular tissue and subsequent atrophy. It was noted that there was an effusion into the tunica vaginalis testis in 13 cases, and in six cases a urethral discharge was seen, while in several other cases an examination of the urine revealed the presence of mucus and pus.

The onset of the complication was, as a rule, abrupt, coming on while the patient was still in bed or shortly after leaving his bed, and was marked in the majority of cases by an acute pain in the region of the testicle or in the groin, when the pain was radiating in character and involved the testicle. The onset was not infrequently marked by chilliness or by a severe chill, and sometimes the pain was so severe as to cause vomiting. Following the initial chill and pain there was usually a rise in temperature, acceleration of the pulse and a feeling of general wretchedness. In many cases the patients complained of a sense of weight in the testicle and the scrotum was often red, swollen and edematous, while not infrequently an acute hydrocele developed. Pain on urination was complained of quite frequently and catheterization was necessary in one or two instances. There was no apparent relation between the severity of the initial illness and the occurrence of the complication, which attended the mild and moderately severe cases as frequently as it did the grave cases of fever. The complication occurred most frequently in youth and young adults, but the complications were seen in a child of 4 years and in a patient 78 years of age.

Kinnicutt and Gwyn have called attention to the fact that a sudden acute pain in the abdomen may be due to thrombosis of the mesenteric veins, and in one of Kinnicutt's cases the infection of the epididymis evidently originated in the cord above Poupart's ligament for the process could be traced downward to the testicle, the epididymis being affected 48 hours after the cord was palpable. In Gwyn's case there was sudden pain in the region of the appendix, and only later was the discovery of the enlarged testicle made. The implication of the cord suggests, as pointed out by Kinnicutt, an original infection either of the vas or of the spermatic veins, producing phlebitis with a thrombosis and secondary implication of the vas deferens by contiguity. The nearly simultaneous development of a phlebitis of the internal saphenous vein, which is a condition not infrequently accompanying these complications, suggests the possibility of certain cases being due rather to a phlebitis of the testicular veins, as suggested by Gwyn, than due entirely to bacterial invasion.

The prognosis for life is good and the disease being usually unilateral there is little complaint of loss of function. The complication lasts from a few days to a week, but when suppuration takes place convalescence is much delayed. Incision and free drainage, as a rule, soon give relief, although induration of the testicle and epididymis following convalescence is frequent.

The treatment consists in, first, support of the organs by well-fitting suspensory and the local application of cold. Opium or its derivatives may be given if necessary to control pain. If the inflammation does not subside and suppuration threatens, then the ice bag should be replaced by hot applications. If pus forms, incision and drainage is indicated. Very rarely the complete or nearly complete disintegration of the organ will necessitate its removal.

CONCLUSIONS.

1. Epididymitis or orchitis, occurring during typhoid fever or during the convalescence from this disease, is a comparatively rare complication, and in the majority of cases is due to infection by Eberth's bacillus.

2. These complications may be caused by other pus producing bacteria, but this is unusual.

3. The conditions may also be caused by phlebitis and thrombosis of the testicular veins, the etiologic factor being the same (*Bacillus typhosus*). These complications may occur during the course of the disease, but they are far more likely to occur during convalescence.

4. Although the lesion, as a rule, is unilateral it may be bilateral, and it may involve either the epididymis or testicle, or both, and not infrequently the cord as well.

5. Effusion into the tunica vaginalis testis is seen occasionally and there may be a urethritis with urethral discharge. Localized necrosis and suppuration, with extrusion of the testicular substance is an uncommon termination, the usual termination being resolution, in a week to ten days.

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FOREIGN BODIES IN THE LARYNX.

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A review of the literature on foreign bodies in the larynx reveals the fact that the subject has been much slighted by the authors of leading text-books, nor do medical journals furnish satisfactory summaries of cases seen in hospital or private practice, the technic of the removal of such foreign bodies, the complications or the final results obtained. Just why so important a condition should be so inadequately dealt with is not easy to explain, unless it is on the hypothesis that everything has been said on the subject.

The history of cases of laryngeal obstruction shows that this condition is usually the result of the accidental entrance into the laryngeal cavity, by way of the mouth, of foreign bodies, such as buttons, screws, false teeth, pins, etc., held in the mouth in play by children, or for convenience by adults; pieces of bone, meat or other food, which have found lodgment while the patient has been eating; clots of blood that have found entrance during the performance of surgical operations on the nose or throat; small tumors or abscised tonsils, the removal of which has indicated such operative procedures; or intubation tubes which, by reason of improper introduction, have themselves acted as foreign bodies instead of affording the relief for which they were put to use. In one case death followed the impaction of the epiglottis from direct violence.

It is surprising to contemplate the varying intensity of the symptoms in these cases. A man under my observation, while eating dinner, had the misfortune to get a bolus of meat lodged in his larynx and died before I could reach him, though I was in the building at the time.

Fischer reports the case of a child who, while holding in his mouth a pepper-corn transfixed by a pin, by some means let it drop into the larynx. There it remained for three and a half years embedded in the right ventricular band, causing no pus formation and but little reflex disturbance. Larkin reports the case of a man who had a piece of bone lodged in his larynx for three days. He died of ulceration and edema of the glottis.

During the last few years a number of persons have come to this city from considerable distances with sand-burs between their vocal cords, some of which had been there several days without producing very immediate danger.

As shown above, the symptoms of a foreign body in the larynx may vary considerably. Nor does the nature of the offending substance or its exact situation seem greatly to be responsible for this variation in the amount of inflammation and reflex phenomena which it may excite. Aphonia may be the only sign, as in the case of a child who had a safety-pin lodged in the larynx for six months without other signs of its presence, which, in fact, was not suspected. Commonly, however, there is a sense of irritation, or even pain in the throat, and more or less difficulty in respiration, which may be due either to the size and nature of the foreign body, to laryngeal spasm or to edema of the glottis.

The mode of dealing with the case naturally varies according to the nature of the foreign body, the age of the patient, the amount of swelling of the laryngeal structures, which may be present, and the urgency, which may demand the most rapid measures to prevent immediate death.

The first indication is, of course, to remove the foreign body from the larynx as expeditiously as possible, at the same time keeping in mind the necessity of preventing reflex spasm of the glottis, and of avoiding the production of more traumatism than may already have been produced.

In most cases either a local or a general anesthetic may be used. If the patient is not too young we may generally use cocain for local application. for anesthetizing the larynx I do not consider a 20 per cent. solution in adrenalin chlorid too strong, as the adrenalin acts with the cocain in reducing the amount of congestion and edema, it increases the anesthetic effect of the cocain and diminishes the amount which may be absorbed into the circulation, a feature, by the way, of some importance in cases where the proper oxygenation of the blood has been interfered with by the obstruction to respiration, which may have existed for some time. Local anesthesia having been produced, we may, by indirect or direct laryngoscopy, obtain a view of the larynx and its contents, note the exact situation of the foreign body and the amount of swelling or other pathologic condition which may be present.

This having been accomplished, we are now in a position to attempt the removal of the foreign body. I would emphasize the word attempt, for the ease with which a novice may at times remove a button, thimble or other article from the larynx, contrasted with the difficulty encountered at times by the expert of long experience, should excite our sympathy for the future heartaches of the former, which are sure to come, as well as our generosity toward the painstaking failure of the latter. Indeed, the manual dexterity necessary to the would-be successful laryngologist is great. In this class of cases there are four factors which militate against our success: The security of lodgment of the foreign body; the amount of swelling, which may make its location hard to get at; the reflex cough, which at times persists after the most thorough cocainization and which causes us to desist from our efforts at the removal of the body just as we are about to grasp it with the forceps, and the unsatisfactory nature of the various instruments so far devised for such procedures.

The clumsy design of the majority of laryngeal forceps would almost lead us to suspect that the instrument-maker had in mind the idea that they were to be used for the extraction of the larynx itself instead of some small article lying more or less loosely within the margins of the ventricular bands or piercing the cartilaginous walls of the larynx. In fact, with some of the so-called laryngeal forceps it would be an absolute impossibility to see both the foreign body and the blades of the forceps. Then, too, many of these instruments are so devised as to make the control of the wrist wholly responsible for this most delicate manipulation, when, in fact, the operator should be able to direct the movements of his forceps entirely with his fingers and with the greatest ease.

A recent writer in The Journal states that where a sand-bur is lodged in the larynx it may easily be removed by entangling its spinous processes in some cotton wound about a bent probe. Inasmuch as I succeeded in doing this for a patient over two years ago, and utterly failed in a similar case a few weeks ago, the deductions from my limited experience are that he is, at least, half right. At any rate, this very practical expedient is well worth a trial if the sand-bur is situated far enough forward or back to pass the end of the probe under it without the danger of pushing the bur down into the trachea.

The administration of a general anesthetic does not entirely preclude the superior route for the introduction of instruments calculated to aid in grasping the foreign body; in fact, in a few cases it is a positive advantage, as the reflexes are abolished; but great care is necessary and the cases must be selected carefully. However, the urgency of the case or the impossibility of removing the body by these methods may compel us to adopt other procedures.

When some large body, such as a bolus of food, has entered the larynx and there is danger of immediate death, we are warranted in introducing our fingers into the patient's mouth at once and attempting to hook out the foreign body with the forefinger. This has been done successfully, in one case by a nurse, who by his timely intervention saved the patient's life.

Laryngotomy or tracheotomy is indicated where the foreign body can not be extracted by other means, or where it is necessary to act at once in order to save the patient's life. This may even be done with an ordinary penknife, on the street or at the table, if the anatomic relations of the parts are considered. In fact, I believe in some instances laryngotomy is delayed too long. After placing the patient in the tracheotomy position, make a single stab wound through the cricothyroid membrane, or, if time permits, dissect back the tissues covering the anterior angle of the thyroid cartilage, carefully make a transverse incision through the cricothyroid membrane, and then with a blunt-pointed bistoury divide the thyroid cartilage from below upward nearly to its superior border in the median line. The advantage of not cutting entirely through the thyroid cartilage is that its partial continuity at the upper border permits of more exact approximation for the purpose of repair.

The division of the thyroid cartilage having been accomplished, a retraction of the two wings enables one to look directly into the larynx and to introduce forceps with which to grasp and extract the foreign body. The margins of the divided thyroid cartilage are sutured together with chromicized catgut or other material. The external wound is then closed.

The use of the probe-pointed bistoury allows the surgeon to pass the blade of the knife directly upward between the vocal cords without injuring them, and this will cause the line of section to occur between their anterior attachments.

Following the extraction of a foreign body from the larynx, it is my practice to put the patient to bed for a day or two in a warm atmosphere kept moist by some form of vaporizer, to maintain cold compresses over the larynx for twenty-four hours or until symptoms of edema, if present, abate, and to forbid the use of the voice for at least forty-eight hours. Where laryngotomy has been performed the voice should not be used at all for some weeks, as the healing process in cartilage is a slow one and is not to be favored by attempts at phonation, which put the vocal cords on the stretch. In a case in which I recently performed this operation for the removal of a sand-bur there was almost no bleeding, the external wound healed nicely, there was no postoperative spasm or edema of the glottis, and the patient can now use his voice some, although I do not know just how much, as I am still keeping him from using his voice as much as I can.

What deductions, if any, can we make from the cases cited and the statements made?

1. In every case of aphonia search for a foreign body should be instituted.

2. There is great variation in the symptoms and pathologic results of foreign bodies in the larynx.

3. A careful report of every such case should be made for the next few years, in order that a more extensive literature on the subject may be built up.

4. The great majority of laryngeal forceps now in use are ill adapted for the uses to which they are to be put.

5. Laryngotomy is a safer and more conservative procedure in the hands of a competent surgeon, in many cases, than bungling attempts on the part of an inexperienced laryngologist to remove a foreign body by way of the mouth with imperfect instruments and technic.

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USING THE *X*-RAY WITHOUT BURNING.

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Valuable as the *x*-ray is as a therapeutic measure, every operator feels a certain constraint when obliged to use this agent either for therapeutic or diagnostic work. Three years ago a well-known German radiographer formulated certain rules, and gave to the profession a system whereby the *x*-ray effect might be measured, and a certain number of units constituted a safe dose. During the year 1907 this same operator was sued for damages for causing by his own method of dosage severe *x*-ray burns.

All methods of dosage are fallacious because they can not take into consideration the idiosyncrasy of the patient. It is not, therefore, a system of measurement that we require, but rather something that robs the *x*-ray of the element that is most directly responsible for the deleterious effect. Unfortunately, no one has ever been able to see the *x*-rays; we simply have to be content with studying its effects on tissue and chemicals. When chemicals, such as the pearls of Holzknecht, the pastils of Sabouroud or the photographic plates are exposed to the influence of the *x*-ray, certain reasonable measurements might be formulated, because all the elements are more or less known factors and are obliged to respond to certain physical laws.

The principal effect of the *x*-ray on these substances is decomposition of their molecular structure analogous to electrolysis; in other words, a separation of the atoms in the compound, with rearrangement and the formation of new compounds. This effect is primarily due to two causes: First, to the ionizing power of the *x*-ray; second, to the fact that the charged *x*-ray tube is a converter and surrounded by a static charge, which when separated by a dielectric from a capacity is capable of inducing into that capacity currents of opposite polarity. The current that is in this manner induced into the patient who happens to be the grounded capacity materially assists in the ionizing power of the *x*-ray. We can not deprive the *x*-ray of its ionizing power, but under suitable circumstances we can deprive the tube of its inductive effect by grounding the positive side of the static machine while the tube is in action. When, however, a coil is used for the production of the *x*-ray, neither side of the secondary can be grounded without serious risk of short-circuiting the secondary to the primary, thereby burning out the coil.

This state of affairs caused me to experiment with various shapes of tubes, until two and a half years ago a tube was perfected which I have named the Cornell tube (Fig. 1). This tube is made of heavy lead glass so that no rays are emitted, except through a flint-glass window, which corresponds in size to the lesion to be treated. The connecting wires are encased in glass insulators to prevent sparking on any part of the patient while under treatment. The flint-glass window is situated at the end of a projection, and must be in direct contact with the lesion, thus furnishing a ground and doing away with the air space which would otherwise be the dielectric between the tube and the patient.

When a tube is brought into direct contact with the patient, only the ionizing effect of the *x*-ray is exerted on the tissues, and this effect is all that is needed to furnish the most brilliant therapeutic results.

During the past two and a half years this system has been used at Cornell Medical College, and in over 5,000 applications not a single case of dermatitis has developed. All cases intended for *x*-ray treatment are divided into two classes, those with broken skin lesions and those where healthy skin covers the lesion.

In lesions of the first class, or broken skin lesions, we include epithelioma, lupus vulgaris, rodent ulcer, eczema, sycosis, favus, etc. When a patient presents himself for treatment with such a lesion a tube is selected with a window that will as nearly as possible include the entire lesion, the tube is then fastened in the holder in the usual manner and the flint-glass window is applied directly to the lesion for not less than five minutes nor more than fifteen, according to the depth of the pathologic structure (Fig. 2). Within a few hours, and continuing for some days later, a crust will have formed, and the lesion is reduced in thickness from one-third to one-half; then the same treatment is again repeated. After the fourth or fifth treatment the edges begin to close in. As the lesion becomes smaller the tube is changed to conform to the new size of the old lesion. I have frequently exposed such lesions as epithelioma for thirty minutes during a single seance, yet no burn has ever resulted, neither do I think it possible that a burn could be produced, no matter how long the tube is kept in contact with the skin.

In lesions of the second class, where sound skin intervenes between the lesion and the tube, a slight change in technic is necessary. In this class are included acne, hypertrichosis, hyperidrosis, tubercular glands, splenic leukemia, Hodgkin's disease, itching, dermatoses, etc. In treating these lesions the tube is brought into direct contact with the sound skin, and is slowly moved over a large area, so that the underlying structure receives a sufficient amount of exposure, while the sound skin covering the same receives at any one point but a minimum amount of exposure. With this technic all of this class of lesions are amenable to more or less permanent benefit, yet no burn will result. Whenever such lesions as splenic leukemia, mycosis fungoides, diffuse psoriasis, etc., are to be subjected to the *x*-ray it is preferable to use the tube at a distance of thirty inches, especially when the coil is used as the exciting agent. The tube must, of course, be one with high penetrative power. A dielectric of thirty inches practically removes all the undesirable inductive effect from the tube. When a static machine is used, the positive side of the machine should be grounded, and then the tube may be brought within twelve to fifteen inches of the patient without danger of a dermatitis.

When living tissue is exposed to the influence of the *x*-ray, radium, ultraviolet light, in fact, all radioactive substances, the ionizing property of these substances is felt by the various component parts of each cell. In very mild doses this acts as an irritant and so stimulates the tissue exposed. This accounts for the regrowth of hair or the fact that lanugo frequently takes on active growth, or the pigment cells deposit an extra amount of coloring matter through the exposed area. This has been referred to as the tanning process of the *x*-ray.

A somewhat larger dose, by overstimulation, inhibits physiologic function, especially all glandular function, and the higher or more complex function, the quicker and more certain the inhibitive action of the ray. Thus the ray will arrest testicular and ovarian function, cause the hair to shed and retard the growth of malignant cell proliferation, especially of glandular origin.

In large doses, meaning thereby prolonged exposures, oft repeated, by complete arrest of function, the ray destroys the nucleus and nucleolus of various cells, those of the horny layer of the skin being most resistant. A cell is dependent on its nucleus for existence; when the nucleus has been destroyed the rest of the cell components, such as the cell membrane and its protoplasm, according to their power of resistance, are either stimulated, inhibited or, like the nucleus, entirely destroyed.

All the parts of cells that are so killed become leukomaines or dead putrid nitrogenous bodies. The system reacts by its chemotactic property, and if this local reaction to this poisonous material is sufficient to cause a visible dermatitis or local inflammation, we have what has erroneously been termed an *x*-ray burn. This is a misnomer and should be removed from the literature. The term radio-dermatitis might be substituted.

The chronic radio-dermatitis of the *x*-ray operators shows all the various changes that the small but oft-repeated doses of *x*-ray are capable of causing. The atrophic areas show the existence of previous inflammation; the dilated blood vessels are the result of the destruction of the intima, while the hyperkeratosis is a compensatory hyperplasia on the part of the economy, due to loss of equilibrium between the various cell elements.

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ADDENDUM BY DR. BENJAMIN P. RILEY.

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In the foregoing pages Dr. Geyser has discussed the uses of the *x*-ray along the more advanced methods. I will endeavor to add a few clinical facts coming under my observation during the past eighteen months as physician in charge of the Cornell Clinic.

There are in this clinic twelve different departments, with a total average attendance of 400 patients daily. This attendance furnished a large material from which to select patients for the *x*-ray department. Each department furnished for *x*-ray treatment only such cases as were not considered suitable for treatment by other methods. For instance, there were no less than nine cases of splenic leukemia under treatment at one time. These cases, for the sake of data, were most closely observed. Dr. Warren, of the department of pathology, regularly subjected these patients to blood examinations and urinalysis to observe any possible untoward effects. No deleterious effects of any kind were noted.

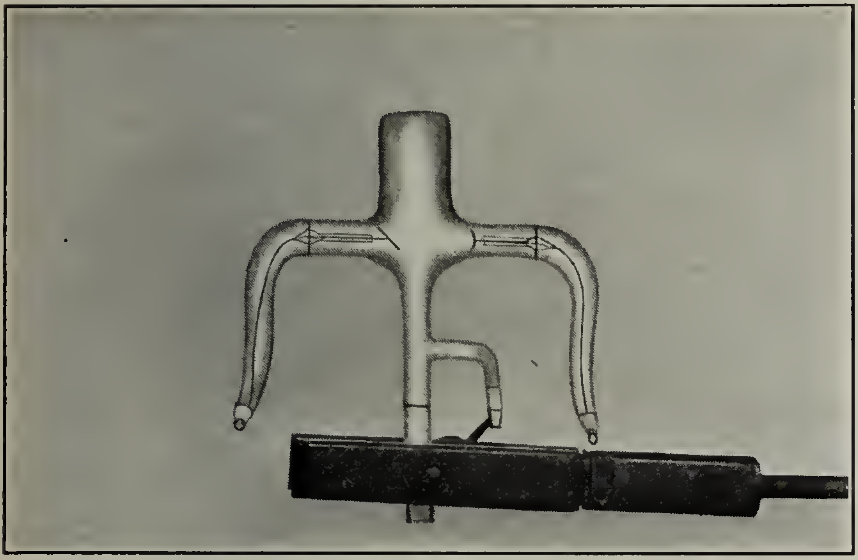
Fig. 1.—The Cornell tube.

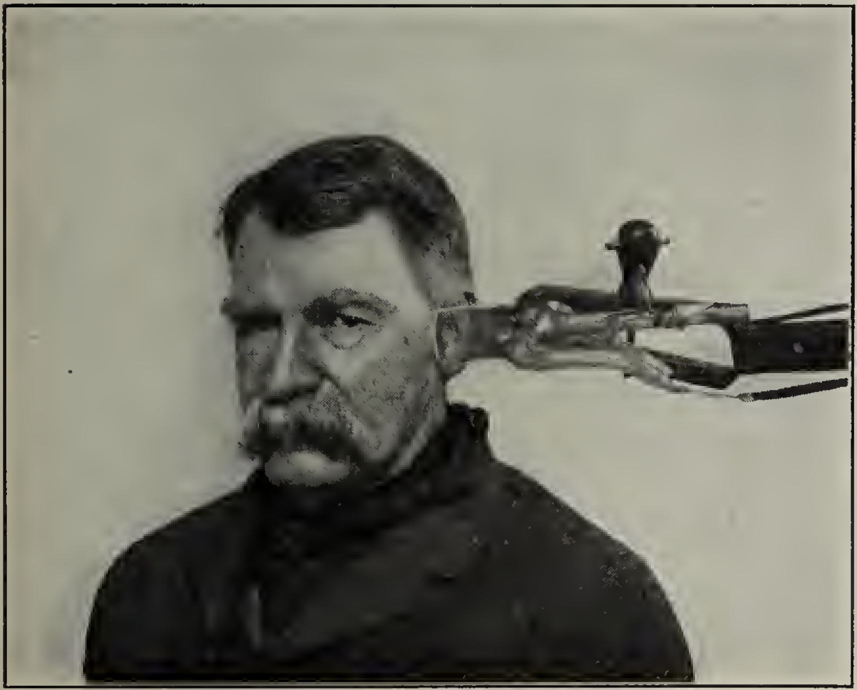
Fig. 2.—Showing manner of using the Cornell tube in localized skin lesions.

I was interested in the fact that Dr. Geyser claimed to be able to treat these patients without the least danger or thought of dermatitis; yet these patients were exposed to the *x*-ray furnished by a static machine with forty revolving plates, for from twenty to thirty minutes, twice weekly. No burns ever resulted from these exposures, while the spleens markedly decreased in size, and the reports from the pathologic department were more than satisfactory. All manner of obstinate skin lesions were referred to the *x*-ray department, from chronic acne to rodent ulcer and sarcoma. I have repeatedly watched the application of the "Cornell tube" in direct contact with the conjunctiva, yet I never saw the slightest undesirable reaction; on the contrary, the lesions all healed quickly and remained healed. The success was most gratifying in every way, knowing that no untoward results would follow. The process of repair set in immediately, infiltration of surrounding tissue lessened after the first exposure.

In epithelioma the first change noted was lessened hemorrhage from ulcerated surfaces, with a lowering of the granular edges. The most remarkable effect, however, was to be seen in the final results; the sore tissue hardly had the appearance of the usual fibrous variety, but was smooth, soft and elastic, differing but little from the normal skin in the neighborhood.

I was deeply interested in an epithelioma of the chin with glandular involvement. The patient was a man over 60 years of age, the lesion had existed for twenty years and refused to respond to all manner of treatment; plastic operation was considered out of the question, yet this lesion, to my great astonishment and satisfaction, healed completely in one month, or after twelve *x*-ray exposures. This patient wore a full beard and, strange to say, never lost a single hair during treatment. This lesion has remained well for the past year.

All skin lesions are treated at Cornell by the direct contact method, and no dermatitis ever resulted in consequence of this method. Many patients came to us, who have been under treatment at other institutions, with dermatitis in its various degrees. These were quickly healed and the treatment proceeded as though no previous burn had existed.

TREATMENT OF DIFFUSE SUPPURATIVE PERITONITIS.*

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In studying the subject of suppurative peritonitis it soon becomes apparent that the differences in the views of various authors with reference to certain types of the disease are due to a failure to adopt the same classification, and to a lack of a clear conception of what is meant by the terms employed. We read of septic peritonitis, local suppurative peritonitis, general suppurative peritonitis and diffuse suppurative peritonitis.

The term septic peritonitis should be employed to designate those cases in which the pyogenic infection is so acute and virulent that the patient dies before sufficient time has elapsed for pus to form.

The term local suppurative peritonitis should be employed to indicate those cases in which, owing to the character of the infection, pus develops slowly and nature has time to form adhesions which confine the pus to a limited portion of the peritoneal cavity.

The term diffuse suppurative peritonitis should be reserved to designate the conditions in which the infection is less virulent than in septic peritonitis, but more acute than in local suppurative peritonitis; where there is time for pus to form, but not time for nature to wall it in by

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* Read before the Southern Surgical and Gynecological Association, New Orleans, Dec. 17-19, 1907.

adhesions, and, as a consequence, pus is free in the peritoneal cavity.

The term general suppurative peritonitis should be discarded. It was originally used in contradistinction to local suppurative peritonitis, and while its meaning should be apparent it has been misconstrued, thus giving cause for much discussion. The term was never intended to mean that the whole peritoneal surface was involved. The word "general" was used to indicate that the pus was free, in contrast with the word "local," where it was confined. To avoid recurrence of unprofitable argument and the statement by some that no patient with general suppurative peritonitis ever recovered, and the reply by others that, as the term was employed, no patient ever lived long enough to develop it, it is to be hoped that the title, general suppurative peritonitis, will be dropped from surgical nomenclature, and diffuse suppurative peritonitis substituted for it.

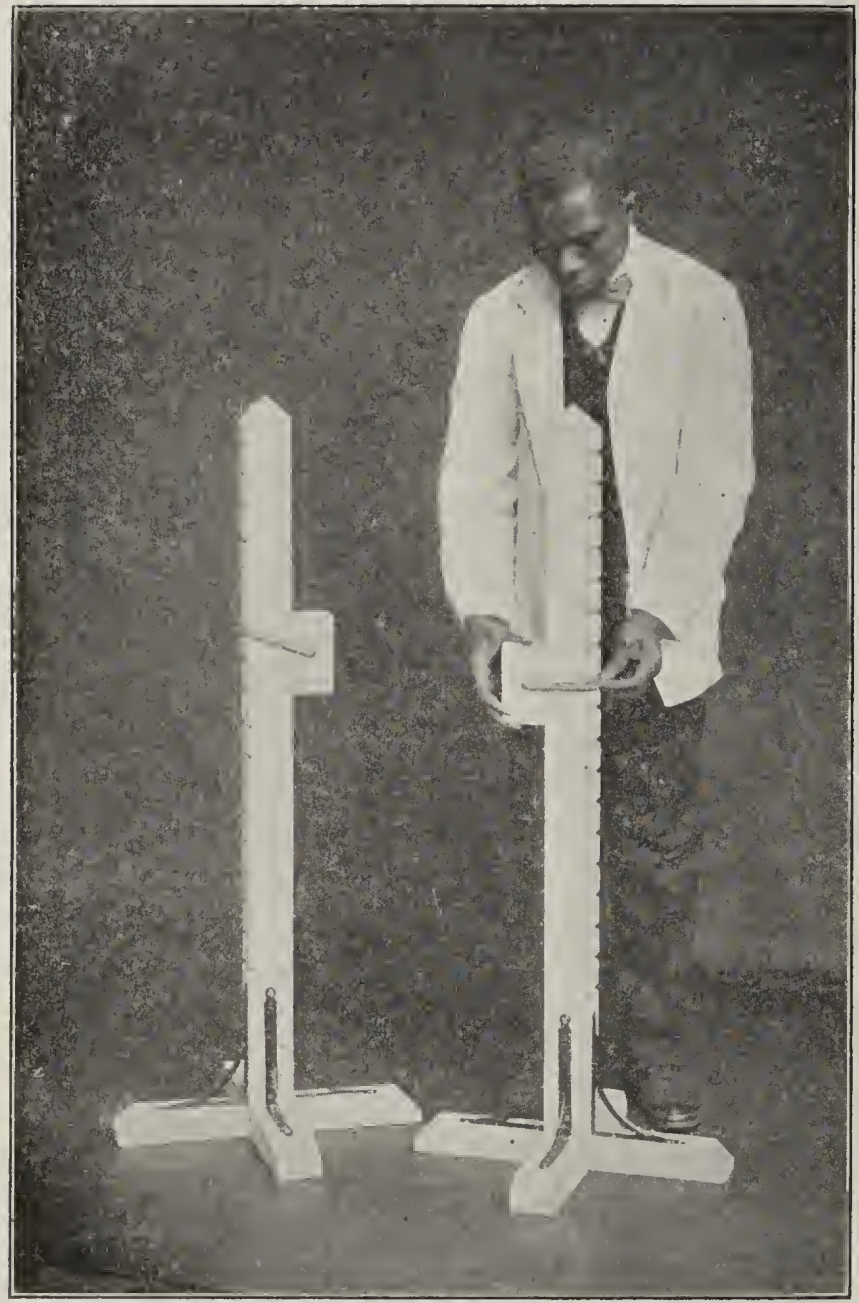

Fig. 1.—Bed elevators.

The confusion alluded to in the classification of peritonitis is responsible for the condition which existed ten years ago, when Abbe, McBurney, Finney and others were reporting numerous successful operations for general suppurative peritonitis, while, at the same time, Senn declared that he had opened, drained and washed out the general peritoneal cavity in many cases of septic peritonitis without a single successful result; Weir that he had never been able to save a patient with general suppurative peritonitis, and had never seen one saved; and Granvin that, until recently, he had expected death after general purulent peritonitis and was not at all ashamed of his mortality rate of 100 per cent. At this period, and for some years afterward, the accepted mode of treatment was incision and correction of the focus of infection: evisceration, irrigation and sponging; counter incisions through the loins and the insertion of multiple drains. The result was a mortality of about 80 per cent.

The present generally accepted method of treatment was not adopted empirically, but was the result of deductions from scientific observations. Its essential features consist of Fowler's position and Murphy's proctoclysis: hence, it may properly be called the Fowler-Murphy treatment. In justice to others, however, the following history of the evolution of the method is given:

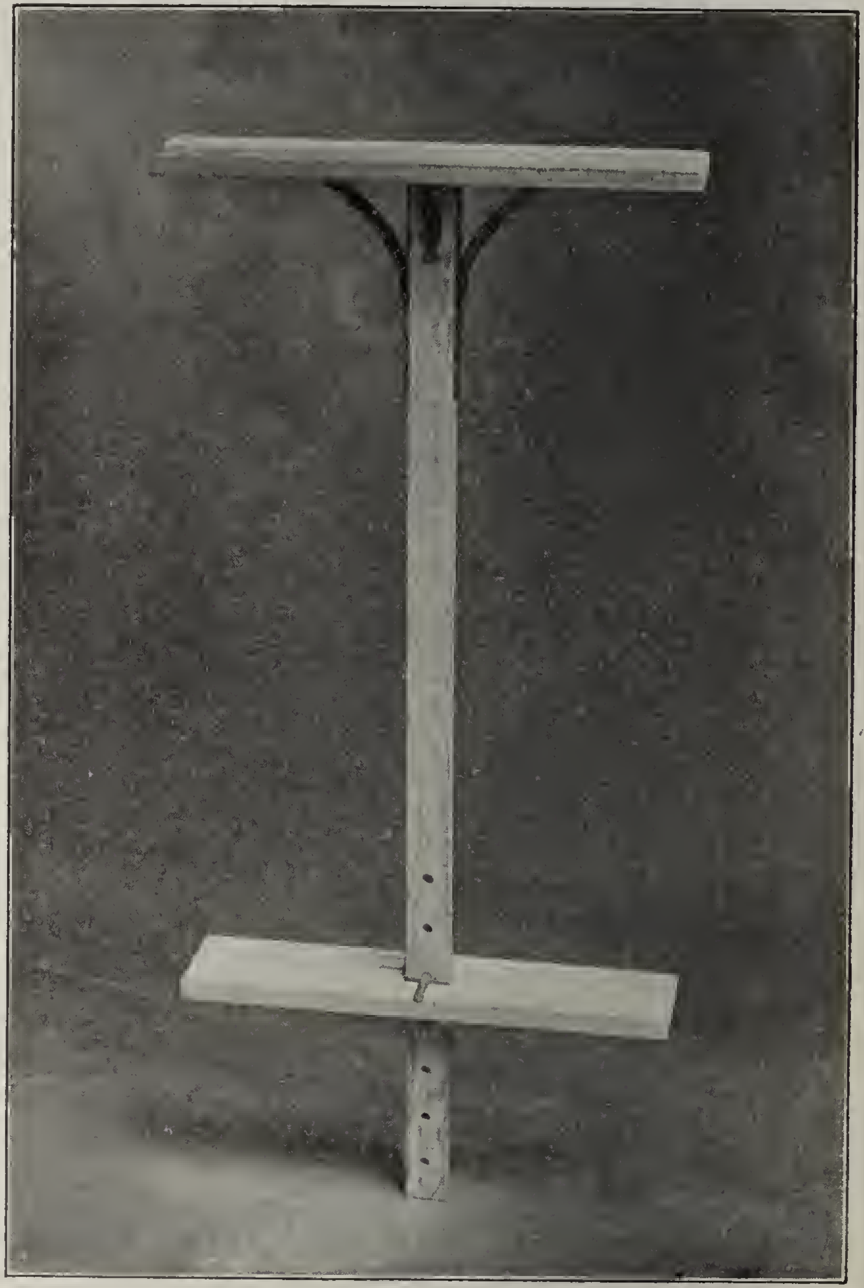

Fig. 2.—Bed seat.

Muscatello demonstrated that the peritoneum of the upper abdomen, or diaphragmatic region, possesses much greater and more rapid absorptive power than the peritoneum of the lower abdomen or pelvic region. Clark saw the possibilities of postural drainage and advised elevating the foot of the patient's bed, thus throwing fluid, by gravity, to the surface which would most rapidly absorb it. Fowler said that the principle of postural drainage was correct, but its application was wrong; that the fluid should not be drained into the patient, but out of him. He advised elevating the head of the bed to allow the fluid to gravitate from the diaphragm where it would be absorbed, to the pelvis where it would be collected until removed by a drain. Bond demonstrated that particles of indigo-carmine placed inside the anus would be carried upward by what he termed "reverse mucous currents." Cannon showed that except during defecation antiperistalsis is the normal movement in the large intestine, and that, owing to this fact, liquid feces are carried back into the cecum, where the watery element is absorbed.

Murphy suggested utilizing the foregoing observation in the treatment of suppurative peritonitis, by injecting saline solution slowly into the rectum, depending on reverse peristalsis to carry it to the cecum where it would be absorbed. He reasoned that, owing to the patient being unable to take as much water as was being eliminated, he became dehydrated and the empty vessels of the peritoneum rapidly absorbed any fluid the cavity contained. If, by introducing a large quantity of fluid into the circulation, the vessels could be overfilled, then the peritoneum would be changed from an absorbing surface to a secreting surface, and in place of toxic fluids going into the circulation, there would be a flow of cleansing serum into the peritoneal cavity.

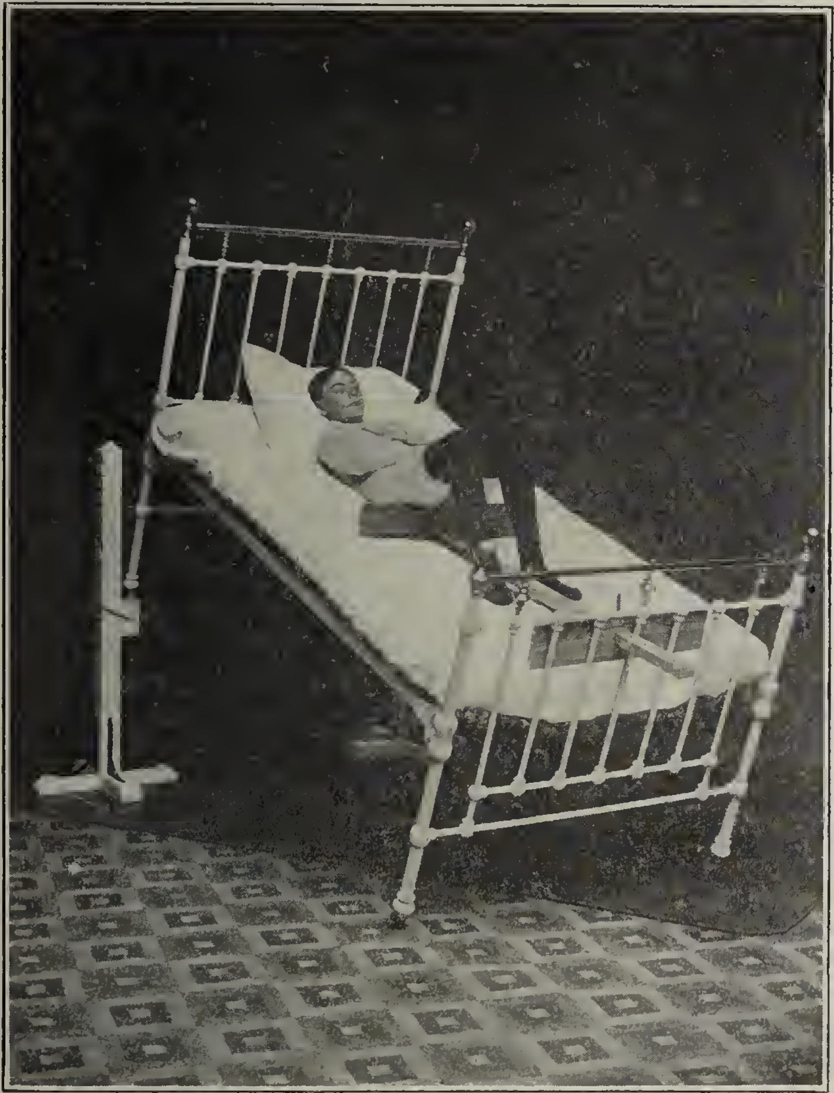

Fig. 3.—Bed in moderate elevation.

The practical steps of the Fowler-Murphy method are as follows: Open the abdomen over the seat of the primary focus of infection and correct the trouble, whatever it may be, so as to prevent the admission of further poison. Make a second short incision immediately above the pubes, and insert a large rubber drain to the bottom of the pelvis. The work should be rapid, with as little manipulation of the viscera as possible, and no effort should be made to remove the pus by sponging or irrigation. Place the patient in bed in an exaggerated Fowler's position. Give saline solution by continuous low-pressure rectal irrigation; administer morphia, in small doses, for pain and spartein, in large doses, as a general stimulant and prophylactic against suppression of urine. Purgatives should not be employed, but bowel action secured by the use of enemata. If there is much nausea or vomiting the stomach should be thoroughly irrigated and no food should be given until the patient can retain and assimilate it.

By the adoption of the method outlined I have seen a great change in my mortality. A recent analysis of the last 500 cases of appendicitis operated on in my private hospital gives a record of twenty-four patients with diffuse suppurative peritonitis. The first six were treated by the old method of irrigation and multiple drainage, with five deaths. The last eighteen were treated by the Fowler-Murphy method, with but one death.

Coffey has demonstrated that there are three cavities or basins of the peritoneum to be drained—the right and left flank, separated from each other by the spinal column and the pelvis, separated from the flanks by the psoas muscle. When the body is horizontal each flank holds more fluid, and is deeper than the pelvis. The bottom of the flank cavity is four inches below the top of the divide made by the psoas muscle. Hence, theoretically, a patient's body must be elevated to an angle of 50 degrees to permit gravity drainage of the flanks. I have found great difficulty in maintaining a patient in this position, and recently, in visiting various hospitals, I have always inquired what method or apparatus was employed in managing such cases.

I have found two principles in practice, angulation of the patient and angulation of the bed. The first is effected by keeping the bed horizontal and elevating the patient's body by means of a shoulder rest; the second, by elevating the head of the bed and allowing the patient to lie flat on the inclined mattress. As one method must be superior to the other, I have given their relative merits considerable thought. The advantage claimed for the "semi-sitting position" over "bed-elevation" is that it gives better drainage. This I do not believe is true, because, as I will try to show, it is impossible to maintain a patient in the proper position on a shoulder rest, while it is an easy matter to prevent his slipping on an inclined mattress, no matter what the elevation.

The disadvantages of the semi-sitting position are: (1) It makes it difficult for the nurse to place the bed-pan properly; (2) it is unnatural and subjects the patient to mental and muscular tension; (3) he will slip down when relaxed by weakness or sleep, so that his body will bend at the costal arch and his abdomen will be on a plane parallel with the surface of the bed. To prevent the tendency to assume this false position, some surgeons use axillary straps attached to the shoulder rest; some a double inclined plane to support the legs; and others go so far as to elevate the foot of the bed. None of these methods, however, satisfactorily corrects the trouble.

The advantages of elevating the head of the bed are: (1) The mattress may be put at any angle; (2) the patient lies on a flat surface, often unconscious of his position; and (3) he is completely relaxed and easily nursed. The difficulty experienced in managing this position has been to get a simple device for raising or lowering the head of the bed, and to devise a means to prevent the patient from sliding down the incline. Blocks, boxes and tables have been used for the first, and pillows, hammocks and swings placed beneath the buttocks and attached to the head of the bed, for the second.

I herewith present a model and photographs of a simple and cheap apparatus which I have employed for more than a year to accomplish both of the desired ends.

The bed elevator (Fig. 1) consists of a wooden base and upright piece. There are a number of notches on the side of the upright, into which fits an iron link which supports a block to receive the leg of the bed. The link, when horizontal, slips up or down, but when oblique fits into a notch, just as does the lock of an ordinary needle-holder.

The bed seat (Fig. 2) consists of a board which, either bare or padded with a pillow, makes a shelf on which the patient sits. A wooden shaft projects downward and passes through a second board which rests against the foot-piece of the bed (Fig. 3). In the shaft are a number of holes, and a peg placed in one of them will prevent the shaft from passing through the bottom board, and thus transfer the weight of the patient to the foot of the bed.

The advantages of the bed seat over a hammock or swing are its rigidity and consequent sense of security given the patient; the ease with which it can be removed and replaced by the nurse when it is found necessary to do so; and also the fact that there are no straps or ropes on either side of the patient's head or body to embarrass the nurse or alarm the relatives. Both of the devices described can be made by any carpenter at the cost of a few dollars, and will securely maintain the patient at any angle for any time without discomfort.

MIXED NARCOSIS.

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NEW YORK.

In 1774 Priestly discovered nitrous oxid gas and oxygen. It was one hundred years later before the medical world accepted the fact that it was possible to improve the anesthetic by combining the two gases. It is only within the last ten years that the real anesthetic properties of nitrous oxid gas have been generally acknowledged. While it is entirely satisfactory to partially asphyxiate the patient for the extraction of a tooth, and also perfectly safe, it is neither satisfactory nor safe to use this asphyxial method for prolonged surgical operations.

Hewitt, of London, within recent years discovered that a continual narcosis could be maintained by giving a definite mixture of the nitrous oxid gas with 14 to 18 per cent. of air for men and 18 to 22 per cent. of air for women. This is satisfactory, provided the mixture of air does not exceed 30 per cent. This is usually accomplished by anesthetists, who have not the necessary apparatus, by giving alternately nitrous oxid and air, with any of the inhalers now on the market, in the following manner: 2 to 5 breaths nitrous oxid to one of air, according to the patient and the depth of anesthesia desired.

A more satisfactory manner of giving air and gas is with an arrangement of my own, illustrations of which are here given. By turning a small stopcock marked "air" from 10 to 30, backward and forward, the proper degree of anesthesia can readily be determined and satisfactorily maintained. The objection to using air is that it contains a large percentage of nitrogen, which is useless for anesthetic purposes. By the administration of oxygen this useless nitrogen can be replaced by an equal amount of useful nitrous oxid gas. Cyanosis and stertor are thus prevented in a large number of cases.

Dr. Hewitt illustrates this in the following manner: A mixture of 40 per cent. of air and 60 per cent. of nitrous oxid would contain about 8 per cent. of oxygen and 32 per cent. of nitrogen, and while 8 per cent. of oxygen would be the proper amount, 60 per cent. of nitrous oxid would be insufficient to produce tranquil anesthesia. By substituting oxygen for the air we should be able to replace the 32 per cent. of useless nitrogen by a corresponding quantity of useful nitrous oxid, this latter now being 92 per cent. and the percentage of oxygen remaining the same. The equation would be about like this:

With air: Air..............40 per cent. = { 8 per cent. oxygen. / 32 per cent nitrogen.
Nitrous oxid.....60 per cent. = 60 per cent.
With oxygen: Oxygen.......................... 8 per cent.
Nitrous oxid ....92 per cent.

Dr Hewitt, by a series of elaborate experiments, has found that from 5 to 7 per cent. of oxygen is sufficient for adult males and from 7 to 9 per cent. for females and children.

Over forty thousand administrations have been recorded with nitrous oxid and oxygen and not a single fatality. By heating nitrous oxid gas and oxygen the anesthetic is made even safer than when it is administered in the usual manner. Also the small percentage of those troubled with nausea from this anesthetic is still further reduced. As is well known, it is the exception to have any after-effects from gas, given either with or without oxygen, and this fraction is still further reduced by using what is called in this paper "mixed narcosis."

In 1863 (according to Hewitt, of London), morphin was first used in conjunction with chloroform during the anesthesia by Nussbaum, of Munich. He reported that patients thus treated remained in a deep sleep for a considerable time after the withdrawal of the chloroform and then awoke without nausea or vomiting. In 1869 Claude Bernard published his researches, reporting that he observed similar effects in dogs. Three years after Bernard's report morphin was given before the chloroform, with the object of facilitating the action of the chloroform and rendering smaller quantities of the anesthetic necessary. So that in 1863 to 1872 they were using chloroform with a little morphin, and now —in 1906 and 1907—we are using morphin with a little chloroform. The difference is the same as that between tweedledum and tweedledee. Morphin unquestionably is useful, whether used with chloroform or ether, but is safer when ether is used, on account of the stimulating effect of ether on the respiration.

The contraindications to morphin are respiratory difficulty, coma, great weakness, anemia and also extreme old age. If used after the operation it should never be given until all of the reflexes appear. My own practice is to give 1/16 to 1/4 of a grain of morphin, plus 1/500 to 1/150 of atropin, half to three-quarters of an hour before the operation. It probably is best to give the amount decided on in two doses instead of one. The majority of fatalities reported have occurred when chloroform was used in combination with morphin.

Hewitt relates a case in which 1/3 of a grain of morphin was given and chloroform used as the anesthetic, and on account of respiratory paralysis artificial respiration had to be kept up continuously for four hours, the patient finally recovering. Hewitt is opposed to the routine administration of this drug.

If a fatality should occur when ether is used with morphin the trouble would be that the ether had been pushed too far. Physiologically ether is indicated and chloroform is contraindicated with morphin, and the only reason for urging chloroform in this connection would be to lessen the chances of any after-effects. But if ether is given, drop by drop, either by itself or in connection with chloroform, the margin of safety would certainly be increased.

Regardless of the method used, morphin in small amounts as indicated certainly is beneficial, decreasing the amount of pulmonary anesthesia in the induction and maintenance of the general anesthesia, and thereby increasing the limits of safety, while reducing materially the nausea and vomiting afterward. I fully believe in the routine exhibition of morphin, always paying attention to the dosage and to the exceptions noted above. The routine demonstration does not mean a predetermined dose, regardless of the age, size or condition of the patient.

One must not forget the small percentage of persons susceptible to nausea and vomiting after giving morphin by itself. There is no drug in the Pharmacopeia that has not exceptions regarding its physiologic effects. Whenever this idiosyncrasy is known, chloretone should be substituted for morphin; dose, 5 to 20 grains thirty minutes before the operation, or 5 grains every fifteen minutes until the desired dose is taken. The last dose should be given thirty minutes before the operation.

Whether ether by the drop method or the gas-ether sequence, or the Allis inhaler is used, morphin will be of assistance. If we decide on the C. E. mixture it is best to have the chloroform and ether in separate bottles. Give the morphin as usual and then commence the anesthetic with a few drops of ether until the patient gets accustomed to the smell and the irritating qualities of the drug. In from one to three minutes you can put a few drops of chloroform on the mask and continue the anesthesia with ether. After the patient is thoroughly anesthetized continue the drop method of ether, unless the reflexes get a little too active; then put on from five to ten drops of chloroform and continue with ether, drop by drop.

This is a more scientific method, physiologically speaking, and also a safer method than giving the old C. E. mixture (two parts of chloroform and three of ether). A splendid dropper can be made by cutting a slight trough in the corks of both the ether and the chloroform bottles and replacing them. The bottles are then to be tested to see if they drop properly. A still better way is to place a safety pin in the neck of each bottle and put in the cork as usual, allowing one-third of the safety pin to protrude beyond the cork. This simple device was given us by Dr. Heller of the Bronx. Still another way is simply to perforate the tin top with a pin, thus allowing the ether to come out in a fine spray. When the operation is completed cut out the metal cap entirely and replace it with a cork. Any of these devices is more satisfactory and economical than the ordinary drop bottles in the market.

Ethylchlorid—If ethylchlorid is used to induce anesthesia it is perfectly safe and proper to follow it with ether, but it is very unsafe to follow ethylchlorid with chloroform; both drugs are depressants and they both kill in the same way—suddenly and without warning. Therefore, ethylchlorid should never be followed immediately by chloroform. It is perfectly legitimate to start with ethylchlorid, then switch to ether, and if the reflexes are only slightly in abeyance to follow with chloroform.

As I have stated in a previous paper, complete surgical analgesia from scopolamin and morphin, or any other tablet, is unscientific and will never become a routine procedure. One death was reported from morphin, hyoscin and cactin in The Journal of the American Medical Association, Aug. 3, 1907. Three tablets were given as directed. The operation proceeded nicely. The patient was removed from the operating table in comparatively good condition, but died several hours later from paralysis of the respiratory centers.

Dr. Wolf, house surgeon of the Jewish Hospital, Brooklyn, at the meeting of the Long Island Society of Anesthetists, October 2, reported a case of labor in which the hyoscin, morphin and cactin tablet was used. One-quarter of the full tablet was given in one dose, and two or three hours afterward one-half of the tablet was given. When the baby was delivered the heart was beating, but very great difficulty was experienced in maintaining respiration. Respiration ceased, not once but several times. The child finally recovered, but the method has not been used since.

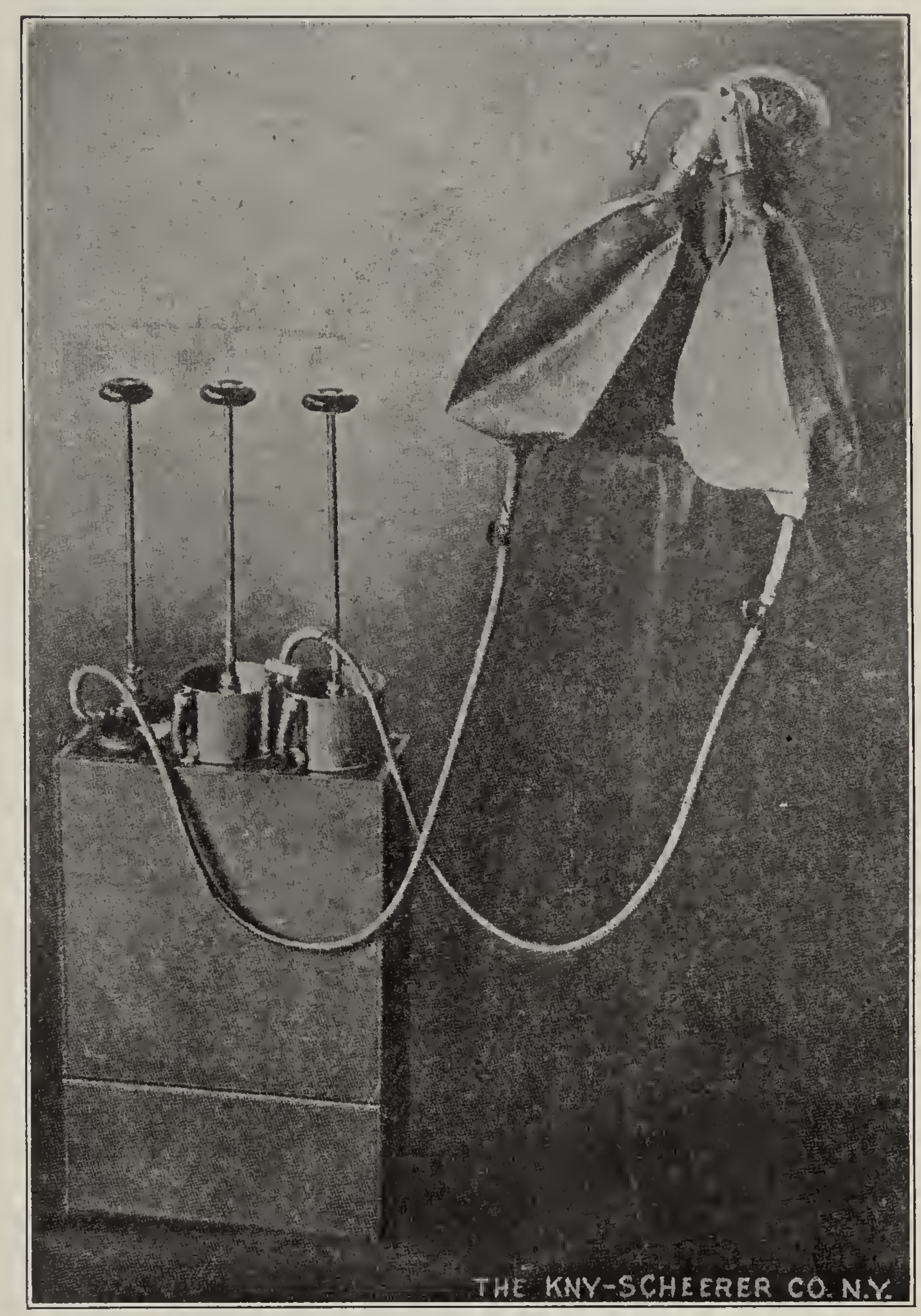

Fig. 1.—The gas-oxygen apparatus, ready for use.

It is the height of folly to go so near the border line as to reduce the respirations to four or six per minute and then to state that this is perfectly safe because the patient did not happen to die. But morphin, 1/16 to 1/4 of a grain, with 1/500 to 1/150 of atropin thirty minutes before the operation (or 1/2 or 1/3 of the decided amount in broken doses), and then using warm nitrous oxid gas and oxygen (plus a few drops of ether, when necessary) as the anesthetic, is both safe and sane. In addition to this, just before the patient is taken from the table and while still under the influence of the narcotic, a high rectal enema of normal saline should be given as the routine procedure to counteract any effect that the morphin might possibly have on the kidneys and also to alleviate thirst. This should be repeated every few hours.

I would like to state a few general rules in regard to the administration of morphin, with which I believe nearly all the profession will agree.

1. Whenever morphin is to be given it should always be given before instead of after the operation, in order to obtain the benefit of this drug in the induction and maintenance of anesthesia.

2. All athletes and alcoholics should have this preliminary dose of morphin.

3. In extremes of life, the very old and the very young, morphin should be administered with very great caution.

4. Whenever morphin is administered the anesthetist should maintain a lighter narcosis than when this drug is not administered. There is no question that all or the majority of fatalities that have occurred, especially with scopolamin and morphin, were produced by ignoring this rule. In fact the question comes to my mind now whether or not the vaunted superiority of the morphin, hyoscin and cactin tablet over the scopalamin and morphin may not be attributed to the knowledge of this fact, gained with the former tablet.

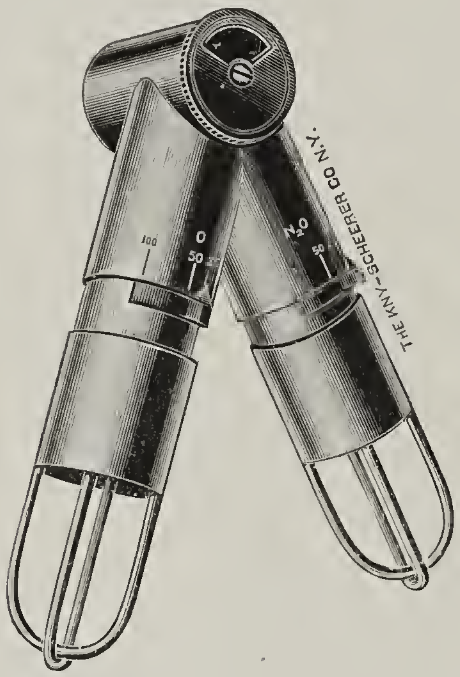

Fig. 2.—Dr. Gwathmey's gas-oxygen attachment.

When giving ether or chloroform alone most of the reflexes must be abolished in order to maintain the proper degree of anesthesia necessary for the successful issue of the operation. When morphin is administered these reflexes can be allowed to remain, and yet the patient will be perfectly quiet. From these facts I conceived the idea of a mixed narcosis, which is simply this: To give the morphin and rely on its nerve-blocking properties, and merely put the patient to sleep with the warm nitrous oxid gas and oxygen, in the majority of cases stopping short of the stertor. If the morphin were not given, in order to maintain the same degree of anesthesia, the gas and oxygen would have to be pushed much further, and there would probably be a great deal of stertor, a free flow of saliva, and more or less cyanosis. In fact it is impossible to maintain surgical anesthesia with gas alone, in the great majority of cases, for any great length of time without marked cyanosis. By giving the small amount of morphin indicated we get a certain safe physiologic effect of this drug.

If, then, we use the safest pulmonary anesthetic known to-day, namely, warmed nitrous oxid gas and oxygen, we can get and maintain the analgesic effect desired with far greater safety than if we rely on either one of these agents almost to the limit of exclusiveness. If the reflexes are not yet sufficiently abolished, add a few whiffs of ether in preference to pushing the gas and oxygen to the limit. We will thus get the beneficial effect of all of these agents, with the least degree of danger.

In several cases in which I used morphin, plus a little whisky, the anesthesia was so unsatisfactory in every instance that I was compelled to switch to chloroform or ether. In all of these cases it is barely possible that I made the mistake of giving too little oxygen, although Hewitt states that nitrous oxid is contraindicated in alcoholics and also in elderly and obese subjects. In cases of enlarged tonsils, adenoid growths or anything that would obstruct breathing, also in muscular and heavily built men and those who smoke or drink to excess, nitrous oxid would be contraindicated.

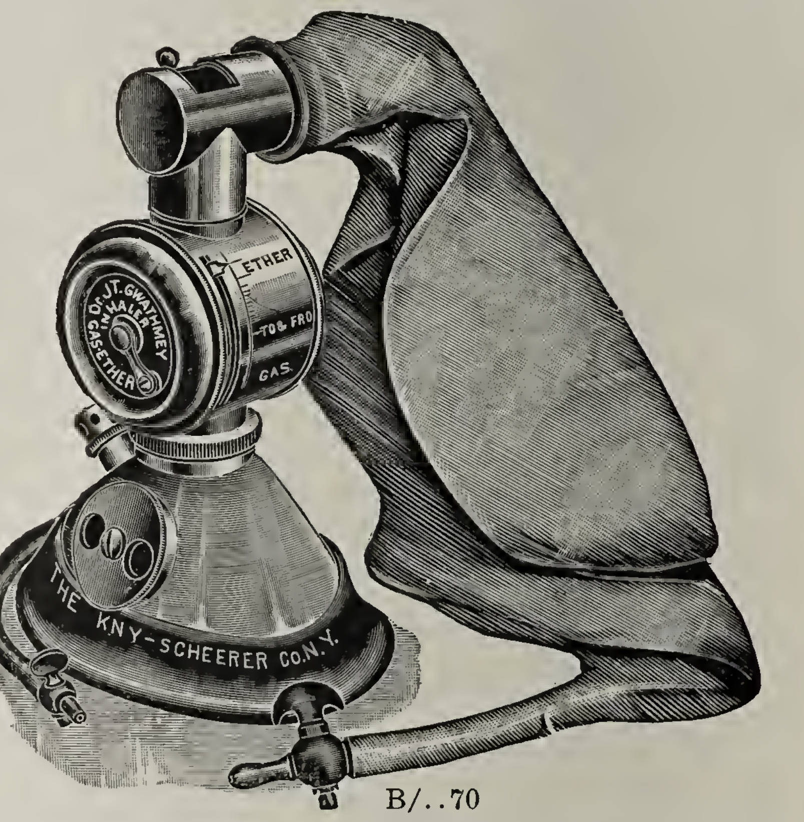
ETHER
TO & FRO
GAS
DR. J.T. GWATHMEY INHALER GAS-ETHER
THE KNY-SCHEERER CO. N.Y.
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Fig. 3.—Dr. Gwathmey's gas-ether inhaler. The gas-oxygen attachment replaces the ether attachment and bag shown above.

I have given this anesthetic in a great number of cases (which will be reported in detail in the near future), in the majority of them with most gratifying results. The time of anesthesia varied from ten minutes to two hours. The cases included appendectomies, laparotomies, gallstones and the usual surgical cases.

Dr. Arthur D. Bevan, in The Journal of the American Medical Association, July 20, 1907, relates a number of operative cases in which nitrous oxid gas was the anesthetic used. He makes no mention of the value of oxygen in relation to nitrous oxid, and none whatever of the still greater value of warm nitrous oxid gas and oxygen, but he makes a plea for a fuller recognition of this anesthetic.

Dr. Ernest Brown, of Cleveland, Ohio, by inventing an apparatus that will at the same time heat the gas and prevent the valves from freezing, has made it possible to administer gas and oxygen continuously, and with as much assurance of success as we can administer chloroform or ether. By preceding the administration with morphin and giving this warm nitrous oxid gas and oxygen, plus small amounts of ether, when indicated, we have a nearer approach to the ideal anesthetic than anything that has been offered up to this time. The morphin, administered as suggested, not only helps in the induction and maintenance of anesthesia, but it also gives the patient that calmness of mind and assurance that is in itself one of the greatest boons that can possibly be offered to him. In addition to this, as the patient is recovering from the narcosis, the sharpness of the pain of the operation is done away with in a great measure.

On the other hand, the omission of morphin in certain cases, and the immense flow of saliva from ether, especially when the open cone method is used, unquestionably has been responsible for some deaths on the operating table. The mixed narcosis should be useful not only in surgical cases, but there might possibly be a field for this safe, warm anesthetic in certain cases of insomnia.

According to Dr. Hewitt, the three principal objections to the administration of definite mixtures of nitrous oxid and oxygen are: 1, That they are difficult to prepare with accuracy and in sufficient quantities; 2, that different subjects require different percentages; 3, that the proportion of oxygen can not be increased or decreased to meet special conditions arising during the administration.

The first objection is met by Dr. Brown's hot-water arrangement, which insures a continuous supply of the gas, something heretofore impossible. The second objection is met by my own simple arrangement of a third opening in addition to the two valves, and this requires but little manipulation to find the per cent. desired. The third objection is met by the gas and oxygen being placed very near the patient's face, thus making it possible to increase or decrease the percentage of oxygen instantly.

With these general remarks on the subject of mixed narcosis I will conclude my paper with a plea for a more careful inquiry into the subject. We have so many anesthetics, sequences and combinations that it would be ridiculous to propose that any one anesthetic should supplant all others. Cases must be selected. Knowing the weak points of our various agents enables us to make such a selection as to obtain a smooth narcosis, thus avoiding disagreeable experiences and giving the patient the maximum of postoperative comfort.

124 East Sixteenth Street.

A SUGGESTIVE PLAN FOR A MODERN GENERAL METROPOLITAN HOSPITAL OF FIVE HUNDRED BEDS.

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CHICAGO.

Since my interneship in the Cook County Hospital in 1884-86 I have had my attention repeatedly called to hospital architecture and management, and have taken every occasion to observe and criticise hospitals, not only from the standpoint of the physician, but more particularly from that of the patient. Recently my advice has been sought in the preparation of the plans for the Lithuanian Hospital in Chicago, and this article is the result of my present renewed interest in the subject.

Most of the hospitals in the city, and in adjoining cities, are constructed on the pavilion or hotel plan. Where private patients are to be accommodated the hospital is a cheap imitation of the hotel. Where the patients are kept in wards, as in the County Hospital and in the annexes of the eleëmosynary hospitals the pavilion plan is followed.

An ideal hospital should be constructed for the patient. Only so far as the patient's need coincides should the convenience of the nurses, physicians and administration be allowed to dictate. The traditional architecture of the hospital is either monastic or lodging-house-like. It is an assemblage of cells or a collection of dormitories with kitchens attached. In modern times ventilating holes and operating rooms have modified only slightly the problem of construction.

The first modification of the hospital which has been brought about lies in the isolation of contagious diseases in separate hospitals, and the construction of shacks, tent colonies or permanent cottages for the tuberculous. The great success of the daring innovations of Trudeau, in the Adirondacks, has made the treatment of tuberculosis in hotel-like hospitals criminal and has compelled many institutions to place the tuberculous medical and surgical cases in temporary tents or wooden huts. Even the managers of the institutions for the insane have removed those unfortunates who are lucky enough to have tuberculosis to isolated, hygienic, temporary structures, greatly to their advantage and also to the safety of the dormitories from which they came.

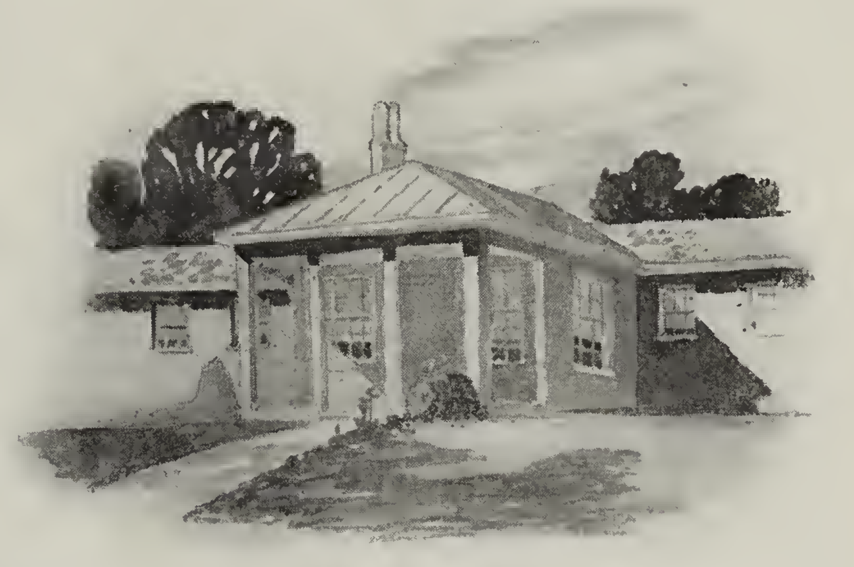

Fig. 1.—Sketch of a cabin for a single patient, made by W. Carbys Zimmerman, from one already constructed at Buffalo Rock, Ill. The architecture is merely suggestive. The essential elements are a good roof, good walls, good windows, and absolute isolation.

Modern aggressive surgery has made the hospital into a hotel for the temporary care of the vivisected. All that the surgeon cares for is a room for his patient to occupy during the three or four weeks she is recovering from his incisions. She may then go home and get well or lead a life of invalidism, as it happens. To cure his patient and restore her to a life of usefulness and happiness is not the modern surgeon's conception of duty. He looks on the invalid as an incumbrance to his hospital, and all the essentials of recovery as unnecessary expense and space-consuming impedimenta. Even the public authorities, as represented by the building laws for hospitals, put the care of the sick, those suffering from contagious diseases, entirely out of the possibility of metropolitan hospital treatment. A well-endowed hospital for contagious diseases has been unable to secure the permit necessary to construct and maintain an institution which has absolutely no competitor in the city of Chicago.

It seems to me necessary and desirable that the new hospital which has been projected by the Lithuanian people, the greater number of whom are wage-earners, should be peculiarly adapted to the care of this class of citizens, the treatment of their injuries and the cure of their diseases, and that the first essential in this would be the architecture of the hospital.

1. In order to be most useful the surroundings of home life should be preserved. The present hotel-like or monumental hospital is alarming to the patient and quickly becomes institutional in its rules, regulations and atmosphere. The methods of treatment in these institutions are not easily carried over to the surroundings of the home. The ventilation or lack of ventilation is depressing and mysterious. The windows can not be opened and the doors are caisson-like in structure. The barren severity of the walls and floors, dictated by antiseptic precautions, are unrelieved by color, fresh air or sunshine. The remoteness of the service rooms and the complicated condition of bathing are impediments to the patient's recognition of the efficiency of similar treatment which might be carried out at home.

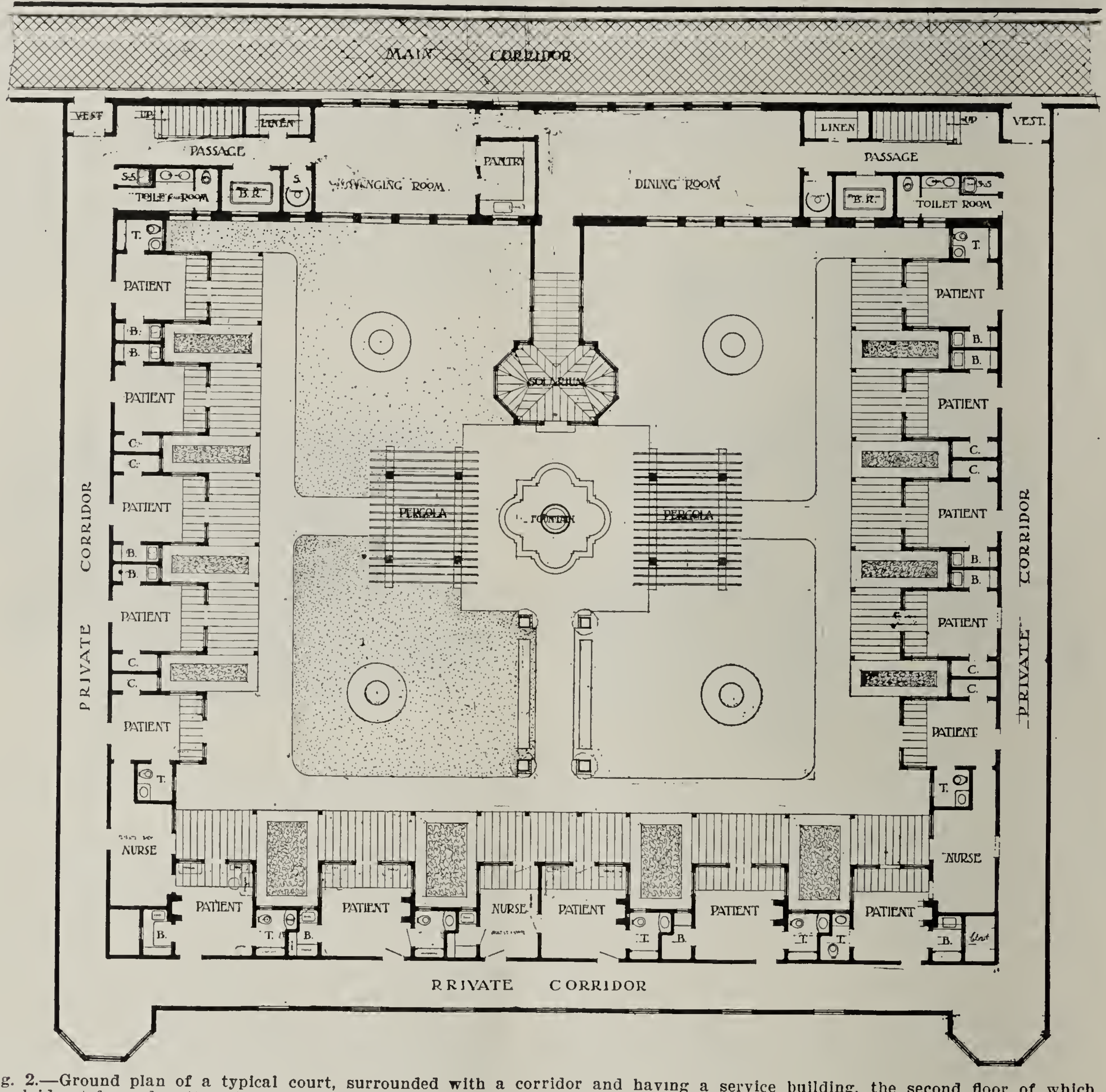

Fig. 2.—Ground plan of a typical court, surrounded with a corridor and having a service building, the second floor of which is shown laid out for a dormitory in Figure 3.

2. Fresh air and sunlight are therapeutic measures which can not be neglected in tuberculosis and all diseases of the respiratory tract, and which should not be neglected in nutritive diseases and all conditions of repair, whether from traumatic injuries, surgical operations or errors of metabolism. The only way to secure absolutely fresh cold air is to have the patient's room wholly separate from all other occupied space. In other words, the patient should be in a structure by himself, in a tent, a shack, a hut or a little house. He should be surrounded on all sides by fresh, unpolluted, cold air. His room should have windows in all directions, it should be capable of being warmed for his comfort during dressings, and it should have the conveniences of his existence, a toilet and basin and a buffet. Such a structure, so far as I know, has been provided for tuberculous patients only. In a little more extended plan it was the basis of the cottage hospital of the 60's.

My friend, W. Carbys Zimmerman, has prepared the sketch (Fig. 1) of such a cabin from those already constructed by him at Buffalo Rock, Ill. The screened porch has a roof of wired glass, allowing sunlight in the front windows.

3. It is desirable to construct the hospital so that the patients can be classified, and so that the several groups can be isolated completely from each other, in order to prevent contagion and allow the specializing of the architecture and the methods adapted to the needs of the several groups. Such a construction should also be so standardized as to allow unit after unit to be built, as experience dictated, as demand arose, and as the resources of the institution permitted. This object has been sought in arranging the cabins in courts or quadrangles of fifteen or more each. The court is surrounded by a corridor, roofed and glazed, with doors leading into each cabin. On the south side of each quadrangle is a service room large enough to feed, nurse and accommodate the patients of the court. This service room might be two stories high and the second floor used as a dormitory for the nurses if it was a contagious court, or for the convalescent patients, if it was non-contagious. The plan for such a court as proposed by me has been made by Mr. Zimmerman (Fig. 2). It provides for fifteen separate cabins, each with its own toilet and buffet, and each provided with an open porch eight feet wide and screened. The porch is on the same level as the floor of the patient's room, so that his bed may be run out after his dressing and bathing and easily run in again when necessary. A few of the rooms are provided with adjoining nurses' rooms for patients requiring special nurses. The service room contains two sets of bathrooms; each set has a tub bath and a shower bath and adjoining dressing rooms. The service room is connected with the kitchen, which, in the completed hospital, will be in the administrative group, by an electric railway, or, if the single court is built with the basement kitchen, by a dumb-waiter. The service room opens directly into the dining-room where the ambulatory patients eat, and where the nurses and help eat in the contagious courts.

The second floor is reached by a short flight of stairs and is arranged in the accompanying plan (Fig. 3) as a dormitory for ambulatory and convalescent patients. It could be divided up for the nurses and help in a contagious court. It communicates with the roof of the grand corridor. The interior of the court is arranged as a formal garden adapted to the use of the court. It is surrounded with a walk and has a few trees, a fountain with seats or other attractive ornaments. The interior of the court might present the appearance shown in Figure 4, which is a perspective treated in classic form. The several courts might have entirely different architectural effects, if consonant with the general plan of the hospital. Since the court is completely surrounded by protecting corridors, any court used for contagious diseases should have a wicket entrance on the street. The laundry and dishes should be sterilized with live steam before going to the administration group.

The essential elements of the court are its accessibility from each cabin, the isolation which it gives from intrusion, from noise and dust, and the pleasing view which it offers from every porch and window. Patients seclude themselves because their dressings or infirmities make them the target of curious eyes. In the court they would see and be seen by their fellow-patients and friendly attendants alone.

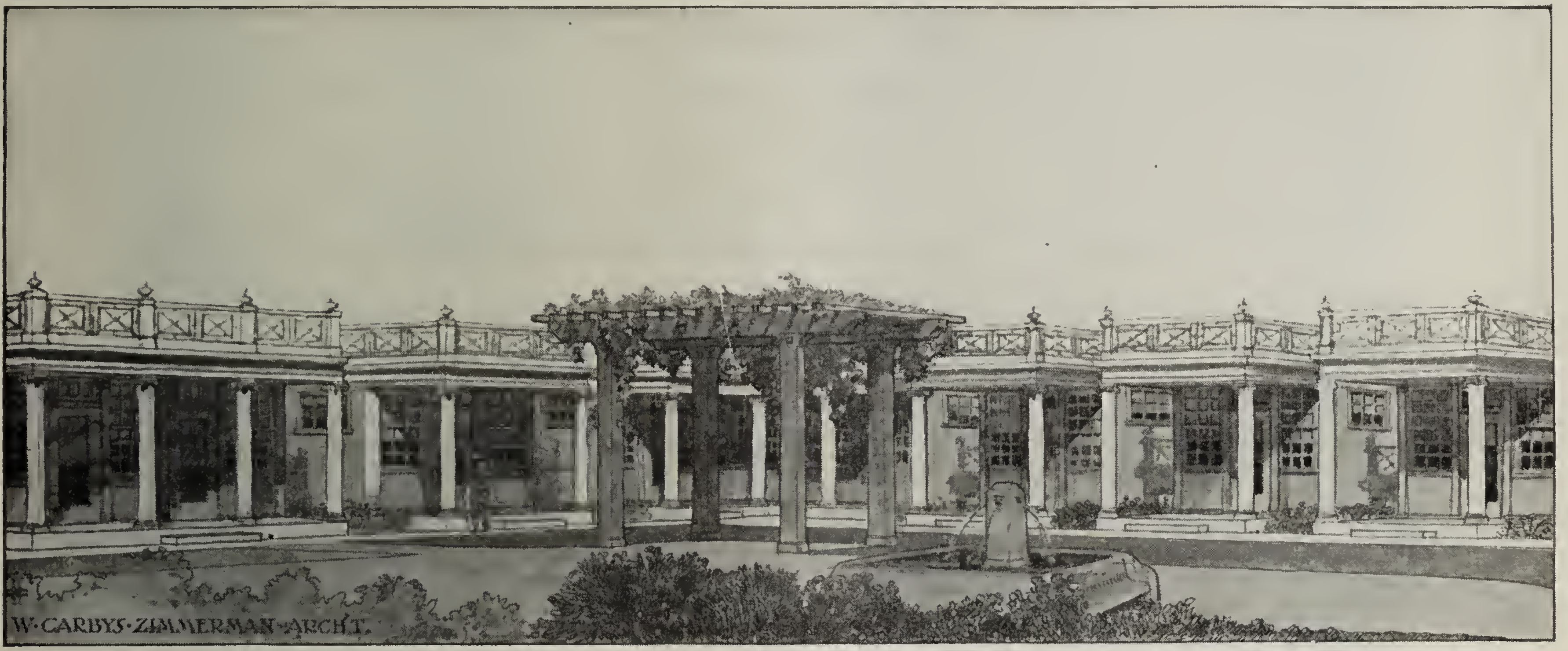
W·CARBYS·ZIMMERMAN·ARCH'T.

Fig. 4.—A perspective of a corner of a typical court in the hospital as planned.

The construction of such a court as the preceding would not cost more than $30,000, even though the service building was fitted out with its own heating apparatus, kitchen and laundry. It would probably be better to have a heating apparatus and laundry at some distance from the court, and of such a capacity as to heat two or three courts of thirty patients each. By this method the hospital could be begun on a very small expenditure.

4. The Lithuanian Hospital Association has secured eight acres of land in one block, surrounded on all sides by a sixty-six-foot street. The east end abuts Western Avenue, which is more than 300 feet wide and is park-like in its arrangements. This block is 1,300 feet east and west and 266 feet north and south, and contains 345,800 square feet, or 691 square feet for each of 500 patients. It has been proposed to lay out the central 150 feet as an administrative group, containing a boiler house, laundry and kitchen, electrical and refrigerator plants, houses for the better class of employés, and an administration building with a small chapel, an operating pavilion and a therapeutic gym-

nasium and bathhouse, and suitable clinical and pathologic laboratories (Fig. 5).

This central administrative group would be two or three stories high, and each building could be built separately and independently, but all after a preconcerted plan. It should be connected with the several courts by a central grand corridor twelve feet wide, the basement of which would carry the sewage, the hot and cold water, the electric and telephone wires, and give room for a double-track electric railway or horizontal dumb-waiter, connecting the laundry, kitchen and storeroom with the several courts. The main floor of the corridor would be two and one-half feet above datum and allow abundant light and ventilation by side windows.

The courts on each side of this corridor would be 125 feet wide from north to south and any convenient width from east to west. There will be room for about ten such courts. On the west end 75 feet would be reserved for the nurses' residence and garden. It would connect with the grand corridor and have such dormitories and private rooms as would accommodate 200 nurses. On the opposite end might be located a large amusement hall and theater, where professional and amateur performances would be a source of income to the hospital or of amusement and education to the patients and employés and the surrounding neighborhood. This building should be fitted up like a clubhouse, with indoor and outdoor games, and a suitable refectory for the service of the employés of the hospital and the convalescent patients. It would assist in solving the perplexing problem of retaining efficient service at a moderate expense.

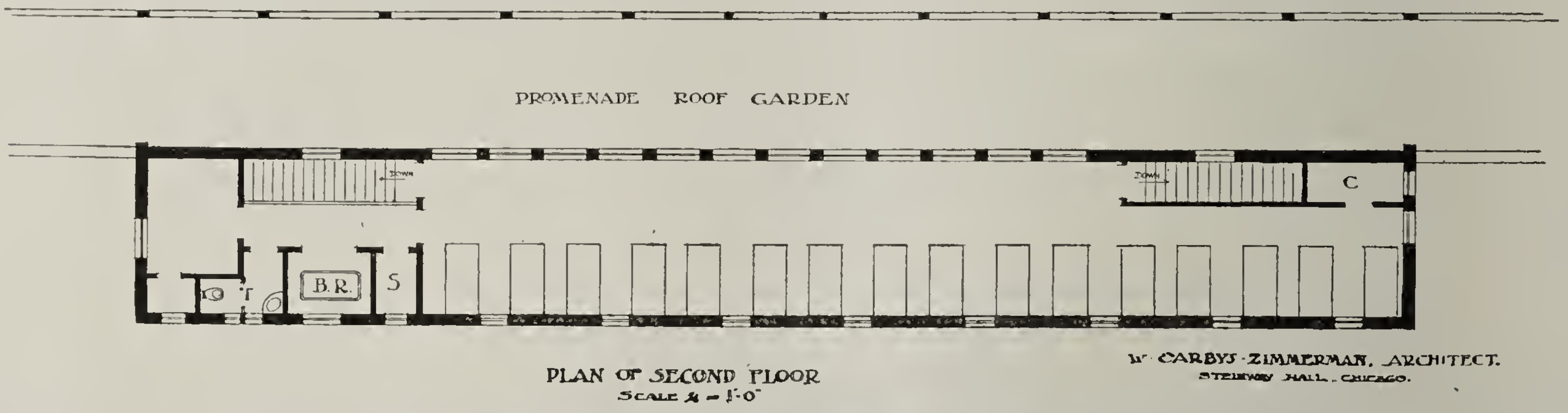

Fig. 3.—The second floor of a service building in a typical court, arranged as a dormitory for convalescent or ambulatory patients.

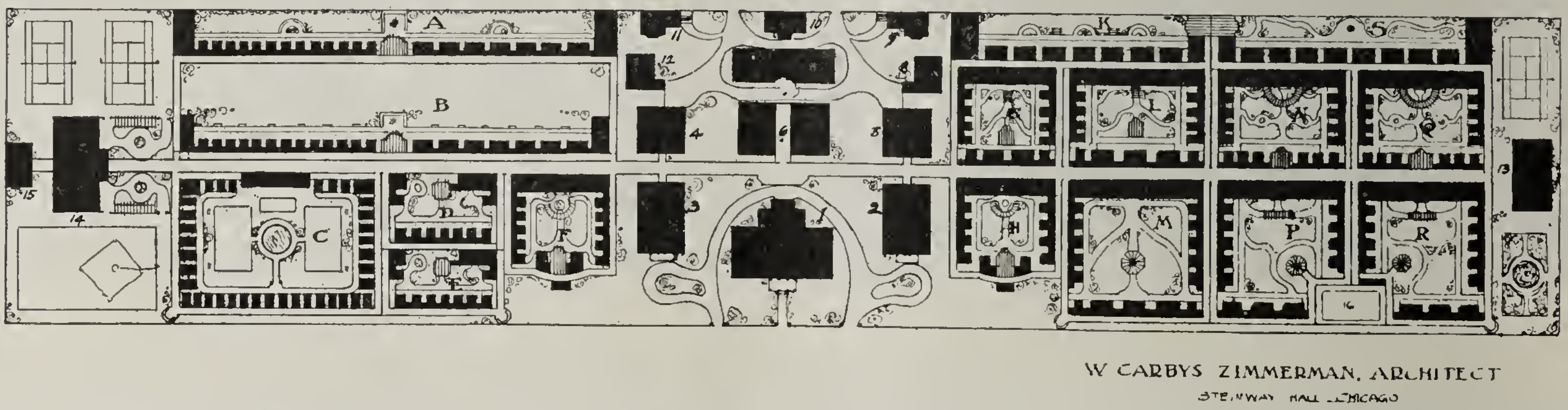

Fig. 5.—General plan of eight acres. 1-11. Administration group. A-S. Courts for various groups. 13. Nurses' home and garden. 14-15. Theater and club house.

The construction of one-story isolated cabins in enclosed courts would not be inconsistent with the building of a conventional ward building with service rooms attached in which the treatment of cases might be compared with the outdoor treatment. Such a ward building or dormitory would be good enough for healthy accident cases, and might be found necessary at the present time.

Such a hospital as this would easily be adapted to the needs of small communities, where land is cheap, and to every sort of treatment. It could be built of wood, or even of wood and canvas or matting where temporary service alone is necessary.

Built in a substantial manner most hotel-like hospitals cost 28 to 35 cents per cubic foot and $1,500 to $3,000 per patient's bed. While it is impossible to say how much such a hospital as the one here proposed would cost until it has been completed, good builders have agreed that it would be far less than the many-storied caravansaries which have been built almost universally during the past three decades.

The crux of hospital management, I know full well, is the expense per bed per day. This sum ranges between 50 cents and $3.00. The guilds of hospital superintendents are busy in their meetings in planning ways of diminishing this item by throwing the burden on others, by cutting the rations in two, by overworking the nurses and servants, by selling the garbage, by washing and resterilizing the surgical dressings, and by compelling the internes and nurses to operate and dress cases barehanded. It reminds me of analogous efforts made by their predecessors twenty-eight years ago. To save coal they stopped up the ventilators and caulked the windows. To save on dressings they gave us oakum by the bale instead of by the barrel, and bandages at 7½ cents the yard instead of 8. What an extravagance and luxury was our demand for Lister dressings, sterilized water and soft soap, and yet the actual price of dressings for each patient has diminished, and incidentally the death rate from wounds and operations almost sank to the vanishing point. The capacity of the hospital for usefulness has increased.

Does it seem unreasonable, then, that the plan which is here proposed to give air, light and outdoor life to the patient at a cost per bed for the plant of less than any metropolitan hospital can show, should be given a trial, in a small way at least, in spite of the fact that it is a novelty and presumably more expensive per patient? Will it pay in restoring to health? That is the question.

NERVE-BRIDGING.

REPORT OF ONE SUCCESSFUL CASE.*

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The literature of the surgery of the peripheral nerves is fairly voluminous, but, instead of being indexed under any one caption in the *Index Medicus,* it is scattered through the various subheadings of surgery. This renders it difficult to cover the ground completely.

In the case reports, of which the literature largely consists, the results are usually stated in such general terms as to be of little value for a study aiming to evolve the best technic for the treatment of the different types of cases. This difficulty is not hard to understand if it be remembered that the results from nerve surgery are late in appearing (1 to 2 years), and that it is almost impossible to keep track of the patients and maintain their interest sufficiently to permit of frequent systematic examinations for record. For these very reasons the postoperative record of the case reported in this paper consists almost entirely of photographs. No electrical tests were possible.

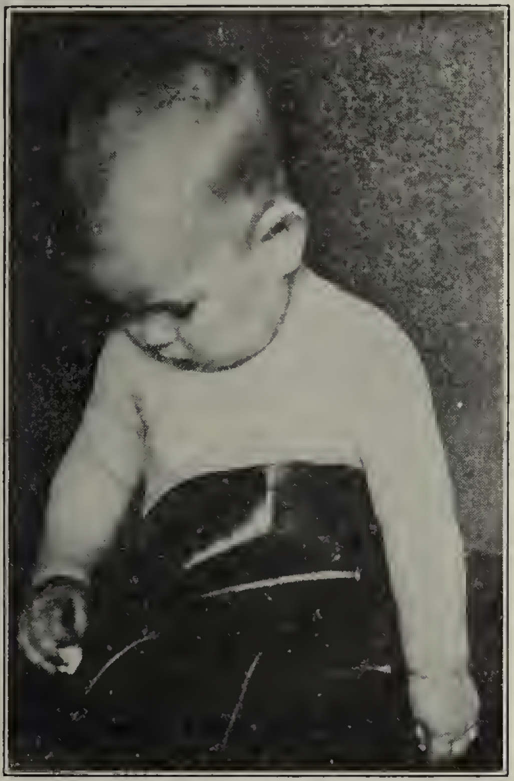

Fig. 1.—Before operation. Total paralysis of left upper extremity.

To put the technic of nerve-anastomosis and nerve-bridging on a sound basis much experimental work must be done to determine the relative values (with regard to the return of motor power, co-ordination and normal trophic conditions), of lateral implantation as compared to end-to-end anastomosis. The bridging of gaps between the ends of divided nerves, which can not be approximated is a modified type of end-to-end anastomosis.

To help the nerve ends to grow together various expedients have been used. These may be classified as:

(a) Neuroplasty, where one or both of the nerve-ends are so split and turned over as to meet and bridge the gap.

(b) Grafting or nerve-transplantation, where a section of nerve from the same or another individual, or even from one of the lower animals, is made to fill in the gap by suturing its ends to those of the divided nerve.

(c) Tubulization, where a tube is used to connect the two nerve ends to prevent the ingrowth of connective tissue during the development of the new nerve tissue which is to form the permanent bridge. Various kinds of tubes have been used, decalcified bone, formalinized gelatin, arteries (fresh or formalinized) from different animals, magnesium, etc.

(d) *Suture à distance,* where a catgut suture is passed from one nerve end to the other several times, forming a framework between the two. With this is often combined one of the tubulization methods.

(e) Resection of bone, where enough bone is removed to permit direct end-to-end suture of the nerve. This method does not involve true nerve-bridging, but must be included as a method of dealing with nerve defects.

(f) Lateral implantation of both proximal and distal stumps of the damaged nerve into a neighboring motor nerve. There is some evidence to show that fibers from the proximal stump grow down along the nerve into which it is implanted and thus help to bridge the gap.

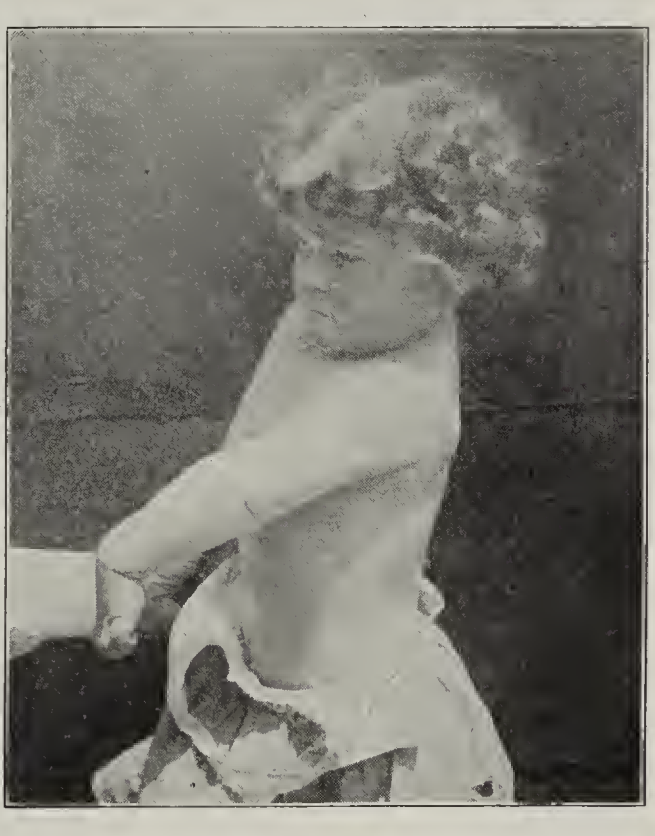

Fig. 2.—Eleven and a half months after operation, showing anterior elevation of extremity. Fingers contractured from neglect of after-treatment.

It is well established that materials interposed between the nerve ends act only as guides which degenerate and are absorbed as the new nerve grows. In neuroplasty, then, the flaps secured from the nerve ends are changed to mere bridges which degenerate and are absorbed. The larger the flaps have to be, the more damage is done to the very structures on which dependence is placed for filling in the gap, and the more regeneration is necessary to replace the nerve tissue thus lost.

In nerve transplantation much time and trouble must be expended to obtain a graft of the right size, in aseptic condition, just at the time it is needed.

In 1904, Powers[1] collected 22 cases of transplantation. "Satisfactory" results were reported in 22 per cent. of the cases, but Powers questions their authenticity because of the absence of detail in the reports.

Douglas-Crawford[2] adds one case in which he reports

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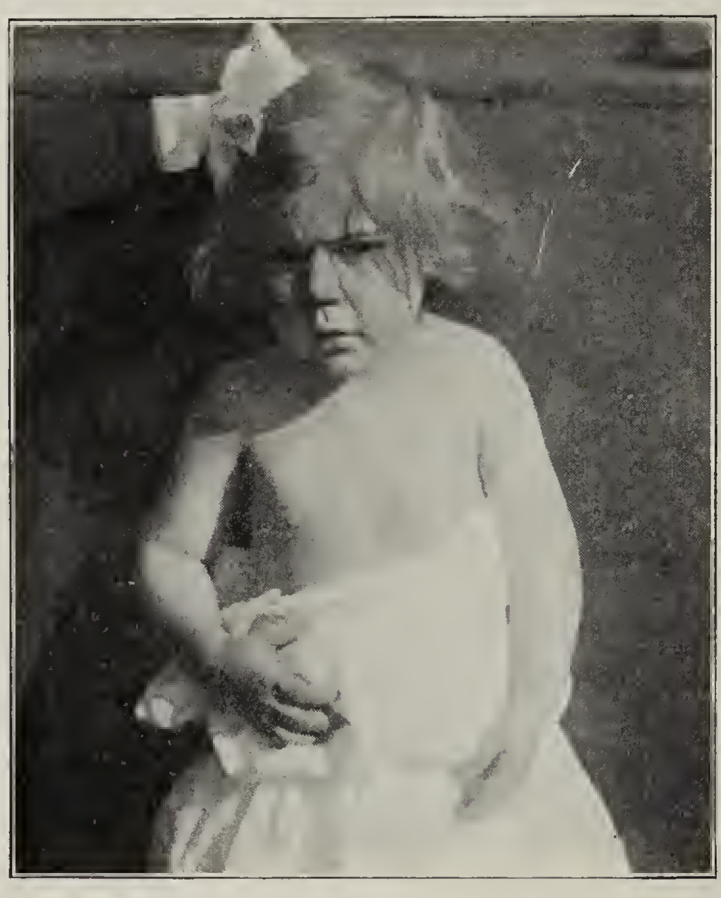
* Read before the Surgical Section of the New York Academy of Medicine, Dec. 6, 1907.

[1] Transactions Amer. Surg. Assoc., 1904.
[2] Liverpool Med. Chir. Jour., 1906, vol. xxvi, p. 200.

"nearly complete success" after four months, in bridging a three-inch interval in the musculo-spiral nerve by means of the spinal cord of a rabbit. This would represent a very unusually rapid regeneration of nerve, entirely aside from the transplantation.

Marion[3] states that neuroplasty and nerve transplantation have been abandoned because they are very delicate, tedious operations, and their results are inferior to those obtained by *suture à distance.* Tubulization also involves much trouble in preparation of the tubes, which must be of many sizes. Some authors state that these foreign bodies cause increased connective tissue growth, which interferes with nerve union. Foramitti[4] in numerous experiments with fresh and formalinized calves' arteries found no such reaction. Only one case of the use of this method in the human being is recorded and that resulted in complete failure.[1]

In contrast to these three troublesome procedures *suture à distance* has many advantages. It does the minimum of damage to the nerve ends, is simple, is applicable in any situation, holds the nerve ends as close together as possible without undue tension, introduces an absorbable foreign body which causes the minimum of disturbance to the tissues and acts as a framework along which the nerve fibers grow to each other. Its results in practice are superior to those of the other methods.[3]



3. Two years four and a half months after operation, showing natural position of left upper extremity. Contracture of fingers has disappeared.

In the following case the *suture à distance* method was used. The patient was Case 9 of the series of "Brachial Birth Palsy" cases operated on and reported in conjunction with Drs. L. Pierce Clark and Thomas P. Prout:[5]

Ruth F., aged 1 year, the second child, was large, and was delivered with instruments. Soon after birth, it was noticed that the left upper extremity was motionless. There has been no return of motion (Fig. 1). In other respects she has been very well.

Physical Examination.—She is a large, well-nourished child, normal except for the left upper extremity which hangs lifeless. There is some power in the serratus magnus, contraction of which (with trapezius) throws the extremity slightly forward. The soft tissues are flabby, and the extremity is cold. The muscles show reaction of degeneration. A large indurated mass can be felt on the left side of the neck at the site of the brachial plexus.

Operation.—June 8, 1905. Ether anesthesia. The plexus was exposed. The deep cervical fascia was much thickened and adherent to the entire front of the brachial plexus, which was a dense mass of cicatricial tissue, with the nerve roots running into its upper end and the nerve trunks coming from it below the clavicle. The nerve roots of the entire plexus were divided above the cicatricial mass (nearly at the intervertebral foramina). The plexus was dissected out *en masse* and removed by dividing the nerve trunks at their exit from its distal end beneath the clavicle.

The severed nerve ends could not be approximated closer than 2 cm. to the nerve roots, so loops of chromicized catgut (No. 1. 40 days) were passed between the two. Around the whole series of loops Cargile membrane was wrapped to form a single large canal. The wound was closed without drainage, and the neck and shoulder were fixed and held in close proximity for six weeks. The reaction was good. The wound healed by primary union.

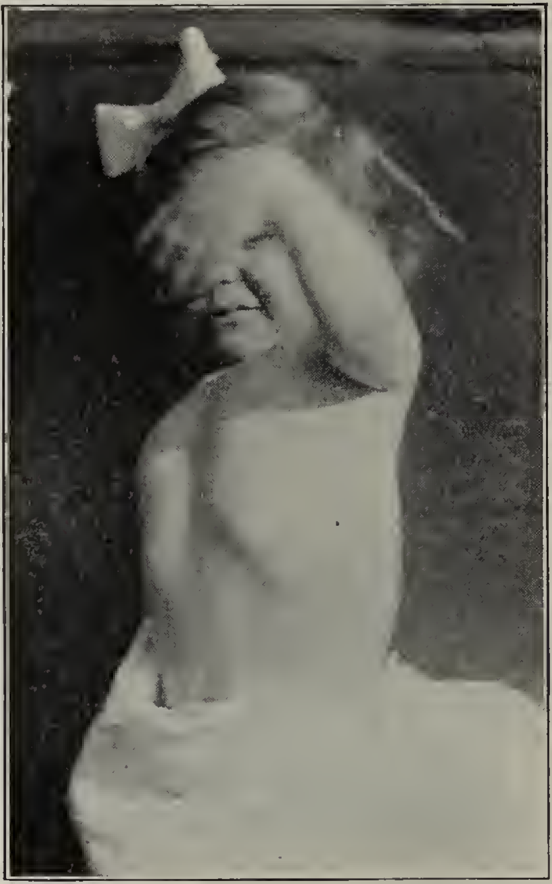


Fig. 4.—Shows power to elevate the extremity.

After her return home she was presented for examination only at long and irregular intervals. At the end of three months the muscles were more flabby than ever, the shoulder was a flail joint and there was no sign of returning power. December 4, 1905 (six months), the mother first noticed that the terminal segments of the thumb and first three fingers were swollen, red, glossy and ulcerated on the tips. They were not sensitive and were not infected. The mother reported that after six weeks more, sensation gradually returned, and the finger condition then improved. While this trophic disturbance of the fingers was present, there was slight but distinct activity in the pectoralis major, triceps and serratus magnus muscles.

May 21, 1906 (11½ months), the movements in the above mentioned muscles were stronger. There also appeared some power in the deltoid muscle, both for anterior elevation of the arm and slightly for abduction. There was slight power of flexion at the wrist (Fig. 2). When lying supine she could raise the extremity to the vertical position without much effort. The shoulder-joint had lost its flail character. The tissues of the extremity were firmer, warmer and of a more natural color. There was distinct flexion contracture of the fingers. The massage ordered had not been given.

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[3] Chir. du Systeme Nerveus, Paris, 1906, vol. vi.
[4] Archiv. f. klin. Chir., 1904, vol. xxiii, p. 643.
[5] Amer. Jour. Med. Sciences, October, 1905.

October 27, 1907 (28½ months), the flexion contracture of the fingers had entirely gone. The tips of the thumb, index and middle fingers were still somewhat red and shiny. The extremity was growing well, and had a good color and warmth. Sensation was about normal (Fig. 3). For the last six months she had used the extremity freely, handling playthings, helping to feed herself, etc. Power had returned in varying degree to all the muscles, least in the flexors of the fingers and extensors of the radial carpus. The mother states that both the power and range of motion increase as time goes on, and that most of the improvement has occurred in the last six months (Figs. 4 and 5). The hand is beginning to develop power, but this is not indicated in the pictures.

This case represents the successful bridging of a 2 cm. gap in each of the roots of the brachial plexus by means of the *suture à distance,* combined with a modified tubulization due to the use of the Cargile membrane. The case was a most favorable one because of the very excellent general condition and the age of the child. It is well known that nerves grow and regenerate far more vigorously during infancy than at any later period.

Nerve tissue bridges a gap at the rate of ¼ mm. per day.[6] While cases of successful bridging have been reported where the interval was so great as 7.5 cm.,[2] as a rule failure will follow an attempt to bridge more than 4 cm. interval.[6] When a gap larger than 4 cm. exists recourse may be had to one of two procedures: (a) Implantation of both ends of the damaged nerve into a neighboring motor trunk (proximal end as well as distal end, because there is some growth of fibers from the proximal end, along the nerve trunk into which it is implanted). (b) Resection of sufficient bone to allow the nerve ends to be apposed directly by suture. This method is indicated where the paralyzed nerve has a large and important muscle-field.

In cases similar to the one reported, including cases of traumatic rupture of the brachial plexus in adults, where reasonable approximation of the nerve ends can not be obtained, it is my personal opinion that the clavicle should be divided near its middle and the fragments allowed to override so as to permit of close approximation or direct apposition of the nerve ends. Certainly, an extremity with returned muscle-power, even at the expense of great deformity of the clavicle and shoulder, is much to be preferred to one which is permanently paralyzed. After nerve regeneration has occurred, and voluntary motion is returning (1 to 2 years), the clavicle may be restored as far as possible to good position by open operation with partial resection if necessary.

In dealing with the surgery of nerves one thing can not be emphasized sufficiently, namely, that from the time of paralysis the tissues of the affected region must be kept in as good condition as possible by means of massage, electricity, passive motion, etc., in order to prevent fibrous degeneration of muscle, contracture of muscles and ligaments, resulting in deformity, and the irregular forms of the bony joint-surfaces due to growth in abnormal positions. Obviously, the same means must be used after operation until regeneration has occurred.

Authentic cases of nerve regeneration with return of motor power have been reported where the paralysis has continued for five, ten, fifteen and even twenty-nine years before operation. While nerve power may return after indefinite periods of paralysis, it is easy to understand how the results of operation, both as to promptness and completeness, may be interfered with or entirely nullified by changes in the structures other than nerves, due to neglect of the above mentioned precautions.

Since moderate delay under proper conditions does not prejudice the return of nerve function in those debatable cases where the gap to be bridged is so large as to necessitate a choice between *suture à distance,* lateral implantation, and resection of bone, the *suture à distance* may be tried. If after a reasonable time, there is no return of power, either of the remaining methods may be tried, according to the indications previously outlined.

SUMMARY.[7]

1. The literature of nerve surgery is not well indexed; case reports give results in very general terms, often because of the difficulty of tracing cases and making systematic examinations over the long periods of time necessary.

2. Much experimental work is still necessary to determine the best technic for the solution of the various problems in nerve surgery.

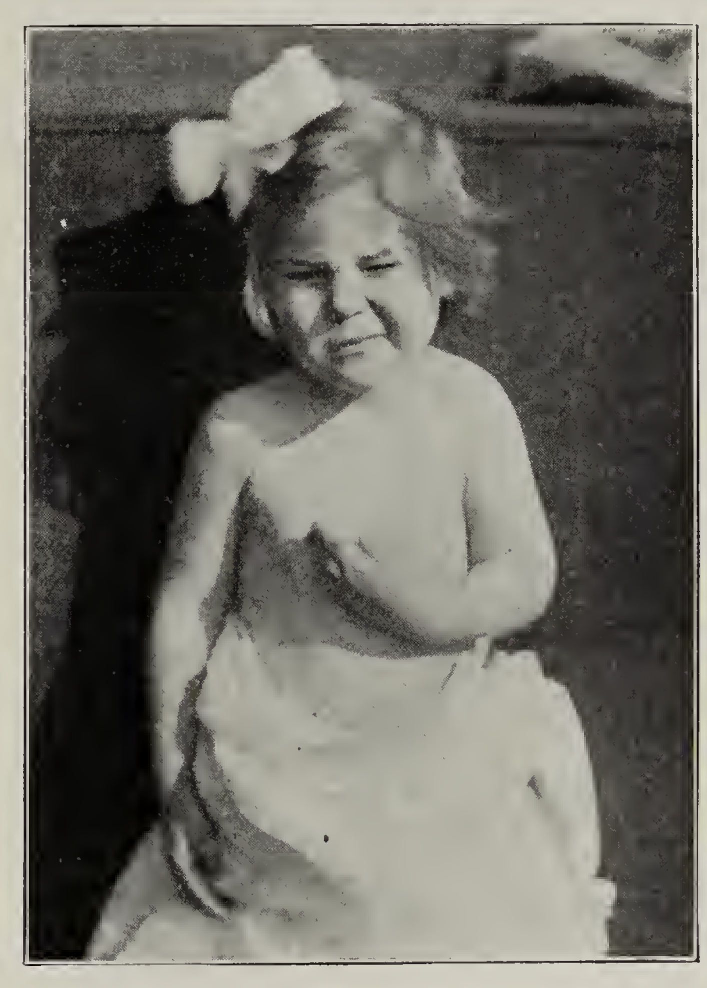

Fig. 5.—Shows flexion at elbow, combined with supination of forearm and hand.

3. Nerve defects can be bridged. Judging from the material at hand, *suture à distance* offers the simplest and most successful method.

4. The younger the patient and the better the general condition, the more hopeful is the result.

5. Results come only a long time after operation, and depend for completeness on massage, passive motion, electricity, etc.

6. Probabilities are against the bridging of gaps greater than 4 cm., although a few cases are reported.

7. For defects larger than 4 cm., resection of bone or lateral implantation of nerve ends may be used. Good

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[6] Ehrmann: L'etude de la suture de nerfs à distance, Paris, 1896.

[7] The following references may also be consulted in connection with this subject: Spitzy (H): Amer. Jour. of Orthop. Surg., vol. ii, Aug. 26; Wien. klin. Wochschr., 1905, xviii, p. 57; Zeitschr. f. Orthop. Chir., 1905, xiv, p. 672; Zeitschr. f. Orthop. Chir., 1904, xiii, p. 326. Von Auffenberg (F): Arch. f. klin. Chir., 1907, lxxxii, p. 615. Taylor (A. S.): and Prout (T. P.): The Journal, Jan. 12, 1907. Rau (N.): Liverpool Med. Chir. Jour., 1903, xxiii p. 277.

muscle power with bone deformity in an extremity is much to be preferred to complete or serious paralysis.

Note.—After this paper was written Hashimoto and Tokuoka (*Archiv. f. klin. Chir.*, lxxxiv, 2, 354) reported 50 cases of nerve repair with use of Foramitti's formalinized calves' arteries. These persist two months or more and do not cause tissue irritation. No successful case of bridging by their use was reported.

Clinical Notes

CASE OF MIXED CELLED SARCOMA.

FREDERICK S. BARON, M.D.
ZANESVILLE, OHIO.

Patient.—Ambrose G., American born, of German parentage, age 19, white, an ironworker.

Family History.—Father living, fine physique and health, aged 45. Mother died at 30 from diabetes. (?) No brothers or sisters; no aunts or uncles afflicted with tuberculosis or cancer.

Personal History.—Never ill, except with diseases of childhood. On Nov. 22, 1904, a small wine colored nevis was removed from the right temporal region at the margin of the temporal hair line, under local anesthesia. The wound healed fairly well, but would seep a watery secretion when irritated by cutting or combing the hair. General health excellent, a strong, well-knit, muscular man, height 5 feet 9 inches, weight 148.

History of Disease.—On March 4, 1906, the patient came under my observation complaining of weakness in the legs and a feeling of uncertainty while at work, which he said was progressive. At times he would fall over while at work. During this interval, a small tumor-like mass made its appearance just below, or about at the temporo-maxillary joint on the right side, and a little later another appeared just below the middle third of the clavicle, on the same side. During this period the patient attempted to work, but could only put in part time, due to the vertigo, the loss of power in the lower limbs, and the disturbance in co-ordination, until finally he became unfitted for work.

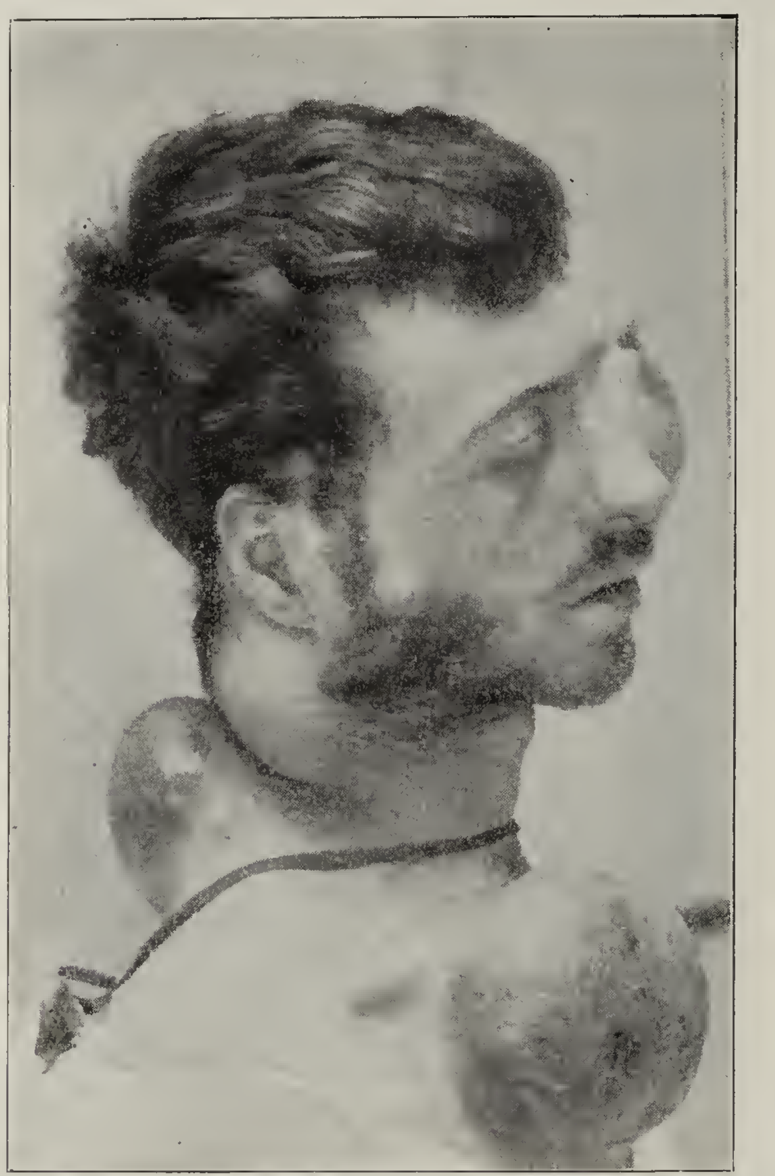


Fig. 1.—Head of patient with mixed celled sarcoma.

Physical Examination.—He was admitted to the Good Samaritan Hospital, May 2, 1906. Pulse, temperature and respiration were normal. At the time of admission, the tumor-like masses had increased in size and in number. They varied in size from an English walnut to the size of an orange. These small growths followed along the direct lymph chains, and were situated quite superficially under the skin and subcutaneous tissue. In color they were deep mahogany, and glistened, due to the stretching of the skin covering. They had a great vascular supply, but at no time did they break down. The patellar reflexes were exaggerated. The pupils were normal. His gait was cautious, and of a rolling character. The urine showed nothing abnormal. The blood was not examined.

Microscopic Examination.—A section of one of the tumors from the anterior part of the chest wall showed many cells containing large round vesicular nuclei, also spindle cells, with vesicular nuclei, and small round cells. The intercellular tissue, instead of being wavy, was straight.

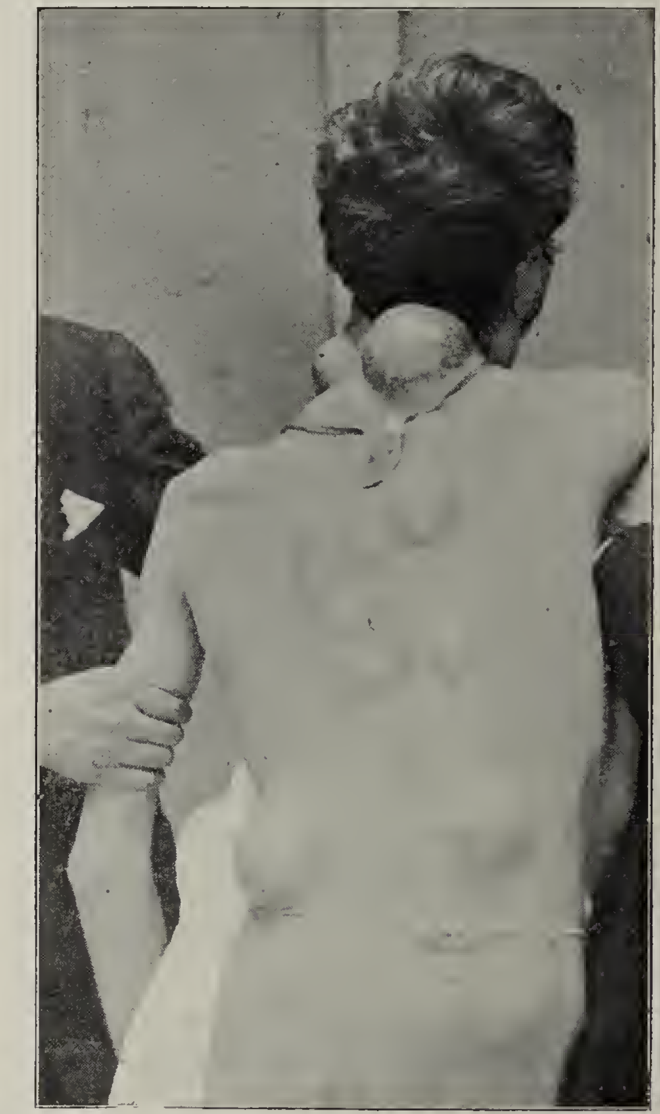


Fig. 2.—View of back of patient with mixed celled sarcoma.

Diagnosis.—Mixed celled sarcoma.

Course of Disease.—From the time of admission to the hospital to the time of death, which occurred July 25, 1906, there was a constant increase in the size of the growths, and in their number. The tumor masses in the omental chain of glands could be seen distinctly through the abdominal wall, and were very numerous. Emaciation became extreme, pressure pain from the presence of the masses in the abdomen, and behind the eye, which from the intraorbital pressure was bulged out beyond the plane of the supraorbital arch, was severe. Postmortem was refused.

The photographs were taken two days before death, and serve to give a fair illustration of the size and the extensive distribution of the growths over the body.

For the very excellent photographs I am greatly indebted to Dr. H. R. Geyer.

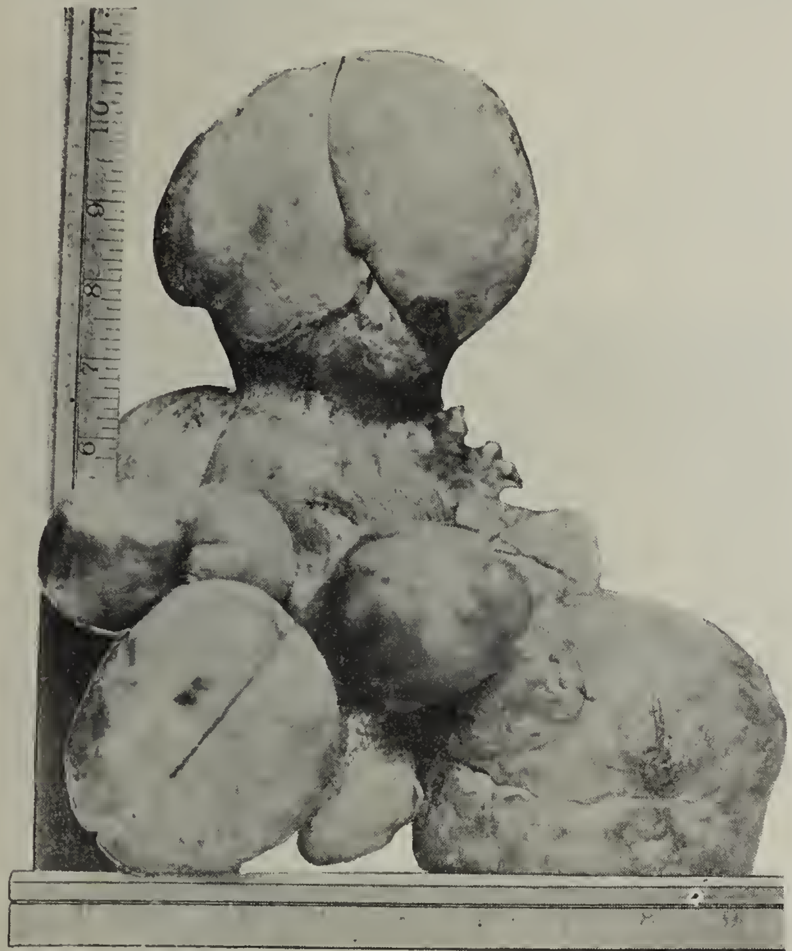
A CASE OF UTERINE MYOMA.

GOETHE LINK, M.D.
Associate Professor Indiana University School of Medicine.
INDIANAPOLIS, IND.

At this time of early diagnosis and surgical activity it is unusual to find large uterine myomata. The following case is of interest because of the size of the tumor, the large number of separate nodules, and because of certain difficulties met with in its removal.

Patient.—Woman, aged 39 years. Menstruation had always been regular since the thirteenth year, but very painful. She was married at 31 years, but never conceived.

History.—Four years ago she noticed a tumor in her abdomen and felt pain in the stomach. A diagnosis of tumor was made by a physician at that time. Menstruation became more and more painful, and two years ago metrorrhagia appeared. During one of these attacks of painful menstruation, the patient claims she was presented at a clinic where an obstetrician attempted to turn the supposed fetus. One year ago she began having attacks of urinary retention requiring relief by catheter. For the last six months before operation she was confined to bed complaining of pain in the stomach, vomiting and retention of urine, alternating with frequent urination. Asthma and bronchitis were present, bowel movements were regular, there were no piles, her feet and legs did not swell.



Posterior view of tumor. The nodule at the lower right-hand corner shows the intrapelvic portion devoid of peritoneum. The nodule at the top was in the right hypogastrium in contact with the liver.

Examination.—This revealed a large nodular tumor without ascites. The general appearance was that of pregnancy at term. Bimanual examination showed the pelvis to be full, the cervix entirely obliterated, and the anterior and posterior fornices filled with a hard mass. Breathing was difficult, temperature was 100, and pulse 120. There was pain in the bladder, stomach and over abdominal region generally.

Operation.—The patient was taken to St. Vincent's Hospital, where the tumor was removed. In going through the belly wall, just before entering the peritoneum, the prevesical layer of fat was encountered reaching almost to the umbilicus. This was remarkable because found so high, indicating the height at which the bladder might be found. The omentum was adherent in several places. When the tumor was reached it was found to extend to the diaphragm by two nodular masses, one on each side of the spinal column. As the lower portion of the growth was solidly fixed in the pelvis it made delivery difficult. The incision was then extended upward to the point of attachment of the diaphragm to the sternum and after separating extensive adhesions and exerting much force, the tumor was delivered. An attempt was made to clamp and tie the broad ligaments, first on one side and then the other. Except for a very short distance this was impossible as the broad ligaments had been opened up in the development of the tumor, which had extended on all sides into the cellular tissue of the pelvis. The bladder was attached to a point higher than the umbilicus and was capped by a very large mass of veins. The rectovaginal fossa was obliterated, being lifted up out of the pelvis. The main body of the tumor seemed to have developed in such a way as to occupy space between the peritoneum and the pelvic floor. This had lifted the peritoneum upward and spread apart the mesometrium until all duplications of the peritoneum were smoothed out.

An incision was made just above the bladder and carried around the entire mass. The bladder was stripped downward and the tumor enucleated from its peritoneal capsule. The uterine arteries were clamped and tied as they were dragged into view. As the right ovary and tube seemed normal, they were left in place. The left ovary was not identified. The peritoneal surfaces were hastily approximated by a few stitches and the abdomen closed by thirty through-and-through sutures. Except for an infection of the abdominal wound, convalescence was uninterrupted and the patient is now in a good state of health.

CONGENITAL ELEPHANTOID DYSTROPHY.

R. J. BEHAN, M.D.
PITTSBURG, PA.

H. E., aged 19 years; weight, 144 pounds; good family history, except that one sister has left internal strabismus and a few moles on the back of the neck. Four sisters and one brother are living and well.

Personal History.—Swelling of left leg and thigh and left arm, has been present from birth, but was first noticeably drawn to his attention about four years ago, when he was not able to get the regular size of trousers. He recently has had to have his trousers made to order. He has pain above Poupart's ligament, slightly above the swelling, on making sudden pressure, and he also has pain in the median line of the abdomen. The scrotum can not be raised without pain. The leg and arm have been getting larger, though for the last year he can not notice any marked increase in size. Hearing, digestion and urine are normal.

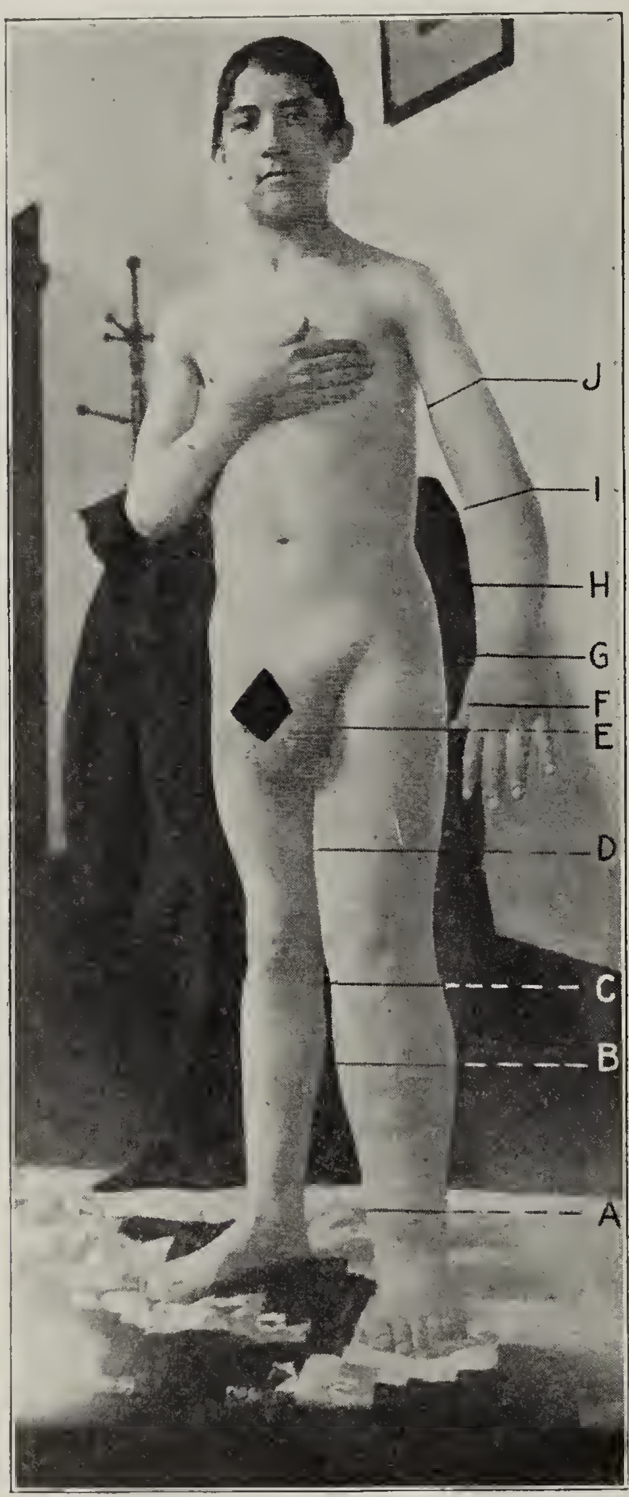
At from 7 to 10 years a large red spot, about 6 inches in diameter, would come on the internal surface of the thigh and would only disappear on the use of a "horse liniment." Patient had eczema of the leg about two years ago and it has recurred several times on the hand, usually in the summer. The same amount of strength is present on the left as on the right side. He perspires equally on both sides. The left hand is cold to the touch. On a cold day the left hand is warm, while the right hand is cold. Sensation in the left hand is normal. He suffers from headache on continued exertion.

Examination.—Nourishment fair; large mole on left side of face, external to and below the outer canthus of the eye. Left arm and hand are enlarged, the enlargement commencing at about the middle of the arm. Asymmetry of the face, right side being larger; the tongue is also larger on the right side; no change or deflection noticed on protrusion of tongue. Scrotum enlarged and edematous. Keloid growths present on the scrotum and also on the prepuce.

Blood Examination.—Dec. 12, 1907, hemoglobin 65 per cent., red blood corpuscles 6,480,000, leucocytes 7,600. Blood taken from the terminal phalanx of the right hand. Differential count—Right hand: Polymorphonuclears, 84.3 per cent.; large lymphocytes, 4.8 per cent.; small lymphocytes, 4.8 per cent.; eosinophiles, 3.6 per cent.; transitionals, 2.5 per cent. Left hand: Polymorphonuclears, 87 per cent.; large lymphocytes, 6.5 per cent.; one eosinophilic small lymphocyte was seen; eosinophiles, 6.5 per cent.; no transitionals. The red blood cells from the left arm were crenated.

This is a case which resembles elephantiasis very closely, and by some would be classed under that heading, but because of the following reasons I have classed it under elephantoid dystrophy.

1. The dystrophy is congenital and affects both the arm and the leg on the same side. In elephantiasis usually only one member is affected.
2. An inguinal hernia is present on the left side.
3. A mole is present on the left side of the face.
4. The tongue and right side of the face are both enlarged. The last three conditions indicate a congenital maldevelopment, and without doubt—it seems to me—the lymphatics of the affected limb are also in some way changed so that they are less permeable for the lymph stream.



Photograph shows how much larger the left arm and leg are than the corresponding members on the opposite side. It also shows the mole which is present on the left side of the face and the difference in size between the right and left side, the right side being the larger. The enlarged scrotum and the hernia are also to be noted. The measurements made were as follows: A—R, 9½, L. 14; B—R. 13, L. 20; C—R, 13¼, L. 17¾; D—R, 17¾, L. 21¾; E—R, 18¾, L. 21; F—R, 3¾, L. 11¼; G—R, 6¼, L. 9½; H—R. 8¾, L. 13¾; I—R, 8½, L. 11¾; J—R, 9, L. 10½.

All of these show the undoubted congenital origin, with the possibility of congenital lymphatic change.

SUCTION MASSAGE OF THE EARS.

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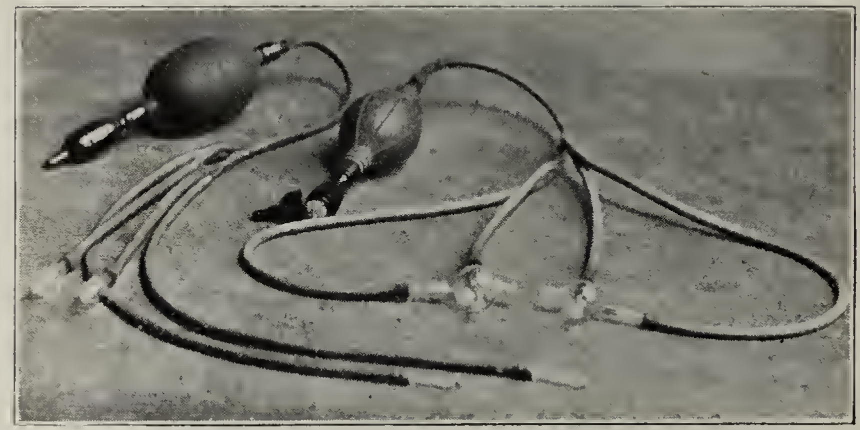
Aurist to Macon City Hospital.
MACON, GA.

The instrument here described is for the purpose of manipulating and treating all the structures of the ear. It is in full accord with the pathologic requirements and latest scientific teaching. It is not offered to the profession as a "cure all," but rather as an advance over Politzer's method and the use of the hard rubber catheter. It is a safe palliative treatment to be used instead of an unsafe irritative one. As may be seen by the illustration, the instrument has five connecting branches of soft rubber tubing to which may be affixed a rubber air bag having hard rubber valves through which suction or inflation may be practiced.

The tips of the two longest branches should close the ears and should be held by the patient. Two shorter ones should close the nostrils of the patient and should be held lightly in the nose by the left hand of the operator. The bag is affixed to the remaining branch.

The patient should be instructed how to close the pharynx by holding the breath with the cheeks inflated full. (Do not blow through the nose.) Some patients succeed better by making the sound *ah* or by swallowing, and children close the pharynx when crying.

Suction should first be made to cleanse the tubes and accessory cavities of the head, i. e., middle ears, frontal, sphenoid, ethmoid, and maxillary sinuses; to cause artificial hyperemia; to move all the movable structures of the ears, thereby breaking adhesions and giving a thorough massage.



Suction apparatus for ear massage, with glass models of the ears attached.

The air bag should be held in the right hand of the operator and suction made in the usual way. Inflation should follow to dilate the Eustachian tubes and to reestablish the air pressure in the cavities. This may be done by attaching the inflation end of the air bag which contains a sponge or by attaching a compressed-air apparatus to the rubber tubing. Medication may be given at the same time from a sponge in the hard rubber medicator or from compressed air medicators. The ears are being properly reached only when the alæ of the nose are drawn down during suction and distended by inflation. The operator should then remove the instrument and with the palms of his hands tightly cover the patient's ears and pull the head upward strongly.

The special claims for the instrument are: It obviates the danger of blowing infected mucus into a closed cavity—the middle ear; it draws such matter away into the throat; it does not stretch the tympanic membranes, they are held passive in a rarefied or compressed atmosphere; it produces artificial hyperemia at the seat of the disease, as cupping would produce artificial hyperemia in any other part of the body; it offers an effective, safe, and pleasant treatment of the ears.

The illustration shows two glass models of the ears attached to the instrument, by pressing the air bag and watching the movement of straws representing the ossicular chain and cotton representing the tympanic membranes and covering of the oval windows, the most important claims stated may be demonstrated to the eyes. By using Seigel's speculum the tympanic membrane may be seen to make an excursion outward, and when the membrane has been removed and a movable stapes has been left in position this bone has been observed to make a similar excursion outward. The conclusion is drawn, therefore, that removal of the air externally and internally from the ear causes an outward movement of the ossicular chain and tympanic membranes independently of any pulling on these membranes. A most important consideration, if true.

In some of the hospitals of Germany and Austria, some months ago, questions were raised, clinical material furnished and valuable assistance given to prove or disprove whatever was not clear in this method. For example:

1. It was questioned whether or not the Eustachian tubes would collapse under the suction as do the alæ of the nose, and it was decided that they would not, because the air is removed externally to their openings and there is no pressure to close them as in the case of the nose, which is subjected to the influence of the external atmosphere.

2. It was questioned whether or not, clinically, the stapes would move as was shown on the model, and this was satisfactorily proved by the use of Seigel's speculum in a case in which the membrane and the other two bones—malleus and incus—of the ossicular chain had been lost, leaving a movable stapes and open Eustachian tube.

3. It was questioned whether or not strong suction would prove dangerous, and suction was made with a strong pump until the nose bled; the hearing registered the same as before, and the patient had no pain of the ears, but some of the frontal sinus.

4. Its effects were tested on a patient with the Eustachian tubes tightly closed, and it was found that the suction gave comfort; inflation gave pain, because, the air being rarefied in the middle ears, suction relieved the pressure from without and inflation added thereto.

5. It was questioned whether or not the secretions would be drawn from the middle ears, so the nose and pharynx were cleansed thoroughly, and after suction mucus was seen flowing from the Eustachian tubes and frontal sinus.

6. It was questioned whether or not this method would relieve pain in acute cases; in some it did, in others it did not; but no reason could be given.

7. Tests were made to decide whether or not this procedure would benefit the hearing in hypertrophic conditions and improvement was claimed in every case.

8. The method was thought beneficial also in three atrophic cases and the results were attributed to artificial hyperemia. Good results were not obtained in two cases of disease of the auditory nerve.

I suggested to Professor Alexander, who is in charge of Professor Politzer's clinic in Vienna, that the medical profession might like to have an expression of opinion from him on the subject, and he replied in the presence of his class: "Tell them it is good, good, very good." I have a written indorsement from him also. We know that error long established takes on the garb of truth and he who essays to dislodge it has set himself a life work; nevertheless, I present this method to the members of the profession, believing that their discriminating common sense will prefer it to Politzer's method.

Acknowledgments are due to Dr. John B. McMahon of New York City for his valuable assistance rendered me in the hospitals of Germany.

STRUCTURAL CHANGES AND SURVIVAL OF CELLS IN TRANSPLANTED BLOOD VESSELS.

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Professor of Physiology, Washington University Medical School.
ST. LOUIS.

When blood vessels, e. g., the carotid arteries, are anastomosed end to end, *in situ*, practically no change is observed in the histologic structure of the walls.[1] If the central end of an artery, e. g., the common carotid, be anastomosed to the peripheral end of a vein, e. g., the external jugular, the result is usually some alteration in the structure of both artery and vein, evidenced in the former by a decrease and in the latter by an increase in the thickness of the wall.[2] In rapid transplantation of segments of blood vessels in animals of the same species, with only a short interval of anemia of the segment,[3] as well as in heterotransplantations,[4] marked histologic changes occur, as a rule, in the segments, be they arteries or veins. Ordinarily this consists of a dilatation of the lumen and a thickening of the wall.[5]

Even in the simpler operation of end-to-end anastomosis of artery to vein, two important factors must be considered in accounting for these changes, viz.: (a) alteration of the functional circulation, consisting of a change of pressure in the lumen of the vessel; and (b) alteration of the circulation in the nutritional capillaries, i. e., in the vasa vasorum.

In the case of rapid transplantation of a segment of blood vessel in the same animal three additional conditions must be considered, viz.: (c) complete abolition of the circulation in the nutritional capillaries; (d) complete abolition of the lymphatic circulation, and (e) complete severance of nervous connections; while in the case of isotransplantations or heterotransplantations still another factor must be added, (f) in the former the possible and in the latter the probable toxicity of the host's body liquids for the segment.[6]

The transplantation of a segment of rabbit's aorta between the cut ends of a dog's common carotid artery may be taken as an illustration of the magnitude of the histologic changes that may occur, and yet the mechanical function of conveying blood remain adequate. Three weeks after the operation direct examination showed considerable enlargement and thickening of the segment.[7] After eight months the enlargement, both in

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[1] Guthrie: Demonstration before Am. Physiol. Soc., Chicago, Dec. 31, 1907.

[2] Carrel and Guthrie: Surg. Gyn. and Obst., 1906, li, 3, 275.

[3] Id., p. 281. Carrel: Jour. Exp. Med., 1908, x, 1, 130.

[4] Carrel: Jour. Exp. Med., 1907, ix, 2, 226. Guthrie: Am. Jour. Physiol., xix, 4, 482. Guthrie: Proc. Am. Physiol. Soc., 1907.

[5] Id. Carrel: Jour. Exp. Med., 1908, x, 1, 130.

[6] The view has been expressed by Carrel (Jour. Exp. Med., 1908, x, 1, 130) that the escape of blood into the tissues is a probable factor in the change observed in the wall. In my own cases, this may be excluded, as complete hemostasis before closure of the wound is invariably practiced.

[7] Guthrie: Proc. Am. Physiol. Soc., 1907

diameter and length, was much greater and also the thickness of the wall, yet the mechanical functioning was good. The gross arterial appearance of the segment was vastly changed, the walls being greatly hardened and transparent. The intima was perfectly smooth and glistening. On section the increased thickening of the wall was found to be in large part due to an increase in the fibrous tissue. Here, then, we have excellent preservation of mechanical function, notwithstanding very great alteration in physical and histologic structure.

On examining a segment of dog's vena cava preserved for sixty days in 2.5 per cent. formalin, then washed in dilute ammonia, dehydrated in absolute alcohol, impregnated with paraffin oil, and then transplanted between the ends of the divided common carotid artery of a bitch, three weeks after the operation, the segment appeared much the same as the arterial segment above described did at the corresponding time, taking the difference in arterial and venous structure into account.[8]

The question naturally arises, therefore, do the cells of the segments of blood vessels actually survive, and by their growth and multiplication account for the histologic changes observed; or do they, to a greater or lesser extent, perish and only preserve the mechanical function of the segment, and serve as a bridge for the ingrowth of other cells after which they suffer degenerative and absorptive changes?

The work of Eiselsberg,[9] Christiani[10] and others would lead us to conclude, *a priori*, that even when replaced in the same animal from which it was removed only a thin layer of the outer cells in such a transplanted segment of blood vessel could survive. As to the intima, I know of no results obtained under exactly comparable conditions, that is, transplantation of similar tissues into blood vessels. The results of Busch and Van Bergen[11] on survival of cells of the suprarenal cells transplanted into the spleen might possibly be quoted in favor of survival of the intimal cells.

But in the case of the transplanted formaldehyd-fixed segment it is hardly conceivable that any of the cells could have survived, yet after a considerable interval it performs the mechanical function required of it and macroscopically differs not greatly from what would be expected of a fresh segment transplanted in similar fashion.

Unfortunately, premature conclusions seem to have been drawn concerning the survival of the cells of such transplanted segments of blood vessels.[12] From a purely practical standpoint it may be of no consequence, but scientifically it is of much importance. The problem is one of great complexity, and until a very material addition to the present data is made conclusions and generalizations should be held in abeyance, or, if uttered, disregarded.

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[8] Guthrie: Transplantation of Formaldehyd-Fixed Blood Vessels. Science, 1908.

[9] Wien. klin. Wochschr., 1892, v, 81.

[10] Compt. Rend. d. Séances Soc. Biol., 1894, 716: 1900, 967, Id.; Arch. de Physiol., 1895, xxvii, 65. Id.: Jour. de Physiol. et de path. gen., 1901, 204.

[11] Proc. Am. Physiol. Soc. Id.: Am. Jour. of Physiol., 1905, xiii, 16.

[12] Flexner: Science, N. S., 1908, xxvii, 682, 130.

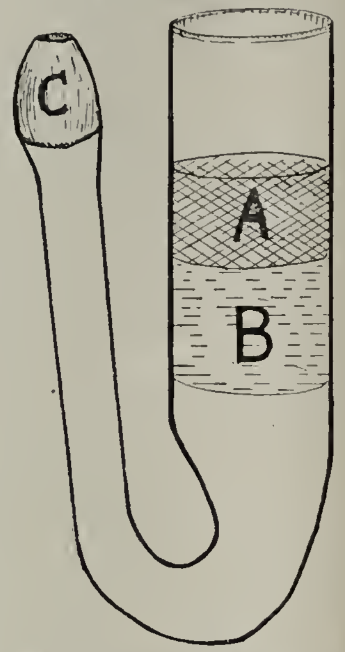
Relation of Breast Tumors to Lactation.—H. P. Cole, in the *Mobile Medical and Surgical Journal*, states that malignant tumors are rarely observed during lactation or just after. They generally begin some years after the last lactation, which is explained in part by the fact that cancer less frequently occurs between the ages of 20 and 30—the age at which lactation is most frequent.

A MIDDLE-EAR INSPIRATOR.

PERCY R. WOOD, M.D.

MARSHALLTOWN, IOWA.

Tinnitis aurium, which is frequently an annoying and persistent sequel to acute and chronic Eustachian and middle ear catarrh, is often permanently relieved by inflation of the middle ear for a prolonged period. This is not generally appreciated and many patients find a prolonged course of office treatment prohibitive for lack of time or means. I have devised for home use the instrument illustrated, which consists of a glass tube bent on itself. One extremity is shaped for insertion into one naris, while the other retains the medicament and is inserted between the lips. When charged and in place a sudden expiration forces the medicated vapor into the middle ear. Persistent application of this instrument for some weeks or months permanently relieves tinnitis and morbid pathologic conditions of the Eustachian and intertympanic membranes in a large percentage of cases.



Middle-ear inspirator. A, medicated cotton; B, oakum; C, rubber tip for insertion into naris.

The following solution is serviceable:

Chloroform	120		℥iv
Ether	60		℥ii
Alcohol		8	ʒii

Oil of rose, enough to scent.

PYLOROPLASTY (DUODENAL-GASTROSTOMY) FOR PYLORIC CONSTRICTION.

EDWARD N. LIELL, M.D.

JACKSONVILLE, FLA.

Pyloric constriction, of whatever nature, is a condition with which surgery alone can contend. Whether non-malignant or malignant, two methods of surgical intervention lie before us—that of pyloroplasty and of gastroenterostomy. The method elected in the following case is that known as Heineke and Mikulicz, the technic being slightly modified, however, to meet the indications present.

Patient.—Mrs. W., aged 39, 5 feet 3 inches tall, was reduced from a normal weight of 108 pounds three years previously to but 68 pounds nine weeks previous to my seeing her. She had become even more emaciated at the time of operation, and it seemed to me remarkable how one could live with such marked emaciation and so little degree of strength. Gradual progressive starvation was the prospect before her. For two years her diet had been liquid in character. During this time there was frequently in evidence a seeming muscular gastric spasm, not always associated, however, with eructation and vomiting.

Examination.—On examination there was felt in the region of the pylorus a dense movable mass, approximately the size of a lemon. Especially was this marked during the effort of regurgitation or of eructation. There were no symptoms of gastric or duodenal ulcer or of any malignant trouble. From the foregoing clinical picture I arrived at a diagnosis of pyloric constriction. An exploratory section was advised, and, further, if the conditions found and the patient's strength warranted, a surgical procedure to overcome the existing cause, to which the patient willingly consented.

Operation.—A slightly S-shaped incision, 4 inches in length, was made to the right of the median line above the umbilicus, which brought the pyloric end of the stomach plainly into view. On drawing the pylorus up into the abdominal opening, it was found of firm and dense consistence, its caliber being less than that of my little finger. There was no evidence of malignancy. A Heineke and Mikulicz pyloroplasty was the operation elected. An incision, 2 inches in length, was made in the axis of and through the anterior wall of the pylorus, extending slightly into the duodenum. The incision was then drawn tense transverse to the pyloric axis, thus considerably enlarging the lumen to that of one's thumb. Coaptation was then made by folding over the edges of the duodenum and pylorus, a double row of mattress Lembert sutures of 20-day chromicized catgut being used. The abdominal wound was then closed. No rise of temperature or untoward symptom followed on this operative procedure. The remote result, too, symptomatically, was very gratifying. She has since gained fully fifteen pounds. The time that has elapsed since the operation, four months, is as yet too short to make any positive statement as to permanent cure, though present indications point to that end.

HYSTERIA IN ITALIANS.

MAX BAFF, M.D.
WORCESTER, MASS.

During the past five years I was called to attend many cases of hysteria among adult male Italians. I find the French people are very prone to attacks of hysteria, but cases among the Italian people are more frequent. I will not attempt to give individual histories, symptoms, etc., of cases treated by me, but will describe them all collectively, for it is a fact that the causes, symptoms and treatment were almost identical in all of the cases.

Antonio B., 42 years old, born in Italy, married; family history negative.

Present Illness.—On Feb. 7, 1907, in the morning, he was playing cards with friends and seemed to be in a normal state of mind. Went home at 1 p. m. His son asked him to eat dinner, but he did not reply. He immediately went to bed and started to cry, seemed frightened at his friends who came in to visit him. He crouched himself up in bed, and apparently seemed to have lost his power of speech, as he flatly refused to answer any questions put to him by his son or friends.

His son, becoming alarmed at his father's loss of voice, hurriedly sent for me. One glance at the man told me that it was a case of hysteria. I asked him his name, but with tears in his eyes he stared at me and refused to answer. He then began to go through a series of funny contortions, stand on his head, grind his teeth (so vigorously that it could be heard in the next room), pull his hair and cry. Between these acts he would try hard to vomit and choke. His friends becoming alarmed at this state of affairs, repeatedly asked me if the patient was going to die. In the presence of the patient I admitted that he would. Going into an adjoining room, I explained the nature of the disease to his friends and told them that I was going to fool the patient by using a little stratagem; that some worry had brought on this attack.

I re-entered the sick room with three of the friends, and in a loud voice I announced that in order to save the man's life I would be compelled to amputate, then and there, his left hand at the wrist joint; that this was the only means of saving his life; that cutting off the hand would bring back his speech and cause him to regain his mind. So taking some scalpels out of my bag and calling for some hot water, towels, dishes, napkins and a cuspidor to contain the blood, and requesting two men to grasp the left hand of the patient, I was about ready to "cut" when my patient exclaimed in a loud voice, "Whata you wanta? I no sicka, I no needa a dottore." The rest was easy. He now answered all questions, and at once stopped all of his convulsive actions. He told me what the trouble was. His first wife died. He remarried and this second wife had left him alone with six children to look after, and furthermore, he was out of work a long time.

Without exception, every case among the Italians started in with loss of speech, convulsive movements, grinding of the teeth, pulling of the hair, sobbing, crying, etc. All the cases depended on some worry due to trouble in the family. Fathers, mothers, sisters and brothers left behind in Italy caused the greatest worry.

Every patient was suddenly "cured" by giving him to understand that he was really a sick man, and that in order to save his life it was absolutely necessary to amputate his left hand immediately. Then, and then only, would the patient admit that he was not sick.

This line of treatment may not be applicable to all cases of hysteria, but I find that after trying the ordinary methods of treatment in this class of patients, namely, the laboring Italians, I do not get results anywhere near as satisfactory as I do in utilizing this method of artifice.

I have not heard of any recurrence of hysteria in any of the cases I have so treated.

Special Article

MEDICAL CONDITIONS ON THE LABRADOR COAST AND NORTH NEWFOUNDLAND.

JOHN M. LITTLE, M.D.
BOSTON.

To the general public in the United States and Canada Dr. Grenfell and his work are not unknown and need no introduction, but no paper, so far as I know, has appeared dealing with his work strictly from a medical standpoint. The following is written to bring his work before the profession in the hope that it may interest some who will be willing and able to help in the future should opportunity arise. The Mission to Deep Sea Fishermen maintains a hospital in North Newfoundland and three hospitals on the coast of Labrador. Dr. Grenfell travels these coasts by dog sledge in winter and in summer on his small hospital steamship *Strathcona*, visiting and operating not only at the hospitals but carrying medical aid and help in many forms to all the people on these long, desolate coasts. For accounts of how he does this, I must refer to other sources, simply stating that the work is supported by private contribution.

This paper (written from St. Anthony, Newfoundland), is intended to give a general idea of the medical work done, with some of its special points of interest.

The number of cases treated on board the *Strathcona* in the summer of 1907 exceeded 1,200. Besides these there were treated at each of the four hospitals maintained by the mission between 500 and 700 cases. Taking 600 as an average, the total number of patients for the five months, June to October, would be approximately 3,600. As I have not the exact figures from the other three hospitals, and communication is impossible at this time of year, I can not give the exact number, but this is, if anything, an underestimation. Before coming to this work I was told that it consisted in treating three classes of cases, indigestion, constipation and phthisis, their relative frequency being in the order named, with an occasional scattering case of interest, opening of boils, pulling of teeth, and a very occasional operation.

There is a doctor at each of the hospitals, but operative work, unless urgent, is done when the *Strathcona* reaches them. I believe that the clinic compares favorably with those in our hospitals at home.

There are three chief classes of patients, and each class presents certain peculiarities from a medical aspect. These are: 1, The Eskimos; 2, the all-the-year-round inhabitants; and 3, the schooner-men, and those brought down in ships for the summer fishing.

1. The Eskimos, while they have immense physical endurance, and can row or tramp all day and stand any amount

of cold, are peculiarly susceptible to any infective process, to changes of wind and weather, many having bronchitis on the slightest pretext, and they seem to have no resistance to any form of suppuration. They are also "bleeders," and hemoptysis is common without any physical signs in the lungs, or finding the tubercle bacillus in the sputum. It is also very hard to differentiate the incipient, but chronic cases of tuberculosis from certain cases of cough with hemoptysis which appear to be scorbutic. Menorrhagia is the rule among the women, and bleeding from the nose is almost universal in both sexes in the spring.

Consumption is common, but apt to be of the very chronic fibroid type. Dr. Nansen, in his First Crossing of Greenland, says: "The Greenlanders (Eskimos) seem indeed to have a remarkable power of resistance to consumption, for, though in their young days they may be so far gone as to suffer from violent spitting of blood, they may survive to a comparatively advanced age. I have myself seen men severely attacked by this symptom one day, and yet out in their canoes after seal the next." Rev. W. F. Doty, in his ninth annual report on the introduction of domestic reindeer into Alaska, 1899, says "hemorrhages from the nose and lungs are frequent." Dr. Sheldon Jackson, in the tenth annual report of the same series, gives an idea of the terrible effect of epidemics of measles, grip and pneumonia among the Alaskan natives.

These peculiarities seem not to be confined to the Labrador Eskimo, but are common to all tribes, this being another remarkable point of similarity between these so widely scattered people, together with their language, dress, habits, etc. Syphilis is prevalent and is seen in a severe form. The Eskimos being ignorant as to its character, and having no remedies, and syphilis being a comparatively recent acquisition, no tolerance has been established. They are also subject to an epidemic skin disease, which seems to have something to do with their food. This is, so far as I know, as yet undescribed, and I shall discuss it in a later paper when I have collected my photographs and material.

2. The all-the-year-round inhabitants are subject to the diseases caused by overcrowded houses and lack of hygiene, starvation, poor food and bad teeth. Multiple neuritis is common, scurvy is not uncommon, and rickets is universal in some degree, among the babies. Malnutrition is the rule. Tuberculosis is everywhere. The results of consanguineous marriages are evident, and in one small village an epidemic of hysteria, attacking every young girl in the place, fourteen in number, could distinctly be traced to this cause. Venereal disease is practically unknown among them. Grip traveled the length of the whole coast this summer, and was very severe.

3. Among those visiting the coast, indigestion and stomatitis are common, owing to the salt food used; also rheumatism, due to wet and exposure, conjunctivitis, pterygium and phlyctenular ulcerations, due to the salt water and wind. Pain in the back, due to strain, and furunculosis of the wrists, or so-called "water whelps," as well as functional dysuria and night blindness, may be classed as occupation diseases.

These, in a general way, are the main points of difference from a clinic at home. Taking up the diseases in their order of frequency, certain points of interest may be mentioned.

Indigestion seems almost universal. It is the acid dyspepsia, and in most cases runs hand in hand with constipation. Everybody here drinks tea, morning, noon and night, never any water. The lack of fresh food is also responsible. Among the majority, bread, tea and molasses, with occasionally salt beef or fish, is the diet the year round. The bad teeth, which are also the rule, are also partly responsible. I do not doubt, however, that gastric ulcer and gallstones may account for many of the most severe cases, and a more complete study would discover these.

The people seem to be peculiarly unintelligent with regard to medical matters, and it is impossible to elicit an intelligent history, or get an idea of symptoms from them unless you have them under observation in the hospital. It is a good deal like treating children, only without the advantage of the intelligent watchfulness of the parents. The use of "patent medicines" is universal, and not surprising, considering that there are no doctors, but the advertising in the local papers and sale by the traders of these things is shameful. Some of the remedies in use, and the practices in childbirth and other emergencies are just like what one reads of nowadays in histories of medicine, but whereas in history they seem amusing, in practice they cease to be so, and the suffering they cause is horrible.

Caries of the teeth is the natural result of the absolute lack of care which is prevalent, combined with the malnutrition. I have not seen a toothbrush in any house visited this summer. The children's teeth are worse than the parents, and this is noticed by the people themselves, who vaguely wonder at the cause.

Grip ran the length of the coast, and while severe did not leave permanent results, as far as I could judge. Rheumatism, due to the cold, exposure and wet, is naturally often seen, and often the typical form with heart involvement. Disturbances of metabolism, due to the malnutrition, seem to be a strong etiologic factor in the prevalent arthritis deformans. Improvement under proper treatment in the hospital is marked in this last condition.

Conjunctivitis, pterygium, phlyctenula and corneal ulceration are very common, owing to the exposure to wind and weather, and in adults, as in children, malnutrition plays its part. They seem to yield, however, to local treatment.

Of gynecologic cases not much will be said. There is an unlimited field for practice, owing to the ignorance and carelessness of the people. The confidence of the people is not easily won in these cases. A peculiar shame and habit of suffering these complaints as being the lot of women and part of their natural burden, causes them not to seek relief, which, in so many cases, would be so vast and easily afforded.

Pain in the back is very common in men and women alike, and is, I believe, generally due to strain. Their work is very heavy and continuous at times—among the men much lifting and hauling, among the women much bending over floors, tubs and stoves. That a large plaster or strapping affords immediate relief in almost all cases seems to bear out this conclusion.

Cough and phthisis are divided, because, owing to the lack of time, a microscopic examination of the sputum was impossible. The division is made on these lines. Where the physical signs and symptoms undoubtedly spelled phthisis, it was called such; where they did not, it was called cough, but treated as phthisis. Owing to their total disregard of hygiene, filthy habits of spitting everywhere, overcrowded, overheated, nonventilated habitations, and again, total ignorance and seeming indifference, tuberculosis, in every form, is rampant. Dr. Grenfell is waging mighty war against these conditions, and while it is discouraging at times, we hope for better conditions in the future. The campaign is one of education, as in our communities at home, but the conditions are much harder. In the treatment, of fresh air and sunshine there is plenty; of good food there is none; no milk, eggs, butter, etc., just tea, bread, molasses and salt beef.

Of boils and abscesses, superficial and deep, there are many, and the only care they get is bread and molasses poultice from the beginning to the end, whatever that may turn out to be. In consequence, some horrible cases of suppuration are seen, but one is impressed by their self-limited nature. The people seem to have a wonderful resistance to the toxins, and though the local destruction may be very great, and the suffering must be terrible, they seem to be able to hold out until the necessary antibodies are formed, and the process comes to an end. Though we do not often see at home such cases of advanced suppuration, I have not seen or heard of a death from septicemia following a "gathering," as they call it. With proper incision and drainage, these cases heal up very quickly. The chronic furunculosis of the wrists, kept up by the constant rubbing of the edges of the oil coats, soaked in salt water and fish gurry, is a very great source of misery.

Multiple neuritis is seen in both its forms and all its stages, from a slight weakness of the legs, with loss of knee-jerk, to complete paralysis of legs and arms with contractures. True beriberi is here. In one hut this summer three helpless, and two with swelled, painful legs and beginning of other symptoms, were found. Slight cases that apparently have completely recovered, but still have no knee-jerk, are common.

Stomatitis, ulcerative, affecting the lips and buccal mucous membrane is common. The inflammation of the mucous membrane is general. The ulceration starts on the lower lip, generally, and spreads marginally. It is progressive, but not deep, and remains until a change of secretion in the mouth, due to change of food or to some drug (potassium chlorate) constantly held in the mouth, is provided. The spongy and retracted gums, due to scurvy and bad teeth, are very common. Retention of urine is not uncommonly complained of by men in whom careful physical examination and examination of the urine fail to show any cause whatever, so I have supposed it to be a neurosis. These cases always occur among those living on vessels.

Night blindness is frequently met, either as a premonitory symptom of scurvy, or a sign of malnutrition, but sometimes neither of these conditions can be supposed to be etiologic factors. In almost all cases a previous history of snow blindness can be elicited. Night blindness is much feared, and knowledge of its symptoms and occurrence is universal. These last two troubles have been to me so new, and seemed so marked, that I have come to regard them as occupation neuroses.

Cataract seems fairly common, as do all senile sclerotic changes at a fairly early date. As causes of cataract two of the usual etiologic factors—alcohol and syphilis—can be eliminated, and the whole blame must be thrown on hard living and exposure.

That death from peritonitis is not uncommon, I feel sure from the accounts I elicited, but the appendix is something they have never heard of up here.

Hernia is, of course, frequent, but unless one of the serious accidents incident to its presence occurs, the doctor is not consulted. One patient on whom I operated for strangulation could only be made to admit symptoms of any kind dating back ten days, and yet the thickening around the neck of the sac showed its presence for a very long time.

Mental and nervous disorders, from insanity to hysteria, have already been mentioned as being common, and there is no doubt as to their cause.

Except among the Eskimo, venereal disease is practically absent. The only two cases of salpingitis I saw occurred in the same place, as did the one case of gonorrhea, and I hear from Dr. Stewart that there is one other place on the shore where gonorrhea was imported by an American vessel. While illegitimate births are common, promiscuous intercourse is rare, and therein, I believe, is the secret of their freedom from this scourge.

Besides the numerous minor operations that are continually necessary, 33 major operations were performed during the months, July to October. Among these we had one death from inhalation pneumonia following a radical operation for cancer of the breast. One result is unknown, the patient, a boy with halux equino varus, having been taken home against advice without retention apparatus. The others are all at home and well. The average of two major operations a week should increase, as the people are beginning to learn what can be done at the hospitals, to lose their fear of anesthesia and to have confidence in surgery. Each patient cured and sent home acts as missionary to that community, and more and more do the mail boats bring surgical cases, and from further and further off.

I think I have said enough to point out the general character of the work from a practical side. There are many chances for work along special lines and for investigation, which have suggested themselves during the summer. Time alone was lacking. One is dependent entirely on oneself up here, and that is a stimulus which should be invaluable, and which, I think, is too often absent in the work at our large centers, to the detriment of those who require a broad foundation for future special work, and also of those who will eventually have to shoulder the responsibilities that the profession sooner or later inevitably entails.

317 Marlborough Street.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.)

(Continued from page 963.)

VEROFORM ANTISEPTIC.

A liquid containing 6 per cent. of formaldehyde gas dissolved in a solution of soap.

Neutral soap is liquefied by heating paraformaldehyde and soap in an autoclave. By filtration a clear stable solution of formaldehyde in soap is obtained.

Veroform antiseptic is a yellowish liquid. If exposed to low temperature it becomes cloudy owing to a crystallization of fatty acid salts, but clears up again in a warm room without decomposition. It is practically neutral; it is incompatible with the alkaline earths and heavy metals, also with acids. It mixes with water in all proportions.

Tests: See veroform germicide.

Actions and Uses.—See Veroform germicide. The preparation is approximately one-sixth the strength of Liquor formaldehydi, U. S. P.

Dosage.—A solution, containing 1.6 per cent., is said to equal in antiseptic value a solution of mercury bichloride, 1 to 1000. A solution containing 1 per cent. and over is used for sterilization of hands and of the field of operation.

Manufactured by the Veroform Hygienic Co., New York. U. S. patent No. 740,424. U. S. trademark "Veroform," No. 44,144.

Experiments by the council indicate that the expression "non-irritating" as applied to veroform preparations by the Veroform Hygienic Company must not be taken literally. The minimal concentration advised (corresponding to 0.090 per cent. CH_2O) produces a distinct and persistent irritation in the mouth, and Fischer (Journal of Experimental Medicine, vol. vi, p. 500-505), has shown that a 0.04 per cent. solution of formaldehyde causes local histologic lesions when applied to peritoneal, subcutaneous or muscular tissues.

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A liquid containing 20 per cent. of formaldehyde gas dissolved in a solution of soap.

Neutral soap is liquefied by the action of formaldehyde gas and the solution filtered.

Veroform germicide is a yellowish liquid. If exposed to low temperature it becomes cloudy owing to a crystallization of fatty acid salts, but clears up again in a warm room without decomposition. It is free from formic acid and practically neutral; it is incompatible with the alkaline earths and heavy metals, also with acids. It mixes with water in all proportion.

Tests: The amount of formaldehyde can be determined by the U. S. P. method of estimating formaldehyde in liquor formaldehydi if the time of interaction between hydrogen dioxide and formaldehyde be extended to one hour, and if to the volume of alkali consumed in the estimation there is added a volume of alkali equivalent to the alkalinity of the Veroform Germicide as determined in a separate experiment.

Actions and Uses.—Bactericidal and detergent. Its bactericidal action depends on the formaldehyde which it contains, but it is claimed that it is superior to other formaldehyde preparations because of the soap in which the formaldehyde is dissolved.

Dosage.—As it is approximately half the strength of Liquor formaldehydi, U. S. P., it should be given or used in twice the strength that is customary for that preparation.

Manufactured by the Veroform Hygienic Co., New York. U. S. patent No. 740,424. U. S. trademark "Veroform" No. 44,144; "Lysoform," No. 35,979.

(To be continued.)

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[*For other information see second page following reading matter.*]

SATURDAY, MARCH, 28, 1908.

A SOURCE OF INJURY FROM ILLUMINATING GAS.

The two chief products of combustion of coal and illuminating gas, carbon dioxid and water, being the same as the chief products of combustion in the animal body, are not appreciably injurious provided they are sufficiently diluted and removed with reasonable rapidity. The presence of sulphur in these sources of heat and light, however, leads to the formation of no inconsiderable amount of sulphuric and sulphurous acid, which may well be a source of considerable impairment of health. Every one who has the misfortune to live in a large city with a well-developed smoke nuisance is familiar with the extremely irritating quality of the air when, on moist days, the gases from the chimneys sink near the surface of the ground.

The *Lancet* in a recent editorial[1] has called attention to an interesting bit of experimental evidence of the presence of sulphuric acid in the products of combustion of ordinary coal gas. A simple test for the presence of free sulphuric acid in a liquid consists in streaking the liquid on a piece of white paper and drying the paper before the fire; as the paper dries and the acid becomes more and more concentrated the paper becomes charred where the liquid was applied. Over the ordinary gas light the ceiling paper shows always more or less discoloration, and after a time becomes charred, crumbles, and drops off; this is commonly attributed to the deposition of soot, when often it is really the effect of sulphuric acid formed in the combustion of the gas and deposited on the ceiling. The *Lancet* states that an examination of such paper showed it to be sour to the taste and distinctly acid in reaction, and analysis showed that there was as much as sixteen grains of sulphuric acid to the square foot of paper.

It seems probable that the presence of sulphuric acid from this source, in the course of time, may be a source of injury to the respiratory tract, manifesting itself particularly in catarrhal inflammations and non-resistance to infection. Water gas, as used in most places nowadays, would probably be the least harmful in this respect, for it contains a minimum amount of sulphur; but natural gas, particularly in certain regions, is peculiarly rich in sulphur, as the housewife, who tries in vain to keep the silver bright, appreciates fully. Soft coal liberates great amounts of sulphuric acid, as shown by the rapid corrosion of iron pipes that are called on to discharge the smoke, and in the vicinity of large factories the air on wet days must be well laden with acid vapors. This is a difficulty that it does not seem probable will be easy to remedy, for there is no feasible way of removing sulphur from coal and gas. It will vanish when the coal mines give out and we rely on water power, solar heat, or some yet undeveloped source of energy.

THE HOUSING OF THE POOR.

The close connection between sanitary improvement and other social problems is not generally realized, and much effort toward sanitary improvement has been unfruitful because this intimate relationship has not been appreciated. In order to know the source of insanitary evils and their reciprocal effect on the social status of the people, a broad basis of fact must be gained by a thorough investigation of the condition of the people in all its phases. Such an investigation, a social survey of an American industrial city, is now being made by the National Publication Committee of *Charities and The Commons* and promises to be of great interest to physicians as well as to sociologists. Pittsburg has been chosen as one place for investigation because of the conditions of heterogeneity of population, marked industrial development and peculiar physical features. Some phases of the investigation are already completed and the papers[1] published indicate something of what has been done.

The topic most nearly allied to sanitary effort is the housing problem, which is thoroughly treated by Miss Elisabeth Crowell. The revelations given of insanitary conditions under which the laboring population dwell and under which children are born and reared is appalling. The description shows a terrible condition of overcrowding, with the persistence of insanitary arrangements for sewage disposal, the use of common privies by several families and frequently by passers-by, insufficient water supply and various other evils which favor disease and immorality. In some instances as many as eight or ten individuals were found living in one room. One house of thirteen rooms accommodated twelve families.

In trying to fix the responsibility for this state of affairs three parties may be named as primarily to blame: the renter, the landlord and the sanitary inspector. The renter often sublets or takes boarders until the overcrowding is beyond the landlord's control. Three causes may be assigned for this: a low standard of living, low wages and high rents. The same causes operate to secure tolerance of other insanitary features. On the part of the landlord there is a greed for profits which disregards the requirements of health and of decency and overrides the law itself. It is a striking fact that some of the landlords most oblivious to the needs of their tenants are the great industrial corporations. The indifference of the landlord is, however, but a reflex of the indifference of the public. Many of the evils noticed are the result of neglect to comply with, or direct violation of, the law, and the responsibility rests largely on the officers charged with the enforcement of law, the sanitary inspectors and officers of health. Here also the officers are greatly hampered in their work by lack of sufficient appropriation and by indifference of public opinion. The true remedy for a condition of things which bids fair to become a disgrace to our country is, therefore, the formation of a live public opinion which will insist on better conditions and on the enforcement of law.

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[1] Feb. 8, 1908, p. 440.

[1] Charities and the Commons, March 7, 1908.

The Pittsburg situation should be a valuable lesson to other American municipalities. Most of these have already acquired their slum areas, and a campaign of reform and eradication is necessary. But for others prevention is still possible. This can be secured to a great extent by providing rigid restrictions in regard to utilizing old dwellings originally intended for one family as tenements without the installation of modern sanitary appliances. The enactment of proper laws and the rigid enforcement of existing regulations should prevent overcrowding and insanitary dwellings in most American cities. The time is ripe for arousing public opinion to activity in this direction.

THE MELODY CURE OF STAMMERING.

Considering stammering as a psychomotor disorder, a psychoneurosis or mental tic, we can understand how some of the methods of treatment hitherto devised have not been successful; they have concentrated the attention of the sufferer on his disability. The stammerer is able as a rule to speak normally or almost normally when alone. Any emotional excitement, however, such as attends the effort to converse with others, gives rise to a disturbance of the psychomotor mechanism which results in incoordination and excessive innervation of the muscular apparatus of speech. Emotions always call into action more complex activities than simple intellectual processes. They are invariably attended by motor cortical discharges. This accounts in part for the increased innervation.

To give proper compulsion, some advise the stammerer to beat time with one hand while speaking. This method, so far as it goes, is an excellent one, as it assists in sidetracking the excessive motor element. Rhythmic speaking is taught by others; but the use of rhythm alone, as a method of treatment, is not sufficient, as it fails, for example, to release the tightness of the larynx. The "deep-voice" method, and the method of extending the vowels to a greater length, result in an abnormal voice which can not be sustained. These and various other methods have hitherto been in the hands of the lay teacher.

Lately a new method of treatment has been devised by Scripture of New York, who recognizes the condition as one of "superenergetic phonation." Further, he has noted that all stutterers and stammerers speak in a monotone, whereas a normal person constantly slides his voice up and down the scale, never keeping it on the same tone even for an instant. Scripture's so-called "melody cure" rests on this fact. He finds it sufficient for the cure of most stutterers and stammerers merely to train them to slide the voice up and down, that is, to speak melodiously. This training can readily be accomplished by the physician, especially if he has witnessed one or two demonstrations. The theory of the cure is simple: the patient learns to speak with a new voice, i. e., a different set of vocal adjustments quite unconnected with the compulsive idea that made him stutter.

RELATION OF THE LIVER TO METABOLISM.

The relation of the liver to metabolism is a problem important to both the physiologist and the pathologist. For a long time it has been recognized that one of the functions of the liver is connected in some way with the destruction or removal of poisons from the blood, especially such poisons as are produced in or absorbed from the alimentary canal. It was early recognized that destruction of the liver cells leads to serious poisoning, and this was experimentally demonstrated by Eck, who excluded the liver from the circulation by making a direct communication between the portal vein and the inferior vena cava, an operation known as an Eck fistula. The results of this operation were the production of toxic symptoms which bore a more or less close resemblance to the symptoms of uremia, and it has been hoped that the study of the metabolism under such conditions would give a clue to the nature and source of uremic poisoning.

There has been considerable difference of opinion as to the toxic agent in the blood of such animals. Pawlow and his associates found that the symptoms arose when meat was fed to the animals, and similar symptoms were produced by the injection of sodium carbamate into normal animals; the results were attributed to carbamic acid. Some of Pawlow's experiments indicated that the toxic agent was not ammonia, as had been suggested by Salaskin. P. B. Hawk,[1] experimenting with dogs in which an Eck fistula had been established, recently found that while toxic symptoms usually followed a diet containing a large amount of meat, this result was not always produced even when the autopsy showed that the liver had been fully excluded from the portal circulation. When Liebig's extract was added to the meat diet toxic symptoms followed, including ataxia, tetanus, catalepsy and paresis, and in some cases complete anesthesia and total loss of sight and hearing. No toxic symptoms followed the feeding of a meat-free diet, even when supplemented by the addition of Liebig's extract. Sodium carbamate did not produce these symptoms in the Eck fistula dogs nor were such symptoms produced in normal dogs by the addition of sodium carbamate or Liebig's extract to a meat ration. The dogs operated on sometimes became extremely nervous, restless and irritable, and invariably lost weight, the loss ranging from 14 to 42 per cent. The animals after recovering from the toxic symptoms refused meat. The feeding of carbohydrates to such animals was not followed by glycosuria nor was albuminuria induced in them by the feeding of Liebig's extract.

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[1] Am. Jour. Phys., xxi, No. 2.

It is evident that the toxic symptoms owe their origin to a combination of meat with some of the constituents of the Liebig's extract. It is probably too early to apply these results with confidence to clinical problems, but they suggest the propriety of caution in the use of meat extracts in autotoxic conditions and in nervous states which resemble these experimental phenomena. This conclusion is sustained by clinical experience in the treatment of epilepsy, a disease which at one time was attributed to poisoning with carbamic acid.

HEREDITY AND TUBERCULOSIS.

Professor Karl Pearson,[1] than whom there is no higher authority on biologic statistics, finds that his researches on the incidence of pulmonary tuberculosis rather favor the presumption of heredity being a leading if not a dominant factor. It is impossible, he admits, to assume, with the present insufficient data, that any disease is inherited in the same sense that physical and mental characteristics are inherited, but if inheritance of a consumptive tendency or diathesis is not assumed, it is difficult to explain the facts, or to see how any one escapes with the actual universal distribution of the infection, especially in dense populations. Few individuals, he says, who lead a moderately active life can escape an almost daily risk of infection. Another fact pointing the same way is that the average age at the onset of the disease is practically the same in all cases, whereas with the infection theory, pure and simple, it should occur earlier when a constant possibility of infection exists, as, for instance, in families where some member is a sufferer from the disease. Statistics show only an insignificant difference in such cases. The present tendency to magnify the infection factor at the expense of the formerly more generally accepted view of the importance of heredity in the spread of pulmonary tuberculosis is, we think, largely based on *a priori* grounds. When consumption was demonstrated to be due to microbic infection there seemed to be little need of invoking any other agency. Another thing favoring the change of view was the apparent better prognosis afforded, and further we may perhaps consider the advocacy of the infection theory as somewhat prompted by ideas of expediency as falling more readily in line with the active campaign against "the great white plague."

For a biometric authority like Professor Pearson to magnify the importance of heredity in tuberculosis is, however, significant and should tend to modify some of the radical utterances that consumption is not and can not be, in any proper sense, hereditary. Another fact brought out by Professor Pearson is that, while the offspring of consumptives are not less fertile and in all probability are even more fertile than those of normal heredity, the fact that consumption is pre-eminently a disease of youth and early middle life, lowers the marriage rate and the period of fecundity, and thus tends to lower the normal birth rate of a community.

Another fact shown by his figures is that constitutional tendencies and defects are more likely to be inherited by the first or second children in a family than by those later born. This has an important bearing on the question: if consumptives tend to die before raising large families, the children they do have are the more likely to inherit the predisposition to their disease and the tendency of the stock to become extinct is enhanced. It also points to a disastrous effect of the Neo-Malthusian tendency to limit offspring, which President Roosevelt and others have so strongly deprecated.

Of course it does not follow that an inherited predisposition is an inevitable death sentence by a fatal disease, the infection of which is practically ubiquitous; it only emphasizes the need of hygienic living and the cultivation of resistance. These, whether carried out by means of correct environment or by direct stimulation of the bodily resisting powers, are the methods of fighting tuberculosis that most promise success, and they can be aided rather than discouraged by a correct appreciation of the importance of hereditary predisposition in this disease.

MENTAL HEALING.

An article entitled "The Grain of Truth in the Bushel of Christian Science Chaff," by Mr. Charles Clarence Batchelder, in one of the popular magazines,[1] is especially interesting, inasmuch as the reflections it contains apply with equal cogency to every form of mental healing. The author displays in a clear and lucid manner, so as to be readily comprehensible by the intelligent layman, the fundamental physiologic principles on which the interaction between mental impulses and functional changes in the vegetative phenomena of life, e. g., the circulation, depends, and illustrates it by the control acquired by some over the blushing habit, by a process akin to the Eddyites' formula: "Deny error," etc. He quotes the experiments of Dr. Anderson, director of the Yale Gymnasium, wherein by means of a table so delicately balanced that it will move on the slightest breath, it is demonstrable that not only will the actual dancing of a jig by the subject of an experiment increase the blood supply in his lower extremities, but that even without rising and going through the movements, the mere thought of them is able to cause a determination of blood to the parts, indicated by the sinking of the bed at the foot just as occurs when the action has actually been performed. The author is careful, however, to indicate clearly the directions in which limitation of the results is inevitable. Finally, the independence of these results as regards any particular associated theory or religious tenets is shown in the statement that these measures "work just as well with a pagan religion as with a Christian one, as a physician can cure a Chinaman of malaria as readily as an American." It is, in fact, the state of being convinced, not the verity of the basis of conviction, that is the essential agent in the results effected by these perfectly natural measures—measures as purely physiologic as lowering of the head in cerebral anemia or the elevation of an inflamed part to assist gravity in the return blood flow, thus checking the tendency to blood stasis. The author expresses surprise that "the usually acute leaders of mental healing do not profit by the experience of the Catholics at Lourdes. The latter have every patient examined by trained physicians before mental healing is attempted. This gives an opportunity to eliminate the dangerous or contagious maladies, while at the same time furnishing proof of cure and establishing the nature of the disease."

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[1] A First Study of the Statistics of Pulmonary Tuberculosis, London; reviewed in Nature, Feb. 27, 1908.

[1] Popular Science Monthly, March, 1908.

A SECT IN EMBRYO.

Dispatches from New York convey the interesting intelligence that one Andrew McConnell of Washington has announced that any person may make himself not only sound, well and sane, but also very good, merely by regulating the electricity generated in his stomach and controlled by his brain. According to Mr. McConnell the stomach is a battery or dynamo, having alkaline and acid coatings which set up an electric current. The brain is the switchboard and the spirit is the hand on the switch. This theory, combining the mechanical ideas of osteopathy with some of the salient features of Eddyism, might be utilized for the establishment of a new sect. It certainly would have as many attractions as some of its predecessors. Its followers could be designated as "electro-gastrologists" or "dynamopaths." "Colleges" could be established at which "courses of instruction" could be given, provided the prospective students had money enough for both tuition and railroad fare, otherwise they could be accommodated with "correspondence courses." Some well-known local politician could be made "professor of medical jurisprudence," thus securing a "pull" with the state legislature. "Commencement exercises" could be held and some distinguished clergyman could be secured to deliver the "graduating address" to those who did not receive their "diplomas" by mail. The "degree" of "D. E. G." could be conferred and this imposing distinction could be used on signs and cards and in the great Sunday newspapers. Eventually, amendments to the medical practice acts could be introduced, either establishing an "examining board of electro-gastrologists," or placing a representative on the state board of health, "in order to protect the public from incompetent and untrained dynamopaths." Eventually, some wealthy retired merchant might be induced to endow a school or hospital of electro-gastrology, and the sect would then probably claim a place as a recognized part of our social organization. Thus would scientific knowledge be advanced and another chapter be added to the history of medicine. The natural history of the faker is interesting. All the possibilities mentioned above have actually occurred with certain other sects, and history is liable at any time to repeat itself.

CALCIUM IN TETANY AFTER PARATHYROIDECTOMY.

An interesting suggestion is made by W. G. McCallum and V. Voegtlin[1] in regard to calcium in tetany. The observations of Loeb and J. B. McCallum on the effect of calcium in inhibiting the muscular twitchings produced by various salts and also the good effects, noted by several observers, of milk in preventing tetany after parathyroidectomy proved very suggestive in this connection. McCallum and Voegtlin found that by the intravenous injection of a calcium salt (5 per cent. solution of acetate or lactate) the violent symptoms of tremor, tachycardia, rigidity, etc., following parathyroidectomy may be almost instantly relieved and that the relief continues for twenty-four hours. Subcutaneous injection of the calcium and introduction by mouth act more slowly but are quite as effective. Magnesium acts much like calcium, but potassium intensifies the symptoms. Other studies tend to show that there is an increased output of calcium in the excreta and a decreased amount in the blood of the parathyroidectomized animal. The authors suggest that in some way, probably through the influence of their products on the central nervous system, the parathyroids control the calcium metabolism of the body. These results point, of course, to calcium in the treatment of postoperative tetany and also of tetany arising from other causes. If it be true that owing to a destruction of the parathyroids there is loss of control of calcium metabolism of the body, the condition is analogous to diabetes mellitus in which the destruction of the islands of Langerhans causes an abnormal sugar metabolism. McCallum and Voegtlin suggest that the condition, therefore, might be termed "diabetes calcarius."

RAILROAD SURGEONS AND FREE PASSES.

The *Ohio State Medical Journal* for March states that a bill has been introduced into the Ohio legislature prohibiting railroad companies from issuing passes to surgeons for their services. There is no reason why the surgeon should be an exception in the antipass legislation which is becoming the common thing in several states. In discussing contract practice,[1] we said: "We are free to say that we consider that the prevalent custom among physicians in smaller towns on railroads, of accepting a position as railroad surgeon for the sole compensation of an annual pass, is belittling both to the individual surgeon and to the profession and many a good man has been ruined thereby. This should be eliminated by the surgeons themselves. Good work, properly done, entitles one to proper compensation. The railroads must have competent surgeons for their own protection. They are perfectly willing to get men on a transportation basis, since it is cheaper for them, but if they are not able to obtain good men on this basis they would prefer to pay cash rather than to accept the services of poorer men or to do without any medical services." The pass compensation plan puts professional services on a trade and barter basis, which is undignified and unworthy of either the medical profession or the railroad companies. Reasonable, adequate compensation in proportion to the work done should be demanded in all cases where good service is expected.

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[1] Preliminary Note, in Johns Hopkins Hosp. Bull., 1908, 19, p. 91.

[1] The Journal A. M. A., Dec. 14, 1907.

THE AUSTRIAN GOVERNMENT AND THE KEITH-HARVEY AURAL BATTERY FRAUD.

The campaign of the past few years in this country against nostrums and quackery has had the effect of driving a number of the more disreputable of these frauds to the British Isles. It must not be assumed, however, that all quacks found in Great Britain are of trans-Atlantic origin; London seems to furnish a fair quota. One of the largest advertisers in Europe is a "Professor" Keith-Harvey of London who sells what he calls an "aural battery" for the cure of deafness. With this instrument are sold the usual high-priced medicaments of negative value. According to *Truth*[1] the "professor's" real name is Edward Marr, but he adopts a cognomen suited to the dignity of his profession. Marr does not confine his fraudulent practices to those of a medical nature; as "Arnold & Butler" he operates a bucket shop in London. That city still tolerates him in both of his rôles for separating the fool from his money, but when he attempted to extend his operations to Austria he found a paternalistic government in his path. Largely through the recommendations of the Vienna Otologic Society,[2] the Austrian government has issued an order forbidding the importation of his fake "aural battery" into that country. While the *laissez-faire* attitude common to the Anglo-Saxon countries may, and doubtless does, develop those qualities essential to self-government, yet paternalism has its advantages. The "let-alone" doctrine leaves no small proportion of the population at the mercy of those sharks, medical and otherwise, who, while keeping within the letter of the law, perpetrate the cruelest of frauds on the sick and suffering. There are still a large number of civilized people who need to be protected against themselves.

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[1] *Truth's* Cautionary List, London, Eng., a publication issued annually by *Truth*, in which frauds of various kinds are exposed. This list is described on page 1065, this issue.

[2] Vienna Letter, this issue, page 1052.

Differential Sign of Bone Tumor in the Radius.—E. Rochard calls attention in the *Bull. Gén. de Thérap.*, Nov. 15, 1907, to the superficial position of the radial artery in case of tumefaction of the bone. It is lifted up by the bone growth and its exaggerated pulsation differentiates a tumor in the bone when the lesion is in the lower end of the radius.

Medical News

CALIFORNIA.

Personal.—Dr. Benjamin Bakewell has been appointed health officer, and Dr. Henry L. Stambach, a member of the board of health of Santa Barbara.——Dr. Adolph J. Kahn, Napa, councilman, county physician and member of the Napa County board of health, has resigned as a member of the city board of health.——Dr. R. Gregory Broderick has succeeded Dr. Herbert Gunn as health officer of San Francisco.

Communicable Diseases.—There have been reported 30 cases of diphtheria, with 5 deaths, near Kings River.——Three cases of diphtheria are reported in the western part of Yuba City, and the school has been closed for one week.——The schools of Kennett have been closed on account of the prevalence of scarlet fever.——Several cases of smallpox are reported at Coalinga. The epidemic is said to have been started from an Eddyist home.——The San José board of education closed all the grammar schools and the high school March 5, to reopen March 19, on account of the prevalence of smallpox.——Several cases of smallpox are reported from Watsonville.

Hospital Notes.—Work has been commenced on the south wing of the Sisters' (Mater Misericordiæ) Hospital, Sacramento. The building will cost about $17,000, and will furnish the practitioners of the northern part of California with about 30 new rooms, a maternity ward and special rooms for delirious patients. The laboratory will be thoroughly equipped for chemical, bacteriologic and pathologic work. Dr. A. S. Musante was recently appointed resident physician of the institution.——The state department of engineering is making plans for a new receiving hospital for the State Hospital, Patten, to cost about $35,000.——A private hospital is to be opened at Santa Rosa, with accommodation for 21 patients, and is to be in charge of Drs. Samuel S. Bogle, Clark and Prince A. Meneray. ——Work is nearing completion on the new Santa Clara Hospital. The institution will accommodate 100 patients, with ample room for nurses, physicians and help, and will have cost, when finished, about $70,000.——The first hospital in Imperial Valley is to be opened in Imperial in April. A ten-room building has been leased and will be thoroughly equipped. ——Ground was broken March 2 for the annex to the Fabiola Hospital, Oakland, which will be two stories and a half in height and will cost about $50,000.——Almshouse No. 2, San Francisco, a three-story wooden structure, temporarily used as a county hospital, was totally destroyed by fire March 10. All of the 248 patients were removed uninjured, thanks to the coolness and bravery of the nurses and hospital attendants, and the prompt assistance of neighbors.

CONNECTICUT.

Epidemic of Measles.—Local physicians of Collinsville report that more than 300 cases of measles have occurred in the town.

Fire in Hospital.—A fire in Grace Hospital, New Haven, February 28, caused damage to the extent of $20,000, and necessitated the transfer of more than 40 patients to other hospitals. No casualties occurred.

Hospital Staff Announced.—The personnel of the medical staff for the new St. Mary's Hospital, Waterbury, was announced March 8. Dr. Bernard A. O'Hara is to be president of the medical staff; Dr. Nelson A. Pomeroy, vice-president; and Dr. John D. Freney, secretary.

ILLINOIS.

Smallpox.—Henderson County reports smallpox in the Olena neighborhood, where the school and church have been closed. ——Three cases of smallpox have occurred among the patrons of two hotels in Chenoa.——Several cases of smallpox are reported at Flora.

Fined and Appeals.—Dr. Harriet Hook of the staff of the Illinois State Asylum for Feeble-Minded Children, Lincoln, who was arrested March 12, it being alleged that she entered the home of a former inmate of the asylum in disguise, is said to have been found guilty March 21 and fined $10 for disorderly conduct. She refused to pay the fine and took an appeal.

Personal.—Dr. William H. C. Smith, Godfrey, has been appointed trustee of the Illinois Asylum for Feeble-Minded Children, Lincoln.——Dr. Stephen V. Balderston has been appointed commissioner of health of Evanston, to serve during the absence of Dr. William R. Parkes in Europe.——Dr. Henry G. Schuessler, health commissioner of Joliet, fell while making a call recently and sprained his ankle.

Medical Library for Joliet.—The Will County Medical Society held a banquet in Joliet March 17 in honor of Dr. Carl E.

Black, Jacksonville, and Dr. Malcolm L. Harris, Chicago. The former delivered an address on "Medical Libraries." Both Dr. Black and Dr. Harris told of the establishment of libraries for physicians and dentists in various cities of the country, and of the benefit to be derived from them. The proposed library for the society will contain about 28 medical journals, and it is expected that space will be allotted for it in the public library building.

Chicago.

Hospital Corporation Dissolved.—It is reported from Springfield that the Lake View Hospital Corporation has been dissolved and Dr. Olander E. Wahl has relinquished his position as head of the institution.

Correction.—THE JOURNAL is requested to announce that the item in issue of March 21, "Unlicensed Practitioner Fined," was incorrect in name and address, as the individual fined was J. C. Hyer, not J. C. Dyer, and as his residence is not 6509 Minerva Avenue.

Communicable Diseases.—Of the chief communicable diseases 176 cases were reported, as compared with 184 in the preceding week and 334 in the corresponding week of 1907.——Two new cases of smallpox were discovered during the week and the patients were taken to the Isolation Hospital. Neither had been vaccinated. There are now 11 cases of smallpox under treatment at the institution.

Low Death Rate.—The death rate for the week ended March 21 was equivalent to an annual mortality of 15 per 1,000 of population. This rate is 2½ per cent. lower than the preceding week; 6.7 per cent. lower than the corresponding period of last year; nearly 20 per cent. lower than the average March rate for thirty years, and more than 5½ per cent. lower than the average March rate for the last decade.

Deaths of the Week.—Of the 623 deaths reported during the week ended March 21, 111 were attributable to pneumonia, 72 to tuberculosis, 50 to heart diseases, 38 to acute intestinal diseases, 36 (including 12 suicides) to violence, 32 to nephritis, 31 to bronchitis, and 26 to cancer. Acute contagious diseases caused a total of 17 deaths during the week, as compared with 26 the preceding week and with 46 during the corresponding week of 1907.

To Insure Pure Water.—Health Commissioner Evans, in a letter to Mayor Busse, calls attention to the danger of pollution of the water supply of the city, from the neighboring lake cities, and asks for aid in securing a commission to investigate and report on this matter. Dr. Evans suggests that the commission be composed of one member, to be appointed by the federal health department; one by the war department; three from Chicago, to be named by the mayor; one from towns north of Chicago, to be named by Governor Deneen; two from Milwaukee, to be named by its mayor; one from Grand Rapids, to be named by its mayor; one to represent Hammond, Whiting and East Chicago, Ind., to be named by the mayors of these cities; and one each from Wisconsin, Indiana and Michigan, to be named by their respective governors.

INDIANA.

Personal.—Dr. Theodore F. Seymour has been appointed secretary of the Mishawaka Board of Health.——Dr. Charles L. Wright, Huntington, was operated on in Chicago, February 26, for the removal of gallstones.——Dr. Warren D. Calvin, Fort Wayne, has been reappointed physician of the Allen County jail.——Dr. William G. Wegner, South Bend, has been reappointed secretary of the St. Joseph County board of health.——Dr. Franklin W. Hays, Indianapolis, is reported to be critically ill in Los Angeles.

Cited to Appear Before Board.—The State Board of Medical Registration and Examination, at its session in Indianapolis, February 25, cited Celia M. Haines and E. D. Smith of Benton County and Herman Rice of Lake County to appear on April 7, to show cause why their licenses as physicians should not be revoked.——Harry W. Hicks, formerly of Muncie, is also said to have been cited to appear on the same date to answer to a charge of aiding and abetting a fraud, the "Boy Phenomenon," an alleged hypnotic healing combination.

IOWA.

Dispensary Opened.—A free dispensary has been opened in the building of the Volunteers of America, Des Moines.——Dr. Arthur C. Hutchins is chairman of the medical board.

Practiced Without a License.—Alexander Hall, Colfax, is said to have been found guilty, March 5, of practicing medicine without a license. The case will be appealed to test the constitutionality of the state medical law.

Society Meeting.—At the annual meeting of the Southwestern Iowa Medical Association, held in Creston, February 21 and 22, the following officers were elected: President, Dr. David C. Brockman, Ottumwa; vice-president, Dr. Frank P. Culverson, Greenfield; secretary, Dr. John W. Reynolds, Creston (re-elected); and treasurer, Dr. Joseph P. Claybaugh, Creston (re-elected).

KANSAS.

Unlicensed Maternity Home.—Dr. U. S. G. Hughes, proprietor of a maternity hospital in Kansas City, is said to have been fined $100 in a police court, March 3, for maintaining a private hospital, without a license.

Healer Leaves City.—"Prof." F. H. Peters, Iola, who was arrested February 22, charged with the illegal practice of medicine, agreed to pay the costs of action and leave the city, if the cases against him were dismissed.

Communicable Diseases.—Smallpox of mild type has appeared in Whitewater. The public school has been closed and strict quarantine has been established.——Smallpox is said to be prevalent in the southern part of Saline County.——Several cases of smallpox are reported at Leavenworth.——There are now 5 cases of smallpox in the Isolation Hospital, Wichita.——The State Board of Health reports that smallpox is making great headway in the state. In January there were 126 cases reported, and in February 459 cases; of these, 90 were in Atchison; 25 in Scott County, and 25 in Barton County.——The Oakland School, Topeka, was closed March 4, on account of scarlet fever.

KENTUCKY.

Smallpox.—There are said to be 12 cases of smallpox at Woodland Mills, near Hickman.——Little Rock Precinct, Bourbon County, reports 6 cases of smallpox.——Smallpox is said to be very prevalent at Hemp Ridge, Shelby County.——Lovelaceville, near Lancaster, reports 11 cases of smallpox.

Personal.—Dr. P. Richard Taylor, Louisville, formerly dean of the Hospital College of Medicine, has returned from a five months' trip around the world.——Dr. Walter F. Boggess, Louisville, has been seriously ill.——Drs. John G. South and Hervey S. Keller, both of Frankfort, have been appointed members of the State Board of Health.——Dr. Henry P. Sights, Paducah, was thrown from his seat in a local freight train at Boaz, and fractured two ribs.——Dr. Robert C. Allen, interne at Speers' Hospital, Dayton, has resigned, and will practice at Sharonvile, Ohio.

Good Work of the State Board.—The state senate has passed the Watson bill, with only one dissenting vote. This bill was prepared by the State Board of Health, under the direction of Dr. J. N. McCormack, Bowling Green. It provides for an increase in the annual appropriation for the state board from $5,000 to $25,000; the establishment of a state laboratory with a competent bacteriologist in charge, and the inauguration of a scientific campaign to eliminate contagious, infectious and preventable diseases. One of the first works to be undertaken will be a sanitary survey of the sources of water supply and their purification.

Society Meetings.—At the annual meeting of the Louisville Academy of Medicine, held March 15, the following officers were elected: President, Dr. Dunning S. Wilson; vice-president, Dr. Ezra O. Witherspoon; secretary, Dr. David C. Morton, and treasurer, Dr. Charles Farmer. This society had as its guest of honor Dr. Willard H. Hutchings of Detroit, Mich., who at the afternoon session delivered an address on the "Opsonic Treatment of Disease." At a recent meeting the society voted to ask for admission as the Medical Section of the Jefferson County Medical Society.——The Paducah Medical and Surgical Society, which was abandoned five years ago, was reorganized March 17, and the following officers were elected: Dr. John G. Brooks, president; Dr. Oliver R. Kidd, vice-president, and Dr. James T. Reddick, secretary.——The State Colored Medical Association will meet in Louisville, May 13 to 14, and will be entertained by the Falls City Medical Society.

MARYLAND.

Gorman Bill Defeated.—After prolonged debate, the state senate on March 19 defeated Senator Gorman's bill to postpone indefinitely the date on which the state is to commence to take care of its indigent insane, and fixed the date as Jan. 15, 1911. At the last legislature an act was passed fixing the date as Jan. 1, 1909.

Bond Issue Urged.—Dr. George J. Preston, president of the state lunacy commission, urges that a bond issue of $600,000 be made by the state to provide for the care of the insane.

There are 1,300 indigent insane in Maryland, none of whom is properly cared for. In the majority of the institutions where they are kept the conditions are said to be horrible, and the state is not acting with common decency in its treatment of these unfortunates. Dr. Preston combats the idea of increasing taxation by showing that such increase for state taxes is counterbalanced by the diminished tax rates for counties and cities which now bear the burden.

Appropriations to Hospitals.—The following appropriations to hospitals and dispensaries, payable one-half annually for a period of two years, have been agreed on by the finance committee of the houses of the legislature: Lying-in Hospital, University of Maryland, Baltimore, $6,000; Nursery and Children's Hospital, Baltimore, $5,000; Hebrew Hospital, Baltimore, $8,000; Hospital for the Women of Maryland, $6,000; Baltimore City Hospital, $20,000; St. Agnes' Hospital, Baltimore, $6,000; Home and Infirmary, Cumberland, $15,000; Maryland General Hospital, Baltimore, $16,000; Faculty of Physic, University of Maryland, $20,000; Hospital for Crippled and Deformed Children, Baltimore, $10,000; Provident Hospital and Dispensary, Baltimore, $3,000; Maryland Lying-in Hospital, Baltimore, $4,000; Peninsula General Hospital, Salisbury, $15,000; United Charities Hospital, Dorchester County, $15,000; St. Joseph's Hospital, Baltimore, $15,000; Franklin Square Hospital, Baltimore, $10,000; Baltimore Eye, Ear, Nose and Throat Charity Hospital, Baltimore, $15,000; Frederick City Hospital, $16,000; Northeast Dispensary, Baltimore, $1,500; Emergency Hospital, Annapolis, $10,000; Southern Dispensary, Baltimore, $1,000; West End Maternity Hospital, Baltimore, $4,000; Washington County Hospital Association, $12,000; Silver Cross Home for Epileptics, Port Deposit, $3,000; Union Protestant Infirmary, Baltimore, $16,000; Woman's Medical College, Baltimore, $2,400; Cecil County Union Hospital, $6,000; South Baltimore Eye, Ear, Nose and Throat Hospital, $2,500, and St. Luke's Hospital, Baltimore, $5,000. In addition to the above Johns Hopkins University receives $50,000, and the regents of the University of Maryland $32,000, also payable one-half annually for two years.

Baltimore.

Personal.—Dr. Louis J. Rosenthal sailed for Bremen March 20.——Dr. Howard A. Kelly was the guest of honor at a reception given by the Newcastle County (Del.) Medical Society March 17, after which he delivered an address on "The Relation of Art to Medicine and Surgery."

A Blow to Eddyists.—The so-called anti-christian science bill passed the senate March 19 by a vote of 21 to 5, having previously passed the house. Under the provisions of this act all eddyists are prohibited from practicing unless they have passed the regular medical examination, or eschew the acceptance of fees.

Arrested for Stealing Medical Books.—Edward B. Ernest, claiming to be a physician and a graduate of Heidelberg University, and to have practiced in Colorado and Nevada, was arrested for stealing medical and law books. Some books were found in his possession, of which he was trying to dispose. The man is about 55 years of age, well dressed and of good appearance.

MICHIGAN.

Communicable Diseases.—Many cases of typhoid fever are reported in St. Joseph and Benton Harbor.——The schools of Cottrellville have been ordered closed, on account of an epidemic of smallpox, and quarantine has been ordered.

Released on Parole.—Dr. Scott F. Hodge, Detroit, convicted in August, 1904, on the charge of malpractice in connection with the death of Anna Lehman by performing a criminal operation, and committed to the Ionia Reformatory a year later for a term of from six to nine years, was paroled and released March 1.

Antituberculosis Society Organized.—The Houghton County Antituberculosis Society was organized in Calumet, March 2. Among the physicians on the list of officers are the following: First vice-president, Dr. Henry M. Joy, Calumet; and members of the executive committee, Drs. Neil S. McDonald and William H. Dodge, Hancock; Dr. Robert B. Harkness, Houghton; Dr. West, South Range; Dr. Albert I. Lawbaugh, Calumet; Dr. Edwin T. Abrams, Dollar Bay; and Dr. Philip D. Bourland, Lake Linden.

January Vital Statistics.—During January, 3,097 deaths were reported to the department of the State Board of Health, equivalent to an annual death rate of 12.4 per 1,000 of population. This number is an increase of 330 over the preceding month, but a decrease of 238 from the corresponding month of 1907. Of the decedents, 540 were infants under one year of age; 173 were children aged from 1 to 5 years inclusive, and 1,065 were individuals 65 years and over. Among the important causes of deaths were: Pneumonia, 306; tuberculosis, 210; cancer, 156; violence, 149; influenza, 84; diphtheria, 44; scarlet fever, 33; typhoid fever and meningitis, each 32; infantile diarrhea, 30; whooping cough, 17, and measles, 11. One death from smallpox was reported during the month, and tetanus claimed 3 victims.

MINNESOTA.

Fraud Order Issued.—A fraud order is said to have been issued by the Postoffice Department against Ambraski Bros. and the National Distributing Agency for fraudulent use of the mails in disposing of certain medicines, for which it is charged that false claims were made.

Personal.—Dr. Ignatius Donnelly, Mankato, formerly of Butte, Mont., is said to be seriously ill with disease of the stomach.——George H. Christian, Minneapolis, has been reelected president of the Minnesota Branch of the National Society for the Relief and Prevention of Tuberculosis; Dr. Charles L. Greene, St. Paul, vice-president, and Dr. Henry M. Bracken, St. Paul, secretary-treasurer.——Dr. A. E. Ofstad, Minneapolis, was painfully cut and bruised in a collision between his automobile and a street car, February 27.——Dr. George W. Davis, Duluth, who recently suffered a stroke of paralysis, is reported to be improving.

NEW MEXICO.

Society Organized.—The physicians of Eddy County met in Artesia February 14 and organized the Eddy County Medical Society with Dr. F. E. Dunnaway as president, and Dr. J. Dale Graham, secretary, both of Artesia.

Hospital News.—Albuquerque is reported to be gravely in need of a properly equipped detention hospital for contagious diseases.——Albuquerque has been selected as a site for a sanatorium for tuberculosis, to be established by the Presbyterian Church of the United States at a cost, it is said, of $1,000,000.

City Physician Criticised.—The city physician of Albuquerque has been severely scored by the local surgeons of the Santa Fé System, who allege that the city physician has exceeded his authority in conducting fumigation in one of the recent smallpox cases in the city.——Another physician of Albuquerque alleges that the city physician had quarantined as smallpox a patient in whom the disease was not present.

Personal.—Dr. James B. Cutter, surgeon of the Santa Fé System, Albuquerque, has gone to Los Angeles to take charge of the general hospital of the system at that place. At a recent meeting of the Bernalillo County Medical Society a cut-glass bowl was presented to Dr. Cutter as a token of the esteem in which he is held by the members.——Dr. William A. Wilson, Willard, has been seriously ill with septicemia, but is now reported to be convalescent.

NEW YORK.

Hospital Wing Dedicated.—The new wing to St. John's Hospital, Long Island City, was dedicated recently. This structure cost $250,000, is 125 feet long by 60 feet wide and six stories in height, and has accommodations for 200 patients.

Personal.—Dr. Walter W. Hotchkiss, Jamestown, was severely burned by asphalt at his home, March 10.——Dr. M. P. Conway has been reelected president of the water board of Auburn.——Dr. George W. Goler has been reappointed health officer of Rochester, and Dr. Joseph Roby, deputy health officer.

Medical Club Election.—At the annual meeting of the Utica Medical Club, March 12, the following officers were elected: President, Dr. William S. Nelson; vice-president, Dr. John Groman; secretary-treasurer, Dr. Charles H. Baldwin, and trustees, Drs. Edwin Van D. Gazzam, William J. Schuyler and Morris J. Davies.

Communicable Diseases.—The smallpox situation in the town of Waterloo is reported to be improving and it is now believed that there will be no further outbreak of the disease. All but two of the closed district schools have been reopened.——There are now about 60 cases of measles reported in the vicinity of McGraw.——Measles is reported to be increasing in Binghamton.

The Optometry Bill.—The Medical Society of the State of New York has sent postal cards to all of its members in regard to the optometry bill which will soon be voted on. This bill authorizes opticians to fit glasses and denies them the right to use atropin. Oculists declare that this will result in great injury to children's eyes. The bill authorizes a board of examiners whose only qualifications shall be a knowledge of optics.

Oculists think this knowledge is not sufficient. Every legislator who votes for this bill, it is said, either votes in ignorance of the consequences or violates his oath of office. The members of the society are urged to write their respective assemblymen insisting that this bill shall be defeated.

New York City.

The Death of Roosa.—At a meeting of the board of directors and the faculty of New York Postgraduate Medical School and Hospital March 13, resolutions were unanimously adopted deploring the death of Dr. Daniel B. St. John Roosa, president of the board and institution.

Model Milk Depot.—The city has undertaken the erection of a milk depot for the distribution of pasteurized milk by the glass and in nursing bottles. This depot will be located in Tompkins square, in the midst of a densely populated area, and will be operated by Mr. Strauss. There will be a consultation room and full facilities for caring for babies.

Gibbs Prize Awarded.—The committee on the Gibbs prize essay, of which Dr. A. Alexander Smith is chairman, has announced to the trustees of the New York Academy of Medicine and the profession at large that the paper on "The Etiology, Pathology and Therapeutics of Diseases of the Kidneys," by Dr. Norman E. Ditman, has been awarded the prize.

Smallpox on Ocean Liner.—The steamer *Graf Waldersee* from Plymouth, which arrived in New York March 14, reported a case of smallpox on board. The boat was placed in quarantine, while the patient and the 197 passengers who occupied the same compartment and had been exposed to the disease, were transferred to Hoffman's Island for observation.

Many Cases of Contagious Diseases.—It is reported that all four of the city hospitals for contagious diseases are full, namely, Willard Parker, North Brother Island, and the Minturn and Kingston Avenue, and that there is a demand for accommodation, which can not be supplied. This is said to be chiefly on account of the unusual prevalence of scarlet fever and measles.

The Orthopedic Hospital.—During the past year the expenses of this institution have exceeded the receipts and the management is pledged to keep the institution free from debt. During the year just ended 18,000 visits were made to the dispensary; and in addition the hospital is overcrowded and new buildings are needed. Several bequests made during the year have been made the nucleus of an endowment fund.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended March 14, 1,643 cases of measles, with 27 deaths; 942 cases of scarlet fever, with 44 deaths; 434 cases of pulmonary tuberculosis, with 191 deaths; 322 cases of diphtheria, with 55 deaths; 37 cases of typhoid fever, with 9 deaths; 20 cases of whooping cough, with 2 deaths; 12 cases of cerebrospinal meningitis, with 12 deaths; 187 cases of varicella, and one case of smallpox, making a total of 3,598 cases, with 340 deaths.

Corporation Can Not Practice Medicine.—The Appellate Division is said to have affirmed the conviction of the John H. Woodbury Dermatological Institute, convicted and fined $100 in the Court of Special Sessions on a charge of unlawfully practicing medicine without legal authority. The counsel drew attention to the statutory construction of the law which provides that the term person includes a corporation and a joint stock company. This was the construction applied to this case in which the defendants claimed that there was no law against a corporation practicing medicine without a license.

NORTH CAROLINA.

January Deaths.—The mortuary reports for January show 320 deaths, of which 70 were due to pneumonia, 40 to tuberculosis, 36 to heart diseases, and 23 to brain diseases.

Prescriptions for Liquor.—During 1907 it is charged that the drug stores of Charlotte filled 39,645 prescriptions for liquor. Of these 35,011 were for quarts of whisky and 419 were for dozens of bottled beer. It is said that of the prescriptions, 3,997 were filled by one druggist and 3,691 by another.

Journal Merger.—The *North Carolina Medical Journal* and *Charlotte Medical Journal* have been merged in one publication, which will be known as the *Charlotte Medical Journal*. The company, which has been incorporated with an authorized capital of $25,000, has Dr. Walter O. Nesbit for president, and Dr. Edward C. Register for editor of the publication.

Personal.—Dr. S. Westray Battle, Asheville, has been elected resident physician to the Battery Park Hotel.——Dr. Robert B. Slocum, superintendent of the James Walker Memorial Hospital, Wilmington, for several years, has resigned, and will resume private practice.——Dr. Newton Craig has returned from New York, and will practice in Charlotte.——Dr. John C. Montgomery has been appointed a member of the medical staff of St. Peter's Hospital, Charlotte.——Dr. Louis W. Elias, Asheville, has been appointed physician of Biltmore Hospital, vice Dr. Lawrence E. Holmes, deceased.——Dr. Frank H. Russell, Wilmington, examining surgeon of the state board of medical examiners for the last five years, is about to remove to southern California on account of ill-health.——Dr. Thomas Stringfield, Waynesville, inspector general of the North Carolina National Guard, is making his annual tour of inspection.——Dr. C. A. Shore assumed on March 1 the duties of chief bacteriologist of the laboratory of the State Board of Health.

NORTH DAKOTA.

Communicable Diseases.—Scarlet fever, in mild form, is reported to be epidemic in Edmore.——The public schools of Starkweather have been closed on account of an epidemic of measles.

Hospital Notes.—St. Luke's Hospital, Fargo, was formally dedicated February 18. The institution has a capacity for 50 patients, and has cost with the furnishings about $51,000.——Plans have been submitted for the proposed insane hospital at Jamestown, to cost about $75,000.

December Deaths.—The Bulletin of the North Dakota State Board of Health reports 133 deaths during December, and contagious diseases as follows: Smallpox, 219 cases, with one death; diphtheria, 75 cases, with 8 deaths; scarlet fever, 45 cases, with one death; measles, 24 cases, with no deaths; tuberculosis, 16 cases and 15 deaths, and typhoid fever, 16 cases, with 3 deaths.

OHIO.

Personal.—Drs. Frank W. Gavin and Arthur Hill, Canton, have been elected delegates from the Stark County Medical Society to the State Medical Society.——Dr. John P. Gardiner has been made pathologist at the Toledo Hospital, vice Dr. Arthur T. Barnum, resigned.

Communicable Diseases.—The health department of Cincinnati announces a spread of cerebrospinal meningitis.——During the second week in March, 128 cases of measles were reported in Cleveland.——Smallpox, at first wrongly diagnosed as a mild skin eruption, is prevalent at Tippecanoe.

Hospital Opened.—The Emergency Hospital, Mansfield, was opened for general inspection, March 18. The institution, which occupies the Wagner Home, has been completely remodeled. A hot-water system has been installed, an operating room and a sterilizing outfit procured, thus giving the city a first-class hospital with accommodation for about 20 patients.

Medical Society Goes on Record.—At the regular meeting of the Miami County Medical Society, held in Piqua March 5, resolutions were adopted favoring the passage of the bill regulating the itinerant vending of medicines, nostrums, appliances, etc., and opposing the bill regulating the practice of optometry on the ground that it is dangerous to the welfare of the people of Ohio, that the treatment of the eye by means of lenses is a branch of regular medicine, and that a license to practice optometry after six months' study is dangerous to the patient and most unfair and unjust to regular practitioners of medicine.

OKLAHOMA.

Paroled.—Dr. John D. Irwin, Kaw City, who is serving a sentence of ten years on the charge of killing Alfred Mann in 1905, has been paroled.

Medical Bill Passed.—The senate committee of the whole on March 17 passed the bill introduced by Senator Johnson, creating a State Board of Health of three members, to serve three years, and to be appointed by the governor.

Personal.—Dr. Everett G. Newell, Yale, has been appointed superintendent of Oklahoma Asylum for the Insane, Fort Supply.——The malpractice suit against Dr. George E. Martin, Newkirk, in which $10,500 damages was asked, has been decided in favor of Dr. Martin.

Epidemic Diseases.—Influenza and smallpox are reported to be epidemic in and around Muskogee.——Pneumonia is prevalent around Hugo, where 6 deaths have occurred within three days.——Smallpox has made its appearance among the students of the University of Oklahoma at Norman.——On account of a case of supposed smallpox at Dougherty the schools have been closed for a week.——The schools of Arcadia, Harra and Newwalla have been closed on account of smallpox.——Malignant smallpox is reported at Coalgate.

Society Meetings.—Pursuant to call, the physicians of Pontotoc County met at Ada, February 7, and organized the Pontotoc County Medical Society, along the lines recommended by the American Medical Association. This society is the legitimate successor to the Sixteenth Recording District Medical Society. The following officers were elected: President, Dr. Charles S. Wilkerson, Roff; vice-president, Dr. Sidney M. Richey, Francis; secretary-treasurer, Dr. Charles W. McMillan, Ada; and censors, Drs. John A. Jeffries, Roff; C. A. Steward, Allen, and John R. Runyan, Ada.——The physicians of Ottawa County met at Miami, January 29, and organized the Ottawa County Medical Society with the following officers: President, Dr. Wm. L. McWilliams, Miami; vice-president, Dr. Joseph Donohoo, Afton; and secretary, Dr. Robert H. Harper, Afton.——On March 5 the practitioners of Texas County met at Guymon and organized the Texas County Medical Society on standard lines. The following officers were elected: Dr. James M. McMillin, Tyrone, president; Dr. William H. Langston, Guymon, vice-president, and Dr. Rutherford B. Hayes, Guymon, secretary-treasurer.——The physicians of the old Roger Mills County Medical Society met at Elk City, March 4, and organized the Beckham County Medical Society with the following officers: President, Dr. James McComas, and secretary, Dr. Harry O. Jones, both of Elk City.——The Lincoln County Medical Society has been organized at Agra by Drs. John W. Dunn, Fallis and others.

PENNSYLVANIA.

Hospital Notes.—The new City Hospital, Scranton, was formally opened with a public reception, February 19.——The Montefiore Hospital, Pittsburg, will be formally dedicated May 1. The institution will accommodate about 60 patients, and will have cost, when completed, $110,000.——The controversy between the trustees of the State Hospital, Mercer, and Dr. J. Clayton Weidman, physician in charge, was ended March 12, when the doctor, accompanied by the matron and 11 nurses and domestic employés, vacated the premises. Dr. Paul T. Hope, the new surgeon, has assumed charge of the institution.

Hospital Examinations.—The following examinations for positions of resident physicians have been announced: For the Mercy Hospital, Wilkesbarre, an examination for three resident physicians will be held in Wilkesbarre, April 18.——An examination will be held at the South Side Hospital, Pittsburg, April 18, to choose six internes—four to serve one year from July 1, and two from October 1.——An examination for two resident physicians for St. Luke's Hospital, South Bethlehem, will be held in the hospital building April 18.——An examination to fill three vacancies on the resident staff of the City Hospital, Wilkesbarre, will be held in the hospital April 10.

Officers Elected.—Warren County Medical Society has elected the following officers: President, Dr. Charles W. Schmehl, Warren; vice-presidents, Drs. George M. B. Bradshaw, Sugar Grove, and Hiram B. Russell, Sheffield; secretary, Dr. Leroy E. Chapman, Warren, and treasurer, Dr. Morris S. Guth, Warren.——At the annual meeting of the Carbondale Medical Society, March 17, Dr. John E. O'Brien was present by invitation and read a paper on "The Underlying Causes of Skin Diseases." The following officers were elected: President, Dr. John A. Kelly; vice-president, Dr. James J. Thompson; secretary, Dr. J. W. Grant; treasurer, Dr. Welles J. Lowry; censor, Dr. U. Grant Anderson, and librarian, Dr. Frank J. Wagner.

Personal.—Dr. George W. Berntheisel, Columbia, who recently underwent operation for disease of the eye in Philadelphia, has recovered, and will resume practice.——Dr. John Lubrecht, Hazelton, has been appointed resident physician at the Allentown Hospital.——Dr. Milton A. Hengst, Birdsboro, who was recently stricken with cerebral hemorrhage, is still in a serious condition.——Dr. Edgar M. Green has been elected president of the Easton Medical Society for the Study and Prevention of Tuberculosis.——Dr. Jonathan C. Biddle, for many years physician at the Miners' Hospital, Fountain Springs, has resigned, and will locate in Scranton.——Dr. John C. Sheridan is said to be seriously ill with uremia at his home in Johnstown.——Dr. Daniel Robinhold has been re-elected president of the Forty Foot board of health for a term of five years.——Dr. Charles J. Ellis, Pittsburg, has been appointed jail physician of Allegheny County, vice Dr. Archibald V. Chessrown, deceased.

Communicable Diseases.—An epidemic of scarlet fever is reported in Eldorado and vicinity.——An epidemic of measles has caused the closure of the schools of Tullytown.——Chickenpox, measles and mumps are said to be prevalent at Bethany Orphanage, Womelsdorf.——On account of the prevalence of measles the Saltsburg public schools have been closed.——Whooping cough is reported to be epidemic at Pennville.——The township school of Josephine has been closed on account of an epidemic of diphtheria.——On account of diphtheria the Conemaugh health board has ordered all schools, churches, theaters and other places of public gathering to be closed until further notice.——Diphtheria is reported to be epidemic at Alburtis.——The village of Sayre is alarmed over the presence of smallpox.——One room in a Johnstown school was closed on account of scarlet fever.——The public schools of Franklin, which had been closed for ten days on account of measles, have been reopened.——Millersburg reports 11 cases of smallpox.

Census of State Society.—The report of the Medical Society of the State of Pennsylvania, which was organized in 1848 and incorporated Dec. 20, 1890, shows that it is composed of 63 county societies with a total membership of 4,926, divided in counties as follows: Adams, 18; Allegheny, 623; Armstrong, 38; Beaver, 49; Bedford, 27; Berks, 97; Blair, 77; Bradford, 42; Bucks, 70; Butler, 46; Cambria, 74; Carbon, 17; Center, 35; Chester, 59; Clarion, 30; Clearfield, 48; Clinton, 16; Columbia, 33; Crawford, 33; Cumberland, 44; Dauphin, 101; Delaware, 66; Elk, 28; Erie, 64; Fayette, 84; Franklin, 55; Green, 25; Huntingdon, 31; Indiana, 45; Jefferson, 59; Juniata, 11; Lackawanna, 144; Lancaster, 137; Lawrence, 45; Lebanon, 21; Lehigh, 81; Luzerne, 129; Lycoming, 85; McKean, 42; Mercer, 59; Mifflin, 31; Monroe, 27; Montgomery, 86; Montour, 20; Northampton, 88; Northumberland, 25; Perry, 20; Philadelphia, 1,188; Potter, 21; Schuylkill, 73; Snyder, 21; Somerset, 27; Sullivan, 10; Susquehanna, 34; Tioga, 31; Union, 17; Venango, 48; Warren, 41; Washington, 113; Wayne, 24; Westmorland, 104; Wyoming, 12; York, 77.

Philadelphia.

Interne Examinations.—The annual examination for resident physicians to the Jewish Hospital, Philadelphia, will be held at the hospital April 2.——The Methodist Hospital examination for internes will be conducted at the hospital April 6.

Convicted of Malpractice.—Elizabeth Salvo is said to have pleaded guilty to the charge of criminal malpractice February 11, and to have been sentenced to be imprisoned for three years in the Eastern Penitentiary and to pay a fine of $500.

Physicians Organize.—The Postgraduate Academy of Northeastern Philadelphia has recently been organized in Frankford with the following officers: President, Dr. Elmer E. Keiser; vice-president, Dr. Richard C. Allen; secretary, Dr. Albert C. Buckley; and treasurer, Dr. George C. Hanna.

Cleared of Serious Charge.—Dr. Charles H. Johnson, charged with having performed a criminal operation which resulted in the death of Miss Helen Thorpe, was released March 19, the jury finding that Miss Thorpe came to her death from a criminal operation performed by a person or persons unknown.

Bequests.—In the will of the late William B. Scott there is a bequest of $25,000 to St. Christopher's Hospital. Should his two sons die without issue, the remainder of the estate, placed in a trust fund, is to be divided between the Children's Seaside Home, Atlantic City, $25,000; the Bryn Mawr Hospital, $25,000 and the residue to St. Christopher's Hospital.——The will of the late Anna M. Knight makes bequests of $5,000 to each of the following institutions: The Philadelphia Orthopedic Hospital, the Philadelphia Home for Incurables, the Industrial Home for Blind Women and the Pennsylvania Society to Protect Children from Cruelty.

Personal.—Dr. Charles J. Hatfield, president of the Pennsylvania Society for the Prevention of Tuberculosis, was stricken with appendicitis March 12 and was promptly operated on, and is reported to be doing well.——Dr. B. Franklin Royer severed his connection with the Municipal Hospital March 19 and has resumed practice at 35 West Nineteenth Street.——Dr. George P. Weaver, who has been ill at his home, suffering with blood poisoning, had his right leg amputated below the knee March 20.——Dr. James H. McKee, clinical professor of pediatrics in the Woman's Medical College of Pennsylvania, has resigned, to take effect at the close of the present session.

Health Report.—The total number of deaths reported for the week ended March 21 aggregated 531. This is an increase of 4 over the preceding week and an increase of 84 over the corresponding period of last year The principal causes of death were: Typhoid fever, 15; measles, 5; scarlet fever, 6; pertussis, 5; diphtheria, 11; consumption, 65; cancer, 25; apoplexy, 16; heart disease, 37; arteritis, 10; acute respiratory disease, 91; enteritis, 12; hepatic cirrhosis, 7; appendicitis, 3; Bright's disease, 40; premature birth, 11; congenital debility, 11; suicide, 2; accidents, 17, and marasmus, 13. There were 288 cases of contagious disease reported, with 34 deaths, as compared with 255 cases and 28 deaths reported in the preceding seven days.

Baby Traffic Investigation.—The Women's Directory, an organization which supplies legal advice and aid to applicants, has determined to fight a form of traffic in infant life that has apparently succeeded the baby farm. There are scattered in various sections of this city women who advertise under the general caption "Babies Adopted." These persons, for a consideration, usually about $20, assume charge of undesired babies and theoretically find homes for them. As a rule, they receive infants in the first few weeks of their lives from girls and women, who are eager to avoid notoriety. No questions are asked and, in most instances, the subsequent fate of the child is unknown. The directory plans to open a general campaign to bare the practices of the women engaged in this work.

Hospital News.—A clinic for mental diseases was instituted in the Orthopedic Hospital and Infirmary for Nervous Diseases, February 20. The new clinic is in charge of Dr. Charles W. Burr.——The new building of the Garretson Hospital, in Hamilton Street near Eighteenth, was dedicated March 2.——The new Frankford Hospital, at Franklin Avenue and Wakefield Street, was formally dedicated February 25. Drs. B. Frank Walters and Samuel Bolton delivered addresses on behalf of the hospital staff.——The report of the Mount Sinai Hospital for February shows that 63 patients were admitted and that 1,036 new patients were treated in the dispensaries and 239 patients were cared for in the emergency ward. The total number of visits made to the out-patient department reached 3,921.

Report of Hospital.—At the annual meeting of the Free Hospital for Poor Consumptives, held March 10, the following officers and managers were elected: Dr. Lawrence F. Flick, president; Lewis Gerstley, vice-president; Charles W. Welsh, secretary; Edward A. Miller, treasurer; James M. Wilcox, Talcott Williams, Dr. Charles J. Hatfield, Dr. D. J. McCarthy, Dr. Joseph Walsh, Dr. William B. Stanton, R. George Buchanan, John F. Craig, Dr. Richard H. Harte and Joseph M. Engel. The report of the secretary showed that there have been 805 patients at White Haven during the year, and but 6 deaths. There have been 200,270 quarts of milk used at the resort during the year and 353,928 eggs, the total cost of milk and eggs being $17,016.64. The cost of maintenance per patient per week has averaged $7.22. The report shows that only 235 patients have made no improvement.

RHODE ISLAND.

Oppose Optometry.—The Rhode Island Medical Society and a number of subsidiary societies have adopted resolutions opposing the act creating a state board of optometry.

Society Meeting.—At the annual meeting of the Westerly Medical Society Dr. Frank C. Pagen was elected president; Dr. William A. Hilliard, secretary; Dr. J. Howard Morgan, treasurer; and Drs. Edwin R. Lewis, Samuel C. Webster and J. Howard Morgan, censors.

Fined for Illegal Practice.—Louis Hirsch, Providence, was arraigned before Judge C. M. Lee March 13, on the charge of practicing medicine and surgery without a license, is said to have pleaded guilty to the charge, to have been fined $50 and costs, to have paid the fine and to have been released.

Personal.—Dr. William C. Monroe has been chosen as secretary of the medical board of the Woonsocket Hospital Corporation.——Dr. Charles Barnard has been endorsed for reelection as medical examiner for North Providence and Smithfield, and Dr. Jay Perkins as medical examiner for Providence.

SOUTH CAROLINA.

State Society Meeting.—The South Carolina Medical Association will hold its annual convention at Anderson, April 14 to 17 inclusive, under the presidency of Dr. Le Grande Guerry, Columbia.

Personal.—Dr. Francis L. Parker, Charleston, has been placed in charge of the analysis of foods and drugs for the State Board of Health.——Dr. William H. Woods, Turbeville, has been chosen delegate to the state association from the Clarendon County Medical Society.——Dr. J. Somers Buist, Charleston, who suffered a cerebral hemorrhage January 8, is reported to be improving.

Society Meetings.—At the annual meeting of the Fourth District Medical Society, held in Anderson, Dr. Hugh R. Black, Spartanburg, was re-elected president, and Dr. Edgar A. Hines, Seneca, secretary. Seneca was selected as the next place of meeting.——At the annual meeting of the Aiken County Medical Society the following officers were elected: Dr. Holsenbach, Graniteville, president; Dr. Charles A. Teague, Graniteville, vice-president; Dr. Harry H. Wyman, Aiken, secretary-treasurer; and Drs. Theodore A. Quattlebaum, W. Albert Whitelock, Kitching's Mills, and H. J. Ray, censors.——At the annual meeting of the Lexington County Medical Society, held in Lexington, Dr. Frank R. Geiger, New Brookland, was elected president; Dr. R. H. Timmerman, Batesburg, vice-president, and Dr. James J. Wingard, Lexington, secretary-treasurer.——At the annual meeting of the Florence County Medical Society, held in Florence, Dr. Albert G. Eaddy, Timmonsville, was elected president; Dr. Edward M. Allen, Florence, vice-president, and Dr. W. E. Mills, Timmonsville, secretary-treasurer.

WISCONSIN.

Election.—At a meeting of the Fox River Valley Medical Society, held in Appleton, March 3, Dr. Henry W. Abraham, Appleton, was elected president; Dr. Joseph H. Doyle, Little Chute, vice-president; Dr. Manly J. Sandborn, Appleton, secretary-treasurer; and Dr. James S. Reeve, Appleton, censor.

Personal.—Dr. Leonard E. Spencer, Wausau, has been reelected a member of the State Board of Health.——Dr. Paul A. Fox, Beloit, sailed from New York for the Mediterranean, March 7.——Dr. Eugene Chaney, for ten years a member of the staff of Mendota State Hospital, has resigned, and will become first assistant at the Dewey Sanitarium, Wauwatosa.

Hospital News.—Mrs. E. P. Allis and Charles Allis, Milwaukee, have sent a check for $2,000 to the Blue Mound Sanitarium for Tuberculosis, for the construction of a new pavilion for men, to be called the Allis pavilion and to accommodate eight or ten patients.——The new hospital at Columbus has been completed and is ready to receive patients. The building is of brick and two stories and a basement in height.

Defense Against Malpractice Suits.—Dr. Gilbert E. Seaman, Milwaukee, has been elected chairman of a committee of the council of the Wisconsin State Medical Society, created for the protection of members of the organization against malpractice suits. Dr. Arthur J. Patek, Milwaukee, has been elected secretary of the committee. The purpose of the committee is to obtain the necessary funds, and to employ the best legal talent for the defense of any member of the society needing such services.

Found Guilty of Malpractice.—Dr. Edward C. Schnittker, Milwaukee, charged with having performed a criminal operation, which caused the death of Miss Anna Severson, is said to have been found guilty of manslaughter in the second degree, February 7, and ten days later was sentenced to four years' imprisonment in the state penitentiary. After pronouncing sentence, the judge also revoked Dr. Schnittker's license to practice medicine. A plea for a stay of execution was denied, and the sentence began at noon February 17.

Illegal Practitioner Sentenced.—John Till, a so-called "healer" of Somerset, charged with practicing medicine without a license, is said to have been found guilty, at Glenwood, February 26, and sentenced to pay a fine of $100 and costs, and to be imprisoned three months in the county jail. An appeal was taken by the defendant's attorney, and the defendant was released on a $500 bond. It is said that Till immediately resumed practice, and that nearly 200 patients came to him at Somerset for treatment the day after his release.

TEXAS.

Society Meetings.—At the annual meeting of the Guadalupe County Medical Society, held in Seguin, February 18, Dr. Samuel S. Beakley was elected president; Dr. Asa M. Stamps, vice-president; Dr. James Greenwood, secretary; Dr. R. F. Knolle, delegate to the state society, and Dr. Oscar G. Pearson, censor, all of Seguin.——At the annual meeting of the Wharton-Jackson Counties Medical Society, held in Wharton, February 21, the following officers were elected: President, Dr. Walter B. Hucy, El Campo; vice-president, Dr. Green L. Davidson, Wharton; secretary-treasurer, Dr. A. L. Lincecum, Louise; censors, Drs. William A. McCamley, Wharton, and William H. Lancaster, Ganado; and delegate to the state medical association, Dr. Judson M. Andrews, Wharton.

GENERAL.

No Plague in Hawaii.—During the week ended February 15, 184 rats were examined bacteriologically at the plague laboratory of the P. H. and M.-H. Service, Honolulu, and during the week ended February 22, 134 rats were examined. No plague infection was found.——A steamer which arrived in Honolulu from Hongkong February 28, was found to have a case of varioloid aboard. The patient and 100 steerage passengers were placed in quarantine, the steerage and other quarters were disinfected, and the usual quarantine rules were carried out.

Cuban Yellow Fever Report.—Acting Assistant Surgeon Marsillan, P. H. and M.-H. Service, reported from Cienfuegos, March 2 and 9, that on February 28 all cases of yellow fever at Santa Clara had been removed save one, an American soldier, who had died. No new cases have been reported in the city since January 24.——Acting Assistant Surgeon Thomas, Havana, reports that on March 9 no new yellow fever cases had been reported. Similar reports were made under date of March 3 and 9 from Matanzas.——Acting Assistant Surgeon Wilson reports from Santiago, March 3 and 4, that the case of yellow fever reported in that city February 20 was declared recovered.

Philippine Islands Report.—During the week ended January 18 Chief Quarantine Officer Heiser of Manila reports that there were 73 cases of cholera, with 59 deaths, an increase of 28 cases, with 24 deaths, over the numbers reported for the preceding week.——In Mariquina Valley 45 cases and 23 deaths were reported. For the preceding week only 3 cases and 2 deaths occurred.——During the week ended January 25, there were 45 cases of cholera and 37 deaths at Manila. During the week ended February 1, 13 cases of cholera occurred, with 10 deaths.——An increase was reported in the cases in the province of Zambales, where 158 cases and 108 deaths were said to have occurred.——Two steamers have recently arrived from Japan with smallpox patients on board. The passengers were thoroughly disinfected; all persons on board were bathed and their quarters disinfected in the usual manner.

Hodgkins Fund Prize.—Secretary Charles D. Walcott of the Smithsonian Institution announces that in connection with the approaching International Congress on Tuberculosis in Washington, Sept. 21 to Oct. 12, 1908, a prize of $1,500 from the Hodgkins Fund is offered for the best treatise on "The Relation of Atmospheric Air to Tuberculosis." Essays having relation to the cause, spread, prevention, or cure of tuberculosis are included within the general terms of the subject. Any previously unpublished essay read before the International Congress on Tuberculosis, or sent to the Smithsonian Institution or to the secretary general of the congress before its close, namely, Oct. 12, 1908, will be considered in the competition. Address either the Smithsonian Institution, Washington, D. C., or Dr. John S. Fulton, secretary general of the International Congress on Tuberculosis, 714 Colorado Building, Washington, D. C.

Coming Meetings.—The National Association of United States Pension Examining Surgeons will hold its seventh annual meeting at the Palmer House, Chicago, June 1, at 10 a. m., under the presidency of Dr. G. Lane Taneyhill of Baltimore. The new medical referee, Dr. Charles F. Whitney, Washington, and the pension commissioner, Hon. Vespasian Warner, have been invited to address the association.——The Association of Surgeons of the Confederate Army and Navy will hold its annual reunion in June, at Birmingham, Ala., and their entertainment is made the special care of the Jefferson County Medical Society.——The headquarters of the American Medico-Psychological Association, the meeting of which has already been announced at Cincinnati, May 12 to 15, will be at the Hotel Sinton. Dr. Charles P. Bancroft, Concord, N. H., is president of the association, and the preliminary program shows a number of interesting papers.

Health of the Canal Zone.—In the report of the department of sanitation of the Isthmian Canal Commission for January, Dr. W. C. Gorgas, chief sanitary officer, notes a considerable decrease in the death rate among employés, the December death rate being 18.11 per 1,000 per annum and the January death rate 12.72. The decrease in the mortality is most marked among negroes. The death rate of Panama for January, 1908, was 37.68 per 1,000, which compares favorably with 41.93 per 1,000, the rate for 1907. In Colon a still greater decrease was noted, as in January the death rate was 29.85 per 1,000 as compared with 46.78 per 1,000 in January, 1907. For the entire Canal Zone the death rate for January was 19.43 per 1,000, while in January, 1907, it was 27.41 per 1,000. The decrease in the amount of malaria is marked. In January, 1907, there were admitted to the hospitals 1,813 cases of malaria, while in January, 1908, 642 cases were admitted; that is, with an increased force of 1,200 men, the cases of malaria were decreased about two-thirds. No case of yellow fever has occurred in the Canal Zone since May, 1906, and while the plague is prevalent north and south on the Pacific Coast, no case has occurred in the zone since 1905.

Food Adulteration Congress.—The first International Congress for the Repression of the Adulteration of Alimentary and Pharmaceutical Products will be held in Geneva, Switzerland, in September, 1908. The plan for the first meeting is an exhibition of unadulterated food products, and the subject for consideration at this time will be "The Defining of Unadulterated Food." In every case definition will be the basis of the decision, thus establishing a *codex alimentarius.* It is desired by the committee of organization that manufacturers, chemists and lawyers who are interested in this question should unite in forming these definitions. Dr. Harvey W. Wiley, Washington, D. C., has been asked to organize an American committee and to associate with him those in the various states who have charge of the application of the drug and food laws. The dues are $20 for donating members, $4 for nominal members and $2.50 for associate members. It is particularly desired that as many as are able submit definitions for food and drug products, as it is profitable to accumulate as much material as possible to establish a broad basis for decisions. Papers on food and drug products are also solicited and may be sent directly to the proper sections or forwarded to Dr. Wiley for transmission. It is hoped that a large membership in the congress may be secured from the United States. The official languages of the congress are English, French, German and Italian, and the office of the secretary-general is at 42 Rue du Rhône, Geneva.

CANADA.

Drug Clerk Fined.—Frank Richardson, Toronto, a drug clerk, is said recently to have been fined $25 and costs, or imprisonment of one month in jail for violation of the medical act. He is said to have prescribed for a detective, who complained of neuralgia and insomnia.

Communicable Diseases.—The schools of Port Dalhousie were closed February 25 on account of the prevalence of scarlet fever.——Scarlet fever is said to be very prevalent at St. Catherines.——Smallpox is reported to be epidemic in several of the southern counties of New Brunswick.——During 1907, 1,860 cases of smallpox were reported in Nova Scotia, with 5 deaths.

Personal.—At the annual election of the British Columbia Medical Council, February 15, Drs. Simon J. Tunstall, Vancouver, and William H. Sutherland, Revelstoke, were elected to replace Dr. John C. Davie, Victoria, and Dr. William J. McGuigan, Vancouver.——Dr. Hugh L. Dickey, medical examiner at the port of Halifax, N. S., has, it is said, been dismissed on account of alleged irregularities in passing immigrants, and Dr. Murdoch Chisholm has been appointed in his stead.——Dr. John H. Cormack has been appointed secretary of the St. Thomas (Ont.) Medical Association, vice Dr. Archibald Leitch, retired.——Drs. John S. Matheson, Logan M. Moore, John L. McDiarmid, John A. McDonald, E. Charles Beer, George E. McKenzie, McGilliway S. Fraser, James J. Anderson and Victor E. Latimer have been re-elected the medical staff of the Brandon (Man.) General Hospital.——Dr. John W. Peaker, Toronto, is said to be seriously ill with rheumatism.——Dr. David H. Arnott, London, was seriously injured in a runaway accident March 12.——Dr. William W. Ogden, Toronto, has been elected chairman of the board of education.

Society Meetings.—The Niagara District Medical Association at its annual meeting at Niagara Falls, Ont., March 15, elected Dr. Fred S. Greenwood, St. Catherines, president; Drs. James H. McGarry, Niagara Falls, and Jacob H. Howell, Welland, vice-presidents; and Dr. Norman Walker, Niagara Falls, secretary-treasurer.——At the second annual meeting of the Manitoba Medical College Alumni Association, held in Winnipeg recently, Dr. Gordon Bell, Winnipeg, was elected president; Dr. James W. Armstrong, Gladstone, vice-president, and Dr. John E. Coulter, Winnipeg, secretary-treasurer (re-elected).——At the annual meeting of the St. Thomas (Ont.) Medical Association Dr. Frank Lawrence was elected president; Dr. Frederick Guest, vice-president; Dr. Archibald Leitch, secretary; Dr. Archibald C. Campbell, treasurer, and Dr. James D. Curtis, librarian.——At a recent meeting of the physicians of Wellington County the Wellington County Medical Association was organized, with the following officers: President, Dr. Alexander Stewart, Palmerston; vice-president, Dr. William O. Stewart, Guelph; secretary, Dr. E. Flath, Drayton, and treasurer, Dr. James Lindsay, Guelph.——At a recent meeting of the medical men of Waterloo County, held in Galt, the Waterloo County Medical Association was organized, with the following officers: President, Dr. James S. Wardlaw, Galt; vice-president, Dr. Robert J. Lockhart, Hespeler; secretary, Dr. William S. Dakin, Galt, and treasurer, Dr. Woolner, Ayr.——The eighth annual meeting of the Canadian Association for the Prevention of Tuberculosis was held in Ottawa, March 17 and 18. It was shown that the association had been instrumental during the past year in projecting sanatoria as follows: One in British Columbia; one to be erected this spring in Manitoba; one for Saskatchewan; one for Alberta; in London; and Lanark and Renfrew counties, Ontario, have decided to build one each. Dr. P. H. Bryce of Ottawa delivered an address on "The Tuberculous Immigrant," and Dr. J. E. Laberge of Montreal read a paper on "Some Civic Aspects of the Tuberculosis Problem." The association has decided to appoint a medical secretary for organization work and delivering lectures. Mr. H. H. Miller, M.P., was elected president. The next annual meeting will be held in Hamilton, Ont. A resolution was adopted calling on the Dominion government to establish a department of public health.

FOREIGN.

Prohibition of Salicylic Acid as a Preservative in Germany.—The German government has prohibited the further use of salicylic acid as a preservative.

Personal.—Dr. John B. Hellier has been appointed professor of obstetrics in the University of Leeds, to succeed Professor Wright.——Dr. E. O. Cott has been appointed lecturer on diseases of women, to succeed Dr. Hellier.

Medical Study Trip.—About a hundred students and assistants at the University of Leipsic visited Hamburg recently, under the leadership of Professor Curschmann, and inspected the medical and sanitary institutions of the great seaport.

The Smallpox Epidemic in Japan.—Passed Assistant-Surgeon Cummings reports from Yokohama that smallpox is still spreading rapidly; the outbreaks at Tokio and at Yokohama are unusually severe. No such outbreak has been known in Japan for fifteen years.

Fourth International Congress on Thalassotherapy.—This fourth international gathering to discuss the treatment of disease by sea air, sea bathing and sea voyages is to be held at Abbazia, "the Nice of the Adriatic," in Austria, the last three days of September, 1908.

Institute for Physical Diagnosis.—An institution for diagnosis by Roentgen processes, the sphygmomanometer and tonograph, electrocardiograms, etc., has recently been opened in Berlin where physicians can have their patients examined and labeled "while you wait."

Eightieth Birthday of Red Cross Founder.—May 8 will be the eightieth birthday of Henri Dunant, the founder of the Red Cross and the main promoter of the Geneva international conference in 1864. He is said to be living in poverty near Geneva, as he devoted all his property to the propaganda of the Red Cross, and the Nobel prize he received in 1901 was spent in paying debts thus acquired.

Prize for Protection Against the Tsetse Fly.—The president of the German Colonial Society, Duke Johann Albrecht zu Mecklenburg, announces that a prize of 6,000 marks ($1,500) will be awarded to any one who can suggest a means by which cattle can be protected against the bites of the tsetse flies while they are being taken through a region infected with these flies. The measure proposed must be applicable on a large scale.

Nostrum Manufacturer Fined at Berlin.—The Berlin Medical Chamber recently instigated proceedings against a man named Glück on account of the extravagant claims made in his advertisements for his remedy, "Glück's tea." In the course of the suit he stated that he had had 2,600 customers last year and that his net profits had been considerably over $5,000. He was sentenced to four weeks' imprisonment and a fine of about $400.

Hygienic Conferences for Barbers.—The Italian board of health has organized a course of lectures and practical demonstrations for barbers to be held at Rome and Florence, to give them an outline of the principles of anatomy, physiology and general hygiene of the skin, scalp and beard, also the recognition of the most common affections of these organs and tissues, and to train the barbers in means to protect themselves and their clients against contagious affections of the kind.

Prize for Best Work on Industrial Affections.—The permanent international committee for the study of professional affections offers a prize of $100 for the best work on some professional affection, especially one that is widespread in a given region. Communications must be in the hands of the secretary before Oct. 31, 1908. Address the "Presidenza della Commissione per lo Studio delle Malattie Professionali," via Monforte 14, Milan, Italy. Medals will be awarded for the second and third best works received.

Nostrums in Germany.—The *Allg. med. Ct.-Ztg.*, February 22, states: "The police have arrested the principal party, an American, who resided in a princely residence at Schmargendorf, near Berlin, and have thus broken up a secret medicine swindle which has been carried on on a large scale. This was the center from which a large aggregate of articles alleged to be for the common good of mankind have been distributed, among them 'Prof.' Keith Harvey's cure for deafness, the oxien preparations for heart disease, 'Prof.' Dana's asthma cure, remedies for 'loss of vigor,' the mystic 'Maxim planchette,' and others."

End of Suit Against Medical Paper for Alleged Slander.—THE JOURNAL published Dec. 14, 1907, page 2016, an account of the suit brought against the *München. med. Wochschr.* by Dr. H. Fischer of Berlin, who objected to the editorial criticism of his serving as assistant to a well-known quack. Notwithstanding that ample evidence was offered as to Fischer's unethical behavior and his abuse of the medical profession, the court decided in his favor, allowing damages of $25 and assessing the costs on the defendant. The case was appealed; the decision of the higher court, February 10, while admitting that Fischer had ground for complaint, reduced the damages to $7.50 and assessed him for two-thirds of the costs.

Opportunities for Postgraduate Work at Düsseldorf.—Prof. O. Witzel is chief of the newly organized Academy for Practical Medicine at Düsseldorf, and informs the profession in this country that foreign physicians are welcome at the clinics and institutes there as collaborators for a shorter or longer period. There are institutes for pathologic anatomy and experimental therapy, and clinics for surgery, gynecology, obstetrics and children's diseases. The courses are free to all except for a registration fee of about $1.25. A four weeks' postgraduate course for practitioners is announced to begin May 4, and another September 28, with bedside lectures and demonstrations in the clinics two afternoons during the semesters, with special work in the clinics and institutes during the entire year.

Opposition to Philanthropic Milk in Paris.—A few months ago Baron Henri Rothschild of Paris inaugurated the sale of sterilized milk at various stations at less than cost price to the poor—his innovation being founded on the similar work that has been done in New York by the philanthropist Strauss. The Paris milk dealers, however, have presented an organized opposition to this "philanthropic milk," and brought suit against Rothschild, alleging dishonest competition in the sale of milk, and demanding that the authorities put an end to the sale of the "philanthropic milk." The courts have now decided in favor of the milk dealers, we are informed, and the sale of the philanthropic milk is forbidden under penalty of a fine of $10 a day. Rothschild retired from the work some time ago, but it has been kept up by others since.

Antiquackery Lectures.—The professors of the medical faculty of the University of Göttingen have inaugurated a series of public lectures to educate the public in regard to the dangers of quackery. The first lecture was on the theme: "Medical Science and Quackery," and was presented in turn by three professors before a very large audience composed of all classes of society. A local daily paper had been commenting on the spectacle of the thousands flocking to the "miracle doctors," passing by the very gates of the university. The three Ausmeier brothers boast that they have more clients than all the professors together, although the Ausmeiers were only cabinet makers or cigar sorters before they began to treat the sick. The *Allg. med. Ct.-Ztg.* comments, however, that it is quite a question whether the antiquackery lectures will do any good.

Contract Practice in France.—Recent legislation on industrial accident insurance in France provides that injured workmen can have their "free choice" of a physician—the "American plan," as it is called. The insurance companies always oppose this "free choice," and lately they have been accumulating evidence which shows that a few young physicians have been conspiring with malingering workmen to defraud the companies. The national medical syndicate has officially requested the ministry of justice and labor to appoint a committee of delegates from the syndicate and from the insurance companies to investigate the cases in question, and also to examine into the way in which the insurance companies frequently succeed in evading the regulations in respect to "free choice." An editorial on the subject in the *Progrès méd.* remarks that although the medical profession does not have the monopoly of honesty, yet almost its entire membership is entitled to respect and confidence, and that the few black sheep are not always to be found in the lower ranks. The problems involved in industrial accident insurance are being worked out now in Germany and France, and the medical press devotes much space to them. Courses for postgraduate instruction in various aspects of medical work, the making out of certificates, the question of ultimate indemnity, etc., are now being held regularly in Germany.

International Congress on Tuberculosis.—The national committee for France is composed of Dr. Louis Landouzy, Paris, president; Drs. Faisans, F. Bezançon and Le Gendre, vice-presidents; Drs. Triboulet, secretary-general of the last International Congress; Nobécourt and Léon Bernard; Dehand and Georges Bourgeois, secretaries, and M. Masson, treasurer.——The secretary of the German committee is Dr. Johannes Nietner, secretary-general of the recent International Congress on Hygiene and Demography, and other members of the committee are: Dr. Gotthold Pannwitz, secretary-general of the International Tuberculosis Association; Drs. Fränkel, Ernst von Leyden and Johannes Orth.——Dr. P. K. Pel, Amsterdam, is chairman of the committee for Holland, and Dr. W. J. von Gorcum, The Hague, secretary, and Dr. N. P. Tenderloo, Leyden, a member.——The Venezuelan committee is composed of Dr. A. Herrera Vegas, Caracas, chairman; Dr. P. Acosta Ortiz, Vargas, vice-president, and Dr. L. Razetti, vice rector of the University of Venezuela and permanent secretary of the National Academy of Medicine, is also a member.——The Brazilian committee consists of Dr. J. J. Azevedo Lima, Rio de Janeiro, president of the Brazilian Antituberculosis League; Dr. Oswaldo Cruz, director general of the Department of Public Health; Dr. J. J. Seabra and Dr. Cypriano de Freitas of Rio de Janeiro.——The president of the Cuban committee is Dr. Guiteras, Havana; the vice-president, Dr. J. L. Jacobsen, president of the Cuban Antituberculosis league, and the secretary, Dr. M. G. Lebredo, Havana. Two of the members of the committee are Dr. Aristides Agramonte, the last surviving member of the famous yellow fever commission, and Dr. Carlos J. Finlay of Havana.——The chairman of the committee for Greece is Dr. B. Patrikios, secretary of the State Department of Health; the secretary, Dr. Aristote Kouzis, Athens, and Drs. Constant Savas, physician to the king and professor of hygiene in the University of Athens; P. Manoussos, director-in-chief of the Athens Military Hospital; Kalliontzis, professor of surgery; and Pierre J. Rondopoulo, professor of pathology in the University of Athens.——The Hon. Otto von Printzkold is chairman of the Swedish committee, and Dr. Bertil Buhre, president of the Swedish Antituberculosis League, is secretary.——The Costa Rican committee has named Dr. Louis P. Jiminez, chairman; and Dr. Teodoro Picado, secretary; and Drs. Teodoro Prestinary, Benjamin Hernandez and Marcos Zunega, all of San José, are members.——Three chairmen have been named by the Austrian committee: Prof. Leopold von Schrötter, and Drs. Weichselbaum and Richard Paltauf, of the University of Vienna, and secretaries, Drs. H. von Schrötter, L. Teleky and J. D. Bartel.——Dr. M. Rousseff, director of the Department of Health of Sofia, is president of the Bulgarian committee; Dr. Ivan Oggnianoff, secretary of the Superior Board of Health, Sofia, secretary, and the members include Drs. Georghi Zolotovitch, Ivan Theororoff, director of the Sanatorium for Tuberculosis, Trojan, and Dr. S. A. Valcovitch.

LONDON LETTER.

(From Our Regular Correspondent.)

London, March 11, 1908.

Tuberculosis in the British Army.

The British war office committee on tuberculosis in the army believes that the disease can be combated by the use of civil sanatoria at the cost of $100,000 a year. The present method of sending a man to the military hospital and then discharging him from the army as soon as he is fit to travel has long been regarded as harsh. The proposed regulation will need the approval of the authorities, but the committee is very strong. The nation is concerned in the loss of wage-earning power which is meant by throwing the unfit on to the labor market, and the records of sanatoria seem sufficiently good to offer encouragement to prompt action.

Sanatoria for Postoffice Employés.

Postoffice employés suffering from consumption are to be provided with sanatoria. Mr. Buxton, the British postmaster general, replying to a question in the House of Commons on this point, said that while there is no fund at his disposal out of which support could be given to a voluntary scheme, he has sanctioned contributions to the building fund of the sanatorium from accumulated fine funds in certain postoffices.

Goat's Milk and Malta Fever.

Since the prohibition of the use of goats' milk, Malta fever has decreased in a remarkable manner in the island of Malta. The number of cases of Malta fever occurring among the British troops in Malta and the number of deaths during the years 1905, 1906 and 1907, were respectively: n 1905, 643 cases, 18 deaths; in 1906, 191 cases, 6 deaths; in 1907, 11 cases, one death. The reduction in the number of cases among the troops in Malta is solely attributed to the prohibition of the use of goats' milk in barracks and hospitals. Protective inoculation has not been used for the troops. The disease, according to information received from the board of health in Malta, continues to prevail among the native population, without any change or abatement.

Milk Supply of Ireland.

An order of the British local government board issued recently contains important regulations relating to dairies, cowsheds and milk shops in Ireland. An important provision of the order is as follows: "Every purveyor of milk or person selling milk by retail shall take all reasonable and proper precautions in connection with the storage and distribution of milk and otherwise to prevent the exposure of the milk to infection or contamination. Persons suffering from pulmonary tuberculosis or any other infectious disease are prohibited from handling milk vessels or assisting in the sale of milk."

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, March 10, 1908.

Society for the Suppression of Venereal Disease.

The Austrian Society for the Suppression of Venereal Disease is now holding its second annual meeting. The session will continue throughout the entire month of March, each day being devoted to the discussion of a different question. The questions of the importance of venereal diseases and of their spread and extent will be discussed by medical men only. The causes of the spread of venereal diseases will be the subject of discussion not only by physicians but by such members of the laity as are competent to speak on the subject. Prostitution, both private and public, will be spoken of by police officials, judges and others. The question of instructing the adolescent in sexual matters will be one of the important subjects brought up at this meeting, and teachers as well as physicians will enter into its discussion.

The Winter Term at the University.

The winter term at the university has just come to an end and the vacation of four weeks is now on. Most of the students return to their homes for this period except, of course, the Americans, of whom at present there are over eighty. As a rule, most of the American postgraduate men obtain a position in the clinics or wards as externes, after having taken several courses with the professors or their assistants. American physicians can be met both in the Polyclinic and the General Hospital especially in the eye, ear, nose and throat departments. In the gynecologic and the pathologic laboratories there is nearly always an English-speaking class with lectures in English. The American Medical Association of Vienna controls nearly all these classes, and its influence helps many a newcomer to obtain the best value for his time and money.

A Sanatorium Owned by the Profession.

A movement is on foot to establish a medical and surgical sanatorium for the middle classes, the profits of which shall go to the medical profession. As all the establishments of this kind pay large dividends, some enterprising members of the profession have raised sufficient money to establish a place of this kind. After paying a dividend of about 4 or 5 per cent. to the shareholders the profits will go to the funds of charitable institutions of the profession such as the widow and orphan fund, legal protection fund, etc.

The "Keith-Harvey" Electric Battery Stopped.

The Austrian government has notified "Prof." Keith-Harvey that objection has been taken to his "electric hearing battery" and its importation is forbidden. This action is due largely to the active steps taken by the Vienna Otological Society, which has urged the government to prevent the sale of frauds.

Therapeutics

Iodin.

Dr. W. T. Dannreuther, of New York (*Medical Record*, Jan. 25, 1908), calls attention to the surgical value of iodin. He finds it "of high germicidal potency and one of the most valuable antiseptics in our armamentarium, and endowed with remarkable penetrating power." He calls attention to the fact that iodoform, though containing 96 per cent. of iodin, is not a germicide, although used so many times as a drier in surgical dressings. He has also seen several cases of iodoform poisoning from its surgical use. [Certain it is that, except possibly in tuberculosis of bones or tendons, where an oily mixture of iodoform may be injected directly into the diseased tissue, the obnoxious and unnecessary odor of iodoform is an insult to humanity that should not be perpetrated in any private family, and hardly in a public institution. The fact that many other more efficient and harmless antiseptic powders may be used in surgical dressings precludes the necessity of using iodoform. The sprinkling of iodoform over operation areas seems to partake of the oblique line over the symbol ℞. the abbreviation for recipe, i. e., an appeal to the gods that the operation will be successful and the patient get well.—Ed.]

The various other iodin-bearing compounds of varying strength have been found by Dannreuther not to be so efficient in germicidal activities as the freshly prepared tincture of iodin. The amount of the tincture of iodin used should be "enough and not too much," the amount depending on the part to which the iodin is to be applied, mucous membranes and granulation tissues not receiving so much of the iodin as the unbroken skin. He has found very useful "a watery solution of iodin made by adding 4 c.c. (1 dram) of tincture of iodin to 1,000 c.c. (1 quart) of water."

Dannreuther describes the well-known action of iodin as a counter-irritant on the unbroken skin. He finds it of great value in scalp wounds. After shaving, he thoroughly washes with green soap and water and makes the part as clean as possible. He then injects the tincture of iodin directly into the wound with an ordinary medicine dropper. The sutures are then introduced and a wet gauze dressing applied, which dressing must be kept constantly wet. "Scalp wounds so treated heal by primary union."

He treats erysipelas by painting the region of efflorescence and a wide border of the healthy skin with the tincture of iodin, and in no case has he seen an extension of the erysipelatous rash.

He finds iodin of value in stimulating sluggish granulations in indolent ulcers, applying the tincture directly to the granulation tissue. In gangrenous ulcers he finds that the iodin will limit the process and hasten the sloughing, and prevent the disagreeable odor.

In preparation for surgical operations he advises, after the hands are cleansed with green soap and water, immersion in a 1 per cent. watery solution of iodin and potassium iodid. During the operation the hands may be frequently dipped into a basin containing this solution. Such a solution has been found to render the hands sterile in thirty seconds. Any after-staining of the skin may be readily removed by ammonia water.

The tincture of iodin is efficient as a disinfectant of the skin before laparotomy incisions, especially in the region of the umbilicus, and one application with a camel's hair brush is all that is necessary. Goelet, of New York, is quoted as using a watery solution of iodin (a fluidram of the tincture to a quart of water) "for irrigating the abdominal wound after closing the peritoneum," believing that this is an efficient antiseptic for this purpose.

Dannreuther also suggests vaginal tampons dipped in 1 fluidram of the tincture of iodin to 4 ounces of glycerin, as a valuable counter-irritant in pelvic inflammations. He also advises before curettage for endometritis an intrauterine douche of a watery solution (1 fluidram of the tincture of iodin to a quart of water) as "limiting the oozing, contracting the muscular fibers, and rendering the uterine cavity sterile." After curettage for abortion, he frequently swabs out the uterus with the full strength of the tincture. Should the abortion be septic, he uses an iodin intrauterine douche three times a day.

Anemia.

Dr. Curran Pope, Louisville, Ky., discusses the treatment of this condition in the *New York Medical Journal*, Nov. 2, 1907. He enumerates the well-known causes of anemia and emphasizes the relation of chronic gastrointestinal and hepatic disease to this condition of the blood. He believes that many times anemia is due to an absence of sunlight and daylight, and finds that those who work indoors all day in the winter and go home after dark, thus getting practically no sunlight and but poor daylight, are prone to anemia, and especially to a diminution of the hemoglobin.

In combating the anemia, of greatest importance is the improvement of the hygienic condition of the patient, fresh air, sunlight, moderate exercise, and deep inhalations to increase the absorption of oxygen and the carbon dioxid elimination. The diet should be based on the intestinal condition, being the most nutritious and of the kind that can best be digested. The constipation should, of course, be combated, and most important of all, gastrointestinal fermentation and intoxication, as evidenced by the finding of indican and sulphates in the urine, should be prevented.

Pope finds this intestinal fermentation best combated by the feeding of sour milk. The milk is first sterilized and then soured by means of the lactic acid bacillus. [Tablets for souring milk artificially are now on the market.] This sour milk is nutritious, easily digested, and perhaps one of "the best of natural antiseptics."

Pope emphasizes the advantages of various hydrotherapeutic measures, electrotherapy, electric light baths, massage and vibratory treatments. He also finds that he can cure anemia without the administration of iron and arsenic.

There can be no question of the advantages of fresh air and sunlight to patients suffering from anemia, and there could be no better treatment than the open-air sanatorium treatment advocated for tuberculosis for these anemic patients. The next most important thing is the prevention of the absorption of toxins from the intestine, and many a patient with anemia has improved on saline cathartics. It is certainly better to give a diet and such laxatives as are needed to prevent intestinal fermentation than to attempt to combat such fermentation with so-called bowel antiseptics. Patients who can not take the rest, sunshine and fresh-air cure do improve with iron, and they will improve as much with an inorganic iron as with any organic iron. The mistake has been that too much iron is administered, hence some peptonate or albuminate or other organic iron has been said to be better tolerated. The mistake has been that the dose of the inorganic iron was not small enough. Very little is needed to satisfy the economy for iron. A small dose of the tincture of the chlorid of iron, or the reduced iron in tablet or capsule, or the pill of the carbonate of iron (Bland), or the saccharated oxid of iron present a variety of inorganic irons sufficient to meet any indication. The multitude of other iron preparations is not needed and is superfluous.

Occasionally arsenic seems to be of value in anemia, but certainly it should be given in small doses only. Large doses do harm, and perhaps arsenic could be dropped from the Pharmacopeia without much therapeutic loss.

Manganese has sometimes seemed to act as well as iron in anemia, but certainly it could act no better.

In chlorosis, so generally accompanied as it is with amenorrhea, the best treatment is thyroid substance in small doses, as:

℞.	gm.		
Glandularum thyroidearum siccarum.....	3	or	gr. xlv

Fac capsulas 20 (dry).

Sig.: One capsule three times a day, after meals.

Or:

℞.	gm.		
Glandularum thyroidearum siccarum.....	2		
Ferri reducti	2	or	āā. gr. xxx

M. et fac capsulas 20 (dry).

Sig.: One capsule, three times a day, after meals.

Iron may be given as follows:

℞.	c.c.		
Tincturæ ferri chloridi..................	5		fl℥iss
Syrupi acidi citrici......................	25	or	fl℥i
Aquæ .... ad	100		ad fl℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

Or:

℞.	gm.		
Ferri reducti	2	or	gr. xxx

Fac capsulas 20 (dry).

Sig.: One capsule, three times a day, after meals.

Or:

℞.	gm.		
Tabletas ferri reducti, āā................	|065	or	gr. i

No. 20.

Sig.: One tablet, three times a day, after meals.

Or:

℞.

Pilulas ferri carbonatis. (Blaud) No. 20.

Sig.: One pill, three times a day, after meals.

Or:

℞.	gm.		
Strychninæ sulphatis	|02		gr. ⅓
Ferri reducti	1	or	gr. xv
Quininæ sulphatis	2		gr. xxx

M. et fac capsulas 20 (dry).

Sig.: One capsule, three times a day, after meals.

Or:

℞.	gm.		
Arseni trioxidi	|02		
Strychninæ sulphatis	|02	or	āā. gr. ⅓
Ferri reducti	1		gr. xv
Quininæ sulphatis	2		gr. xxx

M. et fac capsulas 20 (dry).

Sig.: One capsule, three times a day, after meals.

Or:

℞.	gm.		
Strychninæ sulphatis	|04		gr. ⅔
Quininæ sulphatis	1	or	gr. xv
Massæ ferri carbonatis...................	2		gr. xxx

M. et fac pilulas 20.

Sig.: One pill three times a day, after meals.

Or:

℞.	gm.		
Ferri reducti	1	or	gr. xv
Salicini	10		ʒiiss

M. et fac konseal. 20.

Sig.: One wafer three times a day, before meals.

If it is deemed advisable to use manganese, it may be given as follows:

℞.	gm.		
Mangani dioxidi præcipitati..............	3	or	gr. xlv
Ferri reducti	2		gr. xxx

M. et fac capsulas 20 (dry).

Sig.: One capsule, three times daily, after meals.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.

Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.

CLEVELAND, OHIO.

I. INTRODUCTORY.

For three years the Council on Pharmacy and Chemistry has labored at its task of investigating proprietary remedies, compiling and weighing evidence, editing and publishing information. With the appearance of the third edition of its little book—New and Non-Official Remedies—which will be out soon, practically all the eligible proprietary preparations on the market will have been classified, and the end of this task will be in sight. Will this mean the end of the labors of the Council? At a recent meeting of the Board of Trustees of the American Medical Association four very active men were appointed, or reappointed, to the Council, to fill the place of those whose time of service had expired. The Trustees further acceded to the request of the Council for the appointment of a staff of clinical consultants or associates. This does not look as if the Council intended to go into retirement.

Of course, there will need to be continued investigations of new discoveries and some supervision over those which have been approved. Products which for one reason or another have not yet come up to the requirements, are making serious, honest endeavors to do so, and it may be presumed that the number of these will increase. The aid extended to them for this end involves an amount of work which few outside of the Council can realize. But all this is routine, merely a part of what the Council has done all along. If this were to be its only work in the future, the membership of the Council could be reduced. The fact is, the work which the Council has done so far, important as it has been, was largely preliminary to a larger and broader aim—the general reformation of what is debased and debasing in the present status of therapy. The therapeutic evils of the day may have many roots and branches, and they all need more or less pruning. But the most glaring evils were those arising from prescribing secret or semi-secret proprietaries, and the reformation of these was accordingly the first goal of the Council. The first step was the obvious one of gathering the necessary information and it was on this that the Council has been mainly engaged; and this is the part of the work which is now largely accomplished.

The next step, which must soon be taken, is that of acquainting the medical public with what the Council has learned, and securing the cooperation of physicians in making this information effective. Up to the present the task of the Council has been laborious, indeed, but plain. Now it becomes more difficult. Up to the present time the Council could work in silence—now it must use its voice. What it has done and hopes to do; what use to make of its findings and advice; what part must be played in this movement for better therapeutics by every physician who cares for the welfare of his patients—for the progress of medicine—these matters must be thought out and discussed.

These were the thoughts and considerations which led me to accept the invitation of the chairman of the Council and editor of The Journal to write a series of short papers on these questions as I view them. I have accepted the invitation with honest diffidence, with the realization of deficiencies in ability, knowledge, opportunities and time. In extenuation, however, I can plead the honest willingness to do my share toward a movement which, as I conceive it, is the most important that has occurred in the domain of medicine for a generation at least. Surgical technic, physical and clinical diagnosis, anatomy and pathology, laboratory research—in short, every department of medical science is making satisfactory progress. Therapeutics alone has not kept pace; in some respects it has gone backward. Is it fair to the patient to dismiss the subject with a shrug of the shoulders? How many have honestly and earnestly labored toward its advancement? Is it astonishing that therapeutics is where it is and what it is?

To avoid misunderstandings, I must emphasize that in these papers I shall speak as a private in the ranks and not as a member of the Council. I shall, indeed, aim to represent the sentiments of this body, as I know them; but as it would be obviously impractical to submit to them every word that I shall say, here and elsewhere, it would not be fair to saddle the Council with any of the responsibility.

(*To be continued.*)

Mistura Ferri Acida.

Philadelphia, March 9, 1908.

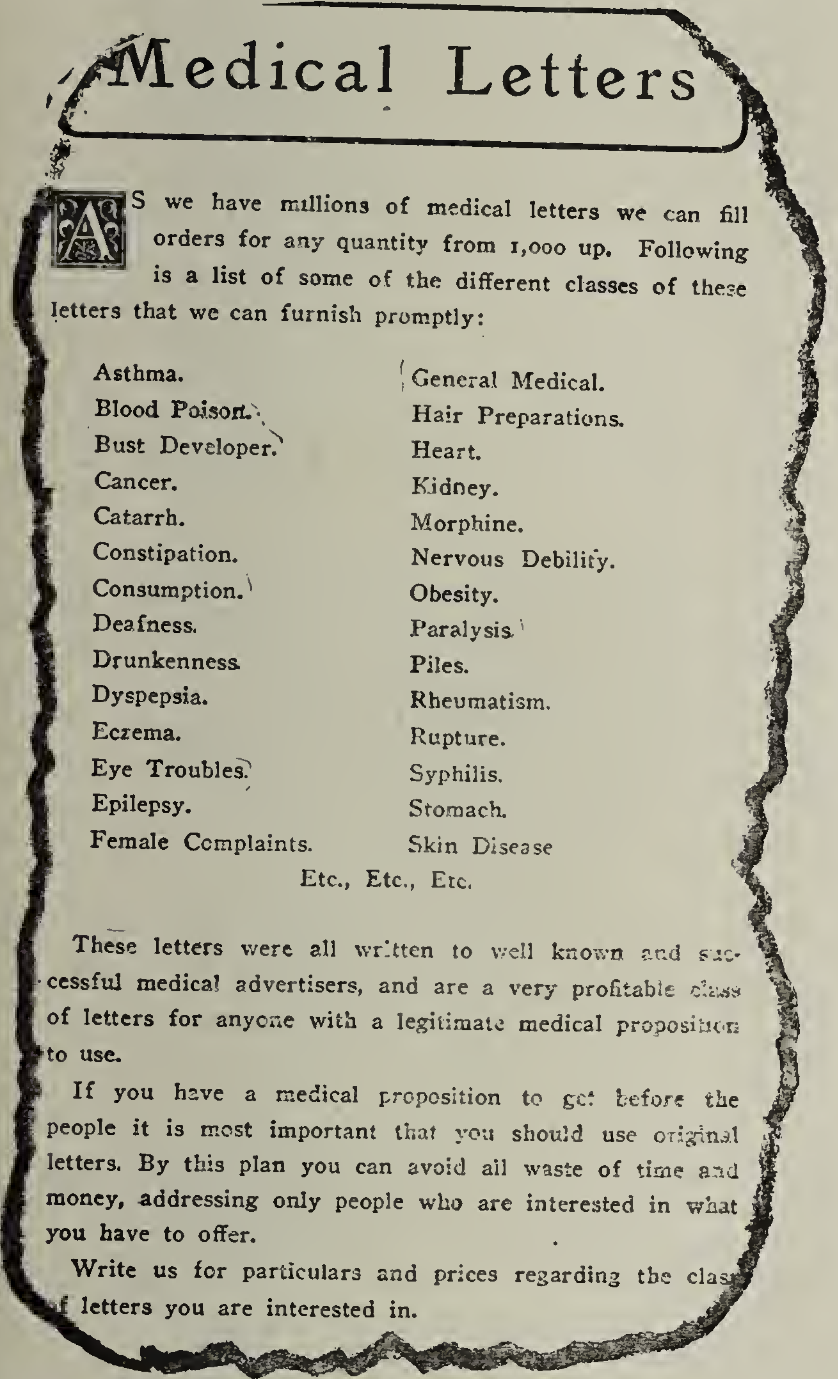
To the Editor:—In The Journal, March 7, page 784, mention is made of the old mistura ferri acida. The formulas published differ somewhat from the combination which I have been calling by the same name. It may be of interest to your readers to know that a preparation containing considerably more iron has been in use in this city for many years. This formula was first made known to me shortly after graduation, when I was serving as clinical assistant to Dr. Harris A. Slocum at the Philadelphia Polyclinic. If I remember correctly the same combination was employed by the late Dr. Albert Smith.

℞.	gm. or c.c.			
Ferri sulphatis	2	30		gr. xxxvi
Magnesii sulphatis	60		or	℥ii
Acidi sulphurici dil.	60			fl℥ii
Infusi gentianæ comp.	180			fl℥vi

M. Sig.: A tablespoonful in water before breakfast, or two tablespoonfuls in water after each meal.

Schamberg's compend on "Diseases of the Skin" mentions this formula on page 88 (1900 edition), but gives aqua menthæ piperitæ in place of the gentian.

Francis Ashley Faught.



Medical Letters

As we have millions of medical letters we can fill orders for any quantity from 1,000 up. Following is a list of some of the different classes of these letters that we can furnish promptly:

Asthma.
Blood Poison.
Bust Developer.
Cancer.
Catarrh.
Constipation.
Consumption.
Deafness.
Drunkenness.
Dyspepsia.
Eczema.
Eye Troubles.
Epilepsy.
Female Complaints.
General Medical.
Hair Preparations.
Heart.
Kidney.
Morphine.
Nervous Debility.
Obesity.
Paralysis.
Piles.
Rheumatism.
Rupture.
Syphilis.
Stomach.
Skin Disease
Etc., Etc., Etc.

These letters were all written to well known and successful medical advertisers, and are a very profitable class of letters for anyone with a legitimate medical proposition to use.

If you have a medical proposition to get before the people it is most important that you should use original letters. By this plan you can avoid all waste of time and money, addressing only people who are interested in what you have to offer.

Write us for particulars and prices regarding the class f letters you are interested in.

THE CONFIDENCE OF QUACKS.

Letters Sent Confidentially to Medical Fakers and How They Are Used.

We here reproduce a page from a pamphlet issued by the Guild Company, letter brokers, Nassau street, New York City.

"We conduct the largest letter brokerage business in the world," says the circular, "deal only in original letters, handle no lists, hence can guarantee that every letter we offer was written in response to an advertisement, and therefore gives the name, address and other valuable information regarding a person accustomed to dealing through the mails."

"In the case of medical letters you are immediately in possession of the names and addresses of sufferers from a particular disease or ailment and do not waste time and money aiming promiscuously at thousands of people of whom only a few are likely to be receptive of your proposition."

Samuel Hopkins Adams, writing in "Collier's Weekly," wisely said, referring to a similar list:

"If you have ever been foolish enough to write to any of the quacks and frauds in that list, you may know that your letter is now for sale. You may know that all the things you have said about your health and your person—intimate details which you carefully conceal from your friends and neighbors—are the property of any person who cares to pay four or five dollars for the letters of yourself and others like you."

[Contribution from the Chemical Laboratory of the American Medical Association.]

BURNHAM'S SOLUBLE IODIN.

W. A. Puckner and A. H. Clark.

Burnham's Soluble Iodin, according to the manufacturers, is one of the most noteworthy "discoveries" of the age. The advertisements aim to create an impression that while the product contains iodin, pure and simple, yet by some secret process this element has been so changed as no longer to possess its usual properties. The Burnham Soluble Iodin Company makes such extravagant claims for its product and gives such wide publicity to these claims that it seemed advisable, in the interests of the profession, to determine the nature of the preparation. Its examination was accordingly taken up in the laboratory of the American Medical Association.

From the analysis,[1] given in detail below, we conclude that Burnham's Soluble Iodin is a solution of iodin in alcohol made miscible with water by the presence of some iodid. Wilbert[2] and other investigators have arrived at practically the same conclusion.

Whatever the secret process, hinted at in the advertisements, by which this preparation is evolved, the fact remains that when one prescribes Burnham's Soluble Iodin, one is prescribing iodin, together with an iodid, the nature of which is hard to determine. The iodid is not present as potassium iodid nor, entirely, at least, as hydrogen iodid (hydriodic acid), but this is of slight importance compared with the fact that it is a solution in alcohol of free iodin and an iodid, and therefore is essentially the same as Lugol's solution.

The amount of iodin found corresponds approximately to 3.0 gm. of free iodin and 2.0 gm. of combined iodin in 100 c.c. of the solution. Lugol's solution contains 5.0 gm. free iodin, and 10.0 gm. potassium iodid in 100 c.c.

BURNHAM'S SOLUBLE IODIN TABLETS.

Burnham's Soluble Iodin Tablets are a light brown compressed tablet, stamped with the letters B. S. I. in monogram. Each tablet is said to contain 3 minims Burnham's Soluble Iodin.

The average weight of each tablet was found to be 0.3526 gm.; since Burnham's Soluble Iodin was found to have a specific gravity of .8527 and to contain 4.5 per cent. total iodin, the tablets should contain approximately 2.3 per cent. total iodin, about one-half to two-thirds of which, depending on the condition of the "Soluble Iodin" from which they are made, should be free iodin. Instead of this, only 0.317 per cent. free iodin and 1.57 per cent. total iodin was found. The analysis in detail is given below.[3] It shows that Burnham's Soluble Iodin tablets contain approximately one-fourth the amount of free iodin and approximately two-thirds the amount of total iodin which should be contained therein if, in accordance with the label, each tablet contains 3 minims of Burnham's Soluble Iodin.

COMMENT.

The literature put out by the Burnham Soluble Iodin Company is in itself enough to condemn the products it advertises. The much emphasized statement of the company that

> **"Something had to be done: and Burnham's Soluble Iodin is that which has been done"**

fulfils, in its blatant assertiveness, all the requirements of nostrum advertising. The results of the analyses are not, therefore, a surprise.

Secrecy is just as essential to-day to the successful exploitation of this class of proprietaries as it was before the demand for formulas became so universal. The requirement of publicity is evaded, therefore, in one of two ways: Either a formula is given which is false, or at least meaningless, or else the claim is made that the method of preparing the product is a unique and remarkable secret that is possessed only by the manufacturers. The Burnham Soluble Iodin Company uses the latter device.

Meanwhile, physicians will be perfectly justified in viewing with suspicion all claims based on such conspicuously unscientific premises, more especially so when these claims fail to find substantiation on careful and painstaking analyses. In brief, whenever the physician wishes to administer free iodin, Lugol's solution (Liquor Iodi Compositus, U. S. P., Physician's Manual, page 84) is an inexpensive and perfectly available preparation.

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[1] Analysis of Burnham's Soluble Iodin: At different times two specimens were purchased in the open market and examined. In the report they are referred to as Specimen No. 1 and Specimen No. 2. Burnham's Soluble Iodin is a reddish brown liquid, having a slight odor of iodin and is miscible with water in all proportions.

Iodin: The presence of free iodin is shown by the usual starch test and the violet color when extracted with chloroform.

Free Acid: When mixed with water and decolorized with sodium thiosulphate the solution obtained is distinctly acid in reaction. Also, if all iodin is extracted with chloroform the colorless solution which remains is strongly acid in reaction.

Iodids: The colorless acid solution obtained when all free iodin is removed by extracting with chloroform responds to tests for iodids, i. e., gives with silver nitrate a yellow precipitate which is insoluble in nitric acid; on the addition of sulphuric acid followed by ferric chlorid, hydrogen dioxid, potassium permanganate or potassium dichromate, free iodin is liberated.

Glycerin: By evaporating on a water bath, Burnham's Soluble Iodin leaves a thick dark brown residue which is volatile only after prolonged heating. The usual milk of lime method for separation of glycerin failed to demonstrate its presence.

Alcohol: In a portion of Burnham's Soluble Iodin the free iodin was destroyed with sodium thiosulphate, the solution made alkaline with sodium hydroxid and distilled. Ethyl alcohol was detected in the distillate by the iodoform test.

Ethyl Acetate: The solution remaining after the removal of free iodin with sodium thiosulphate has an odor closely resembling ethyl acetate.

Estimation of Free Iodin: A weighed quantity of Burnham's Soluble Iodin was added to 10 c.c. of water and titrated with tenth normal sodium thiosulphate volumetric solution.

Estimation of Total Iodin: (1) A weighed quantity of Burnham's Soluble Iodin was added to a solution of 2 gm. of potassium hydroxid in 10 c.c. of water, evaporated nearly to dryness, a little starch added to facilitate desiccation, the mixture then brought to dryness and ignited. The residue was then extracted with hot water and in this solution the iodin determined as silver iodid. (2) The same procedure as in (1) was used except that in place of precipitating the iodin as silver iodid it was liberated by the addition of hydrochloric acid and ferric chlorid, extracted with chloroform and titrated with tenth normal sodium thiosulphate volumetric solution. (3) Free iodin was reduced to iodid with sulphurous acid and in the clear solution total iodid determined by precipitation as silver iodid. (4) Free iodin was extracted with chloroform. To the clear liquid remaining in the separator sulphuric acid and ferric sulphate were added and liberated iodin extracted with chloroform. The combined chloroformic extracts were then titrated with tenth normal sodium thiosulphate volumetric solution, or each titrated separately and the two results then combined.

Estimation of Free Acid: A weighed quantity of Burnham's Soluble Iodin was added to 10 c.c. of water and the iodin titrated with tenth normal sodium thiosulphate volumetric solution. To the colorless liquid phenolphthalein was then added and the free acid determined by titration with tenth normal alkali. The volume of alkali consumed was then calculated to hydrogen iodid and from this the figures representing combined iodin, in the table under Combined iodin, calculated from acidity, were calculated. It will be seen that the amount of iodin here indicated added to the free iodin found exceeds the total iodin by a large amount. It is plain, then, that this acidity is not due entirely to hydrogen iodid and may be due to another acid entirely and the iodid ions otherwise combined than with the hydrogen ions. It will be seen that as the free iodin increases in Specimen No. 2, the acidity decreases in proportion, the sum of the two being always about the same. The results are here tabulated.

	Free Iodin.	Total Iodin.				Combined Iodin.	
		Method 1.	Method 2.	Method 3.	Method 4.	1. Total iodin less free iodin.	2. Calculated from acidity.
Specimen No. 1.	2.65	4.45	4.50	...	...	1.83	2.45
	2.57	4.52	4.51	...	...	1.95	2.40
Specimen No. 2.	2.40	4.67	...	4.58	4.58	2.21	2.55
	3.06	4.66	...	...	...	...	...
	3.14	...	...	...	...	...	2.02
	3.23	...	...	...	...	...	1.91

Alcohol: To 25 c.c. Burnham's Soluble Iodin, sodium thiosulphate was added in quantity just sufficient to decolorize. The solution was at once added to 5 gm. of potassium hydroxid dissolved in 100 c.c. of water. Of this mixture, exactly 100 c.c. was distilled over and the specific gravity of the distillate determined; all measurements being made at a temperature of 15.6 C., 92 per cent. by volume of ethyl alcohol was indicated.

Specific Gravity: The weight of 25 c.c. of Burnham's Soluble Iodin is 21.3177 gm., indicating a specific gravity of .8527.

[2] Proc. Am. Pharm. Assn., 1903, li, 409.

[3] Three packages of 100 tablets each were purchased in the open market. From each package 25 tablets were removed, powdered and thoroughly mixed, and the mixture was used for the determinations.

Free Iodin: Of the powder prepared as above 5 gm. was mixed with 50 c.c. of water and starch paste added. A faint blue color developed indicating the presence of iodin. On drop of a tenth normal sodium thiosulphate volumetric solution discharged this blue color. On standing a few moments the blue color returned and another drop was added. This was repeated until a solution free from blue color remained even after standing one and one-half hours. A total of 1.26 c.c. tenth normal sodium thiosulphate was used indicating .317 per cent. iodin.

Total Iodin: A weighed quantity of the powdered tablets was mixed with a solution of 2 gm. of potassium hydroxid in 10 c.c. of water, evaporated and ignited. The residue was extracted with hot water and in the solution the total halogen determined by precipitation as silver halid. It was found that 2.4213 gm. of Burnham's Soluble Iodin Tablets gave .0716 gm. of silver iodid, indicating .03865 gm. or 1.59 per cent. iodin. In a duplicate 2.9341 gm. of the tablets gave .0841 gm. of silver iodid, indicating .04544 gm. or 1.55 per cent. iodin.

The St. Louis Medical Society of City Hospital Alumni and Medical Advertising.

The question of the character of advertising in medical journals has been brought to the fore by the Medical Society of City Hospital Alumni in St. Louis.

A paper was read before that society February 6 and the author declined to hand it over to the journal that prints its scientific proceedings for the reason that the advertising columns of that publication contained notices of more than twenty-five preparations not found in the list of remedies tentatively approved by the Council on Pharmacy and Chemistry. In a letter to the president of the society, Dr. William E. Sauer, the author of the paper in question, Dr. George Homan, says:

> Presumably their omission from that list signifies a lack of pharmaceutic merit or therapeutic value as judged and decided by the only competent court officially constituted by the organized profession for that purpose. This body has built a highway and set clear lights burning across what a few years ago was a quagmire in which the profession helplessly floundered, and for such light and deliverance every consistent member of the American Medical Association owes thanks and loyal support in further works to the same end.
>
> This observation is pertinent for the reason that the publisher of the journal in question is a physician in presumed good standing in his local society, and by that fact pledged professionally not only to advance the just efforts and aims of the body mentioned, but to refrain from acts calculated to discredit such work or to encourage among physicians any departure from the tests and standards declared by the Council and approved by the Association. This is a matter that touches the honesty and good faith of the profession, for without clean hands and clean skirts how can the local societies, the state associations, and the national body with good grace wage war on practically the same sort of advertising in the non-medical press?
>
> The status of medical men holding membership in the American Medical Association, who are publishers of such journals and responsible in a business sense therefor, is different from that of all other classes of publishers, being thereby amenable to discipline, and their good professional standing is bound to be sharply challenged because of the dual rôle assumed, and by reason of an attitude that does not square in morals with the purposes of the profession as repeatedly and officially declared. In such cases the dividing line between the claim of the counting room and that of the consultation room must be extremely difficult to locate, for all human experience shows that no man can serve two masters whose interests lie at opposite points of the compass. . . .
>
> . . . The underlying moral question is a weighty one to the profession and may become a burning issue, and while the society of which you are the head has no official relation to the American Medical Association, still a great many of its members belong to the organization which does stand loyally for that body, and it can hardly be thought that the ethical standard of one would be lower than that of the other; and, consequently, no uncertain sound should be given forth as the ultimate demand for accounting and quittance on those who transgress may yet be voiced as of old: Choose ye this day, therefore, whom ye will serve, God or Mammon!

The matter was referred for consideration to a committee, which reported on March 5 that in view of the existing engagement between the society and the journal the obligation to deliver to the latter copy of its scientific work could not be repudiated until next December; this report was accepted, but not until a unanimous expression of opinion was made, by all who spoke, in condemnation of the character of the advertising mentioned, and of the obligation resting on the profession to clean house in this respect.

It is likely that this matter will shortly be pressed on the attention of the organized profession of Missouri in another form.

Efficiency.—The best possible equipment for the practice of medicine is the best possible medical education. But as Burns has said, "A man's a man for a' that." Therefore, the man rich in qualities of soul with the highest scientific attainments is he who will acquire most easily and retain most permanently the confidence of his patients.—*Leucocyte.*

Correspondence

Subphrenic Abscess Complicating Appendicitis.

STOUGHTON, WIS., March 21, 1908.

To the Editor:—Dr. D. N. Eisendrath, in THE JOURNAL, March 7, states that few cases of subphrenic abscess have been recorded as a complication of appendicitis. I wish, therefore, to report the following case:

O. J. E., male, aged 27, a laborer, had an attack of acute appendicitis Jan. 12, 1908. He had never been ill before. He had the symptoms of a bad case, and became steadily worse until the second day, when his temperature and pulse dropped to nearly normal and vomiting stopped. The pain, however, became worse. I therefore diagnosed gangrene of the appendix. He was at once removed to the hospital on a stretcher and I operated on him within an hour. The appendix was found gangrenous, black with greenish flakes and with a perforation near the tip; it was lying in a collection of thin, very bad smelling serum, yet there was no macroscopic pus. The appendix was removed and the wound drained. There was a complete recovery, so far as all clinical symptoms go. The patient left the hospital in fourteen days with a good appetite.

He returned March 14 with fever and a pain in the right side under the ribs. He complained that he "could not breathe" and that he had not slept for two nights. Examination disclosed a tender place between the axillary lines over the ninth and tenth ribs, plainly edematous. His pulse was 120, respiration 24 and temperature 102. He passed a poor night. I operated in the morning by Eisendrath's method and after removal of the tenth rib inserted the needle repeatedly until I found the pus in the anterior axillary line. I opened and found a channel between the liver and diaphragm leading two inches up to the cupula of the liver and ending in a cavity in the liver substance about the size of a walnut. The diaphragm was intact. The pus was thin pinkish with yellow stripes and flakes in it and had no odor. A drain was put in and most of the wound sewed up. Temperature fell to normal and within sixteen hours the man was hungry. He is doing well.

M. IVERSON.

Unauthorized Reference in Advertisements to Physicians.

PHILADELPHIA, March 18, 1908.

To the Editor:—Some years ago my attention was called to an advertisement in a religious newspaper of a nebulizing apparatus vaunted as a catarrh "cure" by Mr. Ernest J. Stevens, president of the Physicians' Standard Supply Company of Philadelphia.

Mr. Stevens "referred" to Dr. J. Solis-Cohen, Dr. Charles Turnbull and myself. As our only connection with Mr. Stevens had been to prescribe for him or to purchase instruments from him, he was immediately notified to withdraw the advertisement, and the editor was informed that the names had been used without the knowledge or consent of their owners.

Mr. Stevens apologized, stating that he had intended the reference to apply only to his business responsibility and had not supposed that it could be construed as an indorsement of his wares, and promised to suppress the advertisement and not to offend again. As my purchases from Mr. Stevens had been satisfactory and I had no reason to doubt his word, I accepted the apology and supposed that that would end the matter.

To-day I am in receipt of a circular issued by the Physicians' Standard Supply Company of Philadelphia advertising a "perfection douche." What it is I do not know; I have never seen it, much less used or indorsed it, but I find again the same "references," namely, Dr. J. Solis-Cohen, Dr. Charles Turnbull and myself—all used equally without authority and without the knowledge of the persons concerned.

Whatever kindly feeling toward Mr. Stevens I might previously have entertained can not survive this evidence of his duplicity—this persistent misuse of names of professional men in an equivocal connection. I desire, therefore, to give notice through your columns that Mr. Stevens has no authority whatever to refer to me, and that my opinion of him is one that would not look well in print.

SOLOMON SOLIS-COHEN.

Bismuth Treatment of Fistulas.

Spokane, Wash., March 16, 1908.

To the Editor:—In The Journal, March 14, appears an article by Dr. Emil G. Beck on treatment of fistulous tracts by injections of bismuth paste.

Allow me to draw attention to a possible important modification of this method depending on the discovery of Freund in relation to iodoform. This observer has used a solution of iodoform in chloroform as a test for and measure of the *x*-ray. This is possible on account of the prompt color reaction since the ray has the property of liberating free iodin from the iodoform which, appearing in its natural color in the chloroform, gives the color test for the quantity of *x*-ray.

It is reasonable to suppose that the ray has the same effect no matter in what the iodoform is suspended, and I suggest, therefore, that a suspension of the drug be used instead of the bismuth and that the patient be then subjected to a measured dose of *x*-ray exposure in order to produce free iodin in contact with the diseased tissues and thus aid the reconstruction Dr. Beck finds as a result of his present method.

Henry Power.

Sudden Deaths from Choking in Goiter.

Ithaca, N. Y., March 16, 1908.

To the Editor:—An estimate of the frequency of sudden death resulting from choking in goiter would be of value to the practitioner or surgeon who is trying to decide for or against the advisability of operation in any given case. I have knowledge of several such cases, and believe that death from choking is more common than is generally believed. During the past year two women have come to me who have been unable to swallow solid food, the one for seven years, the other for five years. I should be glad to hear of similar cases that have come to the notice of practitioners or surgeons.

Martin B. Tinker.

A Method of Nostrum Advertising.

Cave-in-Rock, Ill., March 18, 1908.

To the Editor:—I have noticed for several months past that soon after a fraudulent nostrum is exposed in The Journal my mail is burdened with the advertisements of the preparation. I wonder if this is not a systematic effort to counteract the effects of exposure.

W. J. J. Paris.

[Undoubtedly.—Editor.]

Association News

HOTELS FOR CHICAGO SESSION.

Important that Hotel Accommodations be Reserved Early for the June Meeting.

Members of the American Medical Association and others desirous of securing definite hotel accommodations for the next annual session, at Chicago, June 2 to 5, will facilitate matters by early written communications addressed to Dr. L. L. McArthur, chairman of the Hotels Committee, 100 State Street, Chicago.

Arrangements have been made with all the leading hotels of the city for this meeting. Definite instructions to the chairman, as to the character of rooms desired, with or without bath, meals, etc., and number in party, will permit prompt action and more satisfactory reservation.

No section headquarters at hotels have been assigned. The members are therefore at liberty to select the hotel of their choice. Reservations will be made in the order of their arrival.

Arrangements will be made for rooms at private houses and boarding houses, a list of which will be obtainable at the Bureau of Information and will be published in later issues of The Journal.

A partial list of hotels, with rates and locations, follows:

Auditorium Hotel, see Congress.

Briggs House, Randolph Street and Fifth Avenue; 150 rooms; can take 50; rates for one person in room, $1 to $1.50; bath, $2 to $2.50; additional, $1 for each person.

Hotel Brevoort, 143 Madison Street; 350 rooms; can take 200; rates, one person, $1.50 and up; two in room, $3 and up.

Hotel Bismarck, 178 Randolph Street; 100 rooms; can take 25; rates, one person, $1 up; two persons in room, $1.75 up.

Congress Hotel Company, Michigan Avenue and Congress Street (operating Congress, Auditorium and Annex); 1,500 rooms; can accommodate 1,400 to 1,600; rate for one person, $2 to $7; two or more persons in room, $3 to $10.

Hotel Del Prado, Midway Boulevard and Jackson Park; 100 rooms; can take 200; rates, American plan, $3 to $4 per day; two or more in room, $5 to $7 per day.

Hunt's European Hotel, 146 Dearborn Street; 105 rooms; can take 50; rates, $1 and $2; additional, $0.75 each.

Great Northern Hotel, Jackson Boulevard, Dearborn and Quincy Streets; 375 rooms; can take 300; rates, one person, $1.50 to $4; two persons, $2.50 to $6; additional, $1 each.

Kaiserhof Hotel, 270 Clark Street; 300 rooms; can take 300; rates, one person, $1 to $1.50; with bath, $2 to $3; additional person in room, $2 to $3; with baths, $3 to $5.

Lexington Hotel, Michigan Boulevard and Twenty-second Street; 400 rooms; can take 150; rates, one person, $1.50 up; additional persons, $1 and up; rooms with private bath, $2 single; $1.50 double.

Lakota Hotel, Thirtieth Street and Michigan Boulevard; 250 rooms; can take 500; rates, European plan, $3 up; two persons in room, $2 up; American plan, rates on application.

Hotel Majestic, 20 Quincy Street; 200 rooms; can take 200; rates, one person, $2.50; two persons, $4.

McCoy's European Hotel, northwest corner Clark and Van Buren Streets; 200 rooms; can take 150; rates, one person, $1.50; additional persons in room, $1 up.

Oxford Hotel, Canal and Adams Streets; opposite Union Depot; 70 rooms; can take 40; $2 per day, American plan.

Palmer House, State and Monroe Streets; 700 rooms; can take 500; rates, one person, $1.50 and up without bath; two persons in room, $2 and up; with bath, $2.50 and up one person, and $3.50 and up two persons.

Hotel Metropole, Michigan Ave. and Twenty-third Street; 300 rooms; can take 250; rates, for one person in room, $2 per day and up; for two or more persons in a room, $1.50 and up.

Sherman House, Clark and Randolph Streets; 200 rooms; can take 500; rates, one person, $1.50 up; additional persons, $1.25 each.

Saratoga European Hotel, 151 Dearborn Street; 318 rooms; can take 300; rates, one person, $1 up; two persons, $2 up; with baths, $1.50 up; three or more persons in room, special rates.

New Southern Hotel, Michigan Boulevard and Thirteenth Street; 75 rooms; can take 25; rates, $1 to $1.50 per day; additional persons in room, $1.

Stratford Hotel, Jackson and Michigan Boulevards; 200 rooms; can take 400; rates, $2 to $3 without bath; two in room; $4 with bath.

Victoria Hotel, Michigan Boulevard and Van Buren Street; 200 rooms; can take 300; rates, for one person, $1 and up; two persons, $1.50 and up.

Virginia Hotel, Rush and Ohio Streets; 400 rooms; can take 250; one person, $1.50 up; two persons in room, $2 per day and up.

Windermere Hotel, Fifty-sixth Street and Cornell Avenue; 250 rooms; can take 25 to 30; rates, $3 per day and up; two in room, $5 per day and up; American plan only.

Windsor-Clifton Hotel, Monroe Street and Wabash Avenue; 165 rooms; can take 200; rates, one person, $1 per day and up; additional, same.

Wellington Hotel, Wabash Avenue and Jackson Boulevard; 150 rooms; can take 150; rates, for one person, $2 per day and up; two persons, $3 and up; with bath one person, $3 and up; with bath, two persons, $5 and up; with bath, three persons, $7.50 and up; with bath, four persons, $8.50 and up.

A list of the meeting places of the various sections appeared in The Journal last week.

Miscellany

Injurious Action of Sulphurous Acid.

The experiments conducted by the Bureau of Chemistry of the Department of Agriculture (Bulletin No. 57), under the direction of Dr. H. W. Wiley, on the effect of sulphites as food preservatives, are of peculiar interest, not only as showing the effect of these substances when used as preservatives, but also as indicating that their use, medicinally, for a long time, may be injurious by their action on the kidneys. Some proprietaries contain thiosulphates, which in the stomach give rise to sulphuretted hydrogen, a substance which would probably have a similar if not more injurious effect than the sulphur dioxid contained in the food preservatives studied. The action of mineral waters containing sulphur may also be liable to produce somewhat similar results. At any rate, the results obtained by the experimental ingestion of small quantities of sulphites is an interesting example of the possible effects of quantities of substances ordinarily considered negligible. The experiments were carefully conducted on healthy men, who volunteered to take a certain amount of sulphites or sulphur dioxid with their food. They were placed under observation for a period in which no preservative was taken, and then took with their food the preservative in capsules or as a drink for a definite period, after which they were kept under observation for some time longer to determine the after-effects of the administration. The first period lasted ten days, the second twenty and the last ten, being forty days in all. The amount of sulphur dioxid ingested during the entire preservative period varied from 4 to 11 gm. (60 to 165 grains), and averaged from 0.223 to 0.564 gm. (3½ to 8½ grains) a day.

The most prominent symptom observed was headache, which could hardly have been imaginary. This symptom was commonly and persistently experienced at some time during the preservative period. The effect on body weight was inconsiderable. A larger quantity of dry matter was excreted in the feces under the administration of the preservative, showing a tendency to decrease to this extent the absorption of food from the intestinal canal. The examination of the urine showed that sodium sulphite tends to act as a diuretic, to increase the acidity and to produce albuminuria. Mucous cylindroids were found, but no casts. Urea and nitrogen in general were decreased, but there was an increase in the amount of kreatinin. This shows that the preservative exerted a marked influence in deranging metabolic functions. Examination of the blood showed a tendency to the production of an anemia of the secondary type. The leucocytes were also decreased in number.

As the report says: "The administration of sodium sulphite and sulphurous acid produces a marked influence of an unfavorable character on metabolism. As a result of this action, an assimilation of food materials containing organic phosphorus is retarded, while there is evidence of increased sulphur metabolism. The sulphur balance sheets show what an immense burden has been added to the already overworked kidneys, which are called on to remove nearly all, if not quite all, the added sulphur from the body, previously converted, in great part, to sulphuric acid. It is not possible that placing on the kidneys this increased work of excreting sulphur can result in anything but injury. . . ." "It is reasonable to suppose that the continued use of a body which produces such results would cause lesions of a histologic character that eventually would develop conditions which would give serious apprehension. . . . It is therefore evident that by increasing the burden on the excretory organs, the administration of sulphur in the form mentioned is highly detrimental to health. . . ." "The conclusion, therefore, is inevitable that as a whole the changes produced in metabolic activity by the administration of sulphur in the forms noted above in the comparatively short time covered by the experiments are decidedly injurious. The verdict which must be pronounced in this case is decidedly unfavorable to the use of this preservative in any quantity or for any period of time, and shows the desirability of avoiding the addition of any form of sulphurous acid to products intended for human food."

Medical Esperanto.—A note was published in THE JOURNAL, Feb. 1, 1908, page 391, concerning a proposed International Esperanto League for Physicians, and announcing the projected publication, if sufficient promises of support should be forthcoming, of a medical periodical in Esperanto, to be called the *International Correspondence of Physicians*, at a cost of 25 cents a number. We have received from Dr. Mikolajski a letter (in Esperanto) in which he states that, in consequence of our announcement, he is in daily receipt of letters from American physicians desirous of subscribing to the proposed periodical and expressing approval. He states, however, that the response to his appeal, while not yet adequate to warrant the expense of an entirely independent publication, is so far encouraging that it has induced him to undertake the publication monthly in Esperanto of a supplement, entitled *Vocho de Kuracistoj*—the *Voice of Physicians*—to the *Glos Lekarzy*, a Polish medico-ethico-social journal published in Lwow, Austrio-Galicia, of which he is editor. He asks us to inform our readers that this Esperanto supplement will be sent gratuitously to any American physician requesting it who will collaborate by sending at brief intervals correspondence in Esperanto on matters of professional interest to physicians of all countries. For choice, subjects which concern professional relations, medical ethics and medical economics are to be preferred, but there is no desire to obtrude a special program. The first issue of this Esperanto supplement, dated March, 1908, now before us, contains a brief foreword outlining the origin and scope of the project for an international medical journal, with a commendatory letter from Dr. Zamenhof, the inventor of the language; an appeal for the adoption of Esperanto as a fifth official language at International Medical Congresses, by Dr. Wizel of Warsaw; an article on "The Utility of Esperanto in Medical Congresses," by Dr. Skalkowski of Lwów; an account by Dr. Fels of Lwow of the services rendered him by Esperanto during a vacation trip to Prague, Marienbad, Karlsbad, Dresden and Berlin, and other matter. It concludes with an announcement that in the April number will begin the publication of the correspondence, forwarded from all parts in response to Dr. Mikolajski's appeal, on the question of the medical secret, and also an article on "Esperanto and the Red Cross Societies," by Dr. Ahinte, "*chefa militkuracisto*" of the French army. Dr. Mikolajski's address is Sniadeckich 6, Lwow, Austrio-Galicia.

Chamberlen's Pills—An Old-Time Proprietary.—At a meeting of the Edinburgh Pharmaceutical Society in January, Mr. S. K. Stewart (*Pharmaceutical Journal*, Jan. 25, 1908), gave the history of "Dr. Chamberlen's Pills," a proprietary remedy said to have been invented by Dr. Hugh Chamberlen, physician to Charles II, and to have continued to have a vogue well into the nineteenth century. The secret was communicated by Dr. Chamberlen to John Davies, a surgeon, together with Chamberlen's seal. From Davies it passed through the hands of his daughter, Anne Davies, to her husband, John Tailour; thence to their daughter, Margaret Tailour, from whom it passed to her nephew (John Tailour's grandson), George Telfer. Telfer's daughter, Miss Margaret Telfer, an old lady recently dead, gave the prescription with other relics, to her medical attendant, Dr. Cumming, through whose courtesy they were exhibited by Mr. Stewart. Among these heirlooms were two invoices of the component drugs in bulk, supplied by Corbyn, Stacey & Messer, London, to Margaret Tailour and Fred. Tailour, and dated respectively June 17, 1796, and Oct. 16, 1799. This prescription, written about the end of the eighteenth century, is as follows:

THE TRUE AND GENUINE RECEIPT OF DR. CHAMBERLEN'S RECEIPT OF HIS PILLS.

TO GEORGE TELFER.

Take three pound of best Barbadoes or Cabolin Aloes (but the Cabolin in preference if it can be had).

One pound of best Scammony of Aleppo.

Half a pound of Socotrin Aloes.

Let all be beaten into a fine powder and put through a search [a fine sieve], mixing the same with as much Aqua Apodemia as will make a proper mass. The pills to be smoothed with oil of cloves.

MARGT. TAILOUR.

You will see my father made only ounces at first, but it is quite the same in proportion. He made the pounds long before he died, just as above, but never quite with his handwriting (*sic*), and makes no alteration whatever in the receipt. That was your worthy grandfather's charge to me to be pointed to the receipt and always the very best materials that can be procured. God bless you.

MARGT. TAILOUR.

Stewart comments: "The word 'cabolin' is doubtless meant for 'caballin,' a coarse, rank-smelling variety of aloes called horse aloes. The word 'caballin' means 'fit for a horse.' The words 'aqua apodemia' doubtless mean 'hot water,' apodemia being a corruption of the word 'apozeme,' a decoction."

Present State of Radiotherapy.—Mewborn, in a review of recent literature on radiotherapy (*Journal of Cutaneous Diseases*, February, 1908), offers the following summary of the present state of the method: The Roentgen ray as a therapeutic measure seems to have well established itself, and to occupy a larger field at the close of the year than at the beginning. The literature of the year, while extensive, is on the whole of a very conservative and credible type. The unreasonable statements and unbelievable reports of early years (though really comparatively few in number) have practically disappeared, and Roentgen therapy is being handled in a scientific manner. Radiography and radiotherapy are more and more every year tending to become a specialty, and must, from the nature of the work itself, be such. An agent, the effects of which on the tissues are so definite and so powerful, and the ill-effects of which, when improperly applied, are so irremediable, must of necessity be used only by those who thoroughly understand it. Proper use of the Roentgen ray, based on a knowledge of the pathologic condition it is desired to affect and on a knowledge of the physiologic action of the ray on normal and abnormal tissues, will be followed by uniformly successful outcome. The three greatest needs in this branch of medical science are: First, a convenient and uncumbersome method of protecting the patient; second, a convenient and uncumbersome method of protecting the operator, and third, a convenient and uncumbersome method of measuring the dosage in standard units.

An Ancient Remedy for Smallpox.—The *Lancet* publishes the following seventeenth century remedy for smallpox: Among the papers of the Earl of Ancaster preserved at Grimsthorpe and just reported on by the Historical Manuscripts Commission is a letter addressed in 1648 by "Monsieur J. G." to John Pridgeon, bear-leader to the young Lord Willoughby of that day, inclosing directions for preparing and taking certain physic, a number of recipes for purges and cooling drinks, and what is described as "the Countesse of Holdernesse's receipt for the smallpox:" "If the partie should have the smallpox, which you may guesse by his heavines, burninge and coughe, lette him lie warme in his bed but moderately, keeping his throate pretty coole, givinge him burnt wine with saffron till you see there will no more come forth. Take fresh butter, a quarter of a pound, and melt it on the fire, as much refined searved (?) through tiffeny or lawne, and beate it with a spoone till it come to be so thicke as Pomato; then take a fine feather (when it is melted) and dip it in (being luke warme) and annoynt his face and handes twenty times a day & night, nott sufferinge the party to scratch himselfe nor rubb them too hard against his pillow or anythinge else, nor to clippe them or the like, keepinge the places still annoynted till you see them shill off, alwayes being extreame carefull to keepe him in a temperate heate, but rather warme than cold, by all meanes, for if he should take cold it would endanger his life; now if he should have them in his eyes or throate, take a little brest milke, a little saffron, and a little white sugar-candy, melt them together in a saucer, and lett him swallow a little of this att a time, being warme, for his throate when you see them first appear; then take a feather and dip it in the same and draw it through his eyes lidds, and by the grace of God it will preserve his sight. To take away the holes in the face: Take the quantity of a pound of veale and putt it in some corner in a seller where it may best putrifie and breede maggotts; then take those maggotts, beinge well growne, put them on a wire and rost them before the fire, havinge somethinge to preserve the drippinges of them, which you must take and annoynt the party's pitts in his face, and it will take away the holes therein. Given by an Italian."

Differential Diagnosis Between Cysticercus and Tumor of the Fourth Ventricle.—T. Grainger Stewart, in the *Proc. Royal Society of Medicine*, January, 1908, states: "The chief points of distinction between the symptomatology of cysticercus and tumor of the fourth ventricle are as follows: In cases of cysticercus: (a) The long duration of many of the cases without definite signs; (b) the sudden onset of the attacks of headache, vomiting and giddiness; (c) the association of these attacks with sudden movements of the head; (d) the long intermissions with complete freedom from all symptoms; (e) the more frequent occurrence of glycosuria; (f) the late onset of optic neuritis; (g) the frequency of sudden death. These differences may be explained by reference to the morbid anatomy of the two conditions. In cysticercus the cysts grow into the fourth ventricle, and therefore only affect the cerebellum and pons indirectly. They are often loosely attached to the ventricular walls, or may even hang free in the ventricular cavity, so that in some positions of the head they merely lie in the ventricle and do not block it, but any sudden movement of the head is liable to shift their position, and so cause temporary partial or complete obstruction of the intraventricular system with sudden onset of symptoms. Cysts are less likely to give rise to optic neuritis in the earlier stages, as they do not obstruct the ventricle until they have attained a considerable size. In tumors of the fourth ventricle the growth tends gradually to fill the ventricle, to grow upward toward the Sylvian aqueduct and downward into the lateral recesses and the posterior cistern. Tumors are also more likely to infiltrate the cerebellum, pons and medulla, and as growth is slow and progressive so are the symptoms, save when there is hemorrhage into the tumor. Optic neuritis will occur when the growth has attained sufficient size to raise the intracranial pressure. This may be early or late, depending on the seat and size of the growth. In growths of the cerebellum invading the fourth ventricle, cerebellar symptoms are early phenomena, while, on the other hand, they are of late occurrence when a tumor of the ventricle extends secondarily into this organ. The differential diagnosis of tumor in the fourth ventricle and cerebellar and pontine tumor must be made by the absence of definite pontine and cerebellar symptoms in cases which exhibit slight hypertonicity and ataxia, and from the presence of bilateral nystagmus and weakness of conjugate lateral movement of the eyes. The diagnosis of intraventricular growth will be further strengthened by the presence of sugar in the urine.

Supports of the Pelvic Viscera.—Dr. W. E. Fothergill, in the *Proc. Royal Society of Medicine*, January, 1908, states that: 1. The so-called ligaments of the uterus lie loosely on the subjacent structures, and have no supporting action. The broad ligament is simply a mesovarium and mesosalpinx. The uterosacral and uterovesical folds are incapable of resisting downward pressure, as is the round ligament, which, moreover, is a vestigial structure (*gubernaculum ovarii et uteri*). 2. The external muscular layer of the pelvic floor has a sphincteric rather than a supporting action. 3. The internal muscular layer of the pelvic floor being the degenerated representative of the tail muscles of lower animals, has largely lost its muscular action; and the lower part of the levator ani merely acts as an adjuvant to the sphincters of the rectum and the sphincter vaginæ. 4. The classical descriptions of the pelvic fascia should be given up, and the fascia should be regarded as the sheaths of the muscles, the vessels and the viscera. 5. The internal muscular layer, with its fascial investment, forms the funnel-shaped pelvic diaphragm. 6. The pelvic diaphragm does not support the pelvic organs by its muscular action. 7. The pelvic diaphragm could not support the pelvic organs in virtue of its shape, were they not firmly attached to its sloping lateral walls. 8. This attachment is accomplished by the fibrous sheaths of the blood vessels and accompanying structures which supply the pelvic viscera. The one constant essential factor in the causation of prolapse is relaxation of the perivascular sheaths. 9. The rectum has attachments to the back of the pelvis quite distinct from those of the urogenital organs to its sides. It does not descend with them in prolapsus. When the anterior rectal wall descends in rectocele it is united with the posterior vaginal wall by cicatricial tissue, the result of infection during the healing of perineal tears.

Malaria in India.—The prevalence of malaria in the Province of Bengal a year ago was the cause of a special committee being appointed to investigate the matter, and this committee has just made its report. In addition to the water-logged condition of the country, the main causes of malaria, the committee claims, are the insanitary sites of the villages. Any improvement in this direction depends on educating the villagers, and this will be a slow process. The report states that the value of sanitation and the prophylactic value of quinin and mosquito curtains might well be taught in the schools. The distribution of quinin may be easily effected, but mosquito extermination is almost an impossibility in a low-lying country with water almost everywhere. A certain amount of improvement may be effected by drainage, but the nature of the country puts many limitations on this procedure.

The Morphin Habit in Burma.—In a letter to the *Lancet* the superintendent of excise at Rangoon, writing on the prevalence of the morphin habit in that city, states that the present belief is that individuals who habitually practice hypodermic injections to excess live for only a few years. With his assistant he visited an opium den in June, 1900, and took the names and addresses of the 30 persons present. On making inquiries in March, 1907, it was verified that all those 30 persons were dead. Five had died from plague and the others from various causes. This is probably an extreme instance, but it is evident that the habit is physically degrading as it is morally. The government of Burma has now ordered a leaflet describing the fatal effects of the drug printed and circulated in quarters where the morphin habit is known to hold sway.

A Lay Opinion of the Roentgen Rays.—According to the newspaper reports, an American physician lately returned from abroad, tells the following story illustrating the vague idea some people still have of the nature of the Roentgen rays and the method of application: "A man wrote to a specialist: 'I have had a bullet in my thorax for eleven years. I am too busy to come to Berlin, but hope you will come down here with your rays, as my case should be worth your while. If you can not come, send a packet of rays, with instructions as to use, and I will see if I can not manage to work them myself.' The specialist replied: 'I am sorry that my engagements prevent my coming to see you and that I am out of rays just now. If you can not come to Berlin yourself, send me your thorax by express and I will do the best I can with it.' "

Plague in Great Britain.—Consul Austen of Glasgow reports on information received from the Glasgow health officer that two cases of plague were discovered in that city in August and October, 1907, respectively. The first patient, a girl, was employed in a rag store; the second patient, a boy, had a sister who worked in the same place. The last previous cases of plague in human beings occurred in 1901; up to October, 1907, the last known cases of plague-infected rats were found in 1902. In October and November, 1907, numbers of rats were found dead or dying from plague in a police station and the stables of an adjoining bakery, about a mile west of the area where the human cases developed. Two tenements in this neighborhood had been recently pulled down, displacing many rats.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

LEGAL RESTRAINT OF INEBRIATES.

Cincinnati, Ohio, Feb. 27, 1908.

To the Editor:—1. Can you tell me of any state in which inebriates, as such, can be kept under legal restraint, the commitment being voluntary or otherwise?

2. Can you give me the same information on other countries than the United States? Philip Zenner.

Answer.—1. The laws relating to the commitment and restraint of inebriates in different states are all modifications of the lunacy laws. They are substantially this: The inebriate is tried before a judge, and sometimes a jury, in which the question of his present condition due to spirits or drugs is the subject of inquiry. It is decided whether or not he shall be restrained legally in some institution, and whether or not his property shall be taken from his hands. In Massachusetts and Iowa there are distinct institutions for the care and control of these persons. These institutions are under the direct control of the state, and receive persons who are committed by the lower courts. In New York, the institutions are local and annexes of hospitals and insane asylums, the commitments to which are from police and probate courts. Insane asylums of all the states receive inebriates as insane, and many of the larger institutions have distinct wards where a large number of these persons are kept. The restraint must necessarily be limited, as every patient has a right to appeal, by a writ, for a discharge. Private hospitals and sanatoriums have little or no power legally to restrain patients, but in Connecticut all institutions organized under the laws of the state have full power to hold and restrain patients. In 1874 Connecticut passed a law for the control of these persons. The section on voluntary commitments has attracted much attention and has been sustained by legal rulings.

This law provides that whenever any person shall have become an habitual drunkard, a dipsomaniac, or so far addicted to the intemperate use of narcotics or stimulants as to have lost the power of self-control, the court of probate for the district in which such person resides, or has a legal domicile, shall, on application of a majority of the town authorities, or of any relative of such person, make due inquiry, and if the charges are sustained, the individual is sent to some inebriate asylum within the state, for treatment, care and custody, for a term not less than four months, and not more than twelve months. In the case of dipsomaniacs, commitment is for a period of three years. The certificate of at least two respectable practicing physicians, after a personal examination, is necessary for commitment.

Any person committed as a dipsomaniac to an inebriate asylum in this state, may, after one year of treatment, be permitted to go at large on probation and without custody or restraint, temporarily, or for such time as the managers of the asylum shall judge to be for the best interests of the patient. Any inebriate or dipsomaniac may voluntarily make application to be received into such asylum, and he may be retained for a period of not less than four months, nor more than twelve months.

2. In England inebriates are committed under a special act, called the Habitual Drunkards Act. The period varies from one to two years. The government gives cities, boroughs, and private corporations power to build institutions and to receive such persons. The form of commitment is a trial before a jury. Patients may commit themselves by voluntary request, and by signing certain papers, but this is not considered binding. In France and Germany inebriates are committed under the lunacy laws. In England the number of institutions has increased to such an extent that a government inspector, a medical man, has been appointed, and all asylums who receive aid from the towns and cities must be licensed and inspected. All other institutions have no recognition and are voluntary.

LITERATURE ON TUBERCULOUS MENINGITIS.

Philadelphia, March 16, 1908.

To the Editor:—Please send me a list of indexed articles on the recent contributions to literature on tuberculous meningitis.

W. B. Cooperman, M.D.

Answer.—The following articles are contained in The Journal indices for 1906 and 1907:

Lamb, D. S.: Tuberculous Meningitis in an Adult, *Wash. Med. Ann.*, January, 1906.

Brown, W. H. W.: Therapeutic Effects of Mercury in Tuberculous Meningitis, *Lancet*, March 24, 1906; abstracted in The Journal, April 21, 1906, p. 1242.

Hall and Hopkins: Tuberculous Meningitis, *Jour. Nerv. and Ment. Dis.*, April, 1906; abstracted in The Journal, May 5, 1906, p. 1399.

Carriere and Lhote: Prolonged Remissions of Tuberculous Meningitis in the Child, Rev. de méd., xxv, 6; abstracted in The Journal, June 13, 1906, p. 1732.

Hopkins, S. D.: Tuberculous Meningitis, *Colorado Med.*, July, 1906.

Schlesinger, E.: Lumbar Puncture in Tuberculous Meningitis, *Berl. klin. Wchnschr.*, xliii, 25-26; abstracted in The Journal, Sept. 20, 1906, p. 1061.

Ovazza, V. E.: Curability of Tuberculous Meningitis, *Riforma med.*, xxii, 34; abstracted in The Journal, Nov. 3, 1906, p. 1520.

Riebold, G.: Curability of Tuberculous Meningitis, *Münch. med. Wchnsch.*, liii, 35; abstracted in The Journal, Nov. 17, 1906, p. 1692.

Summons, W. H.: Early Signs of Tuberculous Meningitis, *Intercolon. Med. Jour. Australasia*, Nov. 20, 1906.

Landois, F.: Chronic Tuberculous Meningo-encephalitis from the Clinical and Forensic Standpoint, *Deutsch. med. Wchnschr.*, xxxiii, 1; abstracted in The Journal, Feb. 23, 1907, p. 1061.

Koplik, H.: Clinical History and Recognition of Tuberculous Meningitis, The Journal A. M. A., April 6, 1907, p. 1149.

Gordon, A: Pathogenesis of Reflexes apropos of a Case of Tuberculoma of the Spinal Meninges, *Am. Jour. Med. Sc.*, May, 1907.

Don, A.: Tuberculin in Tuberculous Meningitis, *Brit. Med. Jour.*, June 8, 1907; abstracted in The Journal, July 6, 1907, p. 90.

Takemura, K.: Differentiation Between Tuberculous Meningitis During Pregnancy, and Uremia or Eclampsia, *Sei-I-Kwai Med. Jour.*, Tokio, Aug. 31, 1907, xxx, 5.

Morse, J. L.: Analysis of Forty Cases of Meningitis in Infancy, The Journal A. M. A., June 3, 1906, p. 1906.

STATISTICS OF ENDOANEURISMORRHAPHY WANTED.

2255 St. Charles Avenue, New Orleans, March 10, 1908.

To the Editor:—I am compiling the statistics of operations for the cure of aneurism by the intrasaccular suture (endoaneurismorrhaphy), and shall be obliged to all surgeons who have had experience with this operation for brief reports of their cases.

Rudolph Matas.

STUDY OF TWINS AND DOUBLES.

Mr. J. L. Tayler, L.R.C.P., M.R.C.S., Eng., 8 Adys Lawn, Willesden Green, London, England, writes that the many replies with which he has been favored to his former communication (The Journal, Jan. 4, 1908, p. 58), lead him to ask for further assistance in reference to the similarity of diseases in persons *not* brothers or sisters, yet greatly resembling each other. Such resemblances are well known through photographic representations in magazines, press comments and the popular saying that "every person has his double." Mr. Tayler says: "The evidence which I now possess makes it probable that twins suffer similarly from disease, and that constitution is a much more important factor than has of late been assumed, the older medical men being largely justified in their insistence on this. Before, however, giving facts to support such a conclusion, I am anxious to obtain an independent source of study to compare with my researches on twins and the possibility of the similarity of "doubles" has been brought into my mind by a case in my own experience, which was as follows: A colleague of mine and myself both mistook a patient we had not previously seen for an old one suffering from diabetes, so alike were they in appearance, and at our request she brought in a sample of urine to be examined and it was found to be diabetic. The woman herself had at the time no suspicion of this disease, nor had she any noticeable symptoms, and but for the chance likeness to the other patient the disorder might very possibly have been overlooked. If any medical men have had similar experiences I should be glad if they would kindly communicate with me at the address above given."

THE PHYSICIAN'S AUTOMOBILE.

Philadelphia, March 7, 1908.

To the Editor:—I have just finished the remarkable list of papers on the automobile and it has interested me greatly. As a pioneer of nine years, with over fifty thousand motored miles behind me, I congratulate you and The Journal's readers on this remarkable collection of experiences. May I express the evolved demand of the day as it impresses me? Briefly, it is as follows: A car of moderate price ($1,000); light weight, say 800 pounds, at most not over 1,100; ample, or twenty-horse power. It must assure a less cost of maintenance than a horse vehicle, while its certainty of operation must be as great. I am glad to see promise of successful supersedure of the small pneumatic-tired bicycle wheels by the larger solid-tired carriage wheels. This accomplished, one of the greatest limitations of the present day auto vanishes. The large, high-powered, gasoline eating, luxurious cars of the present will be discarded to-morrow with other passing fads. As motive power the air-cooled engine seems the logical result, and three years' continuous use has demonstrated its dependability and absolute superiority in every particular. I am also inclined to the belief that steam is going to have another inning. Its superiority over the heavy, high-powered explosive motor on hills and for fast work is evident on the most cursory examination. Find enclosed stamped addressed envelope for the names and corresponding numbers.

Daniel Longaker.

MINNESOTA PASTEUR INSTITUTE.

Minneapolis, Minn., March 20, 1908.

To the Editor:—In compliance with the request of The Journal of February 29 for information concerning American Pasteur institutes, we are glad to state that, by the action of the last legislature, the Minnesota State Board of Health was provided with a fund of $5,000 per annum for the prophylactic treatment of rabies. The Institute of Public Health and Pathology, one of the newer buildings on the Campus of the University of Minnesota, houses the Pasteur Institute, the other laboratories of the State Board of Health and the laboratories of pathology and bacterlology of the university. A suite of reception rooms and laboratories is provided for the work in rabies. The treatment lasts twenty-one days. The virus was obtained through the kindness of the University of Michigan and produces recognizable symptoms of rabies in six days, death usually occurring on the seventh day in rabbits of fifteen hundred to two thousand grams.

The institute was opened for patients Aug. 9, 1907, since which time 108 patients have been received for treatment. The history of the biting or infecting animal is obtained and full details are recorded. Where possible, both microscopic examination for Negri bodies and subdural or intracerebral inoculations in rabbits are practiced, in order to establish or exclude the diagnosis of rabies, in the biting or infecting animal.

The work is under the immediate charge of Dr. O. McDaniel and under the general direction of these laboratories. Treatment is afforded gratuitously only to residents of this state. There is no provision for housing patients at the institute, to which, however, they must come daily for treatment. While it is not desirable to undertake the treatment of animals, the board has ruled that in special cases, valuable animals may be treated for the fee charged non-resident patients.

F. F. Wesbrook,
Director of Laboratories, Minnesota State Board of Health.

"WHEN MAY THE GONORRHEIC MARRY."

Atlanta, Ga., March 14, 1908.

To the Editor:—Regarding the question of "When May a Gonorrheic Marry?" the usual methods of searching for the gonococcus may be inhanced by sealing the meatus, several hours after a urethral discharge has been artificially created. The secretion from the prostate and seminal vesicles should then be massaged into the inflamed canal where it should remain three or four hours. The inflamed urethra is a fine medium for the proliferation of the gonococcus. If there be any latent germs present in the secretion from the prostate or seminal vesicles—even in numbers too small to be demonstrable, except, perhaps after a prolonged search through many smears—they will grow rapidly in this favorable environment. They may then be found with comparative ease in smears taken from 6 to 24 hours after the adhesive plaster is removed. The secretion which has been retained in the urethra should be allowed to escape. The presence of enlargement of the prostate or a nodular condition does not necessarily mean infection, as the swelling may persist long after the germs have disappeared; nor is pus in the secretion expressed from the deeper parts necessarily indicative of the presence of gonococci. Because of the difficulty of making cultures from these secretions and because my findings have been so reliable I am convinced that this test is the surest method of finding latent gonococci. I described this plan of procedure in more detail in the last issue of "International Clinics."

Edgar G. Ballenger, M.D.

THE OPSONIC INDEX.

Collinsville, Texas, March 13, 1908.

To the Editor:—Please define the term "opsonic index."

E. C. Williams.

Answer.—Opsonic index is a term used to express the relative phagocytic power of the blood. It is found by dividing the average number of bacteria of a given kind which will be taken up by a leucocyte of an individual's blood by the number of bacteria of the same kind, which will be taken up by a leucocyte of the blood of a normal individual. The latter number is found by taking the average of several observations of normal persons. A full account of this subject may be found by referring to the article of Hektoen on "Phagocytosis and Opsonins," The Journal, May 12, 1906, p. 1407, and that by Potter, Ditman and Bradley, "The Opsonic Index in Medicine," The Journal, Nov. 24, 1906, p. 1722, and Dec. 1, 1906, p. 1792.

PUBLICATIONS ON MICROSCOPY.

Madison, Minn., March 17, 1908.

To the Editor:—Is there a journal published devoted to the microscope and kindred topics? If there is, where can it be obtained and at what price?

C. B. Powell, M.D.

Answer.—So far as we are aware, the only publication on microscopy issued in this country is the annual volume of the American Microscopical Society, price $2.00. The secretary of this society is Dr. Fred C. Zapffee, 1764 Lexington Street, Chicago. This society will publish a quarterly magazine in place of the annual volume.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, Week ending March 21, 1908:

Birmingham, H. P., surgeon, having reported in compliance with Paragraph 2, S. O. 54, War Department, March 5, 1908, is announced as chief surgeon, Army of Cuban Pacification, relieving Lieut.-Col. Vlair D. Taylor, deputy surgeon-general.

Shepard, J. L., asst.-surgeon, now on leave of absence, will proceed on or before the expiration of said leave, to Fort Sam Houston, Texas, for duty at that station.

Roberts, W. M., asst.-surgeon, ordered to Fort Hancock, N. J., for duty.

Schreiner, E. R., asst.-surgeon, ordered to report to the commanding officer, Headquarters, Band, 1st and 3d Battalions, 24th Infantry, San Francisco, Cal., for duty, to accompany that command en route to Madison Barracks, N. Y., and on completion of this duty to return to his proper station.

Parkman, W. E., contract surgeon, relieved from duty at Fort Keogh, Mont., and ordered to Fort Missoula, Mont., for duty.

Slater, E. F., contract surgeon, leave of absence extended one month, twenty days.

Wall, F. M., contract surgeon, relieved from temporary duty at Fort Monroe, Va., and ordered to return to his proper station, Fort Oglethorpe, Ga.

Wilson, Elsworth, contract surgeon, left Goldfield, Nev., and arrived at Presidio of Monterey, Cal., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending March 21, 1908:

Ohnesorg, K., surgeon, detached from duty at the Naval Hospital, Philadelphia, and ordered to the Navy Yard, League Island, Pa., for duty in connection with fitting out the *New Hampshire* and for duty on board that vessel when placed in commission.

Plummer, R. W., P. A. surgeon, detached from the Naval Recruiting Station, Chicago, March 30, and ordered to Washington, D. C., April 1, for examination for promotion, and then to wait orders.

Hayward, A. B., asst.-surgeon, detached from duty at the Naval

Medical School, Washington, D. C., and ordered to the Naval Recruiting Station, Chicago.

Rhoades, G. C., Hough, F. W. P., McGuire, L. W., Bacon, S., acting asst.-surgeons, detached from duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the Naval Examining Board, Washington, D. C., April 1, for examination for appointment as assistant surgeon, and then to wait orders.

Melhorn, K. C., Morgan, C. R., Biello, J. A., Haines, B. F., acting asst.-surgeons, detached from duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the Naval Medical Examining Board, Washington, D. C., April —, for examination for appointment as assistant surgeons, and then to wait orders.

Williams, R. B., P. A. surgeon, detached from the *Franklin* and ordered to the Naval Hospital, Philadelphia.

Verner, W. W., P. A. surgeon, detached from the Naval Training station, San Francisco, and ordered to duty in connection with fitting out the *Wisconsin*, and to duty on board that vessel when commissioned.

Snyder, J. J., P. A. surgeon, detached from the Naval Hospital, Philadelphia, and ordered to instruction at the Naval Medical School, Washington, D. C.

DeLancy, C. H., P. A. surgeon, detached from the Navy Yard, New York, and ordered to duty in connection with fitting out the *Newark* and to duty on board that vessel when commissioned.

Miller, J. T., asst. surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Franklin*.

Garrison, H. A., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, Philadelphia

Higgins, M. E., Holeman, C. J., asst.-surgeons, detached from the Naval Medical School, Washington, D. C., and ordered to duty at the Naval Training Station, San Francisco.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended March 18, 1908:

White, J. H., surgeon, directed to proceed to Puerto Barrios, Guat., for special temporary duty, on completion of which to rejoin station.

White, J. H., surgeon, granted leave of absence for seven days.

Rosenau, M. J., surgeon, detailed to represent the service at meeting of the American Association of Pathologists and Bacteriologists at Ann Arbor, Mich., April 17 and 18, 1908.

Sprague, E. K., P. A. surgeon, leave of absence granted for 10 days from Feb. 11, 1908, revoked, and leave of absence granted for 10 days from March 20, 1908.

Amesse, J. W., P. A. surgeon, granted leave of absence for 10 days from March 19, 1908.

McCoy, G. W., P. A. surgeon, relieved from duty in the Hygienic Laboratory, and directed to proceed to San Francisco, reporting to P. A. Surgeon Blue for special temporary duty.

McCoy, G. W., P. A. surgeon, granted leave of absence for 3 days.

Bahrenburg, L. P. H., P. A. surgeon, granted extension of leave of absence for 14 days from March 15, 1908.

Scofield, R. B., asst.-surgeon, granted leave of absence for 17 days from April 1, 1908.

Stiles, C. W., chief division Zoology, Hygienic Laboratory, detailed to represent the service at annual meeting of the Alabama State Medical Association, Montgomery, Ala., April 21, 1908.

Cleaves, F. H., acting asst.-surgeon, granted leave of absence for 1 day, March 13, 1908, on account of sickness.

Blount, B. B., acting asst.-surgeon, excused from duty without pay for a period of ten days from March 16, 1908.

Brown, S. E., acting asst.-surgeon, granted leave of absence for 14 days from March 15, 1908.

Safford, M. V., acting asst.-surgeon, directed to proceed to Portland, Me., for special temporary duty, rejoining station on completion of same.

APPOINTMENT.

Dr. Eugene W. Hill, appointed an acting asst.-surgeon for duty at Malone, N. Y.

BOARD CONVENED.

A board of medical officers was convened to meet at Seattle, Wash., March 16, 1908, to examine an immigrant reported to be afflicted with trachoma. Detail for the board: P. A. Surgeon, M. W. Glover, chairman; Asst.-Surgeon C. W. Chapin; Acting Asst.-Surgeon F. R. Underwood, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 20, 1908:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Feb. 1-8, 6 cases, Feb. 22-29, 5 cases.

California: Los Angeles, Feb. 22-29, 7 cases; San Francisco, Feb. 22-29, 8 cases.

Illinois: Chicago, Feb. 27-March 7, 3 cases; Springfield, Feb. 27-March 5, 7 cases.

Indiana: Elkhart, Feb. 29-March 7, 3 cases; Marion, Feb. 1-29, 14 cases.

Iowa: Cedar Rapids, Feb. 1-29, 5 cases.

Kansas: Kansas City, Feb. 29-March 7, 2 cases; Wichita, Feb. 1-March 7, 57 cases.

Kentucky: Covington, Feb. 29-March 7, 1 case; Lexington, Feb. 22-29, 1 case.

Louisiana: New Orleans, Feb. 29-March 7, 11 cases, 6 imported.

Michigan: Detroit, Feb. 29-March 7, 2 cases.

Minnesota: Winona, Feb. 22-29, 1 case.

Missouri: Kansas City, Feb. 29-March 7, 10 cases.

Montana: Butte, Feb. 25-March 3, 3 cases.

New York: Buffalo: Feb. 22-29, 1 case; New York, Feb. 29-March 7, 1 case.

North Carolina: Charlotte, Feb. 29-March 7, 1 case.

Ohio: Cincinnati, Feb. 28-March 6, 17 cases; Toledo, Feb. 29-March 7, 2 cases.

Oregon: Portland, Feb. 1-15, 3 cases.

Tennessee: Knoxville, Feb. 29-March 7, 1 case; Nashville, Feb. 29-March 7, 4 cases.

Texas: San Antonio, Feb. 22-March 7, 17 cases.

Virginia: Norfolk, Feb. 22-March 18, 2 cases; Richmond, Feb. 29-March 7, 1 case.

Washington: Spokane, Feb. 22-29, 23 cases.

Wisconsin: Milwaukee, Feb. 29-March 7, 2 cases.

SMALLPOX—INSULAR.

Hawaii: Honolulu, Feb. 28, 1 on S. S. *China* from Hongkong.

SMALLPOX—FOREIGN.

Arabia: Aden, Jan. 28-Feb. 11, 33, in quarantine.

Argentina: Rosario, Dec. 1-31, 1 death.

Brazil: Para, Feb. 15, 1 cases, 1 death; Rio de Janeiro, Jan. 25-Feb. 1, 29 cases, 13 deaths.

Canada: Halifax, Feb. 22-March 7, 2 cases; Hamilton, Feb. 1-29, 5 cases; Toronto, Dec. 28-Feb. 29, 21 cases; Winnipeg, Feb. 15-22, 1 case.

China: Amoy (Kulnagsu), Dec. 7-Jan. 4, present; Foochoo, Jan. 11-18, present; Hankow, Jan. 18-25, 1 case; Shanghai, Jan. 18-Feb. 9, 8 cases foreign and 25 deaths native; Hongkong, Jan. 25-Feb. 9, 25 cases, 17 deaths.

Ecuador: Guayaquil, Feb 1-8, 4 deaths.

Egypt: Cairo, Jan. 28-Feb. 11, 7 cases, 4 deaths.

France: Brest, Feb. 13-28, 2 cases, 1 death; Paris, Feb. 8-22, 39 cases.

Gibraltar: Feb. 16-23, 1 case imported.

Great Britain: Edinburgh, Feb. 8-22, 2 cases; Leith, Feb. 8-22, 4 cases, 1 death.

India: Bombay, Feb. 4-11, 25 deaths; Madras, Feb. 1-7, 1 death.

Italy: General, Feb. 13-20, 37 cases; Naples, Feb. 8-22, 8 cases.

Japan: Kobe, Feb. 1-15, 657 cases, 367 deaths; Nagasaki, Jan. 26-Feb. 16, 5 cases, 2 deaths; Osaka, Feb. 1-8, 126 cases, 37 deaths.

Java: Batavia: Jan. 18-25, 4 cases.

Malta: Jan. 25-Feb. 15, 20 cases, 4 deaths.

Manchuria: Dalny, Jan. 25-Feb. 8, 7 cases, 1 death.

Mexico: Aguas Calientes, Feb. 16-March 1, 6 deaths; Mexico, Jan. 8-Feb. 8, 5 deaths; Monterey, Feb. 16-23, 2 deaths.

Portugal: Lisbon, Feb. 8-25, 3 cases.

Russia: Libau, Feb. 8-15, 6 cases; Moscow, Feb. 1-15, 109 cases, 29 deaths; Odessa, Feb. 1-15, 9 cases; Riga, Feb. 8-22, 3 cases; St. Petersburg, Jan. 11-Feb. 15, 76 cases, 18 deaths.

Spain: Almeira, Jan. 1-31, 20 deaths; Barcelona, Feb. 11-20, 2 deaths; Denia, Feb. 2-14, 6 cases; Malaga, Dec. 1-31, 5 deaths; Valencia, Feb. 8-23, 43 cases, 5 deaths.

Turkey: Bagdad, Jan. 18-Feb. 1, 89 cases, 22 deaths.

YELLOW FEVER.

Barbados: Bridgetown, March 1, 2 deaths.

Brazil: Manaos, Feb. 1-15, 8 deaths; Para, Feb. 8-22, 32 cases, 24 deaths.

Ecuador: Guayaquil, Feb. 1-8, 6 deaths.

CHOLERA.

India: Bombay, Feb. 4-11, 1 death; Madras, Feb. 1-7, 15 deaths; Rangoon, Jan. 25-Feb. 1, 2 deaths.

PLAGUE.

Africa: Accra, March 9, present.

Brazil: Rio de Janeiro, Jan. 25-Feb. 1, 4 cases.

Chile: Antofagasta, Jan. 22-Feb. 5, 7 cases, 1 death.

China: Hongkong, Jan. 26-Feb. 1, 4 cases, 4 deaths.

Egypt: Assiout Province, Feb. 7-11, 10 cases, 7 deaths; Fagoum Province, Feb. 8-13, 5 cases, 2 deaths; Guirgueh Province, Feb. 7-11, 4 cases, 7 deaths.

India: Bombay, Feb. 4-11, 45 deaths; Rangoon, Jan. 25-Feb. 1, 16 deaths.

Japan: Kobe, Feb. 11, 1 case; Osaka, Feb. 1-8, 2 cases, 2 deaths.

Peru: Catacaos, Jan. 30-Feb. 13, 12 cases, 3 deaths; Chosika, Jan. 30-Feb. 13, 1 case, 1 death; Eten, Jan. 30-Feb. 13, 1 case; Lima, Jan. 30-Feb. 13, 12 cases, 9 deaths; Paita, Jan. 30-Feb. 13, 3 cases, 1 death; Piura, Jan. 30-Geb. 13, 1 case, 4 deaths; Santa Eulalia, Jan. 30-Feb. 13, 1 case.

Trujillo, 36 cases, 17 deaths.

Straits Settlements: Singapore, Jan. 18-25, 1 death.

Marriages

John W. Hanshus, M.D., to Miss Hannah Oberg, both of Chicago, February 18.

John E. Tuite, M.D., to Miss Emma McSweeney, both of Rockford, Ill., March 3.

Sidney H. Culver, M.D., Mason, Mich., to Miss Laura Gwin of Kosciusko, Miss., March 2.

Albert Bates Jones, M.D., Providence, R. I., to Miss Lottie Lea Hartnett of Boston, March 15.

William Clyde Hogan, M.D., Bradford, Pa., to Miss Clara May Shaner of Olean, N. Y., March 11.

William Lowthian, M.D., Unionville, Mich., to Miss Mary P. Brookfield of Springfield, Mo., recently.

S. Archer Mumford, M.D., Philadelphia, to Miss Carolyn Christiana Andreas of Millville, March 10.

Robert W. Blumenthal, M.D., Milwaukee, Wis., to Miss Lilian Whitney of Columbus, Wis., March 18.

Myron Davis, Jr., M.D., to Miss A. Gertrude Abbott, both of Malden, Mass., at Portsmouth, N. H., March 7.

Henry C. Houck, M.D., Baltimore, Md., to Miss Ella May Thompson of Glencoe, Md., at Ellicott City, Md., Dec. 18, 1907.

Deaths

John C. Cook, M.D. Chicago Medical College, 1880; a member of the American Medical Association, and in 1903 chairman of the Section on Diseases of Children; instructor of diseases of children in Northwestern University School from 1883 to 1884; professor of diseases of children in the Postgraduate Medical School of Chicago; pediatrician to Chicago Hospital; superintendent and chief of staff of the Jackson Park Sanitarium for Sick Children; a director and member of the staff of the South Side Free Dispensary; a pioneer in the crusade against impure milk, and of the establishment of pure milk stations in the small parks; one of the organizers of the Chicago Pediatric Society, and the Chicago Physicians' Club; author of many monographs dealing especially with diseases of children; at one time surgeon of the Illinois Central and Michigan Central railways; died at the Chicago Beach Hotel, March 21, from meningitis, after an illness of several weeks, aged 53.

Robert M. Eames, M.D. Western Reserve University Medical College, Cleveland, 1888; health officer of Seattle, Wash., and for several terms a member of the board of health; representative in the state legislature in 1899; died on the ship *Amaranth*, on which he was taking a trip to South America for his health, Oct. 1, 1907, from articular rheumatism, from which he had suffered for several years, aged 42.

Thomas M. Miller, M.D. Trinity Medical College, Toronto, 1877; L.R.C.P., Edinburgh, 1877; a member of the State Medical Society of Wisconsin and Taylor County Medical Society; physician to the poor for Taylor County; U. S. pension examiner for twelve years; and local surgeon for the Wisconsin Central Railroad for twenty years; died at his home in Medford, Wis., February 1, aged 57.

David Waddy Gardner, M.D. Missouri Medical College, St. Louis, 1876; formerly a member of the American Medical Association; a member of the International Association of Railway Surgeons, and local surgeon at Lehigh, Okla., for the Missouri, Kansas and Texas Railroad; died at All Saints' Hospital, South McAlester, Okla., March 13, from septicemia, due to an operation wound, aged 51.

Anne Augusta Wilson, M.D. University of Brussels, Belgium, 1892; L.R.C.P. and S., Edinburgh, 1892; a member of the American Medical Association; house physician to Clapham (London) Maternity Hospital in 1892; a prominent practitioner of Washington, D. C.; and physician to the Crittenden Home; died at her home in Washington, March 13, after a brief illness.

Alfred Thompson Halsted, M.D. University of Vermont, College of Medicine, Burlington, 1891; honor man of his year; physical director in the Y. M. C. A. gymnasium, Springfield, Mass.; a member of the medical department of the Prudential Life Insurance Co.; died at his home in Newark, N. J., February 23, from pneumonia, after an illness of seven days, aged 45.

Robert Robb, M.D. Keokuk (Iowa) Medical College, 1898; D.V.S., Ontario Veterinary College, Toronto, 1894; a member of the American Medical Association and of the George F. Jenkins Medical Society, Keokuk, Iowa; formerly of Hiteman, Iowa, and later of Newton, Ill., died in Augustana Hospital, Chicago, February 22, from brain tumor (glioma), aged 43.

James B. Devlin, M.D. Rush Medical College, Chicago, 1879; a member of the Colorado State and Denver City and County medical societies; examining physician in Denver for the Denver and Rio Grande Railroad; died at his home, March 14, from pneumonia, after a short illness, aged 55.

John Henry Scarff, M.D. Washington University School of Medicine, Baltimore, 1876; at one time professor of gynecology in Baltimore Medical College; and one of the founders of the Hospital for the Women of Maryland; died at his home in Govanstown, Md., March 11, from nephritis, after an illness of several weeks, aged 57.

John G. Bigham, M.D. New York University Medical College, New York City, 1860; of Millersburg, Ohio; surgeon of the Sixty-eighth Ohio Volunteer Infantry during the Civil War; and for several years a member of the local pension examining board; died at a sanitarium in Millersburg, March 13, aged 72.

Edwin Forest Richardson, M.D. Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, 1896; a member of the American Medical Association; once a member of the Kansas state legislature; died at his home in Onaga, Kan., March 8, after a short illness, aged 43.

Charles Francis Joseph Kennedy, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1891; a member of the American Medical Association; obstetrician to Mercy Hospital, Springfield, Mass.; died in that institution from gastric ulcer, March 11, after a short illness, aged 41.

Harry E. Des Mond, M.D. Northwestern Medical College, St. Joseph, Mo., 1885; a member of the Missouri State Medical Association, Clinton County Medical Society, and Medical Society of the Missouri Valley; was found dead at his home in Plattsburg, Mo., March 10, from heart disease, aged 54.

Fay McVey Vanatta, M.D. College of Physicians and Surgeons, Chicago, 1905; a member of the American Medical Association; surgeon for the Nevada Douglas properties at Yerrington, Nev., died from typhoid fever, in Holy Cross Hospital, Salt Lake City, Utah, Oct. 7, 1907.

Ina Belle Hyde Reed, M.D. Woman's Medical College of Cincinnati, 1894; a member of the Medical Society of Virginia, and Brunswick County Medical Society; died at her home in Zingara, Va., Nov. 22, 1907, from pulmonary tuberculosis, after an illness of about five years.

Bailey James English, M.D. Western Pennsylvania Medical College, Pittsburg, 1903; a member of the Medical Society of the State of Pennsylvania and Fayette County Medical Society, died suddenly from heart disease, at his office in Brownsville, Pa., March 13, aged 29.

William Tibbitts, M.D. Bellevue Hospital Medical College, New York City, 1867; a member of the medical societies of the State of New York and County of Herkimer; supervisor of Danube Township from 1891 to 1896; died at his home in Newville, March 11, aged 70.

William Asbury Horrall (License, Indiana, 1897); an eclectic practitioner of Washington, Ind.; a veteran of the Civil War; for eight years postmaster, died at the home of his daughter in Indianapolis, March 9, from influenza, after an illness of seventeen days, aged 89.

F. W. Schroeder, M.D. University of Göttingen, Germany; of New Bremen, Ohio; who retired from practice about twenty-five years ago, died at the home of his daughter in Mt. Carroll, Ill., February 21, from senile debility, after an illness of two months, aged 86.

Richard A. Browne, M.D. Vanderbilt University Medical Department, Nashville, Tenn., 1885; a member of the Southwest Kentucky Medical Society; died at his home near Hickory Grove, Ky., March 6, after an illness of several months, aged 62.

J. B. George, M.D. University of Georgia, Medical Department, Augusta, 1905; a member of the Medical Association of Georgia and Irwin County Medical Society; died at his home in Ocilla, Ga., March 12, from nephritis, after a prolonged illness.

Frederick F. Ninde, M.D. College of Physicians and Surgeons, Baltimore, 1884; a member of the Medical Society of Virginia and Westmoreland County Medical Society; died at his home in Colonial Beach, Va., March 10, from cerebral hemorrhage.

Martin Luther Spence, M.D. Medical Department of Fort Worth (Texas) University; died at his home in Abilene, Texas, January 7, from typhoid fever complicated by cancer of the stomach, after an illness of sixty-three days, aged 41.

John M. Nickles, M.D. University of Louisville, Medical Department, 1876; president of the Sellersburg (Ind.) School Board; died at his home in Sellersburg, March 12, from cancer of the stomach, after an illness of three years, aged 60.

Arthur J. Varno, M.D. College of Physicians and Surgeons, Baltimore, Md., 1892; formerly a practitioner of New York City; died at the home of his father in Thompsonville, Conn., March 10, after an illness of four months, aged 36.

Dwight Flower, M.D. Albany (N. Y.) Medical College, 1865; a member of the American Medical Association; and for many years a practitioner of Monticello, Wis., died at his country home, near River Falls, Wis., March 15, aged 69.

Roy O. Totten, M.D. Cleveland University of Medicine and Surgery, 1896; fell from a window of his office in Cleveland, while attempting to adjust a sign, and fractured his skull, March 13, and died a few minutes later, aged 39.

Desire Q. Scheppers, M.D. Rush Medical College, Chicago, 1866; of Chicago; for twenty years a member of the staff of St. Joseph's Hospital; died at the Cook County Institution, Dunning, from endocarditis, March 10, aged 59.

Henderson D. Davenport, M.D. Indiana Medical College, Indianapolis, 1872; a veteran of the Civil War and a member of the local school board; died at his home in Sheridan, Ind., March 12, from intestinal paralysis, aged 62.

William Terry, M.D. Pennsylvania Medical College, Gettysburg; assistant surgeon during the Civil War; died at his home in Ansonia, Conn., January 14, from senile debility, after an invalidism of several years, aged 85.

William H. M. Philip, M.D. Rush Medical College, Chicago, 1881; a member of the American Medical Association; and one of the pioneer practitioners of North Dakota; died at his home in Hope, N. D., March 13, aged 55.

Alexander Scott Kirkpatrick, M.D. Pulte Medical College, Cincinnati, 1888; a practitioner for thirty-six years; died at his home in Lincoln, Ill., from senile debility, March 13, after an illness of two years, aged 75.

Charles Dickie Murray, M.D. University of Edinburgh, Scotland, 1889; captain in the Royal Army Medical Corps; and for several years physician to the Victoria Hospital, Halifax, N. S., died recently, aged 43.

F. M. Cannon, M.D. Kentucky School of Medicine, Louisville, 1857; of Oxford, Ky.; died at the home of his daughter in Lawrenceburg, Ky., March 10, from pneumonia, after an illness of ten days, aged 75.

John B. Humes, M.D. Rush Medical College, Chicago, 1867; one of the oldest practitioners of the Minnesota Valley; died at his home in Winnebago, Minn., from angina pectoris, March 9, aged 71.

George Enri Woodward, M.D. University of Vermont, College of Medicine, Burlington, 1865; died at his home in Morrisville, Vt., Nov. 11, 1907, from pneumonia, after an illness of nine days, aged 54.

Rufus F. Craft (Examination, Kansas, 1901); a veteran of the Mexican War; an eclectic practitioner; died suddenly at his home in Blue Rapids, Kan., March 8, from heart disease, aged 77.

Daniel Andrew Cochran, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1895; of Milo, Iowa; died at Mercy Hospital, Des Moines, March 11, from brain tumor, aged 35.

Anak A. Rowland, M.D. University of Louisville (Ky.) Medical Department, 1861; a Confederate veteran; died at his home in Atlanta, Ga., March 10, from nephritis, aged 73.

Erastus Berry, M.D. Detroit (Mich.) College of Medicine, 1871; for more than 50 years a practitioner of Eaton County, Mich.; died at his home in Bellevue, March 10, aged 84.

Edwin D. Warner, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1879; died at his home in Geneva, Ohio, March 16, after an illness of several months, aged 52.

Andrew J. Cook (Examination, Nebraska); a veteran of the Civil War; for many years a practitioner of Council Bluffs, Iowa; died suddenly at his home in Omaha, March 6.

Nicholas J. Barry, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1893; died at his home in Gainesville, Fla., Nov. 21, 1907, from tuberculosis, aged 43.

Frank B. Bysfield, M.D. Barnes Medical College, St. Louis, 1892; a veteran of the Civil War; died at his home in St. Louis, March 9, after a lingering illness, aged 60.

William J. Hitch, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1858; died suddenly at his home in Laurel, Del., March 10, aged 72.

Robert R. Robertson, M.D. Louisville (Ky.) Medical College, 1889; died at his home in Wichita Falls, Texas, March 10, after an illness of four years, aged 43.

John L. Howell, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1886; died at his home in Canyon, Texas, March 12, aged 57.

Robert F. Smith, a retired practitioner of Richmond, Va., died Dec. 27, 1907, from cerebral hemorrhage, after an illness of twenty-eight days, aged 61.

Fred Gunsaulus, M.D. Starling Medical College, Columbus, Ohio, 1881; died at his home in Columbus, recently, from septicemia, aged 49.

Henry J. Pool, M.D. Kentucky School of Medicine, Louisville, 1876; of Robard, Ky., was recently struck by an engine and killed, aged 70.

John P. Dullard, M.D. Bellevue Hospital Medical College, New York City, 1876; of Sidney, Neb.; died in Lincoln, Neb., March 14.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

TRUTH'S CAUTIONARY LIST.

List of Fakers of Various Sorts Exposed by a Wide-Awake London Paper.

Truth, of London, has issued its "Cautionary List" for 1908. This list, according to the editor's preface, contains the "various organizations, persons and firms which have incurred unfavorable notice in *Truth*. . . . Compilation is based on the broad ground that the necessity for caution exists in any dealing with the parties mentioned. . . . It can not be too strongly impressed on the public that there is a very large class of newspaper advertisements, postal circulars and personal communications in the shape of letters from strangers which should always be regarded with suspicion."

The contents of this little pamphlet are arranged alphabetically under different heads. Under "Religion and Philanthropy" are catalogued a number of those pseudo-charitable organizations which, in the name of suffering humanity, collect money, most, if not all, of which goes into the pockets of the representatives. There is nothing half-hearted about the methods used by *Truth* in dealing with these frauds, as the following extracts will show:

BROWNE, REV. W., president of the True Hope Society.—An ex-convict and unmitigated rascal who was sentenced in 1895 to seven years' penal servitude for bigamy under peculiarly heartless circumstances. He is a hypocrite of the most obnoxious type.

CHURCH SOCIETY FOR PROMOTING KINDNESS TO ANIMALS.—An unwanted society its *raison d'être* apparently being to provide its "warden," the Rev. F. Lawrence, with a means of subsistence. It is now practically defunct.

ROGERS, REV. J., a mysterious cleric, who was formerly a tout for American "universities" for the sale of their degrees, now offers to prepare candidates for holy orders. Originally agent for sale of the bogus degrees of the notorious "Universitas Nationalis Illinoiensis." Professes to teach by correspondence. [It is certainly cause for pride to know that the reputation of the above-mentioned Illinois "institution" has traveled so far.]

The above extracts are samples of the forty-three entries regarding persons and institutions which are to be regarded with suspicion or carefully investigated.

A considerable number of reports regarding "begging letter writers" follows, after which appear fifty-two reports on "medical quacks." Regarding this class of frauds, *Truth* says: "The number of these is a remarkable tribute to the gullibility of the British public and the almost equally remarkable exhibition of carelessness on the part of proprietors of newspapers and magazines who assist them in predatory frauds. A large proportion of the names on the list are of transatlantic origin, and it is worthy of note that many of these, while debarred under a 'fraud order' from using the mails in the United States, are allowed to practice in this country with perfect immunity from interference." So many of these enterprises are of American origin that we quote at length:

AMERICAN COLLEGE OF SCIENCES, Rochester, New York.—Sells a worthless course of instruction in personal magnetism and hypnotism. Together with the Yabe School, K. Leo Minges, John D. Quackenbos, and Monsieur G. A. Mann, is the enterprise of one F. D. Shoemaker, jeweller, of 59 Page Street, Providence, R. I.

DERK P. YONKERMAN COMPANY, Bouverie Street, London, E. C.—The advertisers of a cure for consumption called Tuberculozyne, which claims to produce its effect by newly discovered salts of copper. Analysis proves the claim to be fictitious, and the methods adopted by the "company" in their advertisements are sufficient to prove these Yankee adventurers quacks of the rankest description.

HAIG, DR. JOHN P., Cincinnati.—An American rascal who professes to possess a Goiter Cure for which he tries to obtain £2, but ultimately reduces the price to 15s.

KIDD, "DR." JAMES WILLIAM, Fort Wayne, Ind., U. S. A., and of 423 Saracen's Buildings, Snow Hill, London.—Advertises profusely all over the world, offering to cure all diseases, and to send a sample of his treatment "free." The remedies appear to be absolute humbug, and are supplied in quantities at extravagant prices, as much as £4 having been obtained from victims in some cases.

LIQUOZONE.—A nostrum very widely advertised by a firm of American quacks, calling themselves the British Liquozone Company, as a cure for all germ diseases. It is nothing more than a weak solution of sulphurous acid, a drug which is likely to prove dangerous if administered by inexperienced hands.

M. A. WINTER COMPANY, Pennsylvania Avenue, Washington.—Offers agencies to people of position to peddle their Nature's Sweet Restorer, a cure-all made up into "highly polished chocolate drops." Obtains the names and addresses of people by the purchase of old letters and postcards.

Mann, G. A., Monsieur, Rochester, N. Y.—A quack who declares his ability to cure cancer, consumption, and all sick people given up by the doctor. (See "American College of Science.")

K. Leo Minges, Rochester, N. Y., and 7 Avenue de l'Opéra, Paris.—The reputed proprietor of a "cartilage treatment," which is guaranteed to add two or three inches to the height. It is undiluted humbug. (See "American College of Science.")

Nutriola Company, Chicago, and 2 Cecil House, Charing Cross Road, London, W. C.—The enterprise of a Yankee named Hanson, the "President" of the company. Not content with advertising its ability to cure everything, the company has also advertised purchase of its shares as the shortest way to wealth. Nevertheless, a fraud order has been made against the company by the United States postal authorities, and it is worthy of remark that the president of the company has already been bankrupt in America. The London representative is named Noel.

Pierce Electric Company, 11 and 12 Finsbury Square, E. C.—Proprietors of Dr. Pierce's Galvanic Chain Belt, and a magnetic truss. The company hails from San Francisco, and after pretending to diagnose a case by correspondence, offers one of the above appliances as a remedy.

Pointing.—The following ten names are aliases of one A. L. Pointing, trading at Century House, Regent Street, W., and at 8 Blenheim Street, Oxford Street, W. Deals in ordinary quack remedies, mostly lifted with the advertisements and literature distributed in connection with them, from American quacks. "Antidipso" has been shown by the *Lancet* to be a downright swindle, and several of the other remedies are no better. The Grecian School of Physical Culture is a reproduction of a Yankee notion for teaching physical exercises by correspondence. Murray Co.—Artificial ear drums. Ward Chemical Co.—"Antidipso" drink cure. Capillus Manufacturing Co.—Superfluous hair destroyer. Helen Temple.—Superfluous hair destroyer. The Mr. T. Temple Association.—The Temple Nerve and Flesh Food. Mr. F. H. Temple.—Cure for blushing. Espanola Medicine Co.—Female bust improver. Fell Formula Association.—"Anti-fat" tablets. Magic Foot Draft Co.—Cure for rheumatism. Grecian School of Physical Culture.

Quackenbos, John D.—A suitably named "professor" of the healing art connected with the precious American College of Science, which see above.

Richard, "Professor."—An itinerant quack of Spanish-American origin, who poses as a "medical electrician." Is well known in all parts of the British Empire, in most of which he has got into trouble of one kind or another. He obtains his victims by means of public lectures, and is a dangerous scoundrel of a most disreputable type. Was brought to justice at Staffordshire Assizes in July, 1906, and sentenced to twelve months' hard labor.

Viavi Company, British, Regent Street, W.—A quack establishment of American origin, dealing in remedies for female ailments. Engages women, who go about the country pretending to possess medical knowledge, delivering "health lectures," which they have mostly learned by heart, and persuading deluded women that they are in serious danger unless they take the Viavi remedies, and submit themselves to the treatment of the Viavi agents. Is also busy in South Africa, where the Viavi Company agent was fined £400 last year for defrauding the Customs.

Quackery and charlatanism in England seem to be about as general as they are in the United States. Readers of The Journal will find a number of familiar names in the above list.

It will certainly cause the check of the American reader to glow with honest pride to know that so many a "university" or "institution of science" has emanated from the brains of our ingenious countrymen. Tuberculozyne, Liquozone, Magic Foot Draft (for particulars, see religious papers), Nutriola and Viavi also originated in this country and probably were able to establish themselves in London on the profits obtained from the American public.

Under the several headings, such as "Betting Agents and Others," "Various Gambling Systems," "Professional Agitators" and "Trick Advertisers," etc., the various fraudulent enterprises and confidence games to which the public is exposed are entered.

Under the heading, "Miscellaneous Practitioners," occur a number of entries of interest to physicians. We give below a few examples:

Griffiths, Dr. A. B., 171 Brixton Road, London.—Gives analysts' certificates to quack remedies for a fee of one guinea. Has a long string of foreign "honors" and American "degrees" attached to his name and was at one time "president" of the egregious Society of Science, Letters and Art.

International Institute of Physiology and Hygiene, 11 Queen Victoria Street, London, E. C.—Dr. J. Grant Stephen, Director of Laboratories, offers certificates of analysis on payment of a fee of one guinea for registration of the record.

Sharpe, Granville H., F.C.S., 11 Grace Tower Street, London, E. C.—A so-called analyst who makes a business of supplying tradesmen with certificates of the purity and genuineness of the goods they manufacture, for use as trade advertisements.

The above extracts will explain the ease with which "certificates of analysis" and "endorsement by prominent chemists" are frequently obtained.

Such a publication as "*Truth's* Cautionary List" is of great value, affording the best remedy obtainable for those frauds, viz., publicity. A similar publication in this country would be equally valuable and, we fear, more voluminous.

"No Knowledge of Medicine Necessary."

A correspondent in Cananea, Sonora, Mexico, has sent us a clipping from the *Cananea Herald*, which, as he remarks, is rather amusing for its frankness. Our correspondent says that Dr. Valenzuela is "immigration health officer for the Mexican government and is a sample of their ethical notions."

> Wanted—An industrious and sober man with small capital to join advertiser in the practice of medicine in Cananea, Mexico; no knowledge of medicine necessary. Address or call on Dr. M. R. Valenzuela, Naco, Sonora.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

Dr. John H. Blackburn, Director.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Note: Attention is called to the fact that during the next six months the elaborated outline provides for only four weekly meetings each month, whereas the second and fifth months, which were arranged according to the calendar, consisted of five weekly meetings. On account of this change, each society following the course from The Journal will find, in arranging its program, that two months will have five weeks, thus allowing an extra meeting. It is suggested that societies use these meetings to discuss tuberculosis, sanitation and other topics of general interest, to which meetings the public should be invited. They could also be used for joint meetings with the local pharmaceutical, dental or bar associations, at which subjects of common interest could be considered. Complete reports of such meetings, with programs and suggestions, will be helpful to other societies.

Seventh Month.

NORMAL AND PATHOLOGIC PREGNANCY.

First Weekly Meeting.

- Embryology.
- Multiple Pregnancy.
- Antenatal Pathology.

Second Weekly Meeting.

- Changes in Uterus and Appendages During Pregnancy.
- Changes in Other Organs and Structures During Pregnancy.
- Diagnosis of Pregnancy.

Third Weekly Meeting.

- Diseases Due to Pregnancy.
  - Toxemia.—Emesis.
  - Eclampsia.
- Medical Diseases Complicating Pregnancy.
- Surgical and Gynecologic Affections Complicating Pregnancy.

Fourth Weekly Meeting.

- Abortion.
- Extrauterine Pregnancy.

Monthly Meeting.

- Differential Diagnosis of Pregnancy.
- Management of Pregnancy.

First Weekly Meeting.

Embryology.

Ova: Origin, development; primordial ova, number, distribution and growth; Graafian follicle, formation, cells, discus, fluid; rupture of follicles, ovulation. Structure of ova. Maturation, formation of female pronucleus, relation of polar bodies to embryomas. Unfecundated ova.

Spermatozoa: Number, nuclei, movements, male pronucleus.

Fertilization: Segmentation nucleus, location.

Segmentation: Morula, vesicle, germ layers, trophoblast.

Migration: Sites, duration, forces.

Implantation: Time, action of trophoblast, primitive villi, maternal blood sinuses.

Decidua: Vera, serotina and reflexa.

Chorion: Formation, villi, syncytium. Frondosum and leve.
Amnion: Sac. Liquor amnii.
Allantois. Yolk sac. Cord. Placenta.
Embryo: Development to sixth week.
Fetus: Appearance and growth of organs, size, length.

Multiple Pregnancy.

Origin, arrangement of membranes and placenta, diagnosis, termination.

Antenatal Pathology.

Decidua: Acute infections, hyperplasia endometrii, hydrorrhea gravidarum.
Chorion: Hydatid mole, changes in villi, syncytium, stroma, vessels. Symptoms and treatment. Chorioepithelioma.
Placenta: Abnormalities in shape, size and weight. Adherent placenta. Placental infection, syphilis, infarcts. Calcareous degeneration.
Amnion: Hydramnios; causes, symptoms, diagnosis, treatment. Oligohydramnios. Amniotic bands.
Cord: Velamentous insertion, stenosis, abnormal length.
Embryo: Malformations and monstrosities of germinal and embryonic periods. Nutritional and infectious diseases. Traumatism of embryo and fetus.

Society Proceedings

COMING MEETINGS.

Medical Association of District of Columbia, Washington, April 2.
Mississippi State Medical Association, Natchez, April 14.
Tennessee State Medical Association, Knoxville, April 14.
Florida Medical Association, Ocala, April 15.
Medical Association of Georgia, Fitzgerald, April 15.
South Carolina Medical Association, Anderson, April 16.
American Assn. of Pathologists and Bacteriologists, Ann Arbor, Mich., April 17 and 18.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Regular Meeting, held March 6, 1908.

Dr. Charles H. Peck in the Chair.

Treatment of Popliteal Aneurism by the Reconstructive Method.

Dr. J. F. Binnie, Kansas City, Mo., confined his remarks to a consideration of the possibility of obliterating the aneurism, and, at the same time, reconstructing the artery in such a fashion that the circulation through it may be restored. Dr. Binnie has used Matas' operation in two cases. In the first he did not recognize at the time that he was doing a reconstructive operation. He closed the single small opening into the sac and then obliterated the sac. In both cases the result as regards cure of the aneurism was good, but in neither could it be proved that the circulation was re-established through the vessel. In a third case, the operative technic differed from Carrel's, in that freshly cut arterial wall was not approximated, but two endothelial lined surfaces were brought together, as in Durrance's method of arteriorrhaphy by eversion. The artery, as a whole, was very seriously diseased. The result of the operation was a failure, but a failure which came near being a success. The closure persisted for two weeks, and then only about one-third of the line of union gave way. This failure encourages one to hope that under more favorable circumstances success may be confidently expected, and that, perhaps, in some cases of sacculated aneurism of the abdominal aorta, it may be possible to open the aneurism sac, close the opening in the aorta, support the line of suture by obliterating the sac by means of sutures and so make the weakest point in a weak aorta as strong as the rest of the vessel.

Personal Experience with the Modern Method of Treating Aneurism.

Dr. Robert Abbe reviewed briefly the different methods of treating aneurisms employed during the past thirty years. He first employed Matas' method in 1905, in a popliteal aneurism of considerable size. A perfect cure followed without the slightest peril to the circulation of the foot. Two things impressed him as especially gratifying. He left the work with no anxiety that he might have cut off a single superfluous drop of blood, as he might have done had he tied the femoral artery. And he felt that no recurrent anastomosis by the lower open mouth vessel which he sutured could continue dissecting. The method was tried in a second case, a man, 24 years old, who had right sciatic neuralgia for three months, disability in walking, swelling of the right foot, etc. Examination revealed a spherical, pulsating tumor, three inches in diameter, beneath the gluteus muscle, at the sciatic notch. The sciatic nerve had been caught and pressed against the bone causing this neuralgia. This was a particularly good case of operation by the plastic method, because ligation of the external iliac, while it would temporarily arrest the current, would allow free anastomosis and possible return, meanwhile leaving the distended sac to continue sciatic pressure. An immediate recovery followed the operation, and there has been no recurrence of the tumor or sciatic pain. This was a brilliant illustration of the reliance to be placed on the plastic union of opposing walls of an artery, held in contact and irritated by the needle puncture and thread. Dr. Abbe said that if a suitable case of aortic aneurism in the abdomen presented itself, he thought it would be justifiable to combine this valuable method with the one illustrated by him in 1894. He then showed the effect of introducing sterile glass tubes, of sizes suitable to the artery, into the lumen of divided vessels, and tying the arterial wall over each end of the tube, the latter being filled with salt solution, just before letting the current resume its course through it. He saw no reason why an aortic aneurism below the superior mesentery might not be so treated. The current being arrested by strong pressure against the vertebræ, the sac might be split, a tube inserted and tied in at either end, and a suture of the aneurismal wall made tightly about the tube. It is probable that solid closure of the whole track would take place in a week, and occlusion of the aorta above and below would be effected by endarteritis from the presence of the tube. Meanwhile, free anastomosis would surely be established in the lower limbs.

A Case of Popliteal Aneurism Presenting Unusual Difficulties to the Application of the Matas Operation.

Dr. Joseph A. Blake found that the communication between the artery and the sac was about one inch long, and was situated less than one-half an inch to the outer side of the incision in the sac, the artery, therefore, lying on the superficial aspect of the sac. This rendered the introduction of any sutures exceedingly difficult. The proximal communication with the aneurism was closed, while the continuity of the vessel below that point was restored. It was a question whether a typical restorative or reconstructive operation was indicated for popliteal aneurism, since the constant flexing of the joint subjected the vessel to much traumatism. On theoretical grounds, the former was better. The only relapses that have been reported from the Matas operation have followed reconstructive operations on popliteal aneurisms. These operations are, of course, only feasible in saccular aneurisms. Even in these, it seemed to him that the obliterative operation was more conservative, for conditions demanding the preservation of the continuity of the vessel must be rare indeed. The possibility of thrombi becoming detached and causing emboli must be borne in mind, although this accident did not seem to have happened other than after the obliterative operation. In this instance, gangrene followed an obliterative operation on a femoral aneurism, an embolus lodging at the bifurcation of the vessel. There seemed to be a general impression, based on a faulty conception of the principles of the Matas operation, that its main purpose is the conservation of the continuity of the vessel, while it in reality is the least important feature of the technic.

The Serous Coat of Blood Vessels Compared with the Peritoneum.

Dr. Robert T. Morris said that the serous coats of blood vessels act very much like the peritoneum. They adhere promptly when brought into close apposition; they pour out plastic lymph, which quickly becomes replaced by connective tissue, and covered by new endothelium, just as the same process occurs in peritoneal reparative processes. It is the quick response of the serous coats that makes successful suturing of blood vessels possible; and septic processes of these coats act very much like septic processes of the peritoneum. From a practical standpoint, endothelial proliferation is quite as important in carrying on repair in blood vessels as it is in the peritoneum. Silver wire and other substances introduced into the cavity of an aneurism probably act precisely as they would in the peritoneal cavity, by causing an exudation of coagulable lymph from a serous coat, leading to adherence of the endothelial walls. Manual pressure on the walls of ar aneurism probably does the same thing, and the coagula which occur probably begin as lymph coagula, formed in response to irritation of the serous surfaces.

DISCUSSION.

Dr. Robert F. Weir believes that all operations for the cure of aneurisms, including the Matas, are full of errors, and that the Matas operation is not likely to hold a place against the ligature method. However, it might be used with benefit in aneurisms at the root of the neck.

Dr. John A. Wyeth said that aneurism of a single artery is one of the gravest surgical lesions, and its gravity is in proportion to the nearness of the tumor to the heart. Those aneurisms situated in one of the double arteries of the extremities require no special consideration. Situated on the brachial, the femoral or popliteal, the brilliant procedure of Matas, applied in reconstruction, might be entertained seriously. Reconstructive arteriorrhaphy may find its place in dealing with axillary, or with subclavio-axillary aneurisms when only the third part of the subclavian is involved. He reported the case of right subclavio-axillary aneurism, in a right-handed baseball pitcher, which was cured by compression, persistently and judiciously employed, together with absolute quiet in bed, combined with compression, nutritious diet, restriction of fluids, and medicines as indicated. In right subclavian aneurism, it is better to treat by distal deligation of the right carotid artery as a primary operation, to be followed by distal deligation of the subclavian in its third division, and later, if necessary, by excision of the inner half of the clavicle. The ligature of the right carotid not only aids coagulation by throwing the retarded current back on the innominate, but guards against the accident of embolism. Aneurism of the innominate artery should be treated in the same manner. What has been said of the right subclavian would apply to that on the left side, leaving off the ligature of the primitive carotid of that side. When possible, aneurism of the carotid artery should be treated by deligation on both sides of the tumor, the distal ligature being tightened first to prevent the possibility of the clot being carried to the brain. Aneurism of the primitive carotid near the innominate or near the arch of the aorta must of necessity be treated by distal ligature. Aneurisms of the internal carotid Dr. Wyeth has treated successfully by tying the common trunk at the bifurcation, and the external carotid at the same point, thus insuring stagnation between the ligature and the circle of Willis. In three successful instances he applied the ligature at the crotch of bifurcation in aneurisms of the external carotid, the catgut including in its grasp the origin of the superior thyroid, which practically comes from the common trunk. In aneurisms of the ascending segment of the aortic arch he had tied, simultaneously, the right carotid and the right subclavian, with the result of solidification in a large spherical aneurism over three inches in diameter. The patient died a year later of another disease, and the autopsy demonstrated the success of the operation. In another instance, a similar operation was done on the left side on account of a large aneurism of the transverse segment, with a fatal issue. A very interesting case of aneurism of the ascending segment of the aorta which had whetted through the ribs and presented a large dome-shaped tumor, seemingly covered only by a thin skin of the chest wall, and in which death seemed imminent from rupture, he treated by introducing 25 or 30 silver pins, about two inches long, which were stuck full length into the tumor as one would stick pins into a pin cushion. They were left in place for about thirty-six hours, were removed and a week later were reintroduced. Peripheral solidification followed the first procedure, and gradually the tumor was reduced in size and the man went back to his work as a carriage painter. About a year later he fell dead while at work, presumably from cerebral embolism.

Dr. Wyeth said that if he was leaning over-much toward the side of conservatism, it was because he had learned this lesson in an early and quite extensive experience, and in a careful analysis of all of the cases of aneurism which have been reported. He had already reported a synopsis of 22 cases of subclavian aneurism in which no treatment whatever was undertaken, with 18 deaths and 4 spontaneous cures. Of the 4 cured patients, 3 remained well and 1 died four years later from a rupture of an aortic aneurism. Of the 18 fatal cases, in which no treatment was undertaken, 3 patients died of other diseases than the aneurism. Of 13 cases in which the duration of life was noted, after the recognition of the aneurism, the sum total was 47 years and 9 months. He compared this with the sum of life in 13 cases after the deligation of the innominate, which was eight months, a difference in favor of non-interference (in an equal number of cases), at that time of about 47 years of life. He also reported 14 cases treated by rest in bed, nutritious diet, restricted fluids and judicious medication; 7 patients were cured, 2 were improved and 5 died. Of 6 cases treated by direct pressure on the sac, 4 patients were cured and 1 patient died.

Dr. B. Farquhar Curtis thought there was danger of trying to do experimental work without having much regard for the cure of the patient. The majority of popliteal aneurisms, he said, can be cured safely and simply by ligation of the superficial femoral artery. If recourse was to be had to a more extensive operation, he believes in extirpating the sac. He has extirpated the sac three times in popliteal aneurisms, once in aneurism in the axillary space, and once when the aneurism involved the femoral artery. The reconstructive method, however, he thought to be worthy of trial in certain cases.

Dr. Arpad G. Gerster said that since this reconstructive method was still *sub judice*, it is best not to employ it, except in cases where the method is strictly indicated. He advised against its indiscriminate use. Twenty-five years ago aneurisms were met with quite frequently; to-day he rarely sees one, especially at the Mt. Sinai Hospital. He has seen but one case during the past five years at this hospital. He attributed this to the fact that they cared for Hebrews; due to early marriages and to the rite of circumcision, which toughens the glans penis, syphilitic infection is less commonly met with. Then, again, this race is employed in trades and occupations which do not require much physical exertion. This probably explains why so few aneurisms are met with in this race. Dr. Gerster has treated two cases of thoracic aneurism by the introduction of piano wire, and both patients died, not in consequence of, but in spite of the operation. One patient survived three months, the other six.

CHICAGO MEDICAL SOCIETY.

Meeting, held Feb. 12, 1908.

The President, Dr. H. B. Favill, in the Chair.

SYMPOSIUM ON ARTERIOSCLEROSIS.

Etiology of Arteriosclerosis.

Dr. Alfred C. Croftan said that underlying most cases of arteriosclerosis there must be a predisposition, or there may be a deep-seated metabolic perversion of undefined origin. The experimental method of determining the specific causes of arteriosclerosis so far has produced scanty results and none of the reports in regard to experimental arteriosclerosis is free from ambiguity. Metabolic disorders, notably diabetes, gout, obesity and autotoxemias, very frequently are associated with arteriosclerosis. That functional inadequacy of important disintoxicating and eliminating organs can cause flooding of the blood and tissue juices with abnormal products is clear; that many of the latter can raise blood pressure as well as cause arterial inflammation is established. Here, undoubtedly, must be sought the most common and incidentally the most apparent and the most readily demonstrable cause of arteriosclerosis; and it is here that the experimental method promises to furnish the most fruitful results.

Experimental Arteriosclerosis.

Dr. Joseph L. Miller said that arterial changes have been produced by the intravenous injection of nicotine, barium chlorid, physostigmin, digalen, potassium iodid, and with tobacco, lead and alcohol introduced into the stomach. The changes produced experimentally are confined primarily to the media, a rapid degeneration of the muscle cells, with deposit of lime salts, differing from the usual form of arteriosclerosis in man, where the intima is involved, but resembling the changes found in the peripheral arteries of the aged and of the coronary and peripheral vessels of man, following acute infections.

The etiology of these experimental changes has not yet been determined. That high pressure is not essential is shown by the readiness with which changes occur after alcohol. Apparently, the toxic element is an important, if not the only, cause. Attempts have been made to prevent these changes by combined injections of iodids and adrenalin, but without success, as it has been shown that animals thus treated are more subject to change than those receiving adrenalin alone.

Cardiac and Renal Considerations.

Dr. Arthur R. Elliott pointed out that blood pressure observations have thrown much light on the clinical conception of arteriosclerosis, principally by showing that the arterial changes may be disseminated very irregularly, and that, unless they involve the small arterioles or the great arterial trunks, they may not disturb blood pressure or cause cardiac hypertrophy. The blood pressure and condition of the heart should be ascertained carefully in every case. The existence of cardiac hypertrophy depends on the presence of hypertension and the condition of the coronary arteries. If coronary sclerosis is present, the heart may not hypertrophy, but an all-round myocardial degeneration results instead. Angina pectoris, aortic sclerosis, aneurism, pulmonary sclerosis, with emphysema and chronic bronchial catarrh, and Adams-Stokes' disease, were referred to as centric developments in arterial disease. Heart failure is a frequent occurrence among patients with sclerotic hearts, and the sclerotic heart of an individual past middle life is distinguished by the ease with which its rhythm is disturbed by reflex causes. The nervous heart of people beyond middle life is usually the seat of chronic myocarditis of arteriosclerotic origin.

Dr. Elliott claimed that most of the cases diagnosed as chronic interstitial nephritis in men beyond middle life were not Bright's disease at all, but arteriosclerotic renal atrophy, a much milder and more gradual process, with much better prognosis. Non-inflammatory ischemic atrophy of the kidney is met with in certain cases of arterial disease. It is difficult of recognition, owing to its uncertain symptomatology.

Arteriosclerosis of Nervous System.

Dr. Hugh T. Patrick said that advanced arteriosclerosis may exist in the central nervous system when accessible arteries show little or no change. Marked arteriosclerosis may be found in other parts of the body and the vessels of the brain and cord be very good. Pronounced sclerosis of brain and cord arteries sometimes produces no symptoms at all. Supposing that neither thrombosis nor hemorrhage has occurred, there is not a single symptom of arteriosclerosis of the nervous system which may not be caused by conditions other than vascular disease. In very many instances in which arteriosclerosis of brain or cord or both does cause symptoms, other pathologic conditions contribute to the total symptom-complex presented by the patient. The most unequivocal symptoms of arteriosclerosis are due not directly to the change in the vessel walls, but to injuries of nervous tissue by thrombosis and hemorrhage. Of these, thrombosis is the more frequent. Indeed, a large part of the symptomatology of arteriosclerosis of the central nervous system is due to repeated or multiple thromboses, or occlusions, of small arteries. Next to vascular occlusion, probably the most frequent cause of symptoms induced by arteriosclerosis is sudden or rapid change in the blood current; and next to this, impairment of nutrition from diminished blood supply.

Examination of the radial artery is of the least importance; the brachial is better. The dorsalis pedis and posterior tibial (combined) are much more significant, and in many cases the carotids are the most indicative. Simultaneous compression of both carotids, in the arteriosclerotic, induces faintness, giddiness, blurring of vision, scotomata, tinnitus, localized paresthesia, obscuration of consciousness and even graver symptoms. Indeed, it is to be used with greater circumspection.

Prominent among the symptoms of cerebral arteriosclerosis are brief or transient seizures of various kinds, and of these, attacks of dizziness are probably the most frequent. Ordinarily they are not very severe, but they do attain a degree equal to the most violent Ménière's disease so that the patient drops helpless to the ground. Other seizures are fainting attacks, transient aphasia, blurring of vision or tinnitus. Still others are apoplectoid. Closely allied to these transient attacks must be the epilepsy of arteriosclerosis. This epilepsy like any epilepsy, may present the features of the grand mal, the petit mal or the Jacksonian type. Arteriosclerosis alone does not cause epilepsy. There must be an added element in the way of cortical instability, neurotic predisposition, toxemia or other influence which plays the rôle of predisposing or exciting cause. Coexisting nephritis, myocarditis, constipation or sluggish elimination often has much to do with symptoms attributed to arteriosclerosis.

Arteriosclerosis of the spinal cord may be divided into the sudden or rapid and the slowly progressive. A very large proportion of what currently passes for acute myelitis is not inflammation at all, but myelomalacia, acute softening from vascular occlusion. The chronic cases are more frequent and present several types. One may have intermittent claudication from spinal disease as well as from sclerosis of the arteries of the lower extremities, as described by Charcot. Then, there is the sensory type, in which the patient complains of paresthesia, numbness, pain in the legs and in which very considerable ataxia may appear. The most frequent form is the more purely motor in which the legs gradually lose strength, generally with some rigidity or at least a feeling of stiffness.

Ophthalmic Findings in Arteriosclerosis.

Dr. George F. Suker said that it is requisite to differentiate the fundus lesions due to an angiosclerosis with a subsequent nephritic element from the lesions due to interstitial or parenchymatous nephritis with a secondary arteriosclerosis. The former are not nearly as often accomplished by inflammatory changes as the latter; in fact, the lesions are mainly due to nutritive disturbance, hence are essentially and primarily atrophic, while the latter often manifest acute or subacute inflammatory changes, which are subsequently followed by atrophic changes. The so-called primary arteriosclerotic changes are obviously chronic in nature, and are not of as serious a prognostic import as the ones following vessel changes dependent on a primary kidney lesion.

The arteriosclerotic process is not always uniform in extent or intensity; usually the peripheral vessels are the first to show the evidences. The eye symptoms vary considerably, depending on whether the anterior or posterior ocular vessels are principally involved. In the involvement of the former we have lens involvement or secretory disturbances, while with the latter, retinal, chorioidal or optic nerve implications. The hemorrhages into the conjunctiva are much more serious and denote a more widespread angiosclerosis than the retinal ones.

A very early and significant fundus appearance is the compression of a vein by a crossing artery, because of the sclerosis. In this instance there is an ampulliform dilatation of the vein on one side. There always is, also, an increase in the light streak on the vessel, with a distinct narrowing of the vessel caliber. Glaucoma, cataract, chronic chorioidal, retinal or vitreous degenerations may result from an arteriosclerosis. The peripheral retinal vessels are frequently the very first terminal vessels to show definite arteriosclerotic changes.

General Symptomatology.

Dr. Robert H. Babcock said that the character and severity of the symptoms must be determined by the location, extent and degree of the sclerotic changes. He divided cases of arteriosclerosis into two main groups or types—the lean and the corpulent. In the former, the diffuse changes are most frequently encountered. The accessible arteries, particularly those of the extremities, may feel hard and wiry, or like a string of minute beads, with consequently inadequate circulation in the areas they supply. The heart may or may not show appreciable hypertrophy, and yet derangement of the various organic functions may be surprisingly inconspicuous.

The symptoms referable directly to the heart are often remarkably few and slight in proportion to the disclosures of clinical and pathologic examinations. The pulse may be somewhat accelerated, entirely regular or disturbed in rhythm, and systolic blood pressure may fall within normal limits. In short, the clinical picture is comprised of the objective findings rather than of the subjective symptoms. There is one fact, however, which should be kept in mind, and that is the enfeebled resistance to what seem, at first sight, to be trivial ailments displayed by individuals with stiff arteries.

In the fat and flabby type the sclerotic changes are not so pronounced in the peripheral vessels, and unless sought for may be overlooked by the physician. General nutrition is not so seriously impaired. The whole arterial system is more or less invaded by the degenerative change, but the dominant features of the clinical picture pertain to one or more of the vital organs. In general, it may be said, that the aorta and its primary branches bear the brunt of the diseased process. As a rule, the abdomen is well developed. The sclerosis is most pronounced in the mesenteric arteries, or those arteries supplied by the splanchnic nerve.

Many of these persons never die directly of the effects of the arteriosclerosis, but of pneumonia or some other infection to which their vascular changes predispose them, and which they are unable to resist; or, as is not seldom, of some chronic infection, which may be responsible for their arteriosclerosis.

Treatment.

Dr. G. W. Hall said that the blood should be kept in as nearly a normal condition as possible in order to preserve the nutrition of the walls and prevent loss of elasticity. Avoid excessive or violent muscular efforts. Massage deeply to the muscles, with passive movements with slight resistance on the part of the patient. Avoid high altitudes. Do not vary the daily methods of life. Avoid sudden changes of temperature. Watch the elimination. Baths are of service, such as those of Nauheim, or warm baths or hot air baths.

Medicinal measures consist in promoting metabolism and decreasing arterial pressure. But few preparations are of value in this connection. Potassium iodid, in daily doses of .65 to 1.5 gm., except in specific cases, when the dose should be larger, is useful, and the nitrites and nitroglycerin to relieve symptoms of spasmodic nature. Iron is of value, especially when the kidneys are involved. Basham's mixture is then recommended. A combination of iron and arsenic may be taken after meals. The iodids may be given for a certain number of weeks and stopped for a time, during which period the nitrites are of value. Thyroid extract must be carefully watched if given. Digitalis is indicated only in case of cardiac insufficiency, and then alternating with small doses of nitroglycerin. Strophanthus may be substituted for digitalis. The diet should be simple, consisting of proteids in small amounts, vegetables, milk, carbohydrates. Minimize the amount of tea, coffee, alcohol and tobacco.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Rhode Island State Board of Health, Room 313, State House, Providence, April 2-3. Secretary, Dr. Gardner T. Swarts, Providence.

Georgia Eclectic Board of Medical Examiners, Atlanta, April 4. Secretary, Dr. Charles H. Field, 235 Capitol Ave., Atlanta.

Arizona Board of Medical Examiners, Phoenix, April 6-7. Secretary, Dr Ancil Martin, Phoenix.

Utah State Board of Medical Examiners, Salt Lake City, April 6-7. Secretary, Dr. R. W. Fisher, Salt Lake City.

Colorado State Board of Medical Examiners, Denver, April 7. Secretary, Dr. S. D. VanMeter, 1723 Tremont Place, Denver.

Minnesota State Board of Medical Examiners, St. Paul, April 7. Secretary Dr. W. S. Fullerton, 214 American National Bank Building, St. Paul.

California State Board of Medical Examiners, San Francisco, April 7. Secretary, Dr. Charles L. Tisdale, 1879 Sutter St., San Francisco.

Idaho State Board of Medical Examiners, Cœur d'Alene, April 7. Secretary, Dr. W. F. Howard, Pocatello.

Montana State Board of Medical Examiners, the Capitol, Helena, April 7. Secretary, Dr. W. C. Riddell, Helena.

North Dakota State Board of Medical Examiners, Grand Forks, April 7-9. Secretary, Dr. H. M. Wheeler, Grand Forks.

Florida Regular Board of Medical Examiners, Ocala, April 13-14. Secretary, Dr. J. D. Fernandez, Jacksonville

New Mexico Board of Health and Medical Examiners, Santa Fe, April 13-14. Secretary Dr. J. A. Massie, Santa Fe.

Arkansas Homeopathic Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. V. H. Hallman, Hot Springs.

Arkansas Eclectic Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. A. J. Widener, Little Rock.

Arkansas Regular Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. F. T. Murphy, Brinkley.

District of Columbia Board of Medical Supervisors, Washington, April 14-17. Secretary, Dr. George C. Ober, 210 B. St. S.-E., Washington.

West Virginia State Board of Health, Parkersburg, April 14-16. Secretary, Dr. H. A. Barbee, Point Pleasant.

Illinois State Board of Health, Northwestern University Building, Chicago, April 15-17. Secretary, Dr. J. A. Egan, Springfield.

Higher Requirements at Three More Colleges.

Dr. Samuel W. Lambert, dean of the College of Physicians and Surgeons, the Medical Department of Columbia University, informs us that the faculty has raised the entrance requirements, beginning September, 1909, to two full years of study in an approved college or scientific school, which course must have included instruction in physics, chemistry and biology.

Dr. J. N. Simpson, dean of the College of Medicine of West Virginia University, informs us that beginning with the session of 1909, in addition to fifteen units of secondary work, one year of collegiate work, including courses in physics, chemistry, biology and modern languages will be required for admission.

Dr. W. Henry Wilson, registrar, announces that on or before Jan. 1, 1910, the Hahnemann Medical College of Chicago will require for admission an additional year in physics, chemistry, biology and modern languages.

This makes 27 medical colleges which by 1910 will be requiring two or more years and 60 colleges which will be requiring one or more years of work in a liberal arts college for admission to the study of medicine.

California December Report.

Dr. Charles L. Tisdale, secretary of the California Board of Medical Examiners, reports the written examination held at Los Angeles, Dec. 3-5, 1907. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. Applicant must not fall below 60 in any one branch. The total number of candidates examined was 75, of whom 31 passed and 44 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Southern California	(1905) (1906) (1907)	77.7 75.8, 82.2 76.8, 77.1, 78.9, 81.1
Cooper Med. Coll.	(1906) (1907)	80.2 76.5, 78.4, 80.2, 84.1
College of P. and S., San Francisco	(1907)	80
University of California	(1907)	77.4, 86.3
Colorado School of Med	(1907)	78.3
Rush Med. Coll	(1907)	86.9
College of P. and S., Keokuk	(1890)	85.8
Harvard Med. School	(1905)	93.7

University of Michigan	(1905)	87.8
Detroit Med. Coll	(1876)	96.9
University of Minnesota	(1901)	87.9
Bellevue Hosp. Med. Coll	(1904) 83.6; (1898)	82.5
University of Pennsylvania	(1906)	76.1
Hahnemann Med. Coll., Philadelphia	(1899)	76.6
Jefferson Med. Coll	(1907)	80.9
University of Toronto, Ontario	(1902)	86.1
Queen's College, Belfast, Ireland	(1904)	77.9
Westminster Hospital College, London	(1900)	78.4
University College, London	(1885)	85.2

FAILED.

University of Southern California	(1904) 60.2; (1906) 67.4, 70.7; (1907) 75.6.	
California Med. Coll., Eclectic	(1906)	63.6
College of P. and S., San Francisco	(1904) 8.1; (1906) 72.9; (1907) 65.6, 77.	
Cooper Med. Coll	(1903) 67.2; (1907)	71.2, 71.7
College of P. and S., Los Angeles	(1907)	77.5
Georgetown University	(1900)	74.7
Northwestern Univ. Med. School	(1904)	71.6
Hahnemann Med. Coll., Chicago	(1901) 64.1; (1905)	52
College of P. and S., Chicago	(1906) 78.2; (1907)	74.1, 80.5
University of Iowa	(1885) 64.8; (1907)	73.8
Kansas Med. Coll	(1892)	46.7
Louisville Med. Coll	(1897)	46.1
University of Louisville	(1905)	66.7
Med. School of Maine	(1895)	85.9
University of Maryland	(1907)	74.1
Harvard Med. School	(1906)	66.4
Tufts Coll. Med. School	(1905)	17.5
University of Missouri	(1897)	74.7
University of Michigan	(1879) 69.3; (1884) 81.2; (1886) 66.4; (1891) 67.9; (1892) 69.1.	
College of P. and S., New York	(1900	71.1
Bellevue Hosp. Med. Coll	(1878) 68.2; (1880)	64.9
Ensworth Med. Coll., St. Joseph	(1898)	61.2
University Med. Coll., Kansas City	(1903)	47.6
New York Homeopathic Med. Coll	(1902)	79.8
Hahnemann Med. Coll., Philadelphia	(1895)	78.2
University of Pennsylvania	(1895)	81.6
Jefferson Med. Coll	(1893)	62.7

New Hampshire January Report.

Mr. H. C. Morrison, regent for the New Hampshire State Board of Medical Examiners, reports the examination at Concord, Jan. 14-15, 1908. The number of subjects examined in was 7; total questions, 70; percentage required, 75. The total number of candidates examined was 16, of whom 12 passed and 4 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Georgetown University	(1906)	81
Medical School of Maine	(1905) 78; (1906)	80
University of Maryland	(1886)	75
Harvard Med. School	(1903)	81
Tufts Coll. Med. School	(1906) 86; (1907)	77
Dartmouth Med. School	(1906) 71; (1907)	81
University of Vermont	(1906)	75
McGill University, Montreal	(1903) 81; (1907)	76

FAILED.

Baltimore University	(1903)	55
Baltimore Med. Coll.	(1903)	63
Maryland Med. Coll.	(1905)	63
Laval University, Quebec	(1905)	63

Minnesota January Report.

Dr. W. S. Fullerton, St. Paul, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, Jan. 2-4, 1908. The number of subjects examined in was 15; percentage required to pass, 75. The total number of candidates examined was 13, of whom 4 passed and 9 failed. Eight reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED.

College	Year of Graduation.	Medicine.	Surgery.	Obstetrics.	Mat. Medica.	Anat. and Hist.	Physiology.	Chem., Urinal., Bac.	Path., Eye and Ear.	Prev. Med. & Med. Juris.	Dis. of Women & Chil.	General Average.
Rush Med. Coll	1907	73	78	75	83	77	78	75	90	76	76	78.1
Chicago Coll. of M. & S.	1907	75	95	76	85	76	75	58	83	76	74	77.3*
Univ. of Mich.	1907	82	71	87	87	80	90	75	85	82	77	81.6
Univ. of Pa.	1903	87	92	82	71	84	77	79	96	86	81	83.5

FAILED.

Georgetown Univ.	1906	79	55	75	76	78	78	70	82	80	73	74.6
Chicago Coll. of M. & S.	1905	59	84	69	62	72	66	52	70	62	74	67. *
Ft. Wayne C. of M.	1905	61	70	79	69	77	75	58	66	76	76	70.7†
Baltimore Med. Coll.	1907	68	90	76	69	74	75	59	72	74	74	73.1*
Hamline Univ.	1906	70	90	66	71	78	75	63	74	73	72	73.2‡
Hamline Univ.	1907	73	64	67	75	52	75	57	81	74	74	69.2*
Univ. of Minn.	1907	75	78	66	75	67	66	68	83	76	71	72.5*
Queen's Univ.	1905	68	79	71	79	81	76	61	78	77	78	74.8
Queen's Univ.	1906	78	83	60	63	76	75	53	68	75	76	70.7*

* Second examination.
† Fifth examination.
‡ Sixth examination.

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Rush Med. Coll (1904)	(1902)	Iowa
Chicago Homeo. Med. Coll	(1884)	Iowa
Keokuk Med. Coll., Coll. of P. and S	(1907)	Iowa
University of Louisville	(1895)	Kentucky
Hospital Coll. of Med., Louisville	(1904)	Indiana
Eclectic Med. Inst., Cincinnati	(1881)	Ohio
Toledo Med. Coll	(1897)	Ohio

The following questions were asked:

ANATOMY AND PHYSIOLOGY.

1. Give the histology of a nerve trunk. 2. Describe the origin, relations and distribution of the fifth pair of cranial nerves. 3. Describe the cardiac valves. Between what points on the surface are they situated? 4. Describe the fourth ventricle. 5. Describe the portal vein. 6. Describe the throracic duct. 7. Describe the azygos veins. 8. Give names and general description of the flexor muscles of the forearm. 9. Describe the pronator muscles. 10. Describe the supinator muscles.

PHYSIOLOGY.

1. Describe the human blood, giving reaction, specific gravity, constituents, etc. 2. Describe the secretion of urine. 3. What is the composition, reaction and function of the pancreatic juice? 4. Describe the pulmonary circulation and the changes which are produced in the blood by aëreation. 5. Describe the secretion of milk, and give the composition of human milk and cow's milk. 6. What are the functions of the skin? 7. Describe the normal heart sounds, give probable reasons for same and tell where best heard. 8. Enumerate the functions of the spinal cord and its special centers. 9. Explain the physiology of visual accommodation to light and distance. 10. Give the physiology of menstruation.

Note.—Credits will be given for all diagrams used in explaining questions.

BACTERIOLOGY.

1. In what diseases have the specific micro-organisms been recovered from the blood? 2. (*a*) Give fully the technic of finding the tubercle bacillus in suspected sputum. (*b*) What is Gram and Weigert's method of staining? Illustrate its differential value. 3. Describe the preparation of diphtheria antitoxin. How is its action explained? 4. Describe the morphology of the micro-organisms causing tetanus, gonorrhea, spinal meningitis, relapsing fever. Give mode of infection. 5. (*a*) What is the present status of the bacteriology of scarlet fever, rheumatism and syphilis? (*b*) Give morphology and cultural properties of the *Diplococcus pneumoniæ*.

CHEMISTRY AND URINALYSIS.

1. Define specific gravity; an acid; a base; allotropy; synthesis. 2. (*a*) Give law of definite proportions; (*b*) give tests for iodin, silver, mercury. 3. Give a test for sewage contamination of drinking water. What do you consider a good drinking water? 4. Give fully the clinical significance of albuminuria. Name the urinary casts and the commonly associated kidney lesions. 5. Give a test for indican. What is its clinical significance? 6. What is the diazo-reaction of Ehrlich and its significance? 7. How do you estimate urea? 8. What is the diagnostic value of tests for organic acids found in stomach contents? Describe a test for lactic acid. 9. What is the normal reaction of cow's milk? Why is it important to determine the reaction before sterilization? 10. Give test for blood. What is the freezing point for blood?

PATHOLOGY.

1. Give pathology of anemia, pernicious anemia and chlorosis. 2. Describe changes in chronic alcoholism. 3. Pathology of carcinoma of liver. 4. Give pathologic findings in typhoid fever. 5. Describe pathologic changes in nephritis.

EYE AND EAR.

1. Differentiate glaucoma and iritis. 2. Describe choked disc and in what diseases may we expect to find it. 3. Define myopia, hypermetropia, astigmatism. 4. How would you treat a discharging ear? 5. Describe otitis media.

PRACTICE OF MEDICINE.

1. Describe lichen planus. 2. Describe a typical case of acute miliary tuberculosis. 3. Define bronchiectasis. Give symptoms and physical signs. 4. Nephrolithiasis; give symptoms fully. Differentiate from appendicitis. 5. Describe the usual symptoms in the secondary stage of syphilis. 6. Differentiate in parallel columns, gastric ulcer and gastralgia. 7. Hereditary ataxia (Friedreich's disease); Describe symptoms and usual course of disease. 8. Differentiate articular rheumatism and arthritis deformans. 9. Define arteriosclerosis. Give usual causes. With what other diseases is it frequently associated? 10. Hematuria: Give principal causes. How would you determine source of hemorrhage?

SURGERY.

1. (*a*) Give the surgical definition of "tumor." (*b*) Classify tumors histologically. 2. (*a*) Define "wound." (*b*) Give classification. 3. Give in detail treatment of a punctured wound involving the deep palmar arch. 4. State fully how you would treat a blank cartridge wound of the palm of the hand, and give reason for your plan of treatment. 5. Describe step by step the operation of ligature of the ulnar artery at the wrist, giving linear and muscular guides. 6. (*a*) Define "fracture." (*b*) Give general classification of fractures. 7. Pathology, symptoms and treatment of Pott's fracture.

8. Tracheotomy: Describe operation and after-treatment. 9. How would you reach a diagnosis in a case of suspected coxitis? 10. Describe fully the treatment of strangulated inguinal hernia.

MATERIA MEDICA AND TOXICOLOGY.

1. Write a model prescription for acute bronchitis, giving reasons for use of each ingredient and explaining each step in the writing of the prescription. 2. (*a*) What are the symptoms of chronic morphin poisoning? (*b*) What are the symptoms caused by abrupt withdrawal of the drug? (*c*) What is the treatment of acute poisoning? 3. (*a*) From what is acetanilid derived? (*b*) Explain its effects? (*c*) Give treatment of acute poisoning? 4. (*a*) From what is hyoscin derived? (*b*) What is the dose of the hydrobromid? Its physiologic effects? Some of its therapeutic uses? 5. Give rule for dosage for children according to age? 6. Give in parallel columns the diagnosis between acute ptomain poisoning and acute poisoning by arsenic? 7. Explain the action of chloroform as an anesthetic and tell how you would administer it and with what precautions? 8. What are the adult doses of and physiologic antidotes for tincture of strophanthus, apomorphin (by hypodermic), carbolic acid, and chloral hydrate? 9. Explain the action on the bowels of opium, thymol and bismuth subnitrate. 10. (*a*) What is the U. S. Pharmacopeia? (*b*) What is the National Formulary? (*c*) What is a fluid extract? (*d*) What is a chemical antidote?

MEDICAL JURISPRUDENCE.

1. Describe phenomena and signs of death. 2. How would you distinguish human blood from that of other sources? 3. Describe death by hanging; how would you determine whether penal or suicidal, antemortem or postmortem? 4. What is life insurance and on what does the premium rate depend? 5. What is the normal duration of pregnancy and what are the most important signs of delivery in the living and in the dead?

OBSTETRICS.

1. Describe fully your management of a case of face presentation. 2. Describe your management of a case of neglected transverse presentation where version fails. 3. In contracted and deformed pelvis enumerate the different methods to be considered in delivery of child and state your reasons for each. 4. Describe fully your management of prolapse of cord. 5. Give your treatment of different grades of asphyxia in the new-born. 6. Describe symptoms and treatment of ectopic pregnancy. 7. Describe caput succedaneum and cephalhematoma and give causes of each. 8. Give indications for podalic version. 9. Give your treatment of puerperal septicemia. 10. Give etiology and treatment of mastitis.

PREVENTIVE MEDICINE.

1. What quarantine measures are necessary in a case of (*a*) smallpox, (*b*) diphtheria, (*c*) scarlet fever? 2. Describe in detail how you would manage cases of typhoid for the protection of the community. 3. How are the following diseases transmitted: (*a*) diphtheria, (*b*) yellow fever, (*c*) typhoid fever? 4. How long would you keep in quarantine a case of (*a*) scarlet fever; (*b*) diphtheria; (*c*) smallpox? 5. Give a simple, practical method of ventilating a dwelling in this climate during the winter season.

GYNECOLOGY.

1. Give differential diagnosis between ovarian cyst and extra-uterine pregnancy. 2. Describe your method of repairing a lacerated cervix. 3. Describe inversion of the uterus, giving symptoms, diagnosis and treatment. 4. Describe uterine polypus, give symptoms, diagnosis and treatment. 5. (*a*) Give two indications for hysterectomy. (*b*) Your reasons for choosing vaginal or abdominal route.

DISEASES OF CHILDREN.

1. Give etiology, pathology and diagnosis of rachitis. 2. Give symptoms of pertussis and differentiate it from acute bronchitis. 3. What alterations would you make in modified milk to overcome constipation? 4. Give briefly differential diagnosis between epilepsy, convulsions due to intestinal irritation and uremic convulsions. 5. Give symptoms and treatment of dilation of the stomach.

Nebraska February Report.

Dr. E. J. C. Sward, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Feb. 5-6, 1908. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 9, of whom 4 passed and 5 failed. Fourteen reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Yale Medical School	(1907)	87.5
University of Nebraska	(1899)	80.6
College of P. and S., New York	(1906)	80.8
University of Toronto, Canada	(1898)	87.5

FAILED.

College.	Year. Grad.	Per Cent.
College of P. and S., Chicago	(1900)	74.5
Drake University	(1907)	68.1
Barnes Med. Coll	(1906)	70.7
Lincoln Med. Coll	(1907)	72.6
Creighton Med. Coll	(1906)	71

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
College of P. and S., Chicago (1902) Michigan;	(1906)	Indiana
College of P. and S., Keokuk	(1887)	Iowa
Sioux City Coll. of Med	(1897)	Iowa
Hospital College of Medicine, Louiville	(1906)	Kentucky
Kentucky School of Med	(1906)	Indiana
Maryland Med. Coll	(1902)	Maryland
University of Michigan	(1883)	Illinois
Grand Rapids Med. Coll	(1900)	Wisconsin
Hamline University	(1903)	Minnesota
Ensworth Central Med. Coll	(1907)	Kansas
Jefferson Med. Coll	(1906)	Illinois
McGill University, Canada	(1887)	Iowa
University of Halle, Wittenberg, Germany	(1902)	Iowa

Book Notices

HEART DISEASE AND THORACIC ANEURISM. By F. J. Poynton, M.D., F.R.C.P. (Lond.), Assistant Physician to University College Hospital. Cloth. Pp. 310, with illustrations. Price, $2.00. New York: Oxford University Press, 1907.

In the preface of this excellent work it is stated: "An attempt has been made in this book to describe in outline the most important forms of heart disease, together with the chief methods that are employed in their clinical investigation and treatment. The usual arrangement of the subject has been somewhat departed from, and after the chapters on "Clinical Methods," a description has been given of "Rheumatic Morbus Cordis," with the intention of providing one complete picture of heart disease, rather than sketches of the isolated lesions of pericarditis and endocarditis. In the author's opinion this arrangement facilitates a clearer comprehension of the subject, since it avoids complications and repetitions. Such a method of dealing with acute and chronic endocarditis certainly has advantages in so condensed a work, since without it the extensive subject could scarcely be considered.

There are sixteen chapters and an appendix devoted to the following subjects: Chapter I includes the anatomy and physiology of the heart and experimental cardiac pathology, and repays a careful perusal since it prepares the way for an understanding of what follows in the chapters devoted to the various diseases. The following statement may be quoted since it embodies a truth which can not be brought home too forcibly to the reader and general practitioner. "Fatal dilatation, without pericarditis or endocarditis, and with antemortem thrombosis, may result from experimental infection, thus proving the importance of cardiac dilatation in rheumatic and other forms of heart disease." Chapters II to IV are devoted to the outlines of the clinical methods for investigation of heart disease, and may be passed over without further comment than that they are good. Chapters V to VII deal with the pathology, symptoms, and treatment of rheumatic heart disease. To the reviewer these seem the best in the book. As might be anticipated from the author's well-known investigations as to the etiology of rheumatic fever, Poynton urges in no doubtful terms, yet without unpleasant dogmatism, his belief that the affection is of microbic origin and that the organism concerned is the *Diplococcus rheumaticus.* The reader will profit, even if not convinced, and can scarcely fail to understand the better the pathology and symptomatology of these most serious cardiac disorders. In Chapters VIII and IX the subject of chronic valvular disease and its treatment is considered. This portion of the book is also well handled. Nevertheless rather too much stress is laid on the character of the murmurs in their value as a means of deciding on the gravity of the lesions. Under the heading of "General Management," Poynton wisely insists on the relationship often existing between sore throat and acute rheumatism, and emphasizes the importance of so instructing the parents of a child. Chapter X is devoted to non-rheumatic pericarditis, while acute non-rheumatic endocarditis is discussed in Chapter XI. Myocardial affections are disposed of in Chapters XII and XIII, while in Chapter XIV are found the neuromuscular affections of the heart. This chapter is rather unsatisfactory, and yet perhaps no more so than in other works devoted to cardiopathies, since our understanding of them is still obscure and possibly erroneous. Chapter XV, which is given up to congenital heart disease, is too condensed in some portions to be entirely satisfactory. This, however, is a criticism which might be applied to the work as a whole. Books which give a subject in outline doubtless possess attraction for those readers who, like students, fancy they have no time for more extensive works, but their tendency is to make a practitioner content with but a smattering which never makes a man master of a subject. Chapter XVI deals with arterial disease and aneurism and notwithstanding its limitations as to space is really excellent. The author's belief in the rôle played by toxins in the causation of arteriosclerosis is plainly stated and in this respect is in accord with recent experiments and the trend of modern medical thought. The appendix is made up of prescriptions and by-rules for diet and diet lists. On the whole this little book can be recommended as a safe guide to the student and practitioner.

Medical Ethics. A Guide to Professional Conduct. By Robert Saundby, M.D., Edin.; Hon. LL.D., M'Gill; Hon. M.Sc., Birm.; Fellow of the Roy. Coll. of Phys. of London, etc. Second Edition, Enlarged and Rewritten. Cloth. Pp. 144. Price, $2.50 net. London: Charles Griffin & Co., Ltd. Philadelphia: J. B. Lippincott Company, 1907.

This is a careful consideration of what might be termed applied ethics as distinguished from the enunciation of general principles found in the formal Principles of Ethics adopted by medical organizations. Few physicians would be inclined to question these general principles; the difficulty, especially to younger practitioners, lies in their application. This difficulty Dr. Saundby has met in an effective and interesting manner, elaborating and commenting on the recognized principles of ethics and illustrating his opinions and rulings with cases drawn from actual experience. In the introduction, he states that there are three principles which may be regarded as the cornerstones of medical ethics. These are: The Golden Rule, which should be observed by a physician in his conduct to his colleagues; the rule for the government of his relations to his patients, that their interests should ever be his highest consideration; and, in his relations to the state, the biblical injunction to render unto Cæsar the things that are Cæsar's, or, in other words, to obey all lawful authority. Dr. Saundby emphasizes the duty which a medical man owes to his profession to increase by his own conduct the public esteem in which it is held, as well as to support all measures for the advancement of the public and profession.

Taking up specific acts of conduct, the vexing question of advertising is first considered at length. The use of alcohol and drugs by physicians; giving of medical certificates; club and contract practice, evidently much commoner in England than in this country; the giving and receiving of commissions; ethics of consultations; expert testimony; suits for malpractice; advice regarding marriage; duties of medical officers of health; the relations of the physician to midwives; "patent medicines" and nostrums; duties to patients and professional secrecy are among the subjects interestingly and exhaustively considered. The regulations of the General Medical Council of Great Britain, relating to the conduct of members of the medical profession, are given in full in the appendix. The lectures of the author on medical ethics, in the University of Birmingham, as well as material gleaned from "hundreds of ethical questions" which are sent him each year to consider, have been utilized in the present work. The arrangement of the subjects is alphabetical for convenience of reference. While conditions in the United States differ considerably from those in Great Britain, yet the greater part of the book is of value to the American physician and all of it is interesting. A book on medical ethics with special reference to professional conditions in America, which will discuss ethical questions in the practical, illuminating way followed by Dr. Saundby, is much needed in this country.

Linnéportratt, vid Uppsala Universitets Minnesfest på tyähundraärsdagen af Carl von Linnés Födelse. A. Universitetets vägnar af Tycho Tullberg. Paper. Pp. 189, with 39 illustrations and 21 page plates. Stockholm: Aktiebolaget Ljus, 1907.

Linnés Dietetik. På Grundvalen af dels hans eget originalutkast till föreläsningar: "Lachesis Naturalis Quæ Tradit Diætam Naturalem," och dels lärjungeanteckningar efter dessa hans föreläsningar; "Collegium Diæteticum," på uppdrag af Medicinska Fakulteten i Uppsala. Ordnad och Utgifven af A. O. Lindfors. Paper. Pp. 263. Upsala: Akademiska Boktryckeriet Edv. Berling, 1907.

These two books are contributions, the first one on the part of the University of Upsala and the second on the part of the medical faculty of this university, toward the celebration in May, 1907, of the two hundredth anniversary of the birth of Sweden's greatest scientist, Linnæus. It will be recalled that Linnæus was professor of medicine in the University of Upsala from 1741 to his death in 1778. It would be difficult to conceive of any more fitting and more reverential memorials of the great physician-scientist on this occasion than these two publications. The first volume "Linnéporträtt," contains an authoritative account of the portraits of Linnæus and contains no less than 21 fine plates of reproductions of the more important portraits. The book will be a welcome addition to the library of many collectors. The second volume contains Linnæus' original lecture memoranda on dietetics—*Lachesis naturalis*, etc.—the manuscript, partly in Latin, partly in Swedish, being loaned for the purpose by the Linnæan Society of London, and selected notes made by students at the time the lectures—*collegia diætetica*—were delivered. There are a number of copies of such notes by various persons in the Swedish libraries. The editor, Professor Lindfors, has added numerous explanatory remarks of critical, biographic, bibliographic and historical nature. Linnæus himself never published anything on dietetics, a subject in which he was especially interested and his lectures on which were extremely popular among all classes of students. Linnæus near the end of his life, in the interesting account he gives of his activities, expressed himself as follows in regard to his service to dietetics: "Diet nobody has treated of in a more solid and satisfactory manner though he [meaning himself] did not publish anything on the subject. . . . Everything was deduced from the occurrences in common life, cited in their proper places as examples, on which account his auditors were never more numerous than when he lectured on this subject. Several persons took notes at these lectures, but all of the notes I have seen are incorrect." Professor Lindfors, who has aimed to eliminate from the published notes all manifest errors and misinterpretations, remarks that in this estimation of his services to dietetics Linnæus was well within the limits of truth. The book constitutes a most important addition to the history of dietetics and hygiene and serves most worthily the purpose of calling attention to the great services of Linnæus in this field.

The Production and Handling of Clean Milk. By Kenelm Winslow, M.D., M.D.V., B.A.S. (Harv.), Chairman of the Committee on Milk of the Washington State Medical Association. Cloth. Pp. 207. Price, $2.50. New York: William R. Jenkins Co.

The interest in a pure milk supply aroused by recent investigations has created a demand for a work which shall systematically set forth the reasons for the production of clean milk and the methods by which this purpose can be realized. Such a book has been produced by Dr. Winslow. The author is well fitted by experience for his task, as he is not only a graduate in medicine, but in agricultural science and veterinary medicine. He has also been engaged in laboratory work connected with the examination of the milk supply of a large city. The book is primarily directed to the milk-producer, although the author calls attention to the fact that the chief responsibility for unclean milk lies with the consumer. The essential object in the clean milk crusade should be to awaken the public to the dangers of unclean milk and to the fact that it is impossible to produce and obtain clean milk except at unusual expense.

The preliminary chapters deal with the nature and action of germs, the composition of milk and cream, and with milk products. While these chapters contain little that is new to physicians, they are well adapted to the instruction of those unacquainted with the subject. The methods of feeding, housing and care of the cows; the handling of milk and cream, and the methods of distribution, as well as the methods and requirements of milk inspection, are thoroughly dealt with. The ideal is in many place higher than can be readily attained by the ordinary farmer, but the theoretical explanations and many of the suggestions would enable him greatly to improve the quality of milk and milk products. In an appendix, various facts regarding cows, plans of barns and milk rooms, milking machines, and the method of keeping accounts are discussed.

A Text-Book of Physiologic Chemistry. By Olaf Hammarsten, late Professor of Medical and Physiologic Chemistry in the University of Upsala. Authorized Translation from the author's enlarged and revised sixth German edition, by John A. Mandel, Sc.D., Professor of Chemistry in New York University and Bellevue Hospital Medical College. Cloth. Pp. 845. Price, $4.00. New York: John Wiley and Sons, 1908.

As stated by the author, the enormous advances in the domains of physiologic chemistry have made a complete revision of this book necessary. As more and more of the world's chemical investigators enter this field the more valuable becomes the science of physiologic chemistry and the greater becomes the mass of results from these investigators, and in view of these facts the frequent revision of physiologic chemistry texts is now more imperative than in former years.

That the present edition is up to date and contains the latest work is shown by the revision of every chapter, bringing the book to a form as complete as possible. The discussion of the recent work of such European scientists as Fisher, Arrhenius and Ostwald, and the recent work of such Americans as Chittenden, Loeb, Mathews and Gies shows beyond a question that the book is as complete as it is possible to make it.

The translation follows the German as closely as our English idioms and constructions allow. As in the previous editions, the completeness of this book is in part due to the fact that the subjects are treated from many points of view so as to deal fairly with the various works and theories. This, of course, is hailed by the investigators and students as a great help in their researches. But to the beginner this great mass of seeming contradictions is rather confusing, for he will read a paragraph and learn of a theory which is either completely exploded in the subsequent paragraphs or is left for the reader to accept or not, as he chooses. This one condition makes it rather undesirable as a book for beginners, but with the new authors' index and the vast number of references to the original literature, it is one of the most valuable books on physiologic chemistry in English.

Milk and Its Relation to the Public Health. By various authors. Hygienic Laboratory, U. S. Treasury Department, Public Health and Marine-Hospital Service of the United States, Bulletin No. 41. Paper. Pp. 758. Washington: Government Printing Office, 1908.

This bulletin forms a volume of 758 pages, and is a complete collection of facts regarding the relation of milk to the public health. It grew out of an investigation into the causes of the prevalence of typhoid fever in the District of Columbia. As this investigation indicated that the milk supply was largely responsible, a thorough investigation was made so as to render the results useful to health officers in general, as well as to determine the local conditions in Washington. The work includes the relation of milk to epidemics, to tuberculosis, to Malta fever, milk sickness, animal parasites, and the chemistry and bacteriology of milk. The conditions of the production of milk, sanitary inspection, certified milk, pasteurization, ice-cream, and infant feeding are also dealt with. A special chapter describes the municipal regulations of the milk supply of the District of Columbia. The book contains a mass of information that is probably not accessible in any other single publication, and ought to be of great value to sanitarians, health officers and physicians in general.

Practical Anesthetics. By H. Edmund G. Boyle, M.R.C.S., L.R.C.P., Demonstrator of Anesthetics to St. Bartholomew's Hospital. Cloth. Pp. 178. Price, $2.00. New York: Oxford University Press, 1907.

This book is offered as a short guide for those who have not had the leisure to study more elaborate works or to gain a knowledge of anesthetics through practical experience. The general subject of anesthetics is discussed in the first chapter, attention being paid to the duties of the anesthetist, the examination of patients, preparation, apparatus, physician and after-treatment. Under the last head comes shock and collapse and artificial respiration. The author then takes up the various anesthetics, considering nitrous oxid, ether, chloroform, ethyl chlorid and various mixtures in the order named. The last chapter is on the selection of an anesthetic, the relative advantages of the different anesthetics being first considered and the special indications in different conditions being taken up. The book is well illustrated with plates, showing the various positions, methods of performing artificial respiration, different kinds of apparatus employed, etc.

General Surgery, of the Practical Medicine Series. Under the General Editorial Charge of G. P. Head, M.D., Professor or Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. II. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in Rush Medical College. Series 1907. Cloth. Pp. 608. Price, $2.00 per volume. Chicago: Year Book Publishers.

This volume of nearly 600 pages is a valuable addition to the library of the practitioner. It contains an admirably arranged digest of the surgical literature of the preceding year. The editor has selected the wheat from the chaff with good judgment. To the summing up of vexed questions he has brought large experience, and his conclusions are stated with unquestionable clearness and finality. It is eminently a book of ready reference covering the ground of general surgery and giving the most advanced views of modern surgeons.

Medicolegal

Child's Estate Not Liable for Services Rendered at Request and on Credit of Father.

The Supreme Court of Georgia holds, in the case of Gaston vs. Thompson, that where a surgeon, at the instance and request of a father, rendered necessary professional services to his minor child, solely on the credit of the father, the child having no estate at the time, but subsequently becoming possessed of property for which a guardian was appointed, an equitable action did not lie against the guardian and his ward to subject the property of the latter to the payment of the debt for such services, though the father was insolvent. The court says that this ruling is not in conflict with the intimation in Poole vs. Wilkinson, 42 Ga. 539, that if necessary medical services were rendered to the ward on the credit of the ward's estate, and not on the credit of the guardian, equity might, if the guardian were insolvent, grant relief by causing the debt to be paid out of the ward's property.

Liability of Hospital Conducted for Private Gain.

The Supreme Court of Appeals of West Virginia holds, in the case of Hogan vs. Clarksburg Hospital Company, that a hospital, incorporated and conducted for private gain and for the benefit of the stockholders thereof, is liable in damages to its patients for the negligence or misconduct of its officers and employés. A patient sent to such hospital is entitled to such reasonable care and attention for his safety as his mental and physical condition may require.

The court says that there can be no question about the liability of a hospital which is being conducted for private gain, and not for charitable purposes, for damages to its patients through the negligence or misconduct of its officers and employés. It is bound to exercise that degree of care towards its patients placed therein, measured by the capacity of such patients to look after and provide for their own safety. It is the duty of such hospital to employ only competent physicians and nurses, and to treat such patients with such skill and care as ordinarily obtains in the conduct of such institutions, and to protect its patients in such manner as their condition may render necessary, and such degree of care and diligence should be in proportion to the physical or mental ailments of the patient rendering him unable to look after his own safety.

But a hospital, the court says, is not an insurer of its patients against injury inflicted by themselves, or that a patient in a hospital must be attended continuously by a nurse or other attendants. It is required to use only ordinary and reasonable diligence in the treatment and care of its patients.

In this case the plaintiff, suffering from epileptic fits, was sent to the hospital while under the influence of epilepsy and unconscious. He was left alone. There were two beds in the room in which he was placed, and an open gas fire. Both beds became rumpled and set on fire, showing beyond question that after he had gotten to the fire and ignited his clothes, he had been to the beds, and fired them from his own burning clothes. Taking into consideration the condition of the plaintiff when he was taken to the hospital, that he was unconscious and oblivious to all his surroundings, and yet physically able to get up and tumble about, the court thinks that it was very easy to foresee the possibility of the result which came to him with an open gas fire burning in the room by leaving him to look after his own safety, and it reverses a judgment rendered in favor of the defendant.

Competency as Witness of Physician Disclaiming to be an Expert.

The Supreme Court of Georgia says, on the appeal of Glover vs. State, a homicide case, that error was assigned in that a physician, after having testified "that his only experience in mental diseases was such as came to him as a physician in general practice, and that he had made no special study of the subject, nor had any experience that would make him a specialist or expert on nervous diseases," was allowed, over objection, to answer the question: "What is the difference between idiocy and lunacy?" It was contended that it was error to allow a physician who expressly disclaimed to be an expert to differentiate and define the different forms of insanity. It was also claimed that error had been committed because the judge, in his ruling on the question, said that, though the physician disclaimed to be an expert, yet, if the evidence showed that the witness was capable from his experience, education, and observation to give an opinion and to be treated as an expert, it was proper that he should be so treated, notwithstanding the fact that he disclaimed being an expert. The error claimed was that the judge, in effect, told the jury that, though the physician disclaimed being an expert, the evidence showed the court that he was an expert, and could answer any question that could be propounded to an expert. This was followed by complaint that this same witness, "who disclaimed to be an expert," was permitted, over objection, to answer a stated hypothetical question.

The Supreme Court holds that no error was committed in either of these rulings. It says that the question of whether the witness was or was not an expert was not one to be determined by him but by the court. Hence, the mere fact that a witness in his testimony may disclaim to be an expert is no reason for refusing to allow him to testify as one.

A witness might have such a very modest estimate of his own abilities and qualifications to give an expert opinion on a given subject as to disclaim being an expert in reference thereto; and yet his testimony as to his education, study, experience, investigations, and the extent and scope of his practice or work in his profession or avocation might be such as to show him well qualified to give such an opinion. On the other hand, a vain or conceited person, called as an expert witness, might, in the most positive terms, declare himself to be one in reference to the subject under investigation, and yet his other testimony might disclose such woeful ignorance and want of intelligent observation and experience in the premises as to render his opinion of no value whatever. It would be a dangerous rule to allow the question whether a particular witness is or is not an expert as to the question under consideration to depend solely on the witness' opinion of his own qualifications in reference to the matter.

Liability for Blindness Attributed to Medicine.

The Kansas City Court of Appeals says that the plaintiff in the malpractice case of Thompson vs. Martin, now about 43 years of age, was, in 1903, working as a janitor at one of the public schools of Kansas City. In November of that year he was having trouble with his eyes. This trouble was granulated lids and an ulcerated condition of the eyes. He called in the defendant to treat him. The defendant prescribed a 2 per cent. solution of corrosive sublimate to be used as a wash. The plaintiff contended that he used the medicine and that it made him blind, and that his blindness had continued up to the time of the trial—more than two years after the medicine was used. The defendant contended that he gave the plaintiff oral instructions to put one-third of a dropper full of the medicine in half a tumbler of water, and use it so diluted. This was denied by the plaintiff.

The plaintiff brought his suit alleging that the carelessness and negligence of the defendant in prescribing a poisonous and dangerous medicine had resulted in his being made permanently blind and asked judgment for $25,000. He introduced the testimony of three witnesses—that of himself and of two physicians. He testified that he was totally blind in one eye and that with the other he could not recognize members of his own family, and could not see the members of the jury, nor see where the jury was located. One of the physicians testified that the medicine prescribed, if used undiluted, would destroy the sight of the eyes; and that the plaintiff was practically blind, and would never recover vision enough to follow any trade or occupation, or read a newspaper. The other physician testified that the medicine prescribed, if used undiluted, would destroy the sight of the eyes.

The defendant introduced the testimony of four physicians who were experts in treating diseases of the eyes. Each testified that in a case of ulcerated eyes it would be proper to use the medicine prescribed in undiluted form for a few times, and that no injurious effect would follow. The plaintiff had already testified that he used the medicine in its undiluted form only once in the right eye, and only twice in the left eye.

The jury brought in a verdict for $1,500 in the plaintiff's favor, judgment for which is here affirmed.

The court considers that the jury would have been justified in finding either for the plaintiff or for the defendant, as the evidence was conflicting. The defendant admitted this, but contended that if the plaintiff was entitled to recover at all, the verdict should have been for $25,000, the amount claimed. He argued that the jury did not believe that he was responsible for the unfortunate condition of the plaintiff, but that they allowed their sympathies to lead them to try and aid him by way of a money judgment. But the court holds that in this case the verdict for the plaintiff was amply sustained by the evidence, and was such as might have been rendered by an impartial jury. The most rational conclusion deducible from the whole case was that the jury believed that the defendant's act in giving the plaintiff the medicine without direction to dilute it before he applied it to his eyes was to be attributed to the fact that he thought he had given such directions. The defendant, on the trial, swore that he had given such directions, and the jury might well have come to the conclusion that the defendant made an honest mistake, which might account for the smallness of the verdict. The plaintiff with propriety might have attacked the verdict on the ground that the sum awarded was inadequate; but as he saw fit to acquiesce in the result, the defendant ought to be satisfied also, as he was bound to admit that under the evidence a verdict in plaintiff's favor was supported by the evidence.

Liability of Hospital for Injury to One Patient by Another Escaped from Nurse.

The Court of Appeals of Kentucky affirms, on the appeal of the University of Louisville vs. Hammock, a judgment for $1,000 damages in favor of the latter party, the plaintiff in the court below, for injuries to her person, alleged to have been received while a patient in the defendant's infirmary at the hands of a demented or partially demented patient of the same institution, who, it was charged, had negligently been permitted to escape from his room and keeper, wander into that of the plaintiff, and assault and maltreat her.

The court says that the facts, as disclosed by the evidence, were, in substance, that the plaintiff, a married woman, who was laboring under a serious illness, and greatly prostrated thereby, had placed herself in the hospital at the instance of her physician. She was a pay patient, and had the right to expect of the defendant and its employés in charge of the institution careful and skilful nursing and treatment such as her case particularly required. Indeed, the sick leave their homes and enter hospitals because of the superior treatment there promised them.

On the day after the plaintiff entered the hospital, its manager received as an inmate thereof a patient who was at the time afflicted with delirium tremens, who was placed in a room of the hospital on the floor beneath that occupied by the plaintiff. At 10 p. m. of the same day he became so uncontrollable that he overawed the single female nurse in whose charge he had been left, and, escaping from his room, passed through the hall of the building and upstairs, entered the room occupied by the plaintiff, seized her by the arms, struck and bruised her person, and dragged her from the bed, to her great fright and injury.

Whether that patient manifested a disposition to become violent between the time of his admission to the hospital and the time of his breaking away from the nurse did not definitely appear from the evidence, but his disease being known, as it was, to a physician of the institution, its head nurse, and two of her assistants, when he was received, and their further knowledge, especially that of the physician, that a person so afflicted might reasonably be expected to become violent, uncontrollable, and dangerous at any time, ought to have induced them to take such reasonable precautions with reference to his control or confinement as would have prevented his inflicting injury on other inmates of the hospital. Yet this powerful man, crazed from the excessive use of spirituous liquors, and by reason of that fact uncontrollable and dangerous, was left in an insecure apartment and in charge of but one woman, who was utterly powerless to restrain him. Under these circumstances, it would seem to a reasonable mind that what happened was to have been expected, if not inevitable.

There was, therefore, some evidence of negligence to go to the jury, and, in the light of that evidence, the court does not feel called on to declare that the verdict finding the defendant guilty of negligence was unauthorized.

Nor does the court consider that the defendant was exempt from liability for the negligence of its servants, as a charitable institution, although eleëmosynary institutions and other institutions of like character devoted to purely charitable uses, whether maintained by government, corporations, or individuals, are exempt from such liability as was here imposed on the defendant, on the ground that they are mere instrumentalities brought into being to aid in the performance of governmental or public duty. If, as must be conceded, the defendant's hospital was subject to taxation because it was not a charitable institution, it was for the same reason responsible for the torts (wrongful acts) of its agents and employés.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

March 14.

1 *Effects of Tobacco in Surgical Practice. L. B. Bangs, New York.
2 Preliminary Report of a Case of Cerebrospinal Meningitis of Streptococcus Origin Apparently Cured by Subdural Injection of Antistreptococcus Serum. G. L. Peabody, New York.
3 Septal Hematoma and Abscess. J. E. Newcomb, New York.
4 *Renal and Urethral Calculi Complicating or Simulating Appendicitis. J. F. Erdman, New York.
5 *Retrodeviation of the Uterus and Treatment by Shortening the Round and Sacrouterine Ligaments. C. F. Kivlin, Troy, N. Y.
6 Case of Traumatic Rupture of the Spleen. V. E. Watkins, Fort Greble, R. I.
7 Two Cases of Relapsing Fever. S. J. Goldfarb, New York.

1. **Tobacco and Operative Surgery.**—Bangs describes two cases in which dangerous symptoms of collapse supervened after operation, when all, surgically speaking, was going well. In both cases it was found that the patients were habitual tobacco users, and almost instant subsidence of the serious symptoms ensued after a few whiffs of tobacco. Bangs considers that the cases certainly contravene the common opinion, shared by scientific and lay observers, that an habitual user of tobacco can have it suddenly withdrawn without detriment. He considers that frequently the mental irritability and restlessness, and even vital depression, not to be accounted for by the surgical state, might be found in enforced abstinence from tobacco. It is probable that the surgical conditions render men more susceptible to depressing influences and less able to resist the loss of the daily stimulant. He also points to his cases as indicating the rapidly stimulating effects of tobacco by inhalation.

4. **Renal Calculus and Appendicitis.**—Erdman points out that pain in the lower right quadrant of the abdomen does not always signify appendicitis, but may be associated with hernia, renal or ureteral calculus, ovarian incision, appendicitis, etc. When seeing a patient complaining of pain in this region, each of these possibilities should be eliminated, and the weight attached to "McBurney's point" should be elastic. Erdmann has seen, during the past few years, a series of patients with renal calculi complicating or simulating appendicitis. The difficulty in diagnosis arises only in the slow cases of appendicitis and in the cases designated as interval, in which no typical acute attack has ever been evidenced. On the other hand, only those cases of stone presenting slight evidence of impaction, or slight to no marked urinary symptoms, etc., are mistaken for appendicitis. Differential diagnosis must be made by a close urinary examination, followed by radiography, and occasionally by urethral examination with a waxed catheter or bougie. In calculus, no matter where situated, the following are the painful areas: the testicle, penis and inner surface of thigh, as well as McBurney's area. In simple calculus, pain rigidity of the abdominal muscles is not usually present. The relaxation of the pressure is not followed by the pain usually noticed in acute appendicitis. The pain is not usually increased in a line toward the umbilicus, while pain on coughing and deep respiration are unusual. Elevation of temperature is not usually present in calculus cases, save in the presence of an infective process. Pain in the back, loin, groin, inner surface of thigh, urethra, testes and penis in the male, and in the vulva and urethra in the female, with frequency of urination, definitely points to a possible renal calculus. No better diagnostic means is at our disposal than the x-ray. He considers the operative method of approach in calculi, preferring the transperitoneal localizing method on account of its rapidity. He cites three cases.

5. **Retrodeviation of the Uterus.**—Kivlin advocates a combination of the Alexander operation and shortening of the sacrouterine ligaments. After opening the abdomen in the median line, drawing the uterus forward puts the sacrouterine ligaments on the stretch. These are doubled on themselves by sutures introduced on each side and tied simultaneously by the surgeon and his assistant on opposite sides. He considers that the failure of the Alexander operation is due to the fact that the round ligaments are guiding, rather than supporting, ligaments, and hence can not be depended on to correct the retroversion, because they do not lift the uterus up, but guide it forward.

Boston Medical and Surgical Journal.

March 12.

8 *Genesis and Nature of Hysteria: A Conflict of Theory. J. W. Courtney, Boston.
9 Clinical Observations on Diagnosis and Treatment of Exophthalmic Goiter. J. M. Jackson and L. G. Mead, Boston.
10 Strictures of the Esophagus Dilated Through the Esophagoscope. J. P. Clark, Boston.
11 Case with Grave Gastric Symptoms of Reflex Origin. R. F. Chase, Boston.
12 Prolonged Conjunctivitis Following Calmette's Ocular Reaction. M. Mackay, Montreal.

8. **Hysteria.**—Courtney discusses three hypotheses: 1, That of Freud, that it has a sexual genesis; 2, Babinski's theory, that hysteria has two sets of disturbances, primary, capable of being reproduced by suggestion, and of being made to disappear under the exclusive influence of persuasion, and secondary which are strictly subordinated to the primary; and 3, the views of Janet, which make of hysteria a purely psychic disorder. In regard to Freud's view, Courtney holds that it is only to the unwholesome type of sexual hyperesthetes or anesthetes, in whom any unusual accident in the sexual sphere may result in hysteria, that Freud's theory is applicable. With regard to Babinski's theory, he says that nowhere does Babinski attempt to enlighten us on the nature of hysteria. To say that in certain subjects the symptoms, which he somewhat arbitrarily assigns to hysteria, may be rigorously reproduced by suggestion, is merely to emphasize one of the clinical attributes of this morbid condition, viz., hypersuggestibility; we must still seek to determine the nature of the disturbance of the psychic functions which give rise to this exaggerated suggestibility. As regards Janet's view, he says that while this author has furthered our understanding of one of the most remarkable and important stigmata of hysteria, the regression of the field of consciousness, to a degree hitherto unattained, he has left us, so far as concerns our understanding of what is behind this peculiar stigma and causes it, exactly *in statu quo*. Courtney has no views of his own to propound, but he expresses his conviction, gained from clinical experience, that hysteria is the clinical expression of a simple adynamic condition of the brain, and that in our part of the world we rarely see more than a *"forme fruste"* of the classical picture; the somnambulistic phenomena, the complete abulias, the deliria, the paralyses and contractures, even the absolute hemianesthesias and amauroses being genuine rarities. He considers the unfavorable prognosis laid down by American writers as rather an echo of the French school, than an independent conviction based on their own experience. He is also satisfied that in environment and psychotherapy we have two

agents absolutely adequate for the cure of practically every case we encounter in daily work. He cites the mental effects, such as of military music on soldiers, of a waltz measure, of the spoken or written word, as illustrating his conception of psychotherapy, that it is in essence based on the fact that the infusion of force and activity into brain cells is by no means a purely endogenous process. Psychotherapy stands for anything and everything that acts on the intellect and emotions in a way to recharge depleted brain cells. While not contending that hysteria never results from traumatism, he maintains that the injury is rarely anything more than the last straw, and that if half the zeal shown in proving that hysteria can result from bodily injury were directed to therapeutic ends, our professional duty would be more profitably fulfilled. The barren references to trauma as a cause of hysteria up to the time when great commercial enterprises were held responsible for the safety of their employés and of those they conveyed, he regards as a sinister fact.

New York Medical Journal.

March 14.

13 *Acute Flexures or Angulations of the Sigmoid and Colon. J. P. Tuttle. New York.
14 *Diagnosis of Diseases of the Heart. W. H. Porter, New York.
15 Indicanuria: Etiology, Diagnosis, Pathogeny and Treatment. G. M. MacKee, New York.
16 Case of Accessory Sinus Disease with Symptoms of an Osseous Tumor of the Orbit. B. Chance, Philadelphia.
17 *Winter Diarrhea in Infant Feeding. E. K. Shelmerdine, Philadelphia.
18 Case of Acute Double Miliary Tuberculosis of the Conjunctiva. H. F. Hansell, Philadelphia.
19 Cautery Clamp for Hemorrhoids. D. H. Murray, Syracuse, N. Y.
20 Cause of Premature Separation of the Placenta. S. Robbinovitz, Brooklyn, N. Y.
21 Acute Purulent Otitis Media in Infants and Young Children. A. J. Herzig, New York.

13. **Flexures of the Colon.**—Tuttle calls attention to the influence of acute flexures or angulations of the colon and sigmoid in the causation of constipation and fecal retention. The term acute is used by him in the geometrical, not the clinical, sense. These angulations are anatomic throughout the colon and in normal conditions retard to a slight degree the fecal current, and when through displacement or any other cause the bend is exaggerated, the obstruction is proportionately decreased. A shortening of the mesentery by inflammation or adhesion or the fixation of the gut by adhesion may either or both together cause angulation which will narrow or even obliterate the intestinal caliber. The flexures may be congenital or acquired. He describes with illustrations various types. The symptoms are constipation or local stasis, which may suggest appendicitis. The removal of the appendix in such a case will not cure the patient; the flexure must be straightened out at the same time, or there will be fecal obstruction. He suggests that this may account for some fatal appendicectomies. Other symptoms are local and constitutional, and include the whole category of the reflex phenomena associated with bowel obstruction. In the congenital type there is always a history of colic, distended abdomen, constipation and indigestion. In a girl, there is delayed or irregular menstruation, imperfect development, and often intractable leucorrhea; the constipation, flatulence and colicky attacks persist. In the acquired angulations there is usually, besides constipation and distended cecum, a history of dysentery, typhoid, acute colitis, sigmoiditis, pelvic peritonitis or inflammation of the pelvic organs. Incomplete evacuation is another symptom. The treatment is palliative and radical. Tuttle has given great and lasting relief by pneumatic inflation and by passing long rectal bougies through the flexure and leaving them *in situ* for from fifteen to twenty minutes. The bougie should always be passed through the sigmoidoscope beyond the flexure, or it may double on itself. An oil or water enema should be injected to wash out the bowel. When such palliative measures fail, or when the condition is clearly due to malformations or firm fixation, operative intervention should be resorted to at once, the operation varying in each case. The rule is to straighten out the flexures, cover in the raw surfaces, and if necessary fix the bowel so that it can not resume the old position. He reports eleven cases.

14. **Heart Diagnosis.**—Porter urges the importance of knowing how to recognize and interpret correctly the so-called valvular murmurs. He describes the normal position of the heart as occupying a triple oblique position in the chest cavity, or one corresponding to a line drawn from right to left, from above downward, and from behind forward—a position that has for its central axis a line represented by one transfixing the body from behind forward, starting posteriorly at the sixth dorsal vertebra, passing through it and the cavity of the chest, and emerging on the anterior surface of the thorax, through the fifth intercostal space 1.34 centimeters (3.5 inches) from the midsternal line. The positions in the living body differ somewhat from those seen on inspection of frozen sections. He discusses the various murmurs at length, but the article does not lend itself to abstraction.

17. **Winter Diarrhea in Infants.**—Shelmerdine points to the existence of a winter diarrhea of children strongly resembling the summer diarrhea, and relates a case in his own household. He found the diarrhea to result from the freezing of milk, which spoils it, and causes curds to form on thawing. After straining the milk the diarrhea disappeared. The diarrhea of frozen milk is not so severe or debilitating as that of the summer season. If need be, the child can be taken off the milk diet for twenty-four hours and given barley water in the interim.

Lancet-Clinic, Cincinnati.

March 7.

22 Defective Children. D. I. Wolfstein, Cincinnati.
23 *The Hymen; Anatomically, Medicolegally and Historically Considered. E. S. McKee, Cincinnati.
24 An Unsuccessful Anastomosis of the Brachial Artery. M. Millikin, Hamilton, Ohio.
25 *Decayed Teeth and Appendicitis. W. G. Smith, Cincinnati.

23. **The Hymen.**—McKee discusses the development, anatomy and anomalies of the hymen and the mode of examination necessary to afford a complete comprehension of its size, shape and general arrangement. He suggests the passage of an ordinary soft red rubber catheter having bound over its point about an inch and a half of an ordinary rubber condom. This can be passed into the vagina and then expanded either by inflation or by the injection of warm water. The catheter is then clamped, and by withdrawing it with very gentle traction the hymen is put slightly on the stretch and bulged from within, so that the whole margin is fully exposed to view and any interruption in its integrity becomes at once perceptible. The importance of the ability thus afforded of estimating the condition and characteristics of the hymen is shown in relation to medical jurisprudence. As regards the question of virginity, however, the hymen is now known to possess much less significance than was formerly ascribed to it. He adds a few items of folklore on the subject.

25. **Decayed Teeth in Appendicitis.**—Smith, in discussing the education of pupils in the public schools, with regard to the inculcation of hygiene of the mouth, suggests that there is good reason to believe that neglected teeth are largely responsible for the increase of appendicitis. He quotes in support of this opinion a statement of Sir Frederick Treves.

Archives of Internal Medicine, Chicago.

February.

26 *Diagnosis of Typhoid Fever by Cultures from the Blood of the Ear. F. W. Peabody, Boston.
27 *Bearing of Metabolism Studies on Clinical Medicine. D. L. Edsall, Philadelphia.
28 *Cancer Problems. J. Ewing, New York.
29 The Acetone Bodies, with a Clinical Method for the Quantitative Estimation of Diacetic Acid and Acetone. T. S. Hart, New York.
30 Experimental Observations on Secretin, with Special Reference to Diabetes and Malnutrition. J. E. Sweet and R. Pemberton, Philadelphia.
31 Present Status of Knowledge of the Chemistry of the Processes of Immunity. H. G. Wells, Chicago.

26. **Diagnosis of Typhoid Fever.**—Peabody describes a method of blood diagnosis by a simple process, obtaining the blood by pricking the lobe of the ear—first cleansed, of course, with alcohol and sterile gauze; from 1 to 2 c.c. can thus be collected without inconvenience. This is added to 5 c.c. of sterile ox gall (Kayser), not to exceed 50 per cent. of its volume, and incubated for 15 hours. Microscopic examination of a drop

of the bile may show organisms, or it may be necessary to transfer several loopfuls to a tube of coagulated blood serum. After from 3 to 5 hours' incubation, microscopic examination of the water of compensation shows the presence of motile bacilli. A transfer is then made from blood serum to agar for the stock culture. The rapid growth of the typhoid bacilli will soon crowd out any contaminating cocci, if present. The demonstration of a motile bacillus in the water of compensation of the blood serum can be made in 18 or 19 hours at most, and this in itself appears good evidence of typhoid or paratyphoid infection. In no case was a motile bacillus subsequently shown to be other than the etiologic organ. Various other methods, however, were adopted to identify the organism completely. He discusses the technical advantages and states that the results attained show that in the early stages of typhoid fever the diagnosis can be made in the majority of cases by isolating the etiologic organism from the blood. Inasmuch as the requisite amount of blood can be so easily obtained from the patient's ear, there is no reason why the method should not be applied in every suspicious febrile case. The study of the culture and the identification of the organism is a comparatively simple bacteriologic process when laboratory facilities are available.

27. **Metabolism Studies and Clinical Medicine.**—Edsall refers to the natural tendency of the laboratory man to grow further and further from the clinical aspects and of the clinician to neglect or depreciate the importance of laboratory findings. Attention to practical detail requires to be guided by general principles, to yield satisfactory results. Studies of metabolism, in the broader sense of this term, Edsall thinks are a more fruitful source of clinical principles than any other form of investigation save that relating to hygiene. He discusses the relation of excretion to ingestion, pointing out particularly that the excretion of any substance can not be taken as an indication of the severity of the disease process without a consideration as to how much of it is supplied by ingested material; the value of cryoscopy as affected also by the results of metabolism; as well as the uric-acid diathesis, in which excretion is affected by the kind of food taken, and by the fact of the formation of uric acid in the body, not only directly from tissue break down, but also almost certainly synthetically. He next discusses dietetics and specific diet, tissue ferments, and the bearing on our future control of certain disease processes of the fact that it is not the ferment itself, but the medium in which it acts, that determines so profoundly important a result as to whether the effect is to be construction or destruction. The study of protein complex and the metabolism of inorganic substances next engages his attention, and he concludes by insisting that a greater breadth in our conception of the nature of normal and disease processes will lead to the gradual accumulation of principles from which will be deduced facts directly available in practice. The article deserves study by all, but especially by every clinician who is prone to depreciate laboratory work and by every laboratory man who scornfully repudiates the mixing of science and empiricism.

28. **Cancer Problem.**—Ewing discusses with elaborate completeness (1) the parasitic theory, (2) the theory of cell autonomy, and (3) the modern biologic and chemical study of tumors. As regards the first point, his considerations lead to the conclusion that external irritants and parasites are concerned only with the inception of tumors, and then indirectly; they suggest that certain irritants and parasites may be peculiarly effective in producing tumors; they suggest that in some tumors, especially in lower animals, neoplastic hyperplasia may depend in varying degrees on cellular irritants; they leave the way open for the discovery of new irritants and parasites concerned with the beginnings of tumors; but they shut the door against the theory of a special cancer parasite and of the necessity of a continuous irritant propagated by a microorganism throughout the course of a malignant tumor. As regards the second point, he says that the theory of cell autonomy seems to account adequately for the phenomenal growth of tumors. It may be necessary to provide an external stimulus, but this necessity is not clearly apparent. So far as we know, the limitless capacityof tumor cells to absorb nutriment and grow may be an essential property of the protoplasm and organization of tumor cells, and beyond this descriptive knowledge we may not hope to penetrate. The whole basis, objective and theoretical, of the cancer parasite has been gone over again and again, with the uniform conclusion that the cancer parasite is the cancer cell. We should avoid, therefore, the temptation of searching for an easy solution of the cancer problem and content ourselves with the more laborious but safer progress along the lines converging in the doctrine of cell autonomy. As regards the third point, he is strongly of the opinion that information of fundamental importance in this field is still to be obtained by minute observation and analysis of the general and local conditions surrounding the early stages of cancer. This is the exclusive opportunity of the clinician—medical, surgical and special—but it is often neglected. In it lies the chief hope, for the present generation, of a reduction in the mortality from cancer, by the earlier recognition of the precancerous stage of the disease and the elimination of some of its accessible factors. In regard to the treatment of cancer, he says that the new era has not succeeded in devising a cure for cancer. While some observers are very confident, there does not seem to be legitimate ground for the hope that any will shortly be discovered. The *x*-ray, bacterial toxins, vaccination with *Micrococcus neoformans*, inoculation with the substance of thyroid, thymus, liver and other toxic proteins, serum prepared against cancer tissue or its proteids, and Beard's pancreatin method of treatment all produce more or less destruction of the older portions of true cancers, with deceptive reduction in the size of the tumor, while the patient goes on to die from progressive infiltration by the more resistant tumor cells and with accelerated metastases and cachexia.

Philippine Journal of Science, Manila.

December.

32 *Etiology of Mycetoma. W. E. Musgrave and M. T. Clegg, Manila.
33 *Experiments in Malarial Transmission by Means of Myzomyia Ludlowii Theob. C. S. Banks, Manila.
34 *Preliminary Report on the Specific Identity of the Cestode Parasites of Man in the Philippine Islands with Description of a New Species of Tenia. P. E. Garrison, Manila.
35 Chronic Ulcers Occurring in the Philippines. G. C. Shattuck.

32. **Mycetoma.**—Musgrave and Clegg report a case of mycetoma of the ochroid variety—the first reported case for the Philippines—review the literature of the subject and give a bibliography. A streptothrix, which they have named *Streptothrix freeri*, differing in certain particulars from other described organisms of this class was cultivated from the lesions in the foot and a disease similar to that found in man was produced in monkeys by inoculations of the cultures into the feet of these animals. They state that the important questions open for discussion are as follows: 1. Is *S. freeri* sufficiently different from previously described organisms to entitle it to be classified as a new species? 2. Is mycetoma a distinct disease etiologically, or is it one type of manifestation of more than one species of streptothrix infection? 3. Are the ochroid and melanoid varieties different stages of a single etiologic entity, or are they due to different species of streptothrix? 4. What is the relation of mycetoma to actinomycosis? These questions they answer as follows: 1. There seems to be conclusive evidence that *S. freeri* differs from *S. maduræ* reported by Vincent as the cause of infection in the ochroid variety, and from the hyphomycete named by Rice as the etiologic factor of the melanoid type. 2. There can be no reasonable doubt that all types of mycetoma are due to streptothrix infection, but whether all the forms are caused by an infection with a uniform organism, or whether more than one species plays a part in the disease, can not now be positively stated. 3. The etiologic identity of the two varieties of the disease must be questioned until further experimental work is done with both Wright's and their own organism. 4. The often repeated statement that the ochroid variety of mycetoma is actinomycosis is not supported by the weight of evidence in the literature, and is positively disproved by the present authors' work. *Actinomyces hominis* is a different species of streptothrix from those producing mycetoma. Fur-

thermore, the two diseases show decided differences in clinical manifestations and in the pathologic findings.

33. **Malarial Transmission by Myzomia Ludlowii Theob.**—The author discusses the occurrence of *Myzomyia ludlowii* Theob. as a new species of *Anophelinæ* capable of transmitting malaria. The species flourishes only in salt water. Its life history, breeding habits and mode of attack are described and the experimental transmission of malaria by its means is demonstrated.

34. **Cestode Parasites.**—Garrison reports having found *Tænia saginata* (the beef tapeworm), *T. solium* (the pork tapeworm), *Hymenolepis nana* (the dwarf tapeworm), *H. diminuta* (the thirteenth infection reported for man with this common parasite of rats), and a new cestode of man which he named *T. philippina.* The first three species have been previously reported from the Philippines, but from a clinical viewpoint and without careful study of the specific characters of the specimens. *T. philippina* resembles most closely *T. saginata,* but differs chiefly in its shortness (82.8 cm.), the greater breadth of the segments compared to their length, the massive, compact structure of the gravid uterus, and the transversely elongated ovarian lobes.

American Journal of Physiology, Boston.

February.

36 *Mechanism of Embryonic Heart Rhythm in Limulus. A. J. Carlson, Woods Hole, Mass., and W. J. Meek, Chicago.
37 Conductivity Produced in the Non-Conducting Myocardium of Limulus by Sodium Chlorid in Isotonic Solutions. A. J. Carlson, Chicago.
38 Refractory State of the Non-Automatic Heart Muscle of Limulus. Id.
39 Rate of Oxidation of Sugars in an Acid Medium. H. H. Bunzel, Chicago.
40 Perfusion Experiments on Excised Kidneys; Effects of Various Poisons. T. Sollmann, Cleveland, Ohio, and R. A. Hatcher, New York.
41 *Effect of Vagus Inhibition on the Output of Potassium from the Heart. W. H. Howell and W. W. Duke, Baltimore.
42 Chemical Studies on Growth: Transformation of Glycogen by the Enzymes of Embryonic Tissues. L. B. Mendel and T. Saiki, New Haven, Conn.
43 Autolysis of Embryonic Tissues. L. B. Mendel and C. S. Leavenworth, New Haven, Conn.
44 Changes in the Purine, Pentose and Cholesterol Content of the Developing Egg. Id.
45 Catalase of Animal Embryonic Tissues. Id.
46 Occurrence of Lipase in Embryonic Animal Tissues. Id.
47 Composition of Embryonic Muscular and Nervous Tissues. Id.
48 *Function of the Inorganic Salts of the Protozoan Cell and Its Medium. A. W. Peters, Urbana, Ill.
49 *Acapnia and Shock: Carbon Dioxid as a Factor in the Regulation of the Heart Rate. Y. Henderson, New Haven, Conn.

36. **Heart Rhythm in Limulus.**—The work of Carlson has shown that the stimulus to the heart pulsations in the limulus (horse-shoe crab) is neurogenic. The investigations of Carlson and Meek show that pulsations begin in the embryonic heart of limulus, before there is any evidence of nerves supplying it. The automatism of the heart of the limulus embryo must therefore be myogenic, and, as the conduction and automatism in the adult limulus heart are neurogenic, there must take place a transfer of automatism and conductivity from the myocardium to the nervous tissue at some stage in the embryonic development.

41. **Vagus Inhibition and Cardiac Output of Potassium.**—By supplying the isolated mammalian heart with Locke's liquid and stimulating the vagus, the amount of potassium can be increased as much as 29 per cent. Howell and Duke believe this increase referable to an output of potassium from the heart substance, due, probably, to the fact that the inhibitory nerve impulses cause a dissociation of an indiffusible compound in the heart substance, and the liberation of the potassium in diffusible form. The results obtained are presented as evidence in favor of the view that the inhibitory action of the vagus on the heart is mediated through the influence of a diffusible potassium compound set free in the heart by the inhibitory impulses. No change could be produced in the amount of calcium in the circulating liquid by this method. Stimulation of the accelerator nerve causes no increase in the potassium content of the circulating liquid.

48. **Action of Inorganic Salts of the Protozoon Cell.**—In order to determine the effect of the entire absence of salts from the external medium of the protozoon cell, Peters placed the animals in pure distilled water and maintained the purity of the medium by frequent renewals of the water. Control experiments were carried on in which all the conditions were the same, except that the water was not renewed. Conductivity tests made on the removed portions of the water showed that it did not remain in the condition of distilled water. The animals repeatedly contaminated the water, even after numerous renewals of their medium had been made. They were unable to maintain life in a medium which was continuously kept as near as possible to the condition of pure aërated distilled water. Distilled water progressively alters the character and permeability of the cell wall, which then permits the outward diffusion of the salts of the cell. Milk sugar and low concentrations of various salts dissolved in distilled water prevent its injurious action. Withdrawal of a portion of the salts is harmless. Excessive abstraction of salts is destructive, by disturbing the equilibrium of distribution of salts between the colloidal protoplasm and the liquids of its meshes. Primarily, the physical condition of the colloidal proteins is altered by the qualitative or quantitative change in salts. In consequence, chemical processes no longer maintain the equilibria of living protoplasm, and destruction of the system results.

49. **Acapnia and Shock.**—Henderson defines acapnia as a lack of carbon dioxid in the blood, and maintains that the cause of surgical shock is the absence of carbon dioxid from the blood, either in consequence of too rapid respiration or, possibly, by the exhalation of carbon dioxid from mucous or serous membranes. In experiments on dogs it was found that by regulating the rate of pulmonary ventilation the heart can be adjusted to any desired rate of beat.

Illinois Medical Journal, Springfield.

February.

50 Modern Treatment of Pulmonary Tuberculosis; Importance and Difficulty of Making an Early Diagnosis. J. W. Pettit, Ottawa.
51 *Diagnosis of Cardiac Insufficiency. G. W. Webster, Chicago.
52 Work of the Edward Sanitarium for the Treatment of Pulmonary Tuberculosis at Naperville in 1907. T. B. Sachs, Naperville.
53 *Specific Infection of the Female. J. P. Roark, Bushnell.
54 Effects of General Anesthesia from the Viewpoint of To-day. E. Mammen, Bloomington.
55 *Modern Surgical Treatment of Exophthalmic Goiter. A. P. Heineck, Chicago.

51. Published in the *Chicago Medical Recorder*, January, 1908, and abstracted in The Journal, Feb. 8, 1908, page 482.

53. **Gonorrhea in the Female.**—Roark points out that specific infection of the female is of the first importance to the general practitioner, inasmuch as he is nearly always called as first aid, the specialist not usually seeing the patient until the case has grown so grave that ablation of some organ is necessary. He attributes the great increase in the graver effects arising from a deeper extension of the specific poison to the great prominence given in the last quarter of a century to the vaginal douche. The gynecologic text-books offer no such general principles of value in the treatment of the causal base of gonorrheal affection as that offered by Ochsner's method for appendicitis. Specific vulvitis and urethritis are not dangerous to life, nor do they do permanent injury to the patient. These conditions result only when the deeper tissues of the genital tract are invaded. In western and southern Europe gonorrhea has been prevalent for at least five centuries and the frequency of ophthalmia neonatorum demonstrates its present ubiquity, yet those countries, until the last half century, have been the most prolific of races. Gonorrhea was as common 200 years ago as now, but no one thought of the race dying out on that account. While it is true, therefore, as gynecologists assert, that a considerable proportion of modern sterility is the result of gonorrhea, it is only the indirect, not the direct, result and is consequent on the invasion of the higher genital passages. The gonococcus has not changed, but the customs of the people have changed, and the damage effecting agent, in Roark's opinion, is the common use of the vaginal douche to clear away discharges, to prevent pregnancy, or as a therapeutic measure under medical direction, because not only does it carry the infection deeper, but it destroys the natural phagocytic action of the acid-forming bacillus of the vagina in the

presence of which the gonococcus will not long survive (Döderlein). The proper treatment, then, of gonorrhea in the female in the early stage is rest in bed, if possible, and the local use of hot water in the form of sitz baths. This simple method of treatment has resulted in a cure in all the cases that have come under Roark's care in the last six years. There is no need to worry over a copious vaginal discharge, which is only the physiologic attempt of the vagina to destroy the invading bacteria. When immunity, as evidenced by a complete subsidence of all inflammatory symptoms, is attained, then steps may be taken to destroy the infecting germs in the genital tract. For this purpose he uses the method employed by Chapelle, namely, a pessary of a pure form of yeast, or the yeast may be used as a paste with glycerite of starch. From three to five treatments, made at intervals of three nights, suffice to remove all germs.

55. This article was published in *Surgery, Gynecology and Obstetrics*, December, 1907, and the *Chicago Medical Recorder*, January, 1908, and was abstracted in The Journal, Feb. 1, 1908, page 401.

The Journal of Cutaneous Diseases, New York.

March.

56 *Idiopathic Multiple Hemorrhagic Sarcoma (Kaposi). M. B. Hartzell, Philadelphia.
57 *Clinical Groupings of Tropical Ulcers of the Philippines, with Negative Notes as to Etiology and Treatment. E. R. Stitt, U. S. Navy.
58 *Skin Diseases in the Negro. H. Fox, New York.
59 *Experimental Observations on the Histopathology of Urticaria Factitia. T. C. Gilchrist, Baltimore.
60 *Effects of Roentgen Rays on Paget's Disease of the Breast. R. Terzaghi and Professor Campana.

56 and 58. Abstracted in The Journal, Sept. 28, 1907, pages 1137 and 1138.

57 and 60. Abstracted in The Journal, Oct. 12, 1907, pages 1304 and 1305.

59. **Urticaria Factitia.**—Gilchrist describes about sixty lantern-slide sections from wheals, which showed marked edema of the connective tissue and the fixed cells, profuse emigration of polynuclear leucocytes, emigration of lymphocytes, pronounced fragmentation of polynuclear leucocytes and fixed connective tissue cells, apparent increase in mast cells, swelling of the cells of the sweat glands, and fibrin scattered throughout the corium. He concludes that the only explanation possible is that some toxin is circulating in the blood, and that when a wheal is produced some of the toxin is set free and produces death of cells, which is followed by acute inflammatory changes. Therefore, a true wheal is an acute inflammatory edematous swelling, due either to local inoculation of irritating substances, as in insect bites, etc., or to drugs or to some toxin probably originating in the alimentary canal.

Journal Missouri State Medical Association, St. Louis.

February.

61 *Indications for Electrotherapy. C. Shattinger, St. Louis.
62 *The Omentum as a Surgical Factor. T. E. Potter, St. Joseph.
63 *Cholecystectomy vs. Cholecystostomy. W. U. Kennedy, St. Louis.
64 Medical Scraps. T. F. Lockwood, Butler.
65 Medical Report of Missouri State Sanatorium for Incipient Tuberculosis for the Months of August to November, Inclusive. O. H. Brown, Mt. Vernon.

61. **Electrotherapy.**—Shattinger goes thoroughly into the mechanical and chemical effects of electricity, and the physiologic effects of the direct and induced current. He discusses sinusoidal currents, central and general galvanization and faradization, baths, static electricity and arsonvalization. There are two classes in which his experience leads him to expect no benefit, but, on the contrary, aggravation from general electrotherapeutic measures, namely, extreme nervous erethism and those cases in which the subjects, though not insane, are suffering from diseases entirely psychic in nature. The dermatoses suitable for local treatment are those characterized by fibrosis and chronic cellular infiltration, notably lupus erythematodes and chronic indurative eczema; disorders characterized by itching or pain—pleuritis, herpes zoster, fissures; angioparetic conditions—pernio (chilblain), acne rosacea; parasitic affections —furunculosis, acne, seborrhea, ephelides (freckles).

62. **The Omentum.**—Potter considers the anatomy and physiology of the omentum and the uses to which that organ has been put in surgery, and emphasizes its value in repairing abdominal breaches, plugging hernias, cleansing and preserving the cavity from infection and maintaining circulatory equilibrium by acting as a temporary reservoir. He believes that in operative work every effort should be made to preserve this important structure and that none of it, except parts actually diseased, should be removed, since loss of it renders the patient less capable of resisting peritoneal invasion.

63. **Cholecystectomy vs. Cholecystostomy.**—Kennedy adopts Moynihan's indications for cholecystectomy, but holds from his own experience, supported by that of eminent American surgeons, that there are others. Inflammatory conditions are the principal source of distress, and while cholecystostomy is a drainage operation, cholecystectomy does away with the need of drainage, without leaving behind an inflamed or diseased bladder, and especially without leaving that traction which the attachment of the bladder to the parietes entails, with the consequent liability of angulation and obstruction of the hepatic and common ducts. In brief, the thoroughness of cholecystectomy and its freedom from distressing sequelæ make it the operation of election.

Wisconsin Medical Journal, Milwaukee.

February.

66 *Roentgen-Ray Injuries. O. H. Foerster, Milwaukee.
67 *Anesthesia Paralysis. A. E. Halstead, Chicago.
68 *Administration of Oxygen After General Anesthesia. R. P. Peairs, Milwaukee.
69 Problems in Surgical Drainage. C. M. Echols, Milwaukee.
70 Case of Vomiting with Acetonuria and Fatty Metamorphosis of the Liver. A. W. Myers, Milwaukee.
71 Professor Politzer's Resignation. S. E. Wright, Marinette.

66. Abstracted in The Journal, Aug. 31, 1907, page 795.

67. **Anesthesia Paralysis.**—Halstead refers to that form of paralysis following and dependent on the administration of a general anesthetic. He collects a number of cases showing its varieties. The condition occurs in two forms, peripheral and central. The peripheral may be averted by proper treatment during narcosis. The central can not be prevented, though its danger may be avoided by limiting the quantity of anesthetic and by a preliminary hypodermic of morphin in ether anesthesia or ether narcosis, to control excitement.

68. **Postanesthetic Nausea.**—Peairs reports cases to show that the administration of oxygen after general anesthesia will to a certain extent prevent postoperative nausea.

New Orleans Medical and Surgical Journal.

February.

72 Acute Dilatation of the Stomach as a Postoperative Complication. C. J. Miller, New Orleans.
73 *Stricture of the Male Urethra. H. G. Spooner, Stanton, Fla.
74 Treatment of Coxitis. P. A. McIlhenny, New Orleans.
75 *Serum in the Diagnosis and Treatment of Tuberculosis. W. E. Evans, Chicago.
76 Retiring President's Address to Orleans Parish Medical Society. J. J. Archinard, New Orleans.
77 Address of Incoming President of Orleans Parish Medical Society. A. Granger, New Orleans.

73. **Stricture of the Male Urethra.**—Spooner discusses the causation of stricture and approves of the gradual dilatation treatment with Béniqué sounds; forced dilatation has become obsolete. Electrolysis, though well spoken of by some, can not be recommended by the writer. He discusses internal and external urethrotomy and concludes that if extensive deposits of connective tissue have been determined, whether from an old attack or a recent one, astringent injections should be eschewed, and attention directed to prevention of further contraction of scar tissue.

75. **Tuberculosis.**—Evans describes the technic and philosophy of tuberculin diagnosis and treatment of tuberculosis, and concludes that a great many lives are lost because physicians are not making early tuberculin diagnosis. Specific consumption therapy as an aid to fresh air, food and control, is worthy of study.

Therapeutic Gazette, Detroit.

February.

78 Injuries to the Head and Face. W. Lathrop, Hazleton, Pa.
79 Treatment of Acne Vulgaris. R. L. Sutton, Kansas City, Mo.

80 Modern Means of Diagnosis in Surgical Diseases of the Kidneys. C. P. Noble, Philadelphia.
81 *Preliminary Report on Calcium Chlorid in the Treatment of Hemoglobinuric Fever. W. H. Deaderick, Marianua, Ark.
82 *Anesthesia Perils in American Hospitals. J. B. Roberts, Philadelphia.
83 Researches That Aid and Support Clinical Experience. H. A. Hare, Philadelphia.

81. Abstracted in THE JOURNAL, Feb. 8, 1908, page 486.

82. **Anesthesia.**—Roberts discusses the anesthesia peril in American hospitals and ascribes it to inexperienced administrators, deficient teaching, unnecessary general anesthesia, too great dosage, insufficient care in watching symptoms of danger during operation, and neglect of close watching afterward. He says that many young physicians would study this branch of surgery if they were fairly sure that an income could be derived from so restricting their practice. The question of fees naturally arises here. Roberts' suggestion is that it be understood that a skilled anesthetist receive a fee equal to one-tenth that charged by the operator for the operation itself.

Western Medical Review, Omaha.

February.

84 Immunity, with Special Reference to Therapeutic Inoculation. L. Hektoen, Chicago.
85 Glaucoma. A. G. Lueschen, Columbus, Neb.
86 Placenta Prævia. M. Strong, Omaha.
87 Less Common Postoperative Complications with Their Treatment. D. T. Quigley, North Platte, Neb.

Progressive Medicine, Philadelphia.

March.

88 Surgery of the Head, Neck and Thorax. C. H. Frazier, Philadelphia.
89 Infectious Diseases, Including Acute Rheumatism and Croupous Pneumonia. R. B. Preble, Chicago.
90 Diseases of Children. F. M. Crandall, New York.
91 Rhinology and Laryngology. D. B. Kyle, Philadelphia.
92 Otology. A. B. Duel, New York.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

February 29.

1 *Acute and Chronic Infections of the Urinary Tract Due to the Bacillus Coli. S. Dudgeon.
2 *Radical Cure of Inebriety; Certification of Inebriates. T. C. Shaw.
3 Case of Acid Intoxication Following Administration of Chloroform. H. Thorp.
4 Three Cases of Delayed Chloroform Poisoning. E. D. Telford.
5 Two Cases of Delayed Chloroform Toxemia. T. M. Bride.
6 Fatal Case of Delayed Chloroform Poisoning. H. C. Wilson.
7 Three Cases of Fracture of the Lower End of the Humerus. F. C. Wallis.
8 Pathology and Etiology of Intussusception from the Study of One Thousand Cases. (To be continued.) D. C. L. Fitzwilliams.
9 Two Cases of Anthrax. J. S. Clarke.
10 *Tansini Method for the Cure of Cancer of the Breast. F. Purpura.

1. **Bacillus Coli Infections of the Urinary Tract.**—Dudgeon discusses the clinical features and bacteriology of the urine, the occurrence of opsonins in normal and pathologic urine, the agglutination reaction, the presence of opsonins for the *Bacillus coli communis* in normal and immune blood serum, the blood of patients without evidence of infection with *Bacillus coli communis* and of those having such infection, normal horse serum and the serum of horses that have been employed for the preparation of the anti-coli serum, the bactericidal action of human and horse serum, and the prognosis and treatment of the condition. He concludes that if a definite line of treatment is decided on in chronic infections of the urinary tract due to the *Bacillus coli communis* the vaccine treatment should be adopted, employing the organism isolated from the patient's urine.

2. **Certification of Inebriates.**—Shaw urges a drastic law to admit of an habitual inebriate being committed in much the same way as a lunatic is now committed on the certification of two physicians. He proposes the following certificate:

I, ..., being a registered and qualified medical man, hereby declare that I have visited and examined ...., a ...., residing at .... and that I am satisfied that the said .... is an inebriate and is unable to control himself and to manage his affairs.

I accordingly recommend that .... be detained in the home for inebriates at .... for a period of .. calendar months, at the end of which time this certificate may be, if necessary, renewed for another period of .. months, or for such longer time as is considered by the authorities of the home and the friends of the patient to be advisable. Signed............

I agree to the above certificate being issued with reference to ....

Signed................

10. **Cancer of the Breast.**—Purpura describes, with illustrations, the method devised by Professor Tansini in 1895, to prevent relapses of cancer in the skin and to provide for the healing of the wound by means of a special autoplastic flap in cancer of the breast. He offers additional evidence of the value of this method and quotes Tansini's directions for making the flap as follows: The pedicle is to be about two inches and a half or two inches and three-quarters wide, and, in order to include in it the most important arterial branches, its center is to correspond to a point which must be at one inch and a quarter from the posterior axillary line, two inches from the spine of the scapula, and four inches from the inferior angle of the scapula. The flap is of a long oval shape and of dimensions proportional to the wound which is to be covered, and is to be directed from above down and rather obliquely toward the median line of the back. The anterior edge of the pedicle is to start from the extremity of the axillary wound, and afterward when the flap is brought forward it joins the anterior edge of the wound itself; the posterior edge, which is cut into the skin of the back at about two and a quarter inches from the anterior edge so as to include the emerging point of the arterial branches above mentioned, is to join the posterior edge of the axillary wound. To sum up, Tansini's method consists first in removing all the skin of the breast, compensating the loss of substance by the provision of a perfectly nourished flap which makes it possible to approximate by a lineal suture the skin edges in the region whence it is taken; the flap is formed from skin rarely invaded by cancer, and with its large pedicle abundantly covers the loss of skin of the axilla. The flap allows the arms to move freely.

British Medical Journal, London.

February 29.

11 Multiple Serositis, Illustrated by a Case in Which the Abdomen was Tapped Seventy Times. W. H. White.
12 *Plea for a Neglected Remedy. (Antimony and Potassium Tartrate). E. Smith.
13 *Sudden and Unexpected Deaths. W. W. Wescott.
14 *Unusual Case of Suicide by Suffocation. J. M. Renton.
15 Case of Remarkable Striæ Atrophicæ Due to Cachexia. H. D. Rolleston.
16 *Production of Pseudoarthrosis of the Hip Without Disarticulation of the Head. R. Joues.
17 *Scarlatina Associated with Pyrexia in Apparently Healthy Contact Cases. B. Thornton.
18 *Treatment of Experimental Trypanosomiasis. A. Castellani.
19 Unusual Deformity of the Foot. B. Kilvington.
20 *Note on Dr. Milligan's Paper, "Treatment of Chronic Suppuration of the Middle Ear Without Resort to Radical Mastoid Operation. O. Klotz.
21 Fatal Case of Infectious Jaundice in the Federated Malay States. W. B. Orme.
22 Prevention of Malaria in the Federated Malay States. M. Watson.

12. **A Neglected Remedy.**—Smith maintains the value of antimony in therapeutics, not, however, given as aforetime to depression, whereby it came into bad repute, but in small doses frequently repeated. He speaks highly of it in the early stages of bronchitis and bronchopneumonia, in which stimulant expectorants, like paregoric, squills, ammonium carbonate, etc., are calculated to make the cough harder and the chest tighter. The use of these latter remedies should be reserved strictly for the later stages of the disease. Antimony is useful also in laryngismus stridulus, in frequent doses of 15 or 20 drops (0.90-1.25) of the wine. In doses of 1 or 2 minims (0.06-0.12) of the wine it is a useful addition to the prescription in cases of gastric derangement, on the principle that all nauseating medicines, given in minute doses, lose their irritating properties and become gastric sedatives, e. g., ipecacuanha and zinc sulphate. Antimony is also a hepatic stimulant. In certain inflammatory conditions of the skin, e. g., chronic or acute eczema, it will often succeed where arsenic fails. In the modern use of the drug, however, we have to guard against causing depression, and should limit our efforts to obtaining free secretion from the mucous membrane and skin.

13. **Sudden Death.**—Wescott, from his long experience as one of the coroners for London, finds on tabulating the inquests held by him, that the chief factors in sudden death have been cardiac, 60 per cent.; cerebral, 30 per cent.; pulmonary, 10 per cent., so far as obvious symptoms and gross lesions can show. He considers that there has been an exaggerated idea of the importance of legal postmortems in cases of sudden and violent deaths. In many cases postmortem appearances will show only the presence of so much disease or injury as would render death a probable event from its existence. Or it may show so much disease or injury as would certainly lead to death in the near future. It is only in a minority of cases that such a lesion is found as is incompatible with continued life. He points out how almost impossible it is to say what circumstances must be fatal; e. g., no one can state the amount or the proportion of blood in the entire body the loss of which must inevitably cause death, or how much brain injury must kill. Nevertheless, a definite answer as to what caused death is desirable for several reasons: 1. For personal and family satisfaction, and in regard to life insurance. 2. For legal reasons, so as to be assured that no person is to be blamed for the death. 3. To secure accuracy in death registration. 4. To guide survivors and their medical advisers in their efforts to preserve the lives of other persons. He discusses syncope from hemorrhage, and heart disease, asphyxia and lung disease, coma and brain disease, the kidneys and uremia, and convulsions from various causes. He emphasizes the fact that women will sometimes hide diseases and symptoms with a bashfulness that is almost incredible, and refers to cases in which a medical man, called in during the last hours of life, has been quite unaware that his patient was dying of gangrene, of a strangulated femoral hernia, or bleeding to death from the bowel or from ruptured varices of the vulva. He touches on the subject from the religious standpoint, especially in reference to the occasional brief resumption of life after death had apparently occurred, a matter of the utmost importance to Roman Catholics, in regard to the last rite of the church, and refers to the medicolegal aspects of such cases.

14. **Suicide by Suffocation.**—This case of Renton's was remarkable, over and above the choice of a means for suicide, in the fact that the patient, who had packed two strips of flannel torn from his blanket in balls tightly down his throat, had not even attempted in his last agony to withdraw the last piece. He points out the importance of not overlooking the nose and throat in cases of sudden death.

16. **Pseudarthrosis.**—Jones' method is as follows: A longitudinal incision is made about six inches in length, with the upper border of the trochanter in its center. An incision is made across the base of the trochanter just below the insertion of the gluteal muscles. A slice of the trochanter from this point to its junction with the neck above is sawn or separated by a very wide osteotome and retracted upward. The capsule is then opened and the head separated from the neck with an osteotome. Extension is next put on the femur, and the trochanter with its muscles attached is screwed on to the head of the femur, which remains in the acetabulum. Deep and superficial sutures complete the operation. To avoid impinging on a tender joint, it may be necessary to remove a portion of the neck. In an ankylosed sound joint following sepsis it may be advisable instead of dividing the neck near the acetabulum, to divide it near the trochanter. Jones commends the operation as suitable for patients in advanced years, by saving the shock of disarticulation.

17. **Temperature and Scarlet Fever Contacts.**—Thornton reports a case in which scarlet fever appeared in two pupils in a school of over 300. The two patients were at once isolated and the throats of all the contacts sprayed with a 1 in 2,000 solution of mercury perchlorid. No other cases appeared, and the remaining children appeared in perfect health, save for the fact that in 131 cases out of the remaining 299 an elevation of temperature varying between 99 and 101 F., and lasting for two or three days, was found. There were absolutely no other symptoms or indications of the children being out of sorts. Thornton regards it as more than a coincidence that 131 out of 299 should suffer from elevation of temperature under these circumstances, and suggests that most of these children had received a dose of the scarlatinal poison, but that their powers of resistance were sufficiently great to prevent the occurrence of any of the usual symptoms except the moderate amount of pyrexia. He has great faith in the perchlorid spray as a prophylactic.

18. **Trypanosomiasis.**—Castellani's experiments and observations lead him to conclude, among other things, that quinin cacodylate shows a well-marked trypanocide action in monkeys experimentally inoculated with a strain of trypanosoma resembling *T. evansi*. Mercury improves the general condition of the inoculated monkeys and frequently causes the temperature to subside to normal. He suggests that quinin cacodylate, alone or with intravenous injections of perchlorid, in large doses, should be tried in sleeping sickness. Quinin cacodylate beside its action on Laveran's parasites, apparently has some action on other protozoa, as in Castellani's experience its use is beneficial in kala-azar and yaws.

20. **Suppuration of the Middle Ear.**—Klotz comments on Milligan's paper on this subject (*Brit. Med. Jour.*, Oct. 12, 1907, abstracted in The Journal, Nov. 9, 1907, page 1635), and from his experience states that he can not agree with the latter that much reliance can be placed on the cytologic characters of the exudate. He believes that we must still look to the bacteriologic examinations for our evidence as to the nature of the disease and its probable consequences.

Medical Press and Circular, London.

February 19.

23 Diagnosis of Injuries About the Shoulder. J. Dundon.
24 *Convalescence and Its Stages. W. Ewart.
25 Notification of Births Act. E. W. Hope.
26 *A Nontypical Case of Lupus Diagnosed by Calmette's Tuberculin Method. D. Walsh.

24. **Convalescence.**—Ewart describes and figures a "convalescent machine" capable of being adapted to the varied requirements for exercise and rest of all steps of convalescence, as a wheeled chair, a supine couch and exerciser, a prone couch and exerciser, and a walking machine or "crutches on wheels."

26. **The Ocular Tuberculin Reaction in Lupus.**—Walsh reports a case in which a doubtful diagnosis was cleared by the ocular tuberculin reaction. There was a bright red rash on the lower half of the front and sides of the nose, the margins extending half way toward the cheek being fairly well defined and with some outlying patches. There was no scarring, but the skin was studded with numerous small comedones of uniform size. Over the left nasofrontal region was a smooth dull red, slightly raised patch, suggestive of lupus vulgaris. The rash was one of the borderline kind in appearance, one of the transition forms on which French writers lay great stress. A decided reaction occurred twelve hours after the application of the diagnostic tuberculin. There was no reason to suspect a latent tuberculous infection elsewhere.

Clinical Journal, London.

February 26.

27 *Uterine Fibroids Complicating Pregnancy. G. F. Blacker.
28 Indications for Surgical Interference in Acute Abdominal Diseases. F. J. Steward.
29 Pneumococcic Peritonitis. H. D. Rolleston.

27. **Fibroids Complicating Pregnancy.**—Blacker asserts that the dangers of fibroid tumors complicating pregnancy have been considerably exaggerated, and that in the majority of cases labor takes place spontaneously without any complication. The life of the child must be considered as well as that of the mother, and he urges that, whenever possible, pregnancy should be allowed to proceed to full term, Cesarean section being resorted to if necessary. The removal of the uterus with the fetus *in situ* is justifiable only during early pregnancy, when the conditions are such as directly to imperil the life of the mother.

Journal of Obstetrics and Gynecology of the British Empire, London.

February.

30 *Clinical and Pathologic Report on Forty-Nine Solid Ovarian Tumors, of Which Thirty-one Were Fibromata. H. Briggs and T. E. Walker.

31 *Superficial Papilloma of the Ovary. E. Emrys-Roberts.
32 Ovarian Dermoid Retained Two Years Ago in Pelvis After, Obstructing Labor. A. Doran.
33 Case of Endothelioma of the Uterus Arising in a Fibromyoma, and Associated with Glandular Carcinoma of the Endometrium. M. H. Phillips.
34 *Technic of Ovariotomy, Especially the Advantages of Removing Ovarian Cysts in Bulk. J. Bland-Sutton.
35 The City of London Hospital. C. Godson.

30. **Solid Ovarian Tumors.**—Briggs and Walker summarize 488 cases of ovarian tumor, which showed 439 cystic and 49 solid tumors. The 439 cystic showed: adenocystomata, 284; dermoid, 44; broad ligament cysts, 36; papillomata, 24; carcinomata, 50; perithelioma (sarcoma), 1. The 49 solid tumors showed: ovarian fibromata, 31; cellular spleen-like tumor, 1; fibromata of the ovarian ligament, 3; surface papilloma, 1; adenomata, 3; solid carcinomata, 8; solid teratoma (myxochondro-sarcoma), 1; round-celled sarcoma, 1. The authors contrast the opposing statements of Griffith and Williamson and Clarence Webster, the former of whom state that "sarcoma of the ovaries is commoner than carcinoma," while the latter says that "the primary sarcoma is less frequent than carcinoma of the ovary," adding that "secondary carcinoma is rare." While Briggs and Walker's figures as regards the rarity of ovarian sarcomata among the 439 cystomata may have to be amended on completion of their investigations thereon, they are certain that in their completed work on the 49 solid tumors there were only 2 ovarian sarcomata against 8 ovarian carcinomata. Of fibromata they find no appreciable differentiation of structure among the diffuse, circumscribed and pedunculated tumors. Encapsulation was the rule. There were only 2 cases of truly bilateral fibromata and they were not diffuse. Weight and density were the striking features. The surfaces were generally smooth, in many coarsely lobulated, in one deeply furrowed, and in one finely lobulated. The relation to the menopause was as follows: Menses past in 7 diffuse, 1 circumscribed and 2 pedunculated; regular in 4 diffuse, 3 circumscribed and 4 pedunculated; irregular in 1 circumscribed; absent in 2 diffuse and 1 circumscribed; diminished in 1 diffuse. They discuss the other rarer forms of tumor. The article is very well illustrated and the cases are tabulated.

31. **Superficial Papilloma of the Ovary.**—Emrys-Roberts summarizes his paper as follows: 1. Primary superficial papilloma of the ovary is derived from the germinal epithelium and underlying connective tissue stroma. 2. The acini in the periphery of the ovary are derived from ingrowths of the germinal epithelium. 3. The vesicles which form so large a proportion of the papillary projections result from papillæ whose connective tissue cores have undergone edematous degeneration. 4. The secondary deposits arise from disrupted papillæ, the dissemination of secondary deposits is favored by ascites. 5. The collection of fluid in the abdomen represents the secretion of the epithelium forming the outer covering of the growth.

34. **Ovariotomy.**—Bland-Sutton describes the successive steps that took place in his modification of technic, especially as regards the disuse of the trocar and the use of a long incision. The object in discarding the trocar was to avoid contamination of the peritoneum by the harmful, dirty and septic stuff the cysts often contain, and the possible spreading of infection. The colloid contents are often harmless, but they are occasionally malignant. The long incision entails no danger to the patient; it heals rapidly and soundly, and is less liable to a yielding cicatrix than a short one. For the last ten years it has been the author's practice to remove ovarian cysts entire. He has removed one that weighed eighty pounds. He no longer unites the peritoneum by a continuous suture, but brings the serous, fascial and muscular layers together by interrupted sutures of carefully sterilized silk (No. 4), absolutely free from any trace of antiseptics, and then brings the skin edges together with a continuous suture of thin silk. All buried sutures should be inserted and tied with the hands protected with thoroughly sterilized gloves. Catgut he has discarded for years as a dangerous material incapable of proper sterilization, in spite of the ninety and nine enchantments that are supposed to render it germ free. In passing the interrupted sutures on the supraumbilical portion of the long incisions, it is wise to protect the stomach. He discards all unnecessary instruments, also the waterproof abdominal apron for the patient, the trocar, the cyst forceps, peritoneal forceps, crocodile forceps, big pedicle needle, marine sponges and retractors, apparatus for irrigating the abdominal cavity and glass drainage tubes.

Journal of Tropical Medicine and Hygiene, London.

February 15.

36 Study of the Etiology of Goiter. F. C. Wellman.

Archives générales de Chirurgie, Paris.

February, II, No. 2, pp. 113-212.

37 *Malignant Tumors of Spermatic Cord. Tédénat and J. Martin.
38 Adenoma of the Testicle. M. Chevassu.
39 Serous Cyst in the Mesentery. (Kyste séreux du mésentère.) J. Drucbert.

37. **Malignant Tumors of Spermatic Cord.**—This article gives an illustrated description of a case, and the summaries of twenty-four cases from the literature.

Bulletin de l'Académie de Médecine, Paris.

February 18, LXXII, No. 7, pp. 213-250.

40 *Disinfection of Closed Books. (Désinfection des livres fermés.) Berlioz and Lucas-Championnière.
41 Specific Reaction to Tuberculin Rubbed into Shaved Skin. (Nouveau mode de produire chez l'homme tuberculeux la réaction de la peau à l'aide de la tuberculine.) Lignières and H. Benjamin.
42 Discussion on Arsenical Insecticides. (Emploi des arsénicaux en agriculture.)
43 *Reduction of Intake of Fluids in Kidney Disease. (Réduction des liquides dans le mal de Bright.) Widal.

40. **Practical Disinfection of Books.**—Berlioz describes experiments which demonstrated that tubercle bacilli and anthrax spores placed on the inner margin of the leaves of books were destroyed by his method of disinfection with heat up to 90 or 95 C. (190-203 F.), and fumes of formic and ethylic aldehyd. These results were constant with books under 300 pages, with the books closed, exposed to the process for two hours. Lucas-Championnière at Paris, Macé at Nancy and Papin at Angers have been testing the process and found that pus and fecal matters placed in books of 1,300 pages, closed, were sterilized, and even anthrax spores in a closed volume of 1,000 pages. The books, paper and binding are said not to be injured in the least. The method will even serve to preserve a book threatened with some of the ills to which books kept in unhygienic conditions are liable. Berlioz is professor of bacteriology at Grenoble, France. No further details are given of the technic in this communication.

43. **Reduction of Ingestion of Fluids in Kidney Disease.**—Widal regards the scales as a most important aid in the treatment of patients with infiltration of the tissues. Systematic weighing not only informs the physician in regard to the visible edema and its extent, but it reveals accumulation of fluid long before it becomes apparent externally. The fluctuations in the weight show the necessity for supervision of the intake of fluids, and this is imperative, he thinks, in every case of interstitial nephritis, whether there is appreciable edema or not. As a rule, the patient can take care of two quarts of fluid, but in some cases he does much better if the amount ingested is reduced to three pints or even one quart in the twenty-four hours. The diuresis has no significance unless it can be compared with the amount of fluids ingested. Restriction of the intake may prove useful in prophylaxis of further trouble in nephritis, and also in the course of cardiac affections with impending asystoly. Even with adequate compensation the physician should never neglect the supervision of the amount of fluids to be allowed the patient.

Grèce Médicale, Syra, Greece.

July 15, 1907, IX, No. 14, pp. 25-28.

44 *Malaria in Greece. (Paludisme dans le départment d'Attique.) J. P. Cardamatis. Commenced in No. 11.

January 1, X, No. 1, pp. 1-4.

45 *Neuroses of the Abdominal Sympathetic or Solar System. T. Triantaphyllides. Commenced in No. 15, vol. ix.

44. **The Campaign Against Malaria in Greece.**—Cardamatis' report is restricted to the province of Attica. He reviews the experiences with malaria during the last fifteen years, the.

total direct mortality from malaria being nearly 3 per cent. of all deaths. The largest number of cases occur in July, with August next, and then June. The extensive marshes along the coast which have more or less salt water do not seem to offer favorable breeding places for mosquitoes, and there are comparatively few cases of malaria in these districts. The chief endemic foci are around the small wet spots formed by accumulating rain water or springs, and the malaria is much severer in type than near the salt or mixed marshes. The influence of the small breeding places for mosquitoes is shown in certain districts where there are no marshes, but merely small pools formed in the dry bed of a river. No person contracted malaria in the endemic foci who took systematically 7.5 grains of quinin hydrochlorate, hydrochlorid or sulphate every alternate day. In treatment the quinin was given by injections repeated daily for twelve days, then suspended for four days and resumed for two days, after which two consecutive injections were given each week until the end of the third month. The doses were 1 gm. (15 grains) for adults the first three days, with half this amount afterward. Even in the severest cases—and he encountered 50 cases of pernicious malaria and 143 of malarial cachexia in a total of 2,506 cases during 1905—this was always sufficient, and recurrences were never observed in patients who took the three-months course, while they were the rule without it. He noticed that the attacks commenced between 9 and 10 a. m. in case of primary acute infection, while in the chronic cases they came on in the afternoon between the hours of 3 and 5.

45. **Neuroses of the Abdominal Sympathetic or Solar System.**—Triantaphyllides practices at Batoum, between the Black and Caspian seas, and states that neuroses of the abdominal sympathetic system are extremely frequent among those predisposed by the prevalent malaria. These neuroses may be from disturbances in the sympathetic system in the abdomen, manifested by neuralgias and functional disorder in the organs innervated by this system. Another type of disturbances is from radiation by way of the splanchnic nerves to the lung and heart plexuses, entailing dyspnea and functional heart disturbances, palpitations, arrhythmia, false angina pectoris, etc. The third and last type of these neuroses are those of reflex nature, vasomotor disturbances, urticaria and the neurasthenic condition. He describes a number of examples of each type and the differential points, while emphasizing the importance of quinin and change of climate in treatment.

Presse Médicale, Paris.

February 19, XVI, No. 15, pp. 113-120.

46 *The Diatheses. The Personal Factor in Diseases. Sir Dyce Duckworth.

February 22, No. 16, pp. 121-128.

47 Sleeping Sickness in Senegal and the Mode of Transmission to Man. L. d'Anfreville.
48 *Injections of Glycolytic Ferments in Treatment of Cancer. R. Odier.
49 *Therapeutic Action of Radium in Cutaneous Tuberculosis. L. Wickham and Degrais.

February 26, No. 17, pp. 129-136.

50 *Remote Results of Removal of Thyroid in Exophthalmic Goiter. (Strumectomie dans la maladie de Basedow.) Garré.
51 The Great Pathologic Syndromes. M. Labbé.

46. **The Diatheses: the Personal Factor in Disease.**—Duckworth concluded his address with the remark that bacteriology is crowding out too much the materia medica. The only two great questions at the bedside are: "What is the matter with the patient?" and "What will do him good?" We are too much disposed to forget the second question, he continued, and to experiment with new synthetic remedies and neglect the old, tried ones. He asked: "Are we not allowing ourselves to drift into the position of abstract scientists, gradually losing our proper relations with the patient as skilful medical artists?" He deplored as a dangerous mistake the modern contempt for the old notion of the diatheses; four should certainly be recognized to-day, the arthritic, the scrofulous or lymphatic, the nervous and the bilious. The soil is of importance as well as the seed. The régime appropriate for persons of the lymphatic diathesis is bad for those of the arthritic diathesis and vice versa. In persons of the bilious diathesis no drug can take the place of mercury, while the scrofulous can scarcely tolerate it. He is convinced that further research on the opsonic index will confirm this old conception of the diatheses. The arthritic diathesis includes most persons of the "sanguine temperament" and one of its most important characteristics is the special antagonism of the tissues for the tubercle bacillus. The more rheumatic or gouty the patient, the less tendency to tuberculosis. All his extensive experience has confirmed the antagonism between these two conditions; if it is not absolute, at least it is very pronounced. In the rare cases in which tuberculosis does develop in a rheumatic or gouty individual, it makes slow progress, with frequent remissions, encountering a vigorous resistance. In cases of this kind an inherited scrofulous or lymphatic strain can usually be discovered accompanying the arthritic diathesis.

48. **Injection of Glycolytic Ferments in Treatment of Cancer.**—Odier describes his method of injecting glycolytic ferments in treatment of cancer. They are obtained from the muscles, liver and pancreas of sheep, calves and beef, and are injected in the buttocks. They seem to act on the cancer, he declares, wherever it may be located. The method is based on the high specific gravity of the blood in cancer patients, which he ascribes to the enfeeblement of the glycolytic ferment in the blood. When this glycolytic ferment is injected the malignant tumor reveals its presence by a transient, painful hypertrophy and then subsides more or less completely. He cites a number of typical examples, among them that of a man of 72 with vague signs of cancer of the stomach. Injection of 2 c.c. of the glycolytic ferment induced pain in the pyloric region, where a small tumor could then be palpated. It was promptly excised, but the patient continued to decline in health until a systematic course of injections of glycolytic ferment was commenced, during which prompt benefit became apparent. The patient gained nearly 25 pounds in a few months, and has been in good health during the eleven months since. A number of instances of this kind confirm him in his belief that cancer is a constitutional rather than a local affection. It attracts the X substance or "cancerogene" produced uninterruptedly by the organism, and medical efforts should be directed to exhaust the production of this cancerogene. The glycolytic ferment seems to have a direct or indirect destructive action on this cancerogene, as glycogen seems to be indispensable to the growth of a malignant tumor. Cholesterin also seems to be indispensable to the growth of cancer. It apparently attaches itself to the cancer cells, abandoning the serum. He prepares the glycolytic ferment by grinding and triturating one part by weight of muscle—freed from fat and tendons—of sheep, calf or beef (young animals), with three parts of pancreas. The mass is then mixed with glycerin and kept at a temperature of about 67 F. for twenty-four hours. The mass is then spread on fine gauze and twice the volume of distilled water is added. The whole is then filtered three times at least through moist paper and finally through a Chamberland B. filter. The solution thus obtained is injected into the buttocks. Some patients can stand only 1 c.c., repeated in a week or two, while others tolerate up to 3 c.c. a day. The limit of tolerance seems to be determined by the malignancy of the tumor. When very virulent it is impossible to inject a dose adequate for actual arrest of the malignant disease, although great improvement follows the dosage allowable. He warns that arsenic should never be given with the course of ferments, and that the injections of the ferments should never be abruptly discontinued as serious disturbances may follow.

49. **Radium in Treatment of Cutaneous Tuberculosis.**—Wickham and Degrais state that the results obtained with radium treatment of tuberculous cutaneous affections justify high hopes. The results of injection of solutions of salts of radium have also proved encouraging. One great advantage of radium is that it can be applied in a form to adapt it to the part to be treated. This is particularly useful in case of lupus of the mucous membranes. They describe their experience during nearly three years and the lessons learned in regard to the indications in the various forms of lupus and ulcerative scrofuloderma. The entire course may be completed in two or three days. The main points are to apply the radium to act power-

fully, deep and over a large area, with prolonged supervision of the resulting cicatrix. There does not seem to be any elective action on the lupous cells, which might be an indication for weak dosage.

50. **Ultimate Results of Strumectomy in Exophthalmic Goiter.**—Garré reports operative treatment in 35 cases of exophthalmic goiter. Recent examination of 20 of the patients after an interval of five years or more has shown that the exophthalmos has disappeared in 11 or 12 and was much modified in others, persisting unmodified in only 5 patients. The tachycardia had disappeared in all but 4. Nervous disturbances were still observed in about 22 of the patients; 10 were in excellent general health. The compiled statistics from various clinics in respect to operative treatment of exophthalmic goiter show cures or marked improvement in 85 per cent. At the autopsies of 56 exophthalmic goiter patients, the thymus was found very much enlarged in 77 per cent.—a proportion entirely too large to be a mere coincidence, he declares.

Semaine Médicale, Paris.

February 19, XXVIII, No. 8, pp. 85-96.

52 *What is to be Understood by Alkalinity of the Blood? (Alcalinité du sang.) L. Cheinisse.
53 *New Sign of Stricture in Esophagus. (Signe non encore décrit des rétrécissements de l'œsophage.) P. M. Revidtzev.

February 26, No. 9, pp. 97-108.

54 Reality and Mechanism of True Duplication of First Sound of Heart. (Dédoublement vrai du premier bruit du cœur.) L. Bard.

52. **What Is Meant by the Alkalinity of the Blood?**—Cheinisse reviews the knowledge recently acquired in regard to the blood, especially its concentration in hydrogen and hydroxyl ions. Benedict concludes from his research that in diabetic coma there is no actual acid intoxication, the blood persisting neutral even in case of abnormal production of acids, as he found the proportion of hydroxyl ions constantly approximating normal.

53. **Sign of Stenosis of the Esophagus.**—Auscultation reveals two sounds when a mouthful of fluid is swallowed, the sound made by the muscles as they swallow the fluid, and, about seven seconds later, the sound of the fluid as it is propelled into the stomach by the peristaltic movements of the lower part of the esophagus. Meltzer calls these the *Durchspritzungsgeräusch* and the *Durchpressungsgeräusch.* In stenosis of the esophagus some of the fluid swallowed is retained above the stricture. If the patient then makes another swallowing movement, but without really swallowing anything, not even saliva, some of the fluid retained by the stricture will then be propelled into the stomach and the second sound will be heard again and as many times as the maneuver is repeated, until all the fluid retained by the stricture has been passed along or is definitely retained by the stenosis. This sign may reveal stenosis before it is suggested by anything else. Attention is called to it by Revidtzev of Moscow.

Deutsche medizinische Wochenschrift, Berlin.

February 20, XXXIV, No. 8, pp. 313-360.

55 *Pupil Sign; Hysterical Immobility of the Pupils. (Eigenartige Pupillenphänomen.) E. Redlich.
56 Alcohol in Treatment of Phthiriasis. H. Oppenheim.
57 *Ocular Reaction to Tuberculin. (Ophthalmoreaktion.) A. Plehn. Id. J. Citron.
58 Treatment of Acute Attacks of Gout. (Behandlung des akuten Gichtanfalls.) Becker.
59 Alcohol for Disinfection of the Hands. Schumburg.
60 *Severe Chronic Inflammation of the Colon. (Colitis chronica gravis.) T. Rosenheim. Commenced in No. 7.
61 *Treatment of Acute Threatening Hemorrhage in Gastric Ulcer. (Behandlung der akut lebensgefährlich Blutungen bei Ulcus ventriculi.) W. Braun.
62 Abscesses and Removal of the Spleen. (Milzchirurgie.) Riese.

55. **Immobility of the Pupil in Hysteria.**—Redlich has noticed that the pupil became much dilated in hysteric and epileptic patients when they were engaged in hard muscular work. During this dilatation of the pupils it became more or less insensible to light, while the convergence reaction remained unimpaired. He thinks that this phenomenon is probably due to stimulation of the sympathetic nerve, and that it throws light on the immobility of the pupil in certain cases of hysteria and voluntary dilatation of the pupil as probably resulting from the same mechanism.

57. **Ocular Reaction to Tuberculin.**—Plehn's experience with instillation of tuberculin in the eye speaks against the specific nature of the reaction observed. He obtained a positive reaction in 2 out of 5 cases of typhoid; in 2 out of 5 patients with scarlet fever; in 6 out of 12 with articular rheumatism; in 3 out of 6 with acute bronchitis, and in 3 cases of enteritis. None of these patients presented the slightest indication of tuberculosis. Several patients had unpleasantly severe reactions, leaving transient inflammation. One young pregnant woman with pleurisy with effusion gave a positive response to instillation of a 1 per cent. solution in one eye, but the result was negative when the other eye was instilled two weeks later with a 2 per cent. solution. One patient with articular rheumatism gave a positive response; the rheumatism promptly subsided under the salicylates. Two weeks later the rheumatism recurred, and the conjunctivitis flared up again, without tuberculin having been instilled or administered in any form during the interval. Citron has had unusually extensive experience with the new differential reactions, and he found that scrofulous individuals react much more readily than others, and consequently the concentration used for them should be one-fourth of the strength used for others. The subcutaneous and conjunctival reactions are liable to have a reinforcing influence on each other. He urges restricting the ocular reaction to the cases in which other tests fail. He instils one drop of a 2 per cent. solution of Koch's old tuberculin into the left eye. In case of a positive reaction, to attain greater certainty, one drop of a 1 per cent. solution is instilled in the right eye. In case of negative response, one drop of a 4 per cent. solution is instilled in the right eye.

60. **Severe, Chronic Inflammation of the Colon.**—Rosenheim reports the cure of a case of long persisting, refractory colitis by treatment addressed to the stomach alone. The subacid gastritis with its consequences had evidently been responsible for the intestinal trouble. The clinical picture was about the same in three other patients. All were comparatively young, and the manifestations of the severe colitis alternated with intervals of comparative health followed by return of the great debility, persisting symptoms on the part of the intestines, fever and complicating affections, such as swelling of the joints or rectal fistula. Bacteriologic findings excluded dysentery; the severity of the process was evidently due to endogenic autoinfection or intoxication with secondary bacterial proliferation. Calomel proved useful in one case, restriction to milk and carbohydrates in another, and treatment of the gastritis in the first patient. Operative measures brought relief in two cases, but not a radical cure, as the healing of the fistulas left an obstruction in the bowel. The calomel in these severe cases was given in the dose of 0.02 gm. (4 grains) ten or twelve times a day for three days, as Plehn has recommended for dysentery.

61. **Operative Treatment of Acute Hemorrhage from Gastric Ulcer.**—Braun reports a case of fatal hemorrhage from a gastric ulcer in which he exposed the stomach but found it firmly fastened, and as the patient collapsed nothing further was attempted. In a second, similar case, after exposure of the stomach he ligated the afferent vessels in the vicinity of the gastric lesion, concluding with jejunostomy, and the patient was restored to health. Experiments on dogs and on the cadaver confirmed the feasibility and advantages of thus shutting off the blood supply from the part. The stomach of dogs tolerated this intervention without necrosis, even when the blood supply was shut off from an extensive area. Applying these findings to man, it seems probable that the best results can be obtained in case of ulcer on the lesser curvature, with or without opening the stomach. The simplicity of the procedure commends it for emergency cases in which excision of the ulcer would otherwise be considered. In acute and chronic recurring forms of gastric hemorrhage, he says, gastroenterostomy should be the routine technic.

Medizinische Klinik, Berlin.

February 23, IV, No. 8, pp. 251-282.

63 Processes of Compensation in the Circulation. (Kompensationsvorgänge im Kreislauf.) P. Morawitz.
64 *Stasis Hyperemia as a Means of Promoting Secretion of Milk. (Stauungshyperämie als ein die Milchsekretion beförderndes Mittel.) R. T. Jaschke.

65 Tabes in the First Years After Infection. Galewsky.
66 Treatment of Anthrax. (Milzbrand.) O. Schwab.
67 Compression by Adhesive Plaster Bandage in Treatment of Pneumothorax, Hemoptysis, etc. (Pneumothorax und Heftpflasterverband.) O. M. Niedner.
68 Cure of Leprosy. (Heilung der Lepra.) K. Sakurane.
69 Inoculation of Rabbits with Syphilis. (Bemerkenswerte Resultate der Syphilisimpfung beim Kaninchen.) C. Gouven.
70 Importance of Periosteum in Transplantation of Bone. (Lehre von der freien Knochentransplantation.) G. Aschausen.

64. **Stasis Hyperemia as Means to Promote Secretion of Milk.**—Jaschke has found that fifteen minutes' application of a Bier suction glass to the breast, with moderate suction, the technic being the same as for treatment of mastitis, frequently has a remarkable effect in promoting the secretion of milk. He applies the glass for from fifteen to thirty minutes if more energetic measures are desired. A moderate vacuum induces arterial hyperemia, while stronger applications induce venous hyperemia. The former alone may prove sufficient in some cases, while other women may require the more energetic measures. The stasis hyperemia certainly increases the secretion of milk, but further experience is needed, he says, to establish the indications for its application. Several typical instances are cited in detail from his experience with it at Heidelberg.

Münchener medizinische Wochenschrift.

February 18, LV, No. 7, pp. 321-376.

71 *Inoculation of Animals for Diagnosis of Tuberculous Affections. (Der Tierversuch bei der Diagnose tuberkulöser Erkrankung.) A. Weber.
72 *Cradle and Creeping Infection of Infants with Tuberculosis. (Häufigkeit der Tuberkulose und die Beiden Hauptzeitpunkte der Ansteckung mit derselben im Säuglingsalter.) P. Sehlbach.
73 *Precipitation of Cholesterin in Bile and Origin of Gallstones. (Ausfall des Cholesterins in der Galle.) Bacmeister.
74 Influenza Bacilli in Bronchi. F. Wohlwill.
75 *Zinc Chlorid for Carcinoma. Phenol for Endometritis. O. von Herff.
76 Improved Vaginal Douche Tip. (Verbessertes Ansatzstuck an den Irrigator zur Scheidenspülung.) Scheunemann.
77 Value of Arthrodesis. O. Vulpius.
78 Tetanus After Gynecologic Operations. P. Zacharias.
79 Carbonated Hand and Foot Baths. (Kohlensaure Hand- und Fussbäder.) O. Pototzky.
80 *Physicians' Help to Quacks. (Aerztliche Unterstützung der Kurpfuscherei.) H. Kantor.

71. **Inoculation of Animals in Diagnosis of Tuberculosis.**—Weber recommends excision of one of the regional lymph glands of the guinea-pig about sixteen days after it has been inoculated in the abdomen with the suspected tuberculous material. The regional glands generally become palpable by this time in case of positive results, and the animal does not suffer from this insignificant operation. The more abundant the bacilli in the material injected, the earlier the infection becomes manifest. He does not approve of Bloch's suggestion to crush the regional glands with the fingers when the suspected material is injected, as this induces inflammation and makes the findings misleading, especially if the bacilli were scanty in the suspected material. The results of inoculation of animals are supremely important in suspected tuberculosis of the kidneys, as there is no chance for confusion with smegma bacilli in this case.

72. **Frequency of Tuberculosis in Infants, and Chief Periods of Infection.**—Sehlbach writes from Czerny's children's clinic at Breslau to report the findings in respect to tuberculosis in 171 infant cadavers. They demonstrate that infants contract and succumb to tuberculosis according to two periodic waves. The first is what he calls "cradle infection," the infants contracting the disease during the first three months of life and promptly succumbing. There is then a lull, the next wave corresponding to the period when the children learn to creep. Another point brought out by his statistics is that artificially fed infants succumb much earlier to the infection; next come the infants with mixed feeding, and, lastly, the breast-fed infants. The latter exhibit considerably higher resisting powers than the other infants, as shown by the later period at which they succumb to the wave of infection that overwhelmed them in the cradle or as they creep on the floor.

73. See editorial in The Journal, March, 14, p. 880.

75. **Zinc Chlorid or Phenol in Treatment of Uterine Affections.**—O. von Herff states that he has had occasion to observe serious injury done to the uterus by cauterization with zinc chlorid in endometritis. Still better results, without injury, can be obtained with a 50 to 90 per cent. alcoholic solution of carbolic acid, which is his preference for treatment of endometritis. When an astringent or iodin action is desired, he uses a mixture of 5 parts alumnol with 50 parts each of alcohol and tincture of iodin. This can be applied as often as every second day. He much prefers this to formalin. With the same energy with which he warns against zinc chlorid for endometritis he advocates its use in case of inoperable uterine cancer. The zinc chlorid applied four or five days after curetting will give relief for a long period, and has been known to effect a permanent cure. He applies it in the form of a paste made of equal parts of zinc chlorid and starch, with a few drops of glycerin. This is spread on a cotton wad shaped to fit the cavity. It is removed after four, six or eight hours. He has never observed any inconveniences from its use in this way, although he has applied it in hundreds of cases. As the eschar is thrown off hemorrhage may occasionally be observed, but this is liable with any measure. He has never observed symptoms of poisoning from its use in this way, and thinks that other causes were probably responsible for the symptoms in the two cases of alleged poisoning reported by Hofmeier.

80. **How Physicians Help Nostrum Vendors.**—Dr. Heinrich Kantor of Warnsdorf in Bohemia has long been waging energetic warfare against quackery in general, and publishes a journal called *Gesundheitslehrer—Guide to Health*, or *Health Teacher*—which is written in popular style and has recently been accepted as the official organ of the International Antiquackery Society. L. Bauer of Kötzschenbroda, Germany, who does a large business in the sale of "djoeat," a remedy advertised as a sure cure for diabetes, objected to criticisms in Kantor's journal, and brought suit against him. He has done this four times, and although Kantor issued victorious from each suit, yet they cost him a great deal of money. His experience in these suits has been very discouraging, he says, as the evidence showed that many registered physicians inadvertently lend their aid to irregulars and help to pour money into the latter's coffers. He here appeals to physicians to be more guarded when judging commercial preparations and not to allow themselves to be deceived into ascribing to the remedy the benefit which is almost certain to follow regulation of the diet and hygienic measures in general, which form part of the "method" of many quacks. In 1904 the German authorities forbade the further sale of "djoeat," but Bauer merely changed the name to "antidiabeticum," and continued its exploitation on a still larger scale. It is said that he has changed the formula a number of times during the last few years, one of the latest being submitted to the Austrian authorities when applying for a patent, in 1905. The ingredients of the remedy were then said to be kola, jambul and "guru nuts." Another formula stated the ingredients as "quinin, syzigium jambolanum, salicylic acid and linseed." Jambul has long been used as a remedy in diabetes, and some claim good results with it. Bauer himself states that the kola is the main active ingredient of his remedy. Dappe, Külz and von Jaksch have given "antidiabeticum" a thorough trial in diabetes, but were unable to detect beneficial action from it. In the suits against Kantor he amazed the judge and spectators by proving that Bauer's much vaunted rules for the diet were taken bodily from von Noorden's article on diabetes in a familiar text-book. In a suit brought by Bauer against von Noorden, himself, the latter stated: "It is difficult even for a physician without wide experience in treating diabetes and most certainly is it difficult for the laity to determine how large a proportion of the benefit in the treatment of diabetes belongs to the drugs used and how much to the dietetic regulations accompanying them. The drug-loving public—and I include physicians under this heading—is inclined to push the action of the medicines into the foreground and to forget that of the other measures. The consequence is that testimony to the effect of the medicine is offered which is false, although subjectively true." Kantor remarks that physicians are liable to be misled into objectively false testimony by the reading matter served up to them in certain medical journals inspired by shrewd adver-

tising on the part of the irregulars. He adds: "It is sad enough that the commercial proprietaries are able to find any complaisant medical journals and authors for medical write-ups, but that rank, naked quackery finds the columns of part of the medical press open to it should rouse the profession to a thorough cleaning up with an iron broom." He was not surprised to have testimony presented by Bauer from the authors of known medical write-ups, but he was disheartened to find that testimonials were presented from thirty reputable German physicians endorsing the efficacy of "antidiabeticum," as they had used it on themselves or on members of their families or on patients. None of their testimonials was more than a brief line or so, and none of these physicians seems to have realized that he was giving his testimony to drugs which had ever before been used in the treatment of diabetes. None appended a report of a case, and yet the assertions of "marvelous cures" were frequent. The physician who testified with such admiration that "djoeat" had in four days cleared his patient's urine of sugar had evidently forgotten or did not know that thousands of diabetics every day have their urine cleared of sugar merely by refraining from carbohydrates, which his patient had also done. The fifty patients presented by Bauer as "cured" have been traced later by Kantor, who found that 12 per cent. of them have already died—even among this group of selected cases. He adds that in all his published criticisms of Bauer he was careful to refer exclusively to his advertising methods, never criticising his method of treatment, to avoid further legal complications. He appeals to physicians to send a postal card forbidding the further sending of a journal which carries advertisements of nostrums and irregulars. When the advertisers find that physicians refuse to have the journals sent to them, then they will discontinue their advertising in such journals. It is thus in the power of physicians to take the wind out of the sails of these venal journals and arrest their course.

Zentralblatt für Chirurgie, Leipsic.

February 22, XXXV, No. 8, pp. 217-248.

81 Diversion of the Blood from the Vena Cava into the Portal Vein by Termino-lateral Anastomosis of the Vessels. (Ueberleitung des Vena Cava-Blutes in die Vena Portæ mittels terminolateraler Gefässanastomose.) L. Meyer.
82 Modification of Roux's Esophago-jejuno-gastrostomy. P. Herzen.
83 Plastic Formation of New Esophagus. Wullstein.
84 *Rovsing's Sign: Production of Typical Pain at McBurney's Point by Indirect Means. C. Lauenstein.

February 29, No. 9, pp. 249-288.

85 Silver Catgut and Silver Silk. (Silberseide, etc.) B. Credé.
86 Treatment of Spondylitis. A. C. Wiener.

84. **Production of Typical Pain at McBurney's Point by Indirect Means.**—Lauenstein relates that Rovsing's sign was found in a case of cholecystitis. It is not therefore pathognomonic for appendicitis, but merely indicates some circumscribed inflammatory process in the vicinity of the colon. The sign was described in these columns Nov. 30, 1907, page 1882.

Zentralblatt für Gynäkologie, Leipsic.

February 22, XXXII, No. 8, pp. 233-280.

87 *Special Posture to Facilitate Delivery. (Erleichterung der Austrittsbewegung durch eine besondere Haltung der Gebärenden.) M. Samuel.
88 Origin of Placenta Marginata and Placenta Circumvallata. P. Sfameni.
89 Fifty Cases of Transverse Incision of Fascia Above Symphysis According to Pfannenstiel. (Suprasymphysärer Fascienquerschnitt.) A. Helsted.
90 *Cesarean Section, with Bilateral Ovarian Carcinoma. (Kaiserschnitt, etc., wegen Gebärunmöglichkeit infolge doppelseitigen Ovarialkarzinoms.) F. Weisswange.
91 Abdominal Pregnancy at Term, with Good Results for Mother and Child. (Bauchhöhlenschwangerschaft.) Weiss.
92 Etiology of Puerperal Retroflexion of the Uterus. L. Pincus.
93 *Ventrofixation of Round Ligaments without Touching the Cornua Uteri. Quadflieg.

February 29, No. 9, pp. 281-312.

94 *Ultimate Outcome of Plastic Operation on Pelvis. (Pelvioplastik.) B. Credé.
95 Recovery After Decapsulation of Kidneys in Case of Severe Puerperal Eclampsia. R. Asch.
96 Diagnosis and Treatment of Ureters with Abnormal Outlet. (Abnorm ausmündender vollwertiger Uteretereu.) A. Westhoff.
97 "Double-breasted" Silk Suture of the Fascia in Laparotomies. (Eine neue Flächennaht der Fascie bei Laparotomie.) C. D. Josephson.
98 Atmocausis. F. Weisswange.
99 Cyst in Omentum. (Omentalcyste.) W. Holleman.

87. **Posture to Facilitate Delivery.**—Samuel states that a patient in labor with her first child was placed in a position so that forceps could be applied to aid the difficult delivery. She lay across the bed with her legs flexed on the abdomen while the nurse was bringing two chairs for her feet. At that moment a labor pain came on and the woman seized her maximal flexed legs just above the knees and pulled on them as she strained, the head at once making its appearance. This was the more remarkable, as the sagittal suture before had presented somewhat unfavorably and the labor pains had not had much effect. This posture evidently facilitates delivery, as it reinforces the expulsive action of the labor contractions, while at the same time the diameter of the pelvic outlet is enlarged. Since then Samuel has applied this posture in all his cases of difficult delivery and has frequently thus been able to dispense with forceps. The woman pulls on her legs just above the knees, the thighs flexed to the utmost, and she raises her head a little at the same time. In frontal and transverse presentation space is gained for rotation of the head, and the posture is also unusually favorable for face presentation and with contracted pelvis.

90. **Cesarean Section with Bilateral Ovarian Carcinoma.**—The child in this case was healthy and unusually well developed, and the mother showed no signs of cachexia, although both ovaries were found transformed into large knobby malignant tumors and the vicinity was studded with metastases. The case shows that even the slightest scrap left of normally functioning ovarian tissue allows conception and pregnancy.

93. **Ventrofixation of Round Ligaments.**—Quadflieg has treated twenty-three patients with displacement of the uterus by fastening the round ligaments to the anterior wall of the abdomen, but with care to leave the cornua of the uterus intact. The uterus is thus suspended and hangs free so that its enlargement is not interfered with. He uses No. 3 silk.

94. **Pelvioplastics.**—Credé applied this term to the operation he performed on a patient in 1906 by which the pelvis was permanently enlarged. Recent examination of the patient has shown that the ultimate results have exceeded all anticipations, there being no interference with the gait or other disturbance, while the pelvis has been permanently enlarged by 2 cm. He advises this technic in case of a contracted pelvis, urging its application before or early in the pregnancy. His technic was summarized in The Journal, Oct. 6, 1906, page 1142.

Policlinico, Rome.

February, XV, Medical Section, No. 2, pp. 49-96.

100 *Orthodiagraphic Roentgen Examination of the Heart. (Ortodiagrafia nelle diagnosi delle malattie di cuore.) G. Galli.
101 *Idiopathic Paroxysmal Tachycardia. U. Deganello.
102 *Research on Coagulation of Blood in Various Morbid Conditions. (Metodo per lo studio della coagulazione del sangue.) P. Ciuffini.
103 Intravenous Injections of Collargol in Endocarditis and Gonorrheal Rheumatism. R. Ricci.

February 16, Practical Section, No. 7, pp. 197-228.

104 *Experiences with Spinal Anesthesia. (Sulla anesthesia rachistovalnica.) F. Feliziani.

100. **Orthodiagraphy of the Heart.**—This term is applied to repeated parallel application of the Roentgen rays, disregarding all but the central rays. Galli gives a number of illustrations of the outlines of the heart and lungs obtained by this means, the findings showing characteristic features for various heart defects, etc., the displacement of the apex during inspiration and expiration, and the displacement of the whole heart as the patient reclines and its shortening as he stands. Galli noticed that in multiparæ the heart was larger than normal, and that each individual seems to have his own special heart. He was unable to determine any special normal standard.

101. **Idiopathic Paroxysmal Tachycardia.**—Deganello discusses the physiopathology and origin of tachycardia in general and of the paroxysmal form in particular. One of the characteristics of essential paroxysmal tachycardia, he says, is the sudden duplication or quadruplication of the pulse rate during the attacks. There seems to be a certain analogy between this twofold or fourfold numerical increase in the pulse and the same duplication or quadruplication observed in the isolated heart of the frog under the influence of thermic or elec-

tric stimuli. The increase seems to be intimately connected with some alteration (exaltation) of certain fundamental functions of the cardiac muscle cell—enhanced excitability and conductibility. The tachycardia is started by some extra stimulus acting on the myocardium in this state of enhanced excitability and conductibility. This extra stimulus may result from the action of some chemical, such as tobacco or alcohol, or some acute poisoning, or it may be of mechanical origin, from increased intracardiac pressure in consequence of excessive exertion, or it may be of indirect nervous origin. He thus distinguishes between essential paroxysmal tachycardia resulting from changes in the extracardiac innervation and those in the intracardiac innervation. In a typical case described, the patient was an epileptic, and the pulse increased from 90 to 180 during the attacks, while the blood pressure dropped by 30 mm. mercury. There was nothing to indicate organic disease of the heart, but during the attacks the ventricles spread a trifle wider.

102. **Method for Studying Coagulation of the Blood.**—Ciuffini reports conditions in regard to coagulation of the blood in various affections. He found conditions normal in cases of cirrhosis of the liver, chronic jaundice and simple tertian malaria. The coagulating process was increased most in typhoid fever, and was most retarded in hemorrhagic purpura, estivo-autumnal malaria and malignant disease of the liver. His method of testing the coagulation is similar to the technic of the hemolytic blood test: Ten smooth glass test tubes, 8 cm. long, with an inner diameter of 8 mm., the glass walls 0.5 mm. thick, are placed upright in a standard, and 1 c.c. of a 0.9 per cent. saline solution is placed in each tube. One drop of blood drawn from a vein in the arm is added to the first tube, 2 drops to the second, 3 to the third, and so on. Each tube is then closed with a rubber stopper and the contents mixed. The minute when the blood is added to each tube and the minute when coagulation occurs is recorded for each tube. The normal average was found to be from 7 to 10 minutes in the tubes with from 7 to 10 drops. In the tubes with from 3 to 6 drops the average was between 12 and 25 minutes. He urges others who are studying the coagulation of the blood to adopt this technic, as the lack of uniformity in the technic has led to contradictory findings in much of the research on record. His room temperature was 76 to 86 F.

104. **Spinal Anesthesia with Stovain.**—Feliziani reports experiences with spinal anesthesia in 203 cases. The temperature rose in 60 per cent. of the cases, almost always accompanied by headache, the latter in a few cases persisting very severe for ten days. In 30 per cent. of the cases there was intense pain in the spine, generally vanishing in a few days, but in one case persisting for five days, requiring morphin. Another patient had, in addition, severe neuralgia in the legs, continuing for ten days. In 4 or 5 cases the motor relaxation did not subside as usual, but persisted for several days. Paresis of the bladder and rectum was observed in 40 per cent. of the cases, generally vanishing by the fourth or fifth day, but in a number of patients the ischuria persisted for ten days or longer and the bowels were sluggish. In one patient the paralysis of the bladder persisted and cystitis developed during the repeated catheterizations; four months elapsed before the bladder and rectal functions had returned to normal under vigorous measures in the hospital. One patient, a young man, presented paroxysmal hematuria after spinal anesthesia for a herniotomy. The patient's general health did not suffer, and the hematuria did not recur after the second week. During the course of the spinal anesthesia, pallor, anguish, small pulse and retching were observed in several cases, but transient in all. Ten patients were delirious, in one case amounting to hypochondriac delirium with ideas of persecution. One robust man of 40 had transient collapse with brief convulsions. Paralysis of the respiratory muscles was observed in one elderly man, with pallor and vomiting soon after the puncture. Active artificial respiration with inhalation of oxygen and injections of ether and strychnin restored him. Feliziani injected 1 c.c. of a 10 per cent. solution of stovain and sodium chlorid—equal parts of each—with a little lactic acid, the whole mixed with the patient's own cerebrospinal fluid.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

MEDIZINAL-BERICHTE über die deutschen Schutzgebiete, Deutsch-Ostafrika, Kamerun, Togo, Deutsch-Südwestafrika, Neu-Guinea. Karolinen, Marshall-Inseln und Samoa, für das Jahr 1905-1906. By Herausgegeben vom Reichskolonialamt. Mit 4 Skizzen im Text und 2 Plänen. Price, $1.50. Berlin: Ernst Siegfried Mittler und Sohn, Kochstrasse 68-71, 1907.

PRACTICE OF MEDICINE FOR NURSES. By George Howard Hoxie, A.M., M.D., Professor of Internal Medicine in the University of Kansas. With a Chapter on the Technic of Nursing, by Pearl L. Laptad, Principal of the Training School for Nurses of the University of Kansas. Cloth. Pp. 284. Price, $1.50. Philadelphia: W. B. Saunders Co., 1908.

TREATMENT OF INTERNAL DISEASES, for Physicians and Students. By Dr. Norbert Ortner of the University of Vienna. Edited by Nathaniel Bowditch Potter, M.D., Visiting Physician to the New York City Hospital. Translated by Frederic H. Bartlett, M.D., from the Fourth German Edition. Cloth. Pp. 658. Price $5.00. Philadelphia: J. B. Lippincott.

MEDICAL JURISPRUDENCE AND TOXICOLOGY. By Fred J. Smith, M.A., M.D. Oxon., F.R.C.P. Lond., F.R.C.S. Eng., Physician to and Lecturer on Forensic Medicine at the London Hospital. Second Edition. Cloth. Pp. 463. Price, $3.40. Philadelphia: P. Blakiston's Son & Co., 1908.

SEVENTH Annual Report of the Work of the Cancer Laboratory of the New York State Department of Health for the Year 1905-1906. Conducted at the Gratwick Research Laboratory, University of Buffalo. Paper. Pp. 124. Albany: J. B. Lyon Co., 1907.

SIXTH Annual Report of the Work of the Cancer Laboratory of the New York State Department of Health for the Year 1904-1905. Conducted at the Gratwick Research Laboratory, University of Buffalo. Paper. Pp. 79. Albany: J. B. Lyon Co., 1907.

THE FEDERAL MEAT INSPECTION SERVICE. By A. D. Melvin, D.V.S., Chief of the Bureau of Animal Industry. Circular 125, Bureau of Animal Industry, U. S. Department of Agriculture. Paper. Pp. 40. Washington: Government Printing Office, 1908.

DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS. By Francis M. Pottenger, A.M., M.D., Professor of Clinical Medicine, Medical Department University of Southern California. Cloth. Pp. 377. Price, $3.50. New York: William Wood & Co., 1908.

THE PRODUCTION AND HANDLING OF CLEAN MILK. By Kenelm Winslow, M.D., M.D.V., B.A.S. (Harv.), Chairman of the Committee on Milk of the Washington State Medical Association. Cloth. Pp. 207. Price, $2.50. New York: William R. Jenkins Co.

PERSONAL HYGIENE IN TROPICAL AND SEMITROPICAL COUNTRIES. By Isaac Williams Brewer, M.D., Member of the American Society of Tropical Medicine. Pp. 130, with 8 illustrations. Flexible Cloth. Price $1.00. Philadelphia: F. A. Davis Co.

A NARRATIVE of the Work Done in a Year by the Boston Association for the Relief and Control of Tuberculosis. Annual Report, Fourth Year, Nov. 1, 1906 to Oct. 31, 1907. Paper. Pp. 44. Price 15c. Published by the Association.

TEXT-BOOK OF SURGICAL ANATOMY. By William Francis Campbell, M.D., Professor of Anatomy, Long Island College Hospital. Cloth. Pp. 675, with 319 illustrations. Price, $5.00. Philadelphia: W. B. Saunders Co., 1908.

REPORT of Provisional Administration of the Republic of Cuba, from October, 1906, to December, 1907. By Charles E. Magoon, Provisional Governor. Paper. Pp. 557. Havana: Rambla and Bouza, 1908.

THE BLACK DEATH OF 1348 AND 1349. By Francis Aidan Gasquet, D.D., Abbot President of the English Benedictines. Second Edition. Pp. 272. Price, $2.00. London: George Bell & Sons, 1908.

MEDICO-PHYSICAL WORKS, Being a Translation of "Tractatus Quinque Medico-Physici." By John Mayow, LL.D., M.D. Cloth. Pp. 331. Price $1.36. Chicago: University of Chicago Press, 1908.

CHRONIC CONSTIPATION. By J. Alexander MacMillan, B.A., M.D., Professor of Therapeutics in Detroit College of Medicine. Cloth. Pp. 257. Price $2.00. Kansas City, Mo.: The Burton Co., 1908.

CLINICAL LECTURES AND ADDRESSES ON SURGERY. By C. B. Lockwood, Surgeon to St. Bartholomew's Hospital. Flexible Cloth. Pp. 307. Price, $1.50. New York: Oxford University Press, 1907.

MEDICAL LECTURES AND APHORISMS. By Samuel Gee, M.D., Fellow of the Royal College of Physicians. Flexible Cloth. Pp. 363. Price $1.50. New York: Oxford University Press. 1908.

SIXTY-FOURTH ANNUAL REPORT of the Trustees and Superintendent of the Butler Hospital, Providence, R. I. Paper. Pp. 56, with illustrations. Providence: Snow & Farnham Co., 1908.

TRANSACTIONS of the Thirteenth Annual Meeting of the American Laryngological, Rhinological and Otological Society. Cloth. Pp. 551. Published by the Society.

EIGHTEENTH ANNUAL REPORT of the Visiting Nurse Association of Chicago for the Year Ending Dec. 31, 1907. Paper. Pp. 37. Published by the Association.

A MIND THAT FOUND ITSELF, AN AUTOBIOGRAPHY. By Clifford Whittingham Beers. Cloth. Pp. 363. Price $1.50. New York: Longmans, Green & Co., 1908.

EXTRACT from the Twenty-Eighth Annual Report of the New York State Department of Health. Paper. Pp. 54. Albany: J. B. Lyon Co., 1908.

PROCEEDINGS of the 115th Annual Convention of the Connecticut State Medical Society. Cloth. Pp. 375. Published by the Society.

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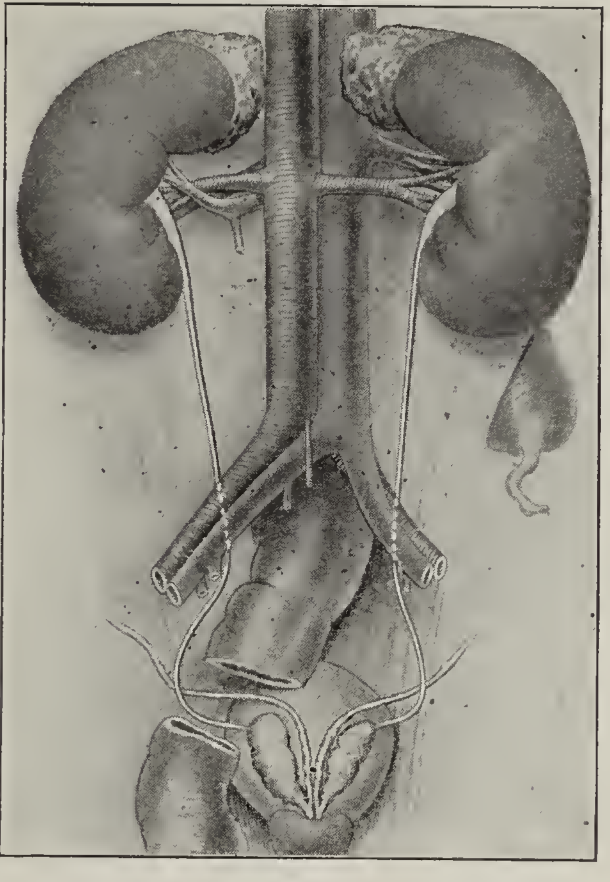

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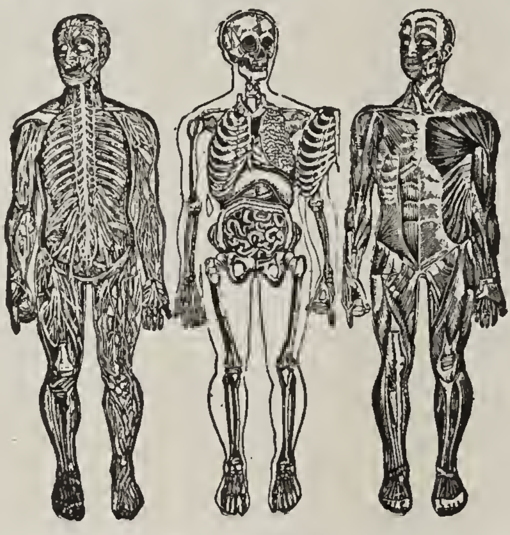

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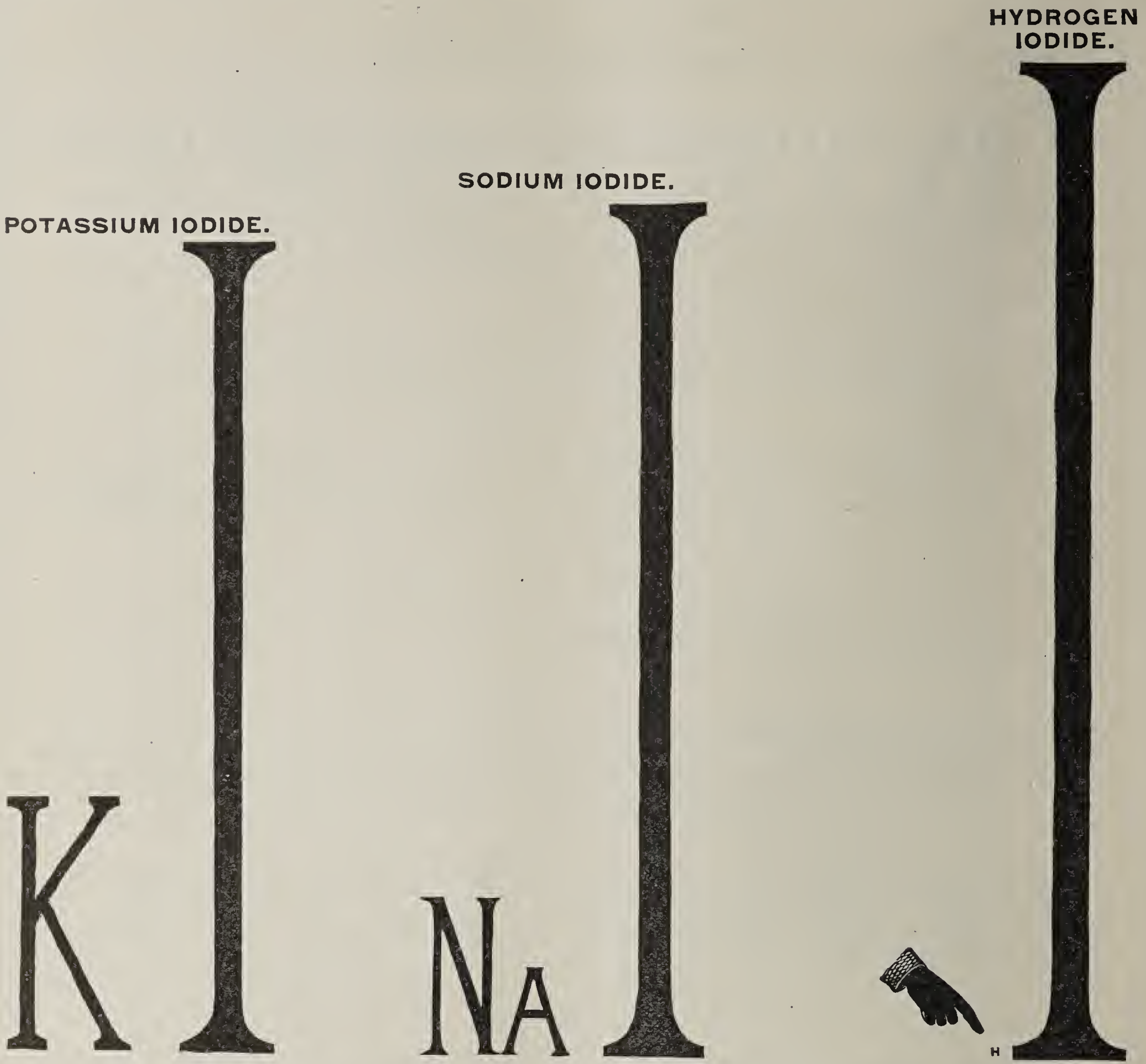
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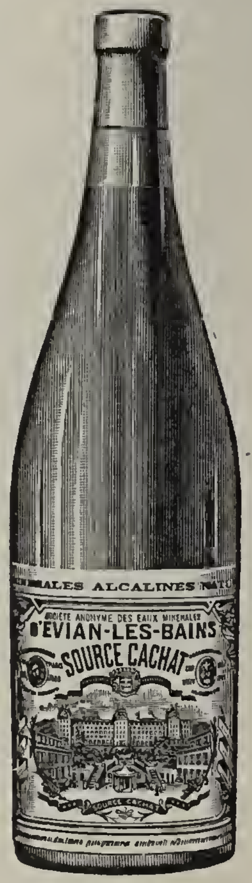

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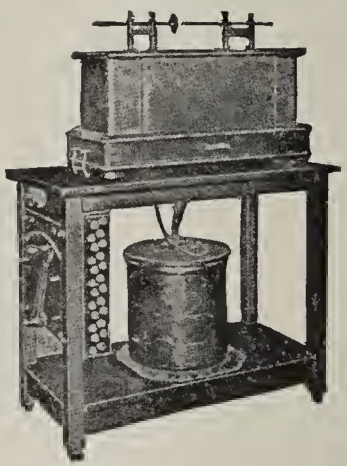

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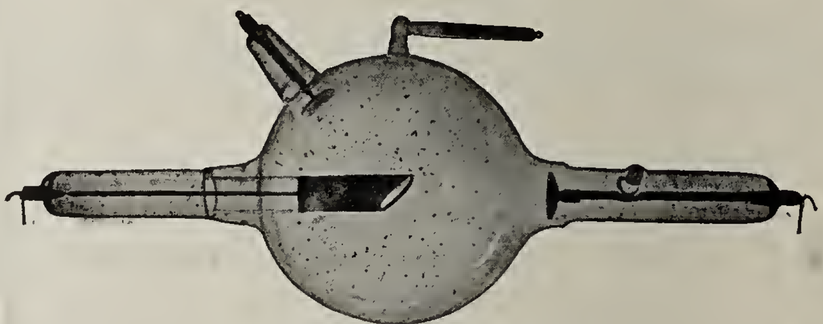

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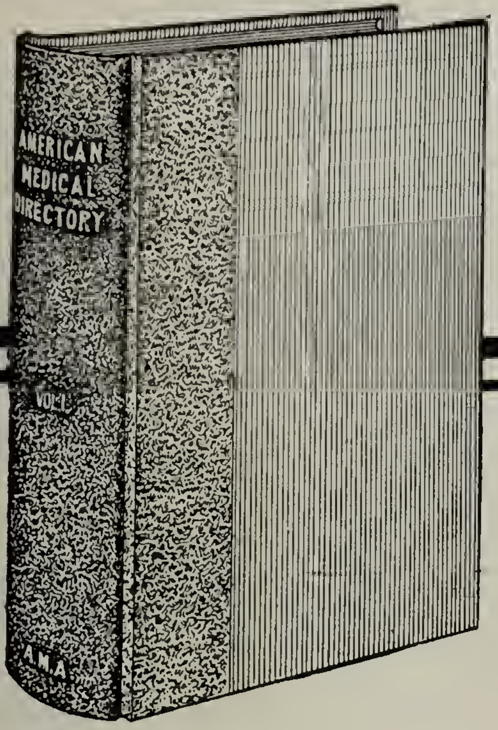

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AMERICAN MEDICAL ASSOCIATION	Joseph D. Bryant, New York City	George H. Simmons, 103 Dearborn Ave., Chicago.	Chicago June 2-5, 1908.
American			
Academy of Medicine	Thomas D. Davis, Pittsburg Pa	Charles McIntire, Easton, Pa.	Chicago, May 30-June 1, 1908.
Academy of Ophthal. and Oto-Laryng	Derrick T. Vail, Cincinnati, Ohio	Geo. F. Suker, 103 State St., Chicago	Cleveland, Aug. 27-29, '08.
Anatomists, Association of	J. P. McMurrich, Toronto, Canada	G. Carl Huber, Ann Arbor, Mich	December, 1908.
Association of Genito-Urinary Surgeons.	Harvey G. Mudd, St. Louis, Mo	E. L. Keyes, Jr., 109 E. 34th St., New York	Hot Springs, Va., May, 1908.
Association of Medical Examiners	Charles H. Harbaugh, Philadelphia	John Guy Monihan, 90 William St., New York	Chicago, June 1-2, 1908.
Association of Obstetricians and Gyn	E. Gustav Zinke, Cincinnati	Wm. W. Potter, 238 Delaware Ave., Buffalo.	Baltimore, Sept. 22-24, 1908.
Assn. of Military Surgeons of the U. S.	George Tulley Vaughan, P.H.& M.-H.S	Major J. E. Pilcher, Carlisle Pa	Atlanta, Ga., Oct. 6-9, 1908.
Assn. of Pathologists and Bacteriologists	A. S. Warthin, Ann Arbor, Mich	Harold C. Ernst, Boston, Mass	Ann Arbor, April 17-18, 1908.
Association of Railway Surgeons	A. L. Wright, Carroll, Iowa	H. B. Jennings, Council Bluffs, Iowa	
Climatological Association	Thomas D. Coleman, Augusta, Ga	Guy Hinsdale, Hot Springs, Va	Boston, Mass., June 9-11, 1908.
Dermatological Association	A. Van Harlinger, Philadelphia, Pa	G. W. Wende, 471 Delaware Ave., Buffalo	
Electro-Therapeutic Association	Herbert F. Pitcher, Haverhill, Mass	Albert C. Geyser, 1239 Madison Ave., N. Y	September, 1908.
Gastro-Enterological Association	John P. Sawyer, Cleveland, Ohio	C. D. Aaron, 32 W. Adams Ave., Detroit	Chicago, June 1-2, 1908.
Gynecological Society	J. Montgomery Baldy, Phila., Pa	J. Riddle Goffe, 616 Madison Ave., New York.	Philadelphia, May 26, 1908.
Laryngological Association	Herbert S. Birkett, Montreal, Can	Jas. E. Newcomb, 118 W. 69th St., New York.	
Laryn., Rhin., and Otol. Society	Ewing W. Day, Pittsburg, Pa	Thos. J. Harris, 117 E. 40th St., New York	Pittsburg, May, 1908.
Medical Colleges, Association of	H. B. Ward, Lincoln, Neb	Fred C. Zapffe, 1764 Lexington St., Chicago	
Medico-Psychological Association	Charles P. Bancroft, Concord, N. H	Charles W. Pilgrim, Poughkeepsie, N. Y	Cincinnati, 1908.
Ophthalmological Society	S. D. Risley, Philadelphia	S. B. St. John, 68 Pratt St., Hartford, Conn	
Orthopedic Association	Henry L. Taylor, New York City	Robt. B. Osgood, 372 Marlborough St., Boston.	
Pediatric Society	Charles G. Kerley, New York City	S. S. Adams, 1 Dupont Circle, Wash., D. C	Dela. Water Gap, May 26-28,'08
Physicians, Association of	James Tyson, Philadelphia	H. Hun, 149 Washington Ave., Albany, N. Y.	Washington, May 12-13, 1908.
Proctologic Society	A. B. Cooke, Nashville, Tenn	L. H. Adler, Jr., 1610 Arch St., Phila., Pa	Chicago, June 1, 1908.
Public Health Association	Richard H. Lewis, Raleigh, N. C	C. O. Probst, Columbus, Ohio	Winnipeg, Man., August, 1908.
Surgical Association	Wm. H. Carmalt, New Haven, Conn	Robt. G. LeConte, 1530 Locust St., Phila	Richmond, Va., 1908.
Therapeutic Society	John V. Shoemaker, Philadelphia, Pa.	Noble P. Barnes, Washington, D. C	Philadelphia, May 7-9, 1908.
Urological Association	Hugh H. Young, Baltimore, Md	Hugh Cabot, 1 Marlborough St., Boston	Chicago, June 1, 1908.
Con. of State and Prov. Bds. of N. A	Chas. D. Smith, Portland, Maine	John S. Fulton, 10 South St., Baltimore, Md.	
Mississippi Valley Medical Association	Arthur R. Elliott, Chicago	H. E. Tuley, 111 W. Kentucky, Louisville	Louisville, Ky., Oct. 13-15, '08.
Missouri Valley, Medical Society of the	W. F. Milroy, Omaha, Neb	Chas. Wood Fassett, St. Joseph, Mo	
Southern Surgical and Gyn. Association	Howard A. Kelly, Baltimore, Md	W. D. Haggard, Jr., Nashville, Tenn	
Western Surgical and Gyn. Association	W. W. Grant, Denver, Colo	Arthur T. Mann, Minneapolis, Minn	Minneapolis, Dec. 29-30, 1908.

LIST OF STATE MEDICAL SOCIETIES

It is believed the information in this table is correct to date of going to press. Officers or others are requested to notify us of any errors or required changes. For further information concerning any society address the secretary.

SOCIETY.	PRESIDENT.	SECRETARY.	NEXT ANNUAL MEETING.
Alabama, Medical Assn. of the State of	S. W. Welch, Talladega	J. N. Baker, Montgomery	Montgomery, April 21, 1908.
Arizona Medical Association	A. R. Hickman, Douglas	John W. Foss, Phœnix	Tucson, April 20, 1908.
Arkansas Medical Society	C. C. Stephenson, Little Rock	Morgan Smith, Little Rock	Little Rock, May 13-15, 1908.
California, Medical Soc. of the State of	George H. Evans, San Francisco	P. M. Jones, 2210 Jackson St., San Francisco.	Coronado, April 21-23, 1908.
Colorado State Medical Socicty	H. B. Whitney, Denver	Melville Black, Majestic Bldg., Denver	Denver, October, 1908.
Connecticut State Medical Society	E. J. McKnight, Hartford, Conn	Walter R. Steiner, 4 Trinity St., Hartford	New Haven, May 27-28, 1908.
Delaware State Medical Society	Joseph K. Frame, Millsboro	G. W. K. Forrest, 1000 Jackson St., Wilm'ton.	Wilmington, Oct. 14, 1908.
District of Columbia, Medical Assn. of	Louis Mackall, Jr., Washington	L. H. Reichelderfer, The Burington, Washgt'n.	Washington, April 2, 1908.
Florida Medical Association	W. P. Lawrence, Tampa	J. D. Fernandez, Jacksonville	Ocala, April 15, 1908.
Georgia, Medical Association of	M. A. Clark, Macon	Claude A. Smith, Atlanta	Fitzgerald, April 15, 1908.
Hawaiian Territorial Medical Society	A. D. Hodgins, Honolulu	F. H. Humphries, Honolulu	
Idaho State Medical Association	E. W. Kleinman, Hailey	Ed. E. Maxey, Boise	Boise, Oct. 8-9, 1908.
Illinois State Medical Society	Wm. L. Baum, Chicago	Edmund W. Weis, Ottawa	Peoria, May 19-21, 1908.
Indiana State Medical Association	D. C. Peyton, Jeffersonville	F. C. Heath, Newton Clayp. Bldg., Indianapolis	French Lick, June 18-19, '08
Iowa State Medical Society	Walter L. Bierring, Iowa City	V. L. Treynor, Council Bluffs	Des Moines, May 20-22, 1908.
Kansas Medical Society	J. E. Sawtell, Kansas City	Chas. S. Huffman, Columbus	Iola, May 5-7, 1908.
Kentucky State Medical Association	D. M. Griffith, Owensboro	Arthur T. McCormack, Bowling Green	Winchester, October, 1908.
Louisiana State Medical Society	Oscar Dowling, Shreveport	P. L. Thibaut, 141 Elk Pl., New Orleans	Alexandria, April 28-30, 1908.
Maine Medical Association	B. B. Foster, Portland	Walter E. Tobie, 3 Deering St., Portland	Bangor, June 10-11, 1908.
Maryland, Medical and Chir. Faculty of	Charles O'Donovan, Baltimore	John Ruhräh, 847 N. Eutaw St., Baltimore	Baltimore, April 28-30, 1908.
Massachusetts Medical Society	G. W. Gay, Newton (Chestnut Hill).	F. W. Goss, 217 Warren St., Roxbury	Boston, June 9-10, 1908.
Michigan State Medical Society	Herman Ostrander, Kalamazoo	B. R. Schenck, 502 Wash. Arcade, Detroit	Manistee, June, 1908.
Minnesota State Medical Association	W. H. Magie, Duluth	Thomas McDavitt, St. Paul	St. Paul, October, 1908.
Mississippi State Medical Association	R. S. Curry, Columbus	E. F. Howard, Vicksburg	Natchez, April 14, 1908.
Missouri State Medical Association	W. S. Allee, Olean	A. W. McAlester, Kansas City	Springfield, May 19-21, 1908.
Montana State Medical Association	W. W. Taylor, Kalispell	Grace Wilson Cahoon, Butte	Butte, May 13-14, 1908.
Nebraska State Medical Association	Harold Gifford, Omaha	A. D. Wilkinson, Lincoln, Neb	Lincoln, May 5-7, 1908.
Nevada State Medical Association	D. A. Turner, Goldfield	S. K. Morrisson, Reno	Goldfield, Oct. 6-7, 1908.
New Hampshire Medical Society	John H. Neal, Rochester	D. E. Sullivan, Concord	Concord, May 14-15, 1908.
New Jersey, Medical Society of	Edward J. Ill, Newark	William J. Chandler, South Orange	Cape May, June 23-25, 1908.
New Mexico Medical Society	R. E. McBride, Las Cruces	G. S. McLandress, Barnett Bldg., Albuquerque	Albuquerque, 1908.
New York, Med. Soc. of the State of	A. G. Root, Albany	Wisner R. Townsend, 64 Madison Ave., N. Y	
North Carolina, Med. Soc. of the State of.	J. Howell Way, Waynesville	David A. Stanton, High Point	Winston, June 16-19, 1908.
North Dakota State Medical Association	Chas. MacLachlan, New Rockford	H. J. Rowe, Casselton	Grand Forks, May 20-21. 1908.
Ohio State Medical Association	Charles L. Bonifield, Cincinnati	J. H. J. Upham, Columbus	Columbus, May 6-8, 1908.
Oklahoma State Medical Association	C. S. Bobo, Norman	E. O. Barker, Guthrie	Sulphur, May 14-16, 1908.
Oregon State Medical Association	R. C. Coffey, Portland	Wm. House, 314 Oregonian Bldg., Portland	Portland, July, 1908.
Pennsylvania, Med. Soc. of the State of	Wm. L. Estes, South Bethlehem	Cyrus Lee Stevens, Athens	Cambridge Springs, Sept., 1908.
Philippine Islands Medical Association	Paul C. Freer, Manila	Robert E. L. Newberne, Manila	Manila.
Rhode Island Medical Society	Charles V. Chapin, Providence	S. A. Welch, 253 Washington St., Providence.	Providence, June 4, 1908.
South Carolina Medical Association	LeGrand Guerry, Columbia	Walter Cheyne, Sumter	Anderson, April 16, 1908.
South Dakota State Medical Association	L. C. Mead, Yankton	R. D. Alway, Aberdeen	Yankton, May, 1908.
Tennessee State Medical Association	A. B. Cooke, Nashville	Geo. H. Price, 146 N. 8th Ave., Nashville	Knoxville, April 14, 1908.
Texas, State Medical Association of	C. E. Cantrell, Greenville	I. C. Chase, Ft. Worth	Corpus Christi, May 12, 1908.
Utah State Medical Association	H. D. Niles, Salt Lake	W. S. Ellerbeck, Salt Lake	Salt Lake, May 12-13, 1908.
Vermont State Medical Society	George H. Gorham, Bellows Falls	C. H. Beecher. Burlington	Rutland, Oct. 8-9, 1908.
Virginia, Medical Society of	Wm. F. Drewry, Petersburg	Landon B. Edwards, Richmond	Richmond, 1908.
Washington State Medical Association	C. N. Suttner, Walla Walla	C. H. Thomson, 203 Walker Bldg., Seattle	Walla Walla, Sept. 2-4, 1908.
West Virginia State Medical Association	Fleming Howell, Clarksburg	T. W. Moore, Huntington	Clarksburg, May, 1908.
Wisconsin, State Medical Society of	W. E. Ground, Superior	Charles S. Sheldon, Madison	Milwaukee, 1908.
Wyoming State Medical Society	C. E. Stevenson, Sheridan	Geo. L. Strader, Cheyenne	Sheridan, 1908.

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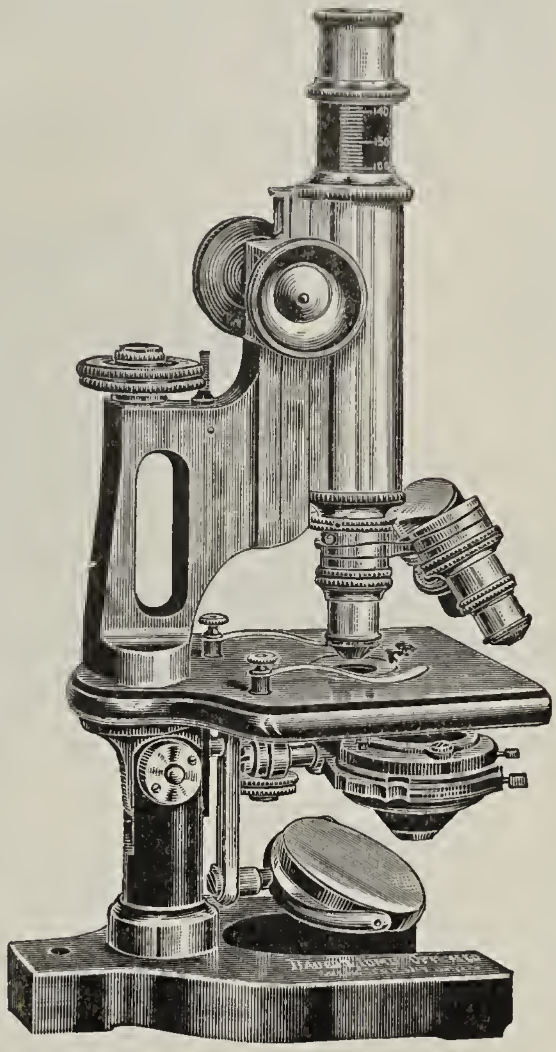

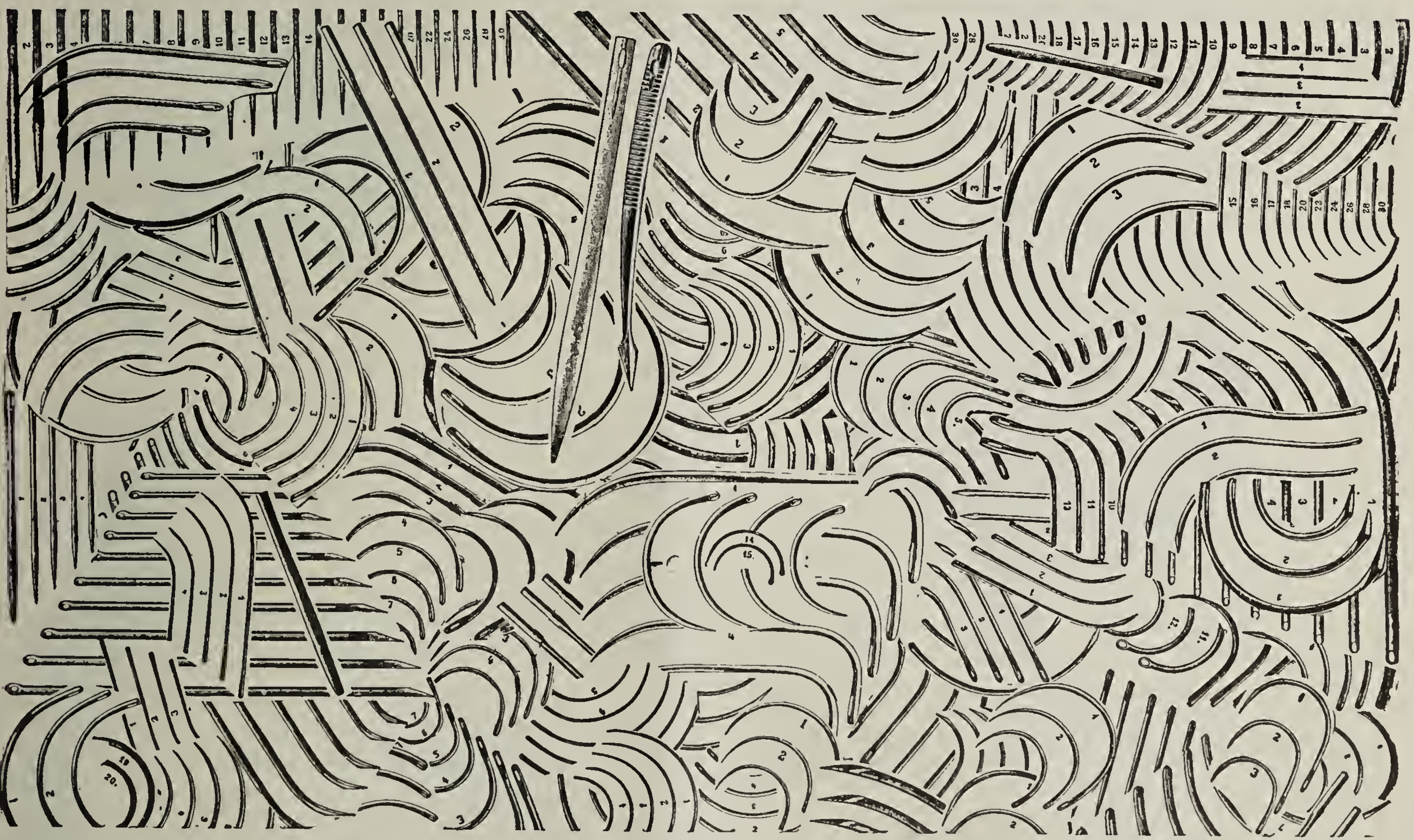

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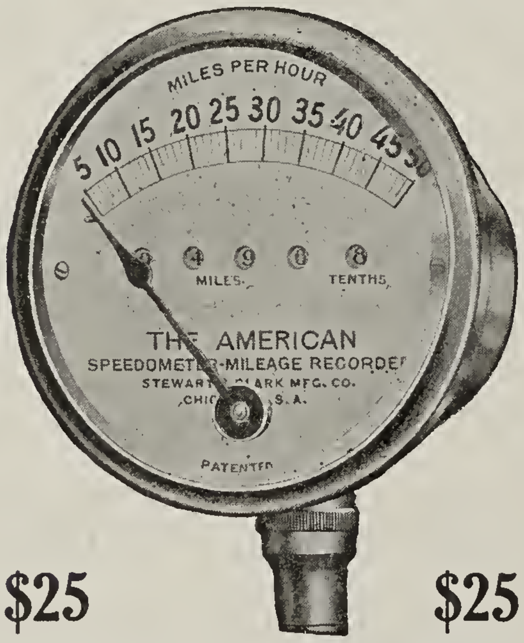

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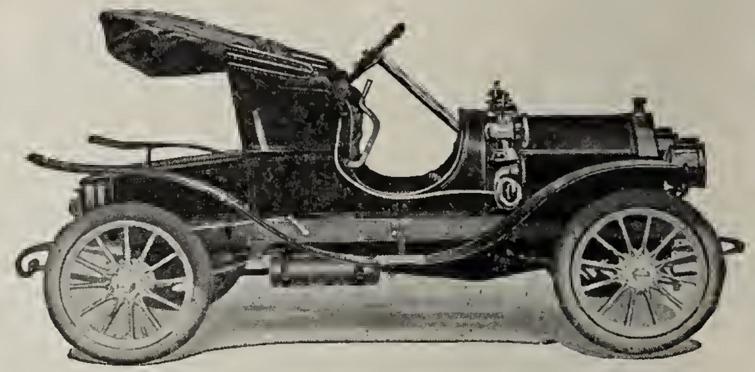

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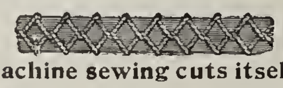

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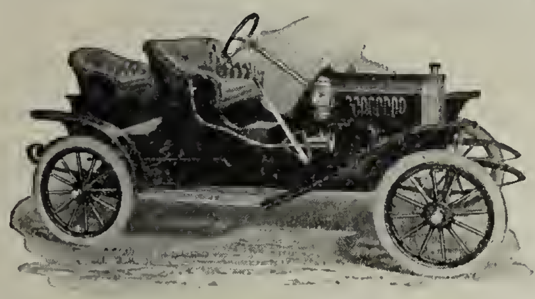

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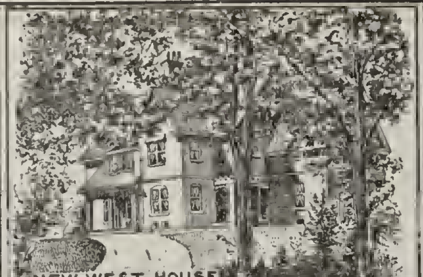

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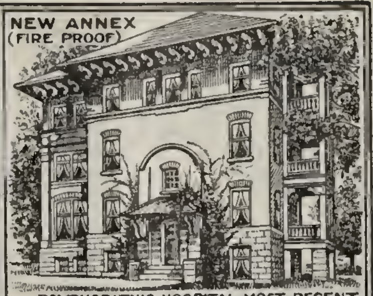

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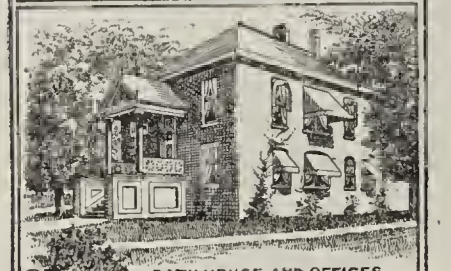

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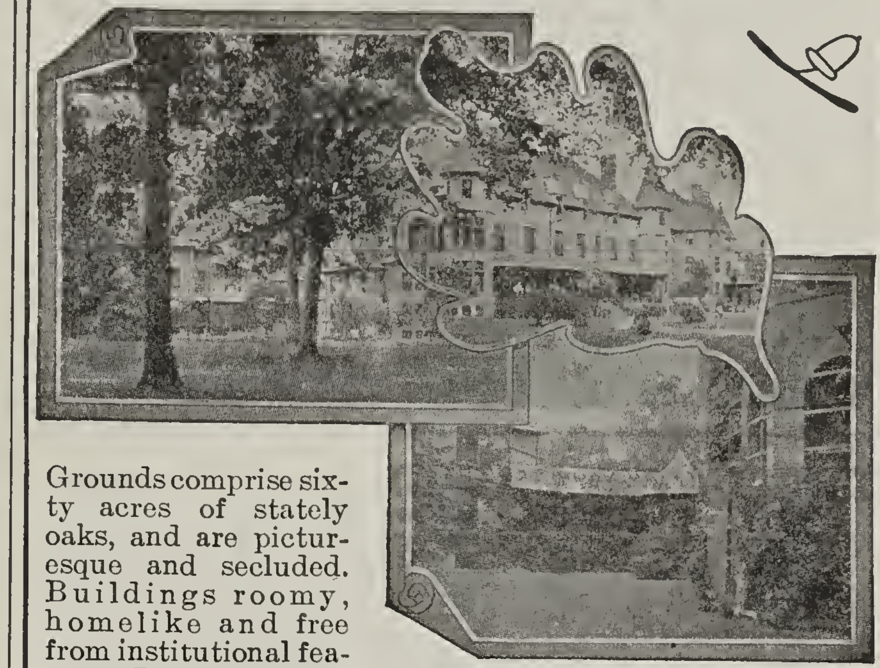

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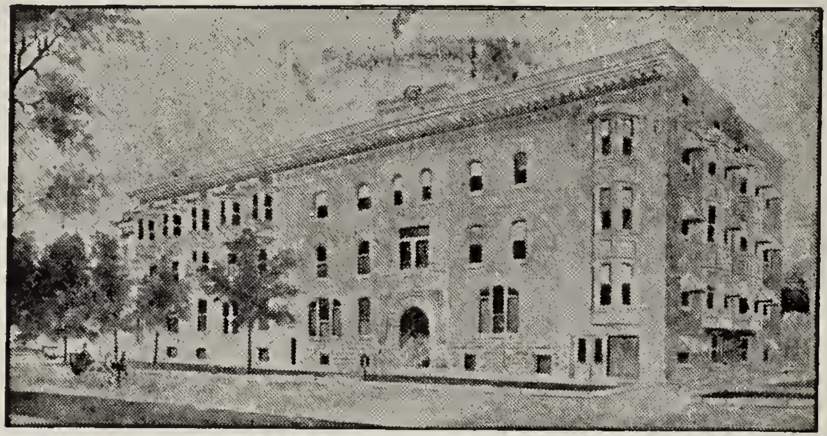

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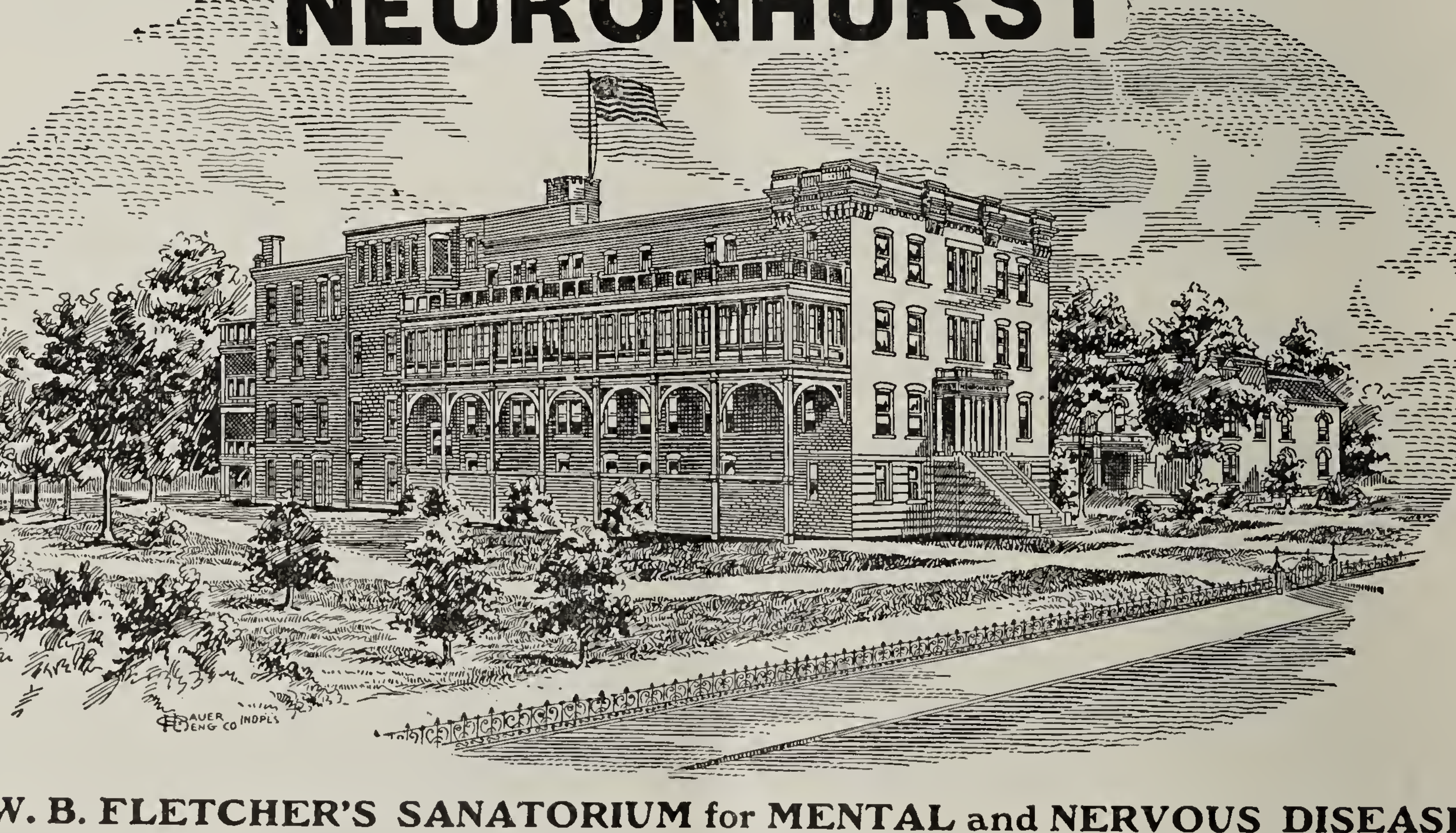

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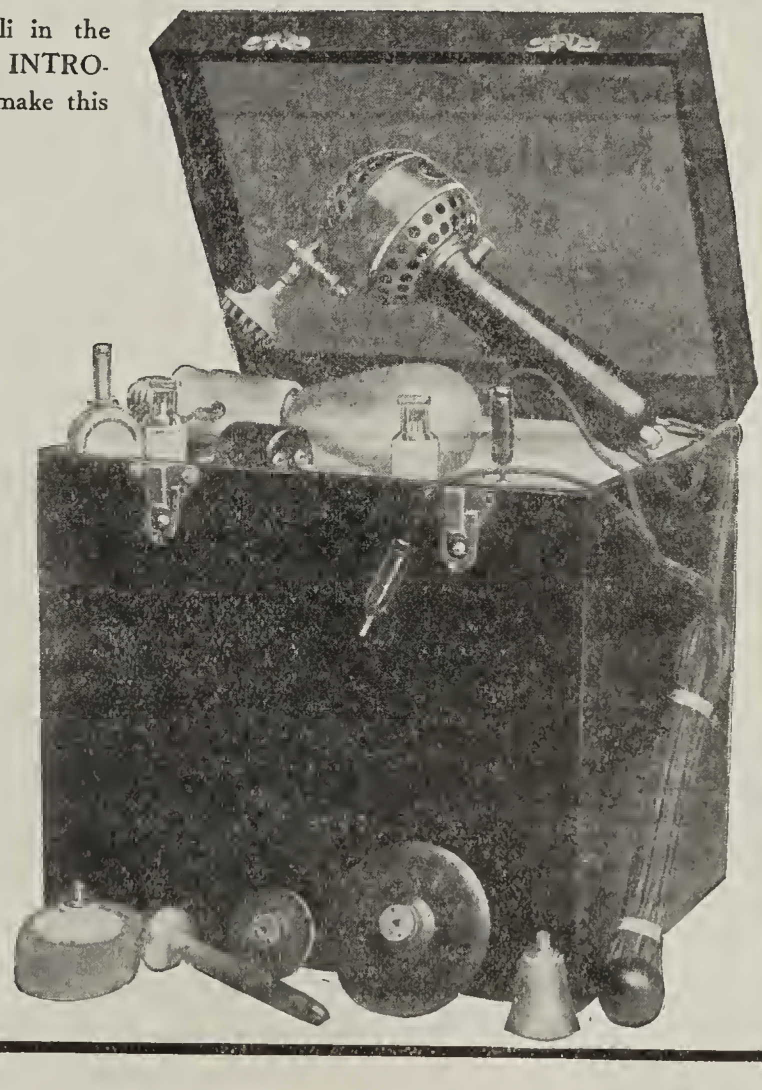

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ADMISSION.—The School receives as candidates for the degree of Doctor of Medicine only graduates of approved colleges or scientific schools, who have had a year's instruction, including laboratory work, in physics, chemistry and biology, and can furnish evidence of a reading knowledge of French and German.

INSTRUCTION.—The academic year begins the first Tuesday in October, and closes the second Tuesday in June. The course of instruction occupies four years. Men and women are admitted to the School on the same terms. In the methods of instruction especial emphasis is laid upon practical work in the Laboratories and in the Dispensary and Wards of the Hospital. The students of the third year, divided into groups, participate in the practical work of the Dispensary, and in the fourth year they serve as clinical clerks and surgical dressers in the Wards of the Hospital.

TUITION.—The charge for tuition is $200 per annum, payable in semi-annual installments, October and February. There are no extra charges for matriculation or for the laboratory courses.

SPECIAL COURSES FOR GRADUATES IN MEDICINE.—Special courses for physicians are offered throughout the year, especially during the spring months and in early summer. These courses are of a practical character and are intended to meet the needs of practitioners and teachers of medicine. The fees charged for the different courses can be learned upon application to the Dean.

The annual announcement and catalogue of the Medical Department, including a description of the special courses for physicians, will be sent upon application to the

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NEW YORK

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College Degree the Standard

In and after 1908 candidates for admission to the Cornell University Medical College must be:

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II. Seniors in good standing in Cornell University or in any other approved college or scientific school whose faculty will permit them to substitute the first year of a professional course for the fourth year in arts and science and who will confer upon them the bachelor's degree upon the satisfactory completion of the first year of the course in the Cornell University Medical College; or

III. Persons who, while not possessing a bachelor's degree, give evidence by examination that they have acquired an equivalent education and a training sufficient to enable them to profit by the instruction offered in the Medical College.

In and after 1909 all candidates for admission to the Cornell University Medical College must have at least such knowledge of physics and inorganic chemistry as may be obtained in college by a year's course in these subjects when accompanied by laboratory work; and in and after 1910 all candidates for admission must also possess a similar knowledge of biology.

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For 1909, in addition to the above, the successful completion of work equivalent to that prescribed for the Freshman Class in a recognized literary college.

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(*Continued on next page.*)

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EXAMINATION NOTICE—AN EXAMInation for the position of Bacteriologist for the City of Savannah, Ga., will be held on Wednesday, April 15, 1908, at the Research Laboratory of the Department of Health, foot of East 16th Street New York City, under the supervision of Dr. Wm. H. Park of the Department of Health, City of New York; at the U. S. Marine Hospital, Chicago, Ill., under the supervision of Surgeon G. B. Young of the U. S. Public Health and Marine-Hospital Service; at the Hygienic Laboratory, 25th and E Streets N.W., Washington, D. C., under the supervision of Director of the Hygienic Laboratory, M. J. Roseneau, U. S. Public Health and Marine-Hospital Service; at Room 609, Canal-Louisiana Bank Building, New Orleans, under the supervision of Surgeon J. H. White, U. S. Public Health and Marine-Hospital Service, and at the City Hall, Savannah, Ga., under the supervision of the Board of Examiners. The term of office will be five years; beyond political interference. Salary, $3,000 per annum. Examination to cover questions in bacteriology, pathology and chemistry. The examination will be identical at all places of examination. Further information can be had from the doctors in charge of the examination at the cities above named, or from W. F. Brunner, M.D., Recorder, Board of Examiners, City Hall, Savannah, Ga. K

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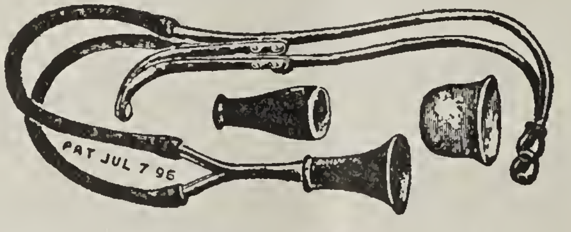

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(Continued on next page.)

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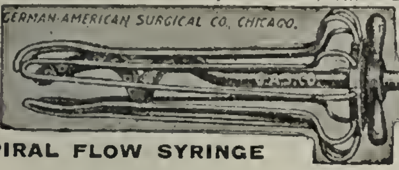

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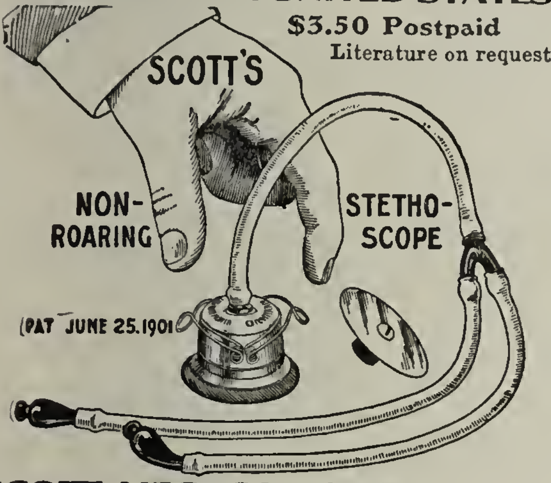

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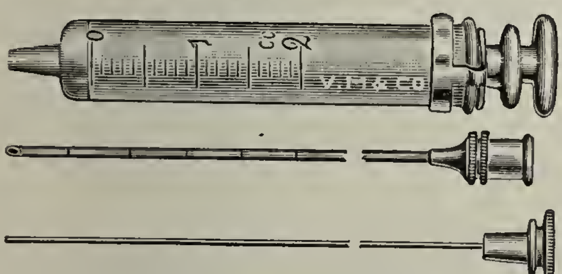

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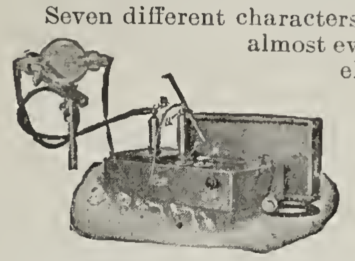

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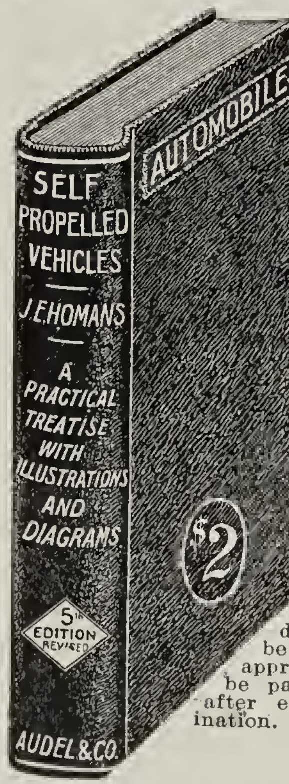

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FOR SALE—IDAHO—SOUTHWESTERN part—$3,000 practice, with or without four-room cottage, four lots; population 2,500; irrigated valley, ideal climate; one railroad; price, including residence, office fixtures, except books and instruments, $2,500; without residence, $750; good reasons for selling; this ad. appears but once. Add. 5516, % AMA. O

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FOR SALE—SOUTH DAKOTA—A SNAP. A $4,000 practice in a State Normal school town of 800 population; good pay, good roads, good people; good reasons for selling; price, with office fixtures, $500. Add. 5490, % AMA. P

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FOR SALE — MICHIGAN — RESORT town, population, winter 3,000, summer 6,000; $3,000 practice, office furniture, 3 rooms, 14-horse power Maxwell runabout in fine shape. $800 cash; without auto, $300; reason, wife's health. Add. 5386, % AMA.

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FOR SALE — OHIO—NEAR CENTRAL part, $3,500 unopposed practice, railroad town of 500; wealthy, level country, piked roads; surgeon both railroads, township physician, health officer; transferable; nearest competitor, 4 miles; $1,200 buys practice, two fine horses, buggies, sleigh, etc., office fixtures, large stock drugs; collections nearly 100 per cent.; going to city. Add. 5511, % AMA. P

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FOR SALE—WISCONSIN—SOUTH CENTRAL part—$2,000 cash practice free to purchaser of office outfit in city of 16,000; modern equipment; will introduce if bought early; must leave by May 1; fine opening for Scandinavian or German-speaking physician; reason by request; price $600 cash. Add. 5519, % AMA. P

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(*Continued on next page.*)

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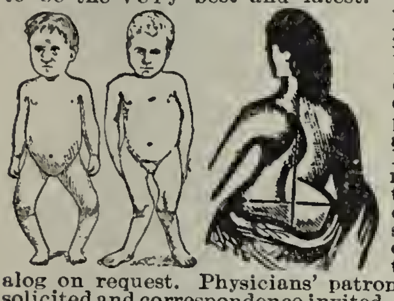

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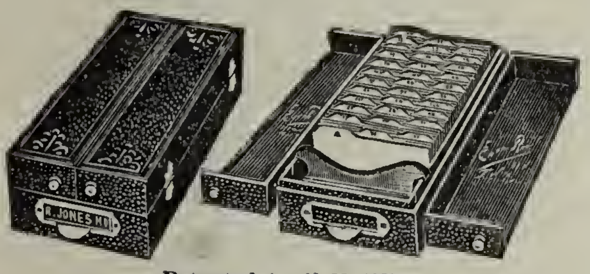

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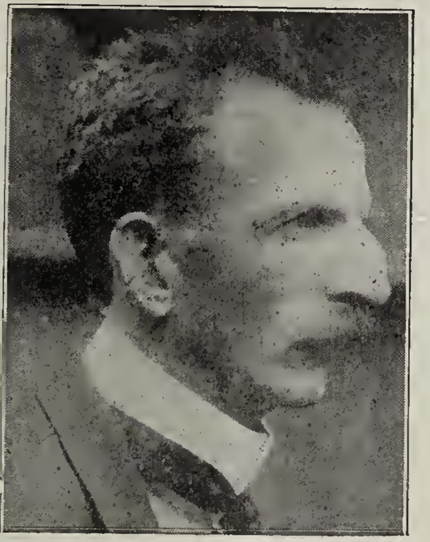

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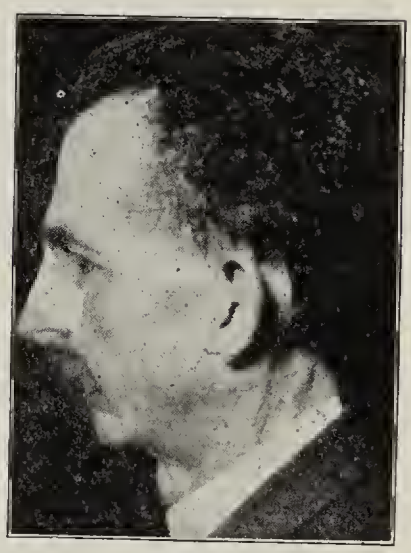

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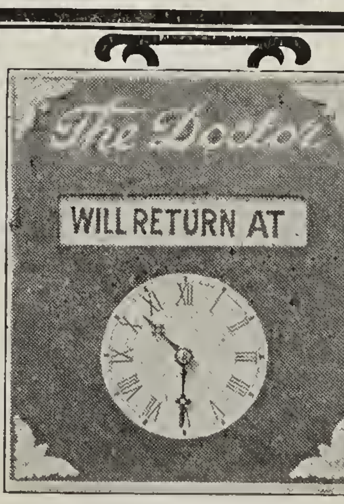

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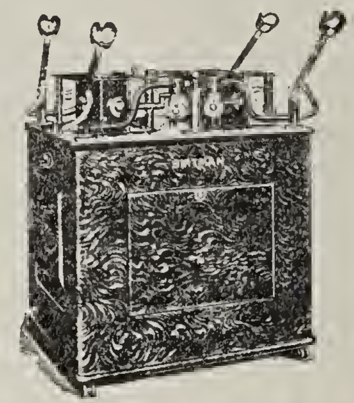

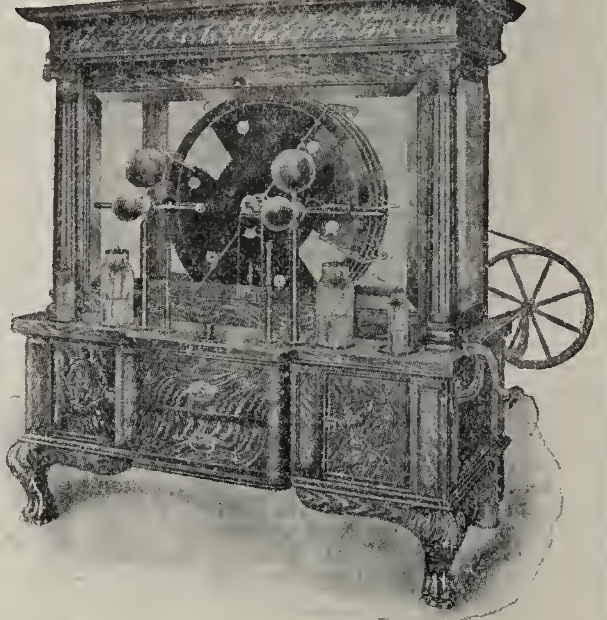

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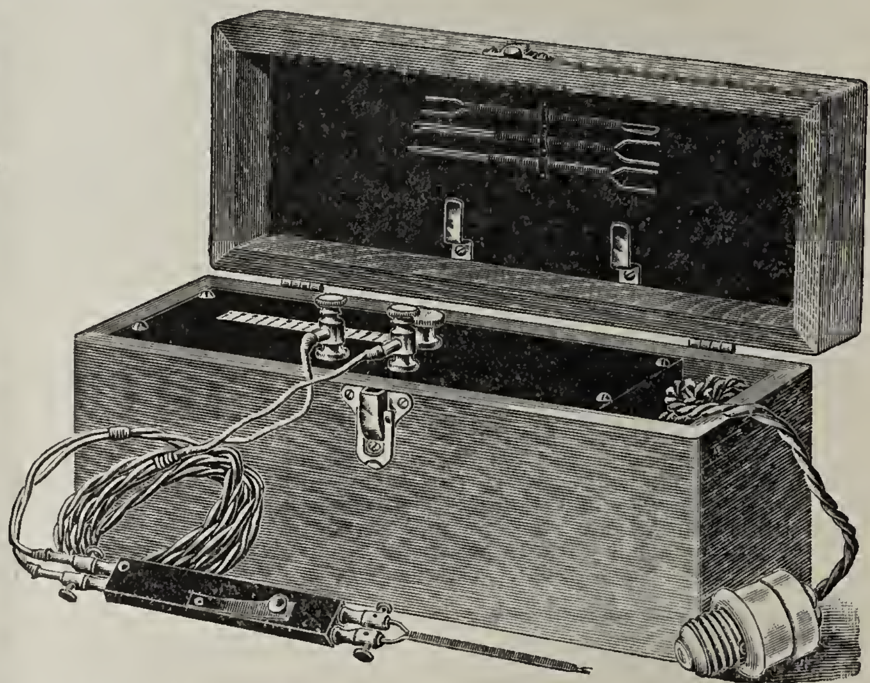

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